REMEDIAL ACTION PLAN
SOIL REMEDIATION

Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon
DEQ LUST File No. 04-18-0818

For
Oregon Department of Environmental Quality
March 3, 2020

GeoDesign Project: BigBeams-1-01-07

DRAFT

March 3, 2020

Oregon Department of Environmental Quality
700 NE Multnomah Street, Suite 600
Portland, OR 97232

Attention: Sarah Greenfield

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On behalf of Blue Jump Suit LLC and AHI Cannery LLC, GeoDesign is pleased to submit our Remedial Action Plan that presents a scope of work to address impacts to soil at the property located at 70 West Marine Drive in Astoria, Oregon. This Remedial Action Plan was prepared based on the results of pilot testing completed in December 2019. This Remedial Action Plan also presents the results of the pre-remedial design investigation and a scope of work to monitor the performance of the selected soil remedy.

We are prepared to move forward with remedial systems implementation immediately upon DEQ's approval. Please advise us of DEQ's comments or suggestions regarding the scope of work contained herein. Upon approval by DEQ, we will schedule the requisite field work and provide adequate notice of the date the work will commence.

♦ ♦ ♦

Please call if you have questions concerning this submittal.

Sincerely,

GeoDesign, Inc.



Lon R. Yandell, R.G.
Principal Geologist

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ACRONYMS AND ABBREVIATIONS

AS	air sparging
ASTM	American Society for Testing and Materials
BGS	below ground surface
BS	blank spike
BSD	blank spike duplicate
BTOC	below top of casing
cfm	cubic feet per minute
COC	chemical of concern or contaminate of concern
COPC	chemical of potential concern or contaminate of potential concern
DEQ	Oregon Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
eV	electronvolt
ft/min	feet per minute
ft/s	feet per second
ft^2/s	square feet per second
GAC	granular activated carbon
GPR	ground penetrating radar
HDPE	high density polyethylene
I.D.	identification
IDW	investigation-derived waste
iow	inches of water
lb_m/ft^3	pound-mass/cubic feet
lb_m/ft-s	pound-mass/feet-second
LUST	Leaking Underground Storage Tank
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MHz	megahertz
MS	matrix spike
MSD	matrix spike duplicate
MSL	mean sea level
MTBE	methyl tertiary butyl ether
mV	millivolts
NE	not established
NS	no sheen
NTU	nephelometric turbidity unit
O&M	operations & maintenance
ORP	oxidation reduction potential
PAH	polycyclic aromatic hydrocarbon
PCI	permissible concentration increases
PID	photoionization detector
PPA	Prospective Purchaser Agreement
ppm	parts per million
PRDI	Pre-Remedial Design Investigation
PVC	polyvinyl chloride

QC	quality control
RAO	remedial action objective
RAP	Remedial Action Plan
RBC	risk-based concentration
RBDM	*Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites*
RPD	relative percent difference
SS	slight sheen
SVE	soil vapor extraction
TCLP	Toxicity Characteristic Leaching Procedure
TMB	trimethylbenzene
µg/L	micrograms per liter
µg/m^3	micrograms per cubic meter
µS/cm	microSiemens per centimeter
UST	underground storage tank
VFD	variable frequency drive
VOC	volatile organic compound

1.0 INTRODUCTION AND PURPOSE

This RAP presents the results of the PRDI and a scope of work to implement and monitor appropriate remedial actions to mitigate soil impacts, as well as soil and sub-slab vapors detected at the former Astoria Warehousing site located at 70 West Marine Drive in Astoria, Oregon (project site). The project site is shown relative to surrounding physical features on Figure 1. The layout of the project site is shown on Figure 2.

The purpose of this RAP is to present a scope of work consistent with the requirements outlined in the PPA Scope of Work dated August 2019. Specifically, this RAP applies to impacted soil and subsurface vapors at the project site. A complimentary RAP addressing groundwater impacts at the project site will be provided under separate cover once the groundwater remedial design has been finalized.

Acronyms and abbreviations used herein are defined above, immediately following the Table of Contents.

2.0 BACKGROUND AND PREVIOUS INVESTIGATIONS

Background information for the project site are described in the following documents:

- GeoDesign's *Work Plan; Pre-Remedial Design Investigation; Former Astoria Warehousing; 70 West Marine Drive; Astoria, Oregon; DEQ LUST File No. 04-18-0818,* dated October 23, 2019
- GeoDesign's *Pilot Testing Work Plan; Former Astoria Warehousing Site; 70 West Marine Drive; Astoria, Oregon; DEQ LUST File No. 04-18-0818,* dated December 9, 2019

2.1 RECENTLY COMPLETED ACTIVITIES

2.1.1 Pre-Remedial Design Investigation

GeoDesign conducted a PRDI at the project site in December 2019. The purpose of the PRDI was to collect additional soil and groundwater data to facilitate the design of remedial systems at the project site and to attempt to identify a contaminant source at the project site. The PRDI included a geophysical survey and advancement of 16 direct-push borings to a maximum depth of 20 feet BGS for the collection of soil and groundwater samples, which are discussed further in the following sections.

2.1.1.1 Geophysical Survey

GeoDesign subcontracted Pacific Geophysics to further evaluate the east parking area and a suspect asphalt patch located between warehouses 2 and 3 (see Figure 2). A geophysical survey was attempted inside the shop and former can manufacturing warehouse, but the instruments used could not scan below the reinforced concrete floor. The geophysical survey included a combination of magnetic and GPR geophysical techniques to evaluate the potential for metallic/magnetic anomalies that could be indicative of buried USTs and disturbed areas of soil indicating the possible former locations of buried USTs.

The geophysical survey did not identify USTs in the areas included in the survey. A potential former excavation pit (area of disturbed soil) was identified in the east parking area south of the shop, shown on Figure 2. The excavation pit identified by the geophysical survey is consistent with location of a former 10,000-gallon oil UST identified on historical blueprints. The geophysical report, including figures of the scanned areas, is presented in Appendix A.

2.1.1.2 Soil Assessment

GeoDesign advanced 16 direct-push borings on the east half of the project site for the collection of soil samples to further evaluate soil impacts and to attempt to identify a contaminant source on the project site. The boring locations are shown on Figure 2.

To the extent practical, soil samples were field screened continuously from each boring, which included visual and olfactory observation, headspace measurements using a 10.6-eV PID, and conducting water sheen tests. In general, field evidence of impact was observed below the water table in borings DP-4, DP-6, DP-7, DP-9, and DP-11 through DP-16. Field evidence of impact to shallow soil (e.g., less than 5 feet BGS) was observed in borings DP-1, DP-2 and DP-8. Field evidence of impacts to soil was not observed in borings DP-5 and DP-10. The field screening results are shown on the boring logs presented in Appendix B.

A total of 22 soil samples collected from the 16 direct-push borings were analyzed for one or more of the following:

- Gasoline-range hydrocarbons by Method NWTPH-Gx
- Diesel- and oil-range hydrocarbons by Method NWTPH-Dx
- VOCs by EPA Method 8260B
- PAHs by EPA Method 8270M-SIM
- Total lead by EPA Method 6020
- TCLP Lead by EPA Method 6020

The soil chemical analytical results indicated that shallow petroleum-impacted soil is present beneath the shop and the north portion of the east parking area. Except for soil samples DP-1(7-8) and DP-8(10-11), COPCs (gasoline-, diesel-, and oil-range hydrocarbons; VOCs; lead; and PAHs) were not detected at concentrations greater than applicable DEQ RBCs. Benzene, ethylbenzene, and/or naphthalene were detected in soil samples DP-1(7-8) and DP-8(10-11) at concentrations greater than the DEQ *Soil Ingestion, Dermal Contact, and Inhalation; Volatilization to Outdoor Air;* and *Vapor Intrusion into Buildings* RBCs for occupational receptors. However, the detected concentrations are less than the DEQ *Soil Ingestion, Dermal Contact, and Inhalation* RBCs for construction and excavation worker receptors. The soil results collected from the project site suggest that the UST formerly located beneath the shop/east parking area may have been a contaminant source.

A summary of the soil chemical analytical data is presented in Tables 1 through 3. A detailed description of the field exploration program is presented in Appendix B. Laboratory analytical reports are presented in Appendix C. Cross sections illustrating subsurface stratigraphy are presented on Figures 4 through 6.

2.1.1.3 Groundwater Assessment

Grab groundwater samples were collected from borings DP-3 through DP-16 by installing a temporary well in each boring that consisted of ¾-inch-diameter PVC casing with 10-foot, 0.010-inch slot screens. The wells screens were set between 10 and 20 feet in all borings except DP-5, which was set between 5 and 15 feet. The locations of the borings are shown on Figure 2.

Grab groundwater samples were collected using a peristaltic pump equipped with new HDPE and silicon tubing. Prior to sampling, each well was purged until turbidity stabilized (approximately 1 gallon to 3 gallons).

Groundwater samples collected during the December 2019 PRDI were analyzed for the following COPCs:

- Gasoline-range hydrocarbons by Method NWTPH-Gx
- Diesel- and oil-range hydrocarbons by Method NWTPH-Dx
- VOCs by EPA Method 8260B
- Total and dissolved lead by EPA Method 6020

The two grab groundwater samples with the greatest detected concentration of diesel-range hydrocarbons were also analyzed for PAHs by EPA Method 8270M-SIM.

Groundwater chemical analytical results indicated that the greatest impacts to groundwater are present beneath the central portion of the former can manufacturing warehouse, the shop, and the north portion of the east parking area. Gasoline-range hydrocarbons were detected in groundwater samples collected from borings DP-11, DP-13, and DP-14 at concentrations ranging from 16,300 to 21,200 µg/L, which are greater than the DEQ *Groundwater in Excavation* RBCs for the construction and excavation worker receptor. In addition, benzene was detected in the groundwater sample collected from DP-14 at a concentration of 3,140 µg/L, which is greater than the DEQ *Vapor Intrusion into Buildings* RBC for an occupational receptor and the DEQ *Groundwater in Excavation* RBC for construction and excavation worker receptors. COPCs were otherwise not detected at concentrations greater than applicable DEQ RBCs.

The groundwater sample analytical results indicate that the shop/east parking area could be a potential contaminant source area. However, the groundwater results also indicate impacted groundwater is present at locations significantly west and south of the potential source area, which suggests that at least a portion of the impacts are from an off-site source(s). A summary of the grab groundwater chemical analytical data is presented in Tables 4 through 6. A detailed description of our field exploration program is presented in Appendix B. Laboratory analytical reports are presented in Appendix C.

2.1.2 Pilot Test and Monitoring Well Installation, Development, and Sampling

In general accordance with our PRDI Work Plan, GeoDesign installed three additional groundwater monitoring wells, the SVE and AS pilot test wells, and several observation wells/points at the locations shown on Figures 2 and 3. The installation, development, and sampling of the wells is discussed in the following sections.

2.1.2.1 Groundwater Monitoring Wells

Three additional groundwater monitoring wells (MW-6 through MW-8) were installed north of the east portion of the project site structure at the locations shown on Figure 2. Each groundwater monitoring well was installed using direct-push drilling methods and consisted of a 2-inch-diameter PVC well with a 20-foot, pre-packed, 0.010-inch slot screen set from 5 to 25 feet BGS. Additional well construction information is presented on the well construction logs in Appendix B.

One soil sample was collected during the installation of each of the three groundwater monitoring wells at the soil/water interface. The soil samples were analyzed for the following:

- Gasoline-range hydrocarbons by Method NWTPH-Gx
- Diesel- and oil-range hydrocarbons by Method NWTPH-Dx
- VOCs by EPA Method 8260B

The soil sample collected from boring MW-6 was also analyzed for PAHs by EPA Method 8270M-SIM.

The soil chemical analytical results indicated that COPCs were not detected in the three soil samples at concentrations greater than applicable DEQ RBCs. A summary of the soil chemical analytical data is presented in Tables 1 through 3.

Once installed, each new groundwater monitoring well was developed by alternating between surging the well with a stainless steel bailer and pumping the well with a submersible pump. Following development, the water level in each monitoring well was allowed to recover and static water levels were recorded. A summary of measured groundwater elevations is presented in Table 7.

Groundwater samples were collected after the wells were developed using a peristaltic pump with new HDPE and silicon tubing. Each well was purged in general accordance with the EPA low-flow purging and sampling procedure.[1] During purging, field parameters including pH, conductivity, temperature, dissolved oxygen, ORP, and turbidity, were recorded. Groundwater samples were collected from the monitoring wells once three consecutive readings were within the acceptable variance. A summary of field parameters is presented in Table 8.

Groundwater chemical analytical results from groundwater monitoring wells MW-6 through MW-8 indicated that gasoline-range hydrocarbons were detected at concentrations between 5,920 and 23,700 µg/L. The detected concentration of gasoline-range hydrocarbons in monitoring well MW-6 is greater than the DEQ *Groundwater in Excavation* RBC for construction/excavation worker receptor. COPCs were otherwise not detected at concentrations greater than applicable DEQ RBCs. A summary of the groundwater chemical analytical data is presented in Tables 9 through 11. Laboratory analytical reports are presented in Appendix C.

[1] EPA, 2017. *Low Stress (Low Flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells*, revised September 19, 2017

2.1.2.2 AS Pilot Test and Observation Wells

AS pilot test well PAS-1 was originally installed with a screen interval of 20 to 22 feet BGS at the location shown on Figure 3. However, during development of PAS-1 it was determined that the well screen was installed in a silt layer. Therefore, PAS-1 was removed[2] and PAS-2 was installed in the shop area of the project site using direct-push drilling technologies and consisted of a 2-inch-diameter PVC well with a 3-foot, pre-packed, 0.020-inch slot screen set from 16 to 18 feet BGS. The AS pilot test well was developed using the methodology described in Section 2.1.2.1.

Four AS observation wells (OAS-1 through OAS-4) were also installed in the shop area of the project site using direct-push drilling methods. The observation wells consisted of ¾-inch-diameter PVC wells with 10-foot, pre-packed, 0.010-inch slot screen set from 10 to 20 feet BGS. The observation wells were not developed due to the diameter of the wells. The locations of the AS pilot test wells and the AS observation wells are shown on Figure 3. Additional well construction information is presented on the well construction logs in Appendix B.

Nine soil samples were collected from the two AS pilot test wells and the four observation wells. The soil chemical analytical results indicate that gasoline-range hydrocarbons were detected at concentrations between 3.93 and 38.9 mg/kg in soil above the water table. Low-level concentrations of lead, VOCs, and/or PAHs were also detected in the soil samples collected from these wells. The detected concentrations of COPCs were less than applicable DEQ RBCs. A summary of the soil chemical analytical data is presented in Tables 1 through 3.

One groundwater sample was collected from AS pilot test well PAS-2 using the sampling methodology described in Section 2.1.2.1. COPCs were not detected in the groundwater sample at concentrations greater than applicable DEQ RBCs.

2.1.2.3 SVE Pilot Test and Observation Wells.

One SVE pilot test well (PSVE-1) was installed in the shop area of the project site using an 8¼-inch-diameter, hollow-stem auger. The SVE pilot test well consisted of a 4-inch-diameter PVC well with a 5-foot, pre-packed, 0.020-inch slot screen set from 3 to 5 feet BGS. Four SVE observation wells (OSVE-1 through OSVE-4) were also installed in the shop area of the project site using direct-push drilling methods. The observation wells consisted of ¾-inch-diameter PVC wells with 5-foot, pre-packed, 0.010-inch slot screen set from 5 to 8 feet BGS. The locations of the SVE pilot test well and observation wells are shown on Figure 3. Additional well construction information is presented on the well construction logs in Appendix B.

One soil sample was collected from each of the borings for the SVE pilot test well and the observation wells. The soil chemical analytical results indicated that gasoline-range hydrocarbons were detected at concentrations between 2.73 and 9.00 mg/kg. Low-level concentrations of lead, VOCs, and/or PAHs were also detected in the soil samples collected from these wells. The detected concentrations of COPCs were less than applicable DEQ RBCs. A summary of the soil chemical analytical data is presented in Tables 1 through 3.

[2] Upon removal, original pilot well PAS-1 was permanently abandoned using hydrated bentonite.

2.2 REMEDIAL PILOT TESTING AND RESULTS

GeoDesign personnel conducted a pilot test at the project site to evaluate potential effectiveness of soil treatment using SVE technologies.[3] Pilot testing was performed in general accordance with our Pilot Testing Work Plan dated December 9, 2019 and is described below. Detailed pilot test information and analyses are presented in Appendix D.

2.2.1 SVE Pilot Testing Procedures

The purpose of the SVE pilot testing was to evaluate the response characteristics of the shallow vadose zone at the project site. Specifically, the objective of the SVE pilot testing was to evaluate the effective zone of influence from a vertical test well (i.e., induced vacuum of 0.1 iow or greater) using nearby observation points located at varying distances and directions from the pilot SVE well. In addition, the SVE pilot testing data was used to calculate the intrinsic air permeability of the vadose zone soil.

On December 10, 2019 GeoDesign conducted step tests to evaluate the response characteristics of various vadose zone intervals. A Rotron EN 858 regenerative blower equipped with a variable frequency drive was connected to PSVE-1 to conduct the pilot test. Piping from the wellhead to the blower was fitted with the following:

- Sample port
- Pressure/vacuum gauge
- Flow meter
- Air inlet pipe with valve
- Wellhead valve
- Knockout tank
- Vapor-phase granular activated carbon vessel (for vapor effluent treatment)

The SVE pilot testing was conducted as follows:

- Before starting the step test, baseline vacuum in the test well and observation points and barometric pressure was measured and recorded.
- Initiated the blower and performed a step test. A total of four steps were conducted at applied vacuums of approximately 13, 30, 57 and 63 iow. The SVE pilot test extended from approximately 0900 to 1600 hours on December 10, 2019. Throughout testing and at the completion of each step, we recorded the following data at extraction well PSVE-1:
  - Applied vacuum
  - Air velocity using an anemometer (for flow rate calculation)
  - VOC readings using a PID[4]
- Throughout testing and at the completion of each step, the following data was recorded at each vadose zone observation point (and other surrounding monitoring points):
  - Induced vacuum using a magnehelic or digital micromanometer
  - VOC readings using a PID

[3] The pilot test activities for groundwater remediation will be presented in a separate RAP that will be submitted under separate cover.

[4] After the first step, PID readings were not able to be recorded due to the inability of the PID pump to overcome the applied vacuum.

- At each step, operating parameters were allowed to stabilize and flow and vacuum at the test well were measured and recorded.
- To support emissions characterization, a series of vapor samples were collected from the pre-treated exhaust stream at the beginning, middle, and end of the SVE pilot test. Emission samples collected prior to vapor effluent treatment were submitted to an analytical laboratory for analysis of VOCs and gasoline-range hydrocarbons by EPA Method TO-15.
- Performed a field air permeability test using a selected flow rate and vacuum for a minimum of one hour. Vacuum readings from the observation points were recorded at regular intervals. The field air permeability test was continued until approximate steady-state conditions were observed.

A summary of results from the SVE pilot test is presented in Section 2.2.2.

2.2.2 SVE Pilot Testing Results

The results from the SVE pilot testing was used to:(1) evaluate the zone of influence indicated by the observed vacuums applied at the test well and (2) evaluate blower sizing for the full-scale SVE system. Based on EPA guidance, observable negative pressures of -0.1 iow or greater were considered sufficient for SVE design purposes.[5]

A summary of pilot testing measurements and response data obtained during the SVE pilot test is included in Tables D-1 through D-4. A summary of effluent vapor sample chemical analytical results is summarized in Table D-5. Supporting charts and calculations are also presented in Appendix D.

The SVE pilot extraction study indicated excellent vacuum propagation within the shallow, intermediate, and deeper (capillary zone) subsurface soil intervals. Based on our analysis, an appropriate level of vacuum response for soil treatment (assumed to be 0.1 iow) can be achieved at a distance of at least 55 feet from the extraction point with the equipment used during the pilot study. Zone of influence estimates based on the array of data collected from observation points used during the pilot study are presented in Appendix D. In general, the SVE pilot study indicates that this technology is appropriate for site conditions. A summary of the SVE system design is presented in Section 3.4.

As part of the pilot testing, emissions testing was conducted to characterize potential vapors discharged from a full-scale SVE system. The samples were collected using laboratory-provided, 1-liter summa containers; flow and pressure regulators; pressure gages; and fittings. During the pilot testing, samples were collected at the beginning, middle, and end of the pilot test. Effluent sample results indicated the presence of elevated concentrations of gasoline-range hydrocarbons and several VOCs as summarized in Table D-5. The sample results were used in conjunction with anticipated total extraction rates to evaluate off-gas treatment requirements. Further discussion of vapor effluent treatment is provided in Section 3.3. Chemical analytical reports for effluent samples collected during pilot testing are presented in Appendix C.

[5] EPA, 2017. *How to Evaluate Alternative Cleanup Technologies for Underground Storage Tank Sites, A Guide for Corrective Action Plan Reviewers*, Land and Emergency Management, EPA 510-B-17-003, dated October 2017.

3.0 REMEDIAL DESIGN

3.1 DESIGN OBJECTIVE

The design objective of this RAP (specific to soil) is to (1) reduce the concentrations of COCs (gasoline-range hydrocarbons and associated VOC constituents) in soil, as required, to levels consistent with DEQ's applicable occupational RBCs for vapor intrusion into buildings and (2) provide a mechanism to mitigate, or reduce, the future potential (post-remediation) for sub-slab vapors to volatilize through the floor slab into indoor air spaces.

3.2 DESIGN GOALS

To meet the objective identified above for soil, contaminant concentrations will need to be reduced in soil and sub-slab vapor. Specifically, the remediation goal for this RAP is to reduce and maintain concentrations as follows:

- **Soil:** Beneath the building, reduce and maintain concentrations of gasoline-range hydrocarbons and associated VOC constituents in soil to levels below DEQ RBCs for vapor intrusion into buildings under an occupational scenario. In areas outside of the building, reduce and maintain concentrations of gasoline-range hydrocarbons and associated VOC constituents in soil to levels below DEQ RBCs for volatilization to outdoor air under an occupational scenario. Specific RBC values for COCs in soil and groundwater are presented in Tables 1 through 11.
- **Sub-Slab Vapor:** Beneath the floor slab, reduce and maintain sub-slab vapor concentrations to levels below DEQ RBCs for vapor intrusion into buildings under an occupational scenario.

3.3 SOIL REMEDIATION DESIGN

3.3.1 Overview

GeoDesign analyzed the SVE pilot study data to generate an SVE system design that is intended to (1) remediate the soil that exhibits COC concentrations in excess of applicable RBCs, (2) allow active and/or passive removal of accumulated sub-slab vapors in the future, and (3) recover volatilized vapors originating from future groundwater treatment system(s), as appropriate. The proposed SVE layout consists of a horizontal trench extraction system as indicated on Figure 7. The trench layout is based on an analysis of the pilot test vacuum response data (see Appendix D) and vacuums/removal rates needed to achieve the soil remediation RAOs. Specifically, the SVE system is intended to achieve 0.1 iow vacuum response for soil treatment and vapor recovery purposes. The extraction trenches will be routed to an equipment enclosure housing extraction blowers and related controls located outside the building. Construction of the SVE system will include the following:

- Concrete cutting and trenching
- Installing extraction and ventilation piping
- Installing vacuum blowers, moisture knockout equipment, valve manifolds, and ancillary equipment
- Connecting to electrical supply (for blower and controls)
- Installing motor controls, instrumentation systems, and monitors
- Installing vapor effluent treatment equipment

Details regarding the proposed SVE system are presented on Figures 7 through 9.

3.3.2 Slab, Sub-Slab, and Subsurface Soil Conditions

The former can manufacturing warehouse structure consists of two separately built areas. The main portion of the structure (original structure) was built circa 1960. The eastern shop and western annex (warehouse 1) portions of the structure were constructed several years after the original structure. Because of the separate construction dates, the main and shop/annex portions of the warehouse are separated by walls and corresponding footer walls.

The main floor slab is supported by footings along the perimeter of the structure and at interior column footings throughout the structure. All footings are supported by timber piles. The interior column footings are approximately 5 feet square. The floor slab consists of rectangular floor sections connected by cold joints.

Concrete slab thicknesses range from approximately 6 to 8 inches. Sub-slab aggregate conditions generally consist of a 4- to 8-inch thickness of crushed gravel with variable fractions of silt and sand.

Subsurface soil at the project site consists of fill comprised of loose to medium dense sand, gravel, and cobbles. The fill was placed as part of development of the project site and includes variable proportions of silt and trace organics. Occasional construction debris was observed within the fill during earlier subsurface investigations. The fill extends to depths of between approximately 17.5 and 20.5 feet BGS at the project site. Based on prior investigations, the percentage of gravel within the fill increases toward the north and south margins of the project site.

3.3.3 Trenching and Piping

The SVE layout will include a horizontal trench system using five separate legs. To facilitate extraction, a dedicated 4-inch-diameter PVC pipe will be placed within the base of each 4-foot-deep trench. In addition, 3-inch-diameter ventilation pipe (sub-slab piping) will be installed in each trench, within the sub-slab aggregate. In accordance with the layout shown on Figure 7, selected portions of each extraction/ventilation pipe will be slotted (perforated) to create the necessary airflow in the subsurface material. Slotted portions of the extraction pipes will be enveloped in crushed rock with low fines content (i.e., drain rock) and covered by a mesh fabric to help minimize clogging from fine particles.

Trenches will be cut approximately 1.5 feet wide and approximately 4 feet deep to allow placement of the SVE and ventilation pipes. Each trench will be backfilled and compacted using trench spoils (or other suitable fill), with drain rock in the upper and lower horizons surrounding the perforated sections of pipe. Care will be taken so that the trench backfill gravel maintains contact with the existing subgrade material to promote sub-slab flow to the trenches. As needed, areas where trenches intersect cold joints or expansion joints will be re-tooled and sealed. Figure 8 depicts typical cross-sectional trench details. All trenches will be routed to an equipment enclosure (discussed below) located outside the building (Figures 7 and 9).

Upon backfill and compaction, the trenches will be restored by dowelling/tooling as needed and pouring concrete to match original surface conditions.

3.3.4 Blower and Controls

A common piping trench will be routed to the west side of warehouse 1, where the solid PVC pipes will exit the building wall. All pipes will be routed to a system enclosure. Within the enclosure, extraction pipes will be plumbed to a manifold constructed to allow adjustments to each extraction line. At the manifold, each extraction line will be fitted with pressure/vacuum gauges, sampling ports, and valves. All manifolds and piping will be constructed with suitable material for the pressures and temperatures expected.

Moisture knockout vessels will be placed between the manifold and each extraction blower. The moisture knockout vessels will have sufficient capacity to allow the specified flow rate with less than 10 iow column pressure drop across the vessels. The knockout vessels will be equipped with vacuum relief valves, high water level system shutdown switches, vacuum gauges, manual drains, and other necessary fittings. The knockout vessels will be installed above the system enclosure floor or in a way that allows gravity draining.

The SVE system will be powered by three extraction blowers designed for continuous industrial service.[6] The blowers will be capable of providing a cumulative flow rate of approximately 1,400 cfm at 90 iow (30-horsepower Rotron EN14 blowers or equivalent). The blower sizing assumes that each SVE leg will be operational on a full-time basis. Each blower will service a particular array of SVE lines as follows (see Figure 6 and Appendix D):

- Blower 1: Extraction from SVE Trench #1
- Blower 2: Extraction from SVE Trenches #2 and #3
- Blower 3: Extraction from SVE Trenches #4 and #5

As indicated above, SVE Trench #1 is situated within an area characterized by the most elevated concentrations of COCs in soil and groundwater. Consequently, this SVE trench will be operated with a stand-alone blower to focus relatively greater extraction energy in this area.

Following completion of overall site remediation (and/or when the SVE system has been effective in treating target soil, the shallow, 3-inch-diameter sub-slab ventilation pipes may be connected to smaller blower(s) and/or wind-driven turbines to mitigate future vapor intrusion with DEQ approval.

The blowers and motors will be rated intrinsically safe and shall be equipped with the following:

- Silencer(s), as needed, suitable for operating in moist atmospheres
- In-line filter(s) installed upstream of the blowers to remove particulates that may damage blowers or components

[6] Initial operation of the SVE system using three blowers assumes that groundwater remediation may include AS technologies. If the groundwater remediation approach does not include AS and/or if future site conditions following implementation of the groundwater remedy support the use of fewer SVE blowers, DEQ will be notified for comment and approval prior to implementing the modification.

- A vacuum breaker to release excess vacuum
- Motor controls, including VFDs, interlocks, bypass switches, overload protection, thermal protection, pressure differential switches, and high-level knockout shutdown switches.

Figure 9 presents a piping and instrumentation diagram for the proposed SVE system.

3.3.5 Vapor Treatment

Based on the results of effluent sampling during pilot testing activities, vapor effluent treatment will initially be accomplished using thermal oxidation. We anticipate that initial VOC concentrations (the first several weeks to months of SVE operation) are expected to be the highest.

Based on the routine performance monitoring activities described in Section 5, future vapor effluent treatment may transition to the use of GAC vessels. GAC adsorbs VOCs from the vapor stream via electro-chemical forces. If routine monitoring data indicate that thermal oxidation is no longer required and the use of GAC vessels is appropriate, DEQ will be notified for comment and approval prior to implementing the change.

Information collected during startup and routine O&M (see Section 4) will be used to continually evaluate the performance and continued need for effluent vapor treatment.

3.4 SVE SYSTEM STARTUP PROCEDURES

Prior to starting the system, each component will be inspected and tested for proper operation. This "shakedown" period is intended to identify equipment issues prior to startup. System commissioning will be conducted by qualified personnel familiar with the system construction to supervise, operate, adjust, and maintain the components of the system for normal operation. Upon startup, baseline system operational information and discharge samples will be collected from applicable portions of the system, including the following:

- Blower and motor operation (general operation within manufacturer's specifications).
- Total system vacuum and vacuum within each extraction leg.
- Flow rates using an anemometer.
- Influent and effluent temperatures.
- Total VOC measurements using a PID from (1) each extraction leg, (2) blower intake at the header line, and (3) exhaust stack.
- Vacuum response within areas throughout the warehouse structure (using previously installed vapor points and additional temporary observation points as needed) using a micromanometer.
- Samples from each SVE leg and the discharge stack, collected into summa canisters. Samples will be collected on the first, third, and tenth day of operation to evaluate short-term concentration trends that are often highly variable during initial system operation. The initial stack discharge vapor samples will be sent to the analytical laboratory for expedited analysis of VOCs by EPA Method TO-15M. The laboratory results together with the discharge flow rates will be used to calculate contaminant mass removal rates and to evaluate vapor effluent treatment effectiveness.

Initial SVE operation will include operation of three blowers servicing all five SVE legs on a 24-hour basis. This initial operation is intended to apply sufficient negative pressures throughout the treatment area, aggressively removing contaminant vapors in support of the RAO for soil. This period of initial operation is intended as a stand-alone measure to reduce contaminant vapor concentrations in the subsurface prior to initial implementation of the groundwater remedy. This approach considers the additional mass of contaminant vapors that may arise from groundwater remediation (i.e., AS) in an attempt to avoid overwhelming the vapor effluent treatment equipment.

Upon DEQ approval, future SVE operation (i.e., following initial remediation efforts) may include rotational operation of the five separate SVE legs using a single extraction blower operating on four-hour intervals using a solenoid valve assembly. The sequence of extraction would be intended to alternate between different areas of the project site building in an effort to minimize stagnation zones; however, the actual sequence may be adjusted in the field based on operational characteristics of the SVE system.

4.0 OPERATION AND MAINTENANCE

During initial SVE system operation, field checks will be completed in accordance with the following schedule:

- Daily for the first five days of operation
- Weekly for the first month of operation
- Monthly thereafter for the first year
- Quarterly beyond the first year (if needed)

Additional site visits may be necessary to maintain the system and/or optimize control settings during early operational periods. All site visits will be documented on a checklist to be prepared upon system installation. The checklist will facilitate the following O&M activities:

- Complete a visual inspection of the system and its components for damage and wear in accordance with equipment manufacturer's recommendations
- Check condensate levels in the moisture knockout vessels
- Record operating pressures/vacuums, temperatures, and flow rates to evaluate if the system is operating within the design criteria
- Perform necessary system adjustments
- Collect field meter readings (PID, flow rate, vacuums, etc.)
- Record operational parameters for vapor effluent treatment equipment
- Record vacuum response measurements from selected observation points (refer to Section 5)
- Record other pertinent information concerning the system operations and maintenance

Routine O&M data will be evaluated to determine if system adjustments are necessary. Upon collection of sufficient data, the extraction rates from individual SVE legs may be adjusted to optimize system performance (i.e., focused extraction from areas of relatively higher VOC

concentrations). DEQ will be notified of any substantial changes to SVE system operation. System operation modifications will be documented on field forms and presented in routine progress reports (Section 6).

5.0 PERFORMANCE MONITORING

Performance monitoring for soil remediation will consist of routine O&M activities for the SVE system (Section 4), vacuum response measurements, sub-slab vapor sampling, and indoor air sampling. Specific performance monitoring activities are summarized as follows:

- SVE influent and stack discharge samples will be collected during routine O&M site visits. SVE influent samples will be collected from each SVE line prior to dilution. Stack discharge samples will be collected from the effluent stream following treatment. Samples will be collected into summa canisters and submitted for analysis of gasoline-range hydrocarbons and VOCs by EPA Method TO-15M. The monthly sampling will continue until another agreed upon sampling schedule is developed. At the time of sample collection, PID readings will be collected from the vapor stream prior to and after vapor effluent treatment. The discharge sample results and PID readings will be evaluated to (1) estimate contaminant removal rates, (2) evaluate atmospheric loading rates to demonstrate that PCIs are not exceeded, and (3) establish correlation between sample results and field meter (PID) readings. If and when untreated vapor sample analytical results and/or PID readings suggest that effluent treatment is no longer needed to mitigate PCIs or if the system can switch to a GAC treatment system, GeoDesign will prepare a formal request (see Section 3.3.5). This request will be supported by air dispersion modeling calculations as appropriate.
- Multi-depth vacuum response measurements will be taken to demonstrate that the SVE system is achieving the desired vacuum response within pertinent areas and depth zones. Vacuum response measurements will be collected using a micromanometer. The target vacuum response for a given observation point will be 0.10 iow or greater. Proposed observation points include the following (see Figures 2 and 3):
  - Previously installed vapor pins VP-1 through VP-4
  - Monitoring wells MW-1 through MW-8
  - SVE pilot test observation points OSVE-1 through OSVE-4
- After approximately three weeks of active SVE operation, vapor samples will be collected from previously installed sub-slab vapor points VP-1 through VP-4. Prior to collection of sub-slab vapor samples, the SVE system will be temporarily turned off. Upon completion of sampling, the SVE system will be re-started.
- Twenty-four hours after sub-slab vapor sample collection (after approximately three weeks of SVE operation), indoor air samples will be collected from the same locations previously sampled[7] for a total of seven indoor air samples and one background sample. Indoor air samples will be collected using Radiello 120 passive badges with an approximately 14-day exposure time. Each indoor air sample will be submitted to the laboratory for analysis of VOCs by EPA Method TO-17.

[7] Refer to our report dated January 21, 2020 for a description of prior indoor air sampling activities.

- Soil treatment compliance will be achieved using a multi-media approach that includes sub-slab vapor, soil vapor, and extraction vapor information. The specific time at which soil compliance will be determined will depend on SVE system operation and performance monitoring data.[8] Upon evaluation of adequate operational data, GeoDesign will propose a confirmation sampling approach for DEQ review. In general, the confirmation sampling will include the following:
  - Evaluation of (pre-treated) vapor sampling results from each leg of the SVE system.
  - Evaluation of sub-slab and soil vapor chemical analytical data collected when the SVE system is turned off and time has been allowed for the subsurface to equilibrate.
  - Evaluation of indoor air sampling results after the SVE system is turned off and time has been allowed for conditions to equilibrate.

If the results of compliance sampling indicate the presence of a rebound condition that warrants continued operation of the SVE system, DEQ will be notified and a new performance monitoring schedule will be developed for DEQ review and approval.

If and when active SVE soil treatment cessation is warranted, GeoDesign will provide recommendations for operational and/or equipment modifications as needed to provide sub-slab vapor mitigation via shallow (sub-slab) ventilation pipes.

6.0 REPORTING

The SVE system construction, startup, and initial field checks will be summarized in a technical memorandum detailing SVE system installation and startup procedures; baseline testing and discharge rates; and as-built diagrams of the system and related components. Thereafter, monthly progress summaries will be prepared detailing the activities performed, system data collected, sampling results and discussion, problems encountered or resolved during the prior period, and activities planned for the upcoming period. Results of the third monthly summary after SVE system startup will be incorporated into a quarterly report. Monthly summaries will be discontinued after initiating quarterly reporting.

♦ ♦ ♦

[8] Soil remediation compliance testing schedule will also be based on the implementation schedule for groundwater remediation, to be discussed in a separate submittal.

We appreciate the opportunity to provide this RAP. Please call if you have questions or if we can provide additional information.

Sincerely,

GeoDesign, Inc.



Kyle Haggart, G.I.T.
Project Manager



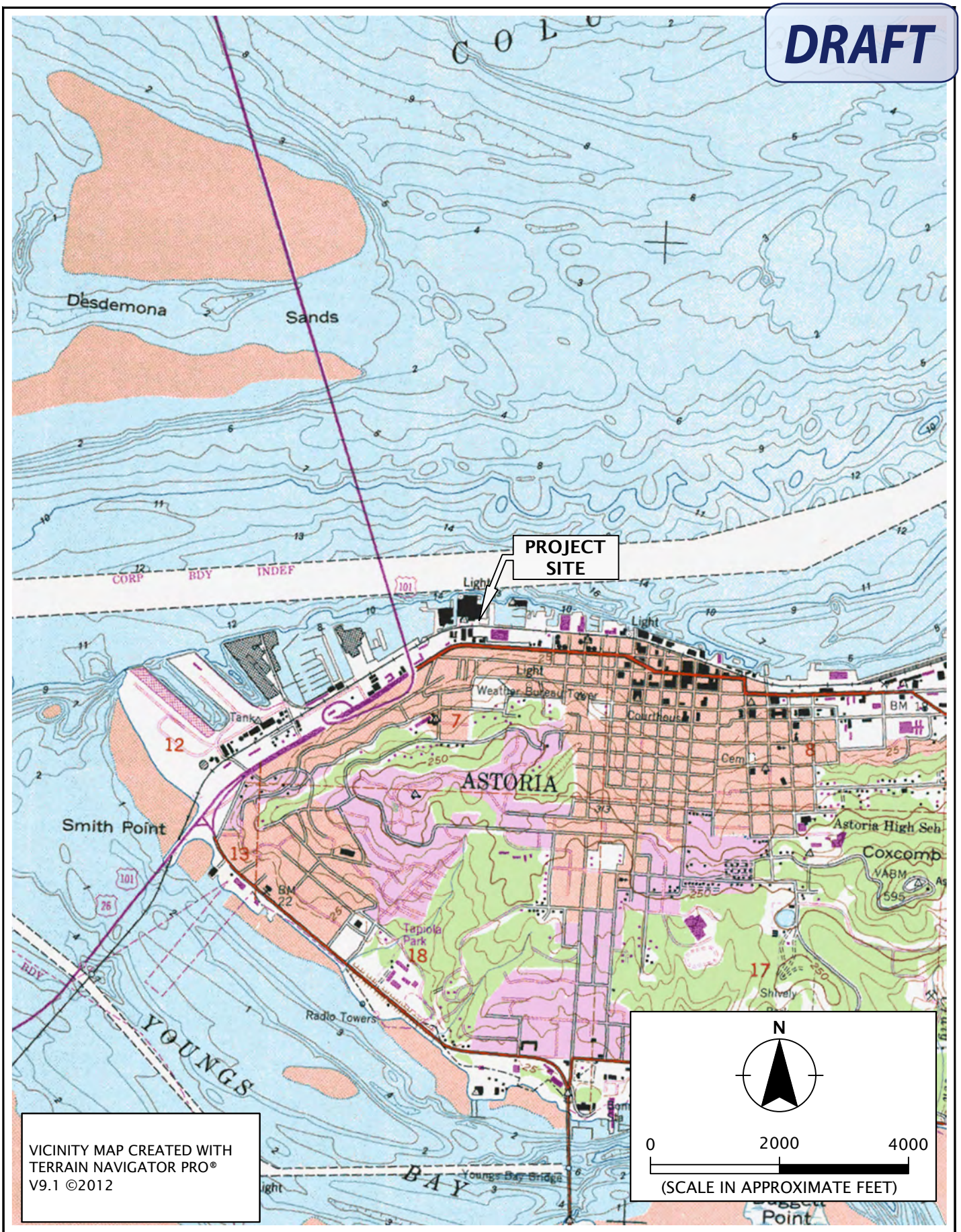
Erik A. Hedberg, P.E.
Associate Engineer



Lon R. Yandell, R.G.
Principal Geologist

FIGURES

DRAFT



GeoDesign Inc AN NV5 COMPANY	BIGBEAMS-1-01-07	VICINITY MAP	
	MARCH 2020	FORMER ASTORIA WAREHOUSING SITE ASTORIA, OR	FIGURE 1

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LEGEND:

- PROJECT SITE BOUNDARY
- DP-1 DIRECT-PUSH BORING (GEODESIGN 2019)
- MW-6 MONITORING WELL (GEODESIGN 2019)
- SV-1 SUB-SLAB VAPOR SAMPLE (GEODESIGN 2019)
- VP-1 VAPOR PIN (PNG 2018)
- MW-1/SG-1 MONITORING WELL/SOIL GAS SAMPLE (PNG 2018)
- B-1 BORING (AEI 2018)
- SB-10 SOIL BORING (AEI 2018)
- A A' CROSS SECTION

COLUMBIA RIVER
LEAD MELTING
B-8
B-9
SV-8
WAREHOUSE 4
SV-7
B-7
SB-14
TROLLEY TRACKS
SB-15
C
SB-13
B-5
DP-10
DP-9
MW-8
MW-6
SB-12
MW-7
C'
DETAIL - SEE FIGURE 3
MW-4/SG-4
PROPANE AST
MW-2/SG-2
B-1
VP-1
DP-14
VP-2
DP-15
VP-3
DP-3
SV-6
WAREHOUSE 3
SV-4
WAREHOUSE 2
B
B-6
FORMER CAN MANUFACTURING WAREHOUSE
POSSIBLE AREA OF DISTURBED SOIL
DP-1
DP-8
SHOP
DP-2
B-2
B'
VACANT
MW-1/SG-1
SB-10
SV-2
A
DP-11
DP-7
DP-4
SV-1
B-4
B-1
DP-13
A'
B-3
WAREHOUSE 1
DP-6
MW-5/SG-5
VP-4
MW-3/SG-3
DP-12
DP-16
DP-5
SB-11
NW NATURAL
WEST MARINE DRIVE
ASTORIA WARRENTON AREA CHAMBER OF COMMERCE
SHELL MINI MART FOOD STORE (LUST FILE NO. 04-94-0225)
TLC FEDERAL CREDIT UNION
WILD WILLIE'S (LUST FILE NO. 04-91-0338)
ASTORIA RIVERSHORE HOTEL
PIG 'N PANCAKE
ATOMIC MOTEL

N

0 100 200
(SCALE IN FEET)

SITE PLAN BASED ON AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH PRO JULY 16, 2019

SITE PLAN

FORMER ASTORIA WAREHOUSE SITE
ASTORIA, OR

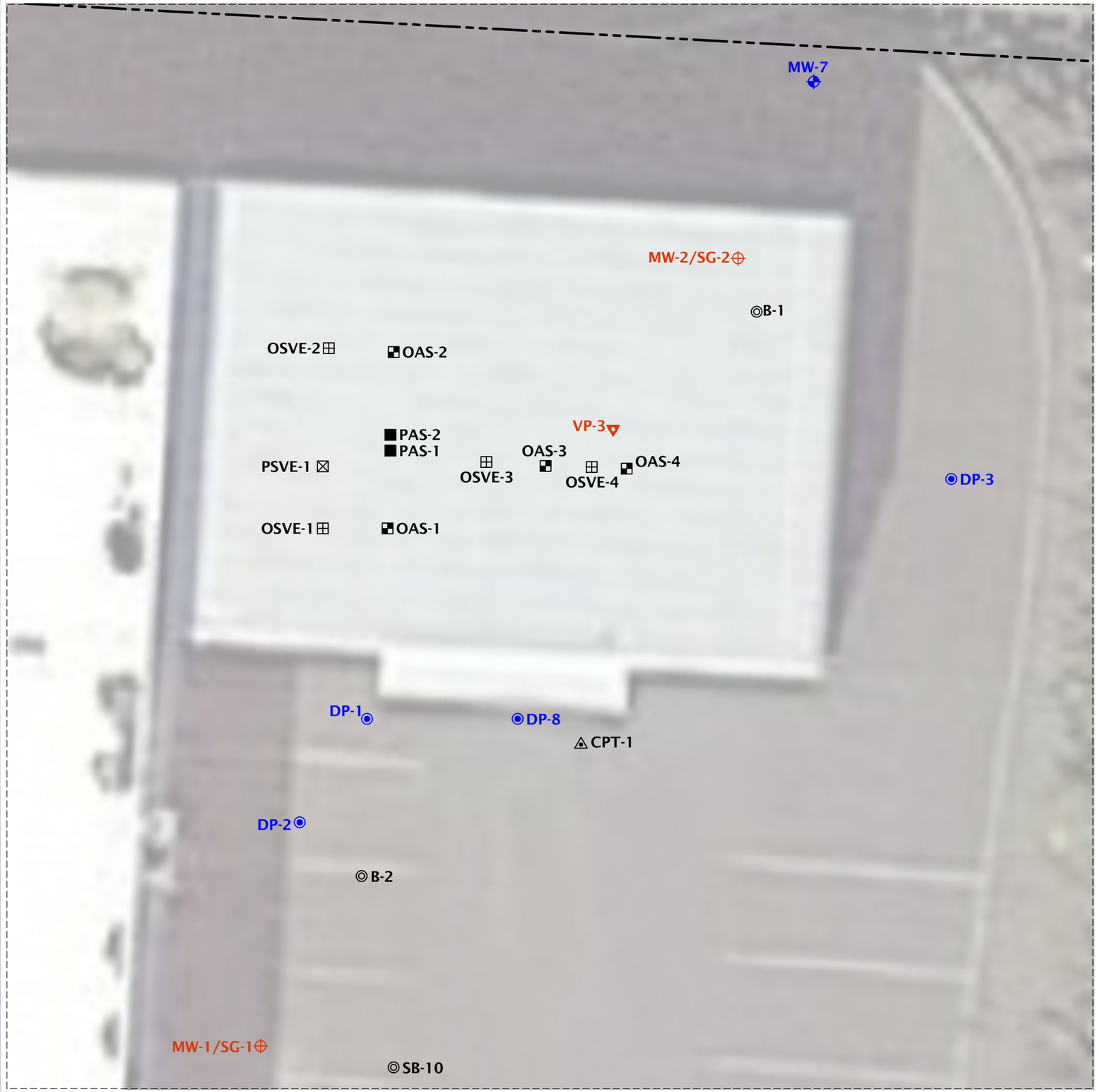
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MARCH 2020

FIGURE 2

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LEGEND:

———	PROJECT SITE BOUNDARY
CPT-1	CONE PENETRATION TEST (GEODESIGN 2019)
DP-1	DIRECT-PUSH BORING (GEODESIGN 2019)
MW-7	MONITORING WELL (GEODESIGN 2019)
VP-3	VAPOR PIN (PNG 2018)
MW-1/SG-1	MONITORING WELL/SOIL GAS SAMPLE (PNG 2018)
B-1	BORING (AEI 2018)
SB-10	SOIL BORING (AEI 2018)
OAS-1	AIR SPARGING OBSERVATION WELL (GEODESIGN 2019)
PAS-1	AIR SPARGING PILOT WELL (GEODESIGN 2019)
OSVE-1	SOIL VAPOR EXTRACTION OBSERVATION WELL (GEODESIGN 2019)
PSVE-1	SOIL VAPOR PILOT EXTRACTION WELL (GEODESIGN 2019)

N

0 10 20

(SCALE IN FEET)

SITE PLAN BASED ON AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH PRO JULY 16, 2019

SITE PLAN - DETAIL

FIGURE 3

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

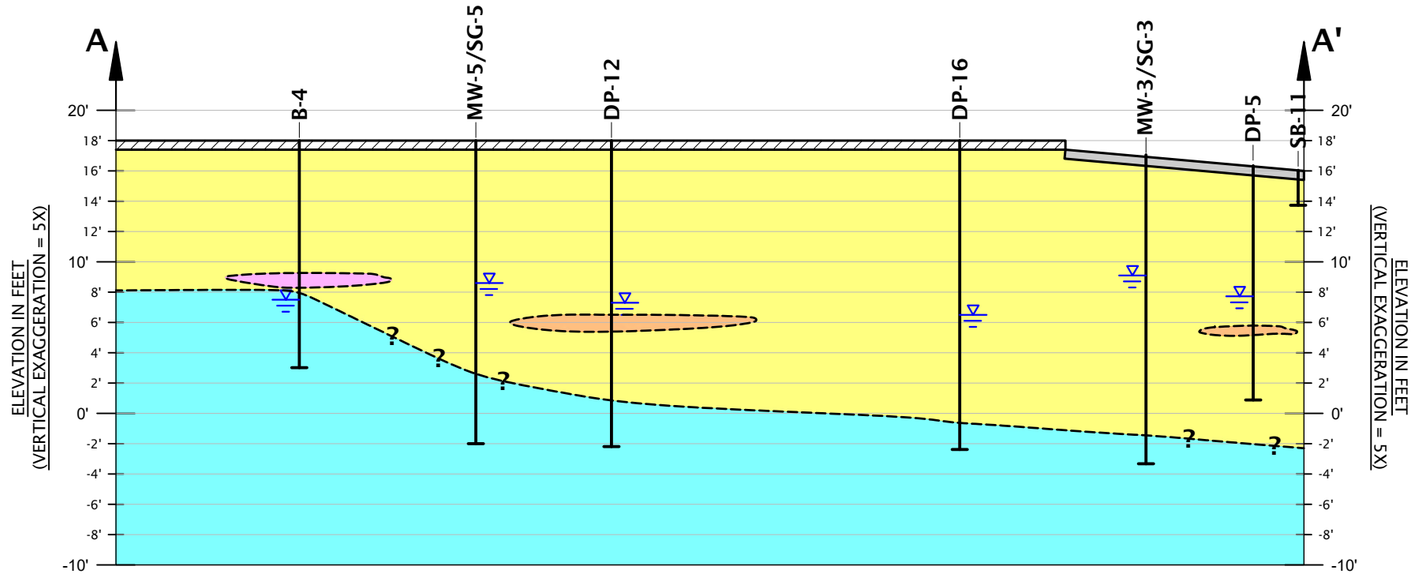
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LEGEND:

- EXISTING GROUND SURFACE
- EXPLORATION/MONITORING WELL
- INTERPRETED CONTACT
- GROUNDWATER
- CONCRETE
- ASPHALT CONCRETE
- GP-GM
- SP-SM
- SM
- ML
- CL

0 10 20
(VERTICAL SCALE IN FEET)

0 50 100
(HORIZONTAL SCALE IN FEET)

CROSS SECTION A-A'

FIGURE 4

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

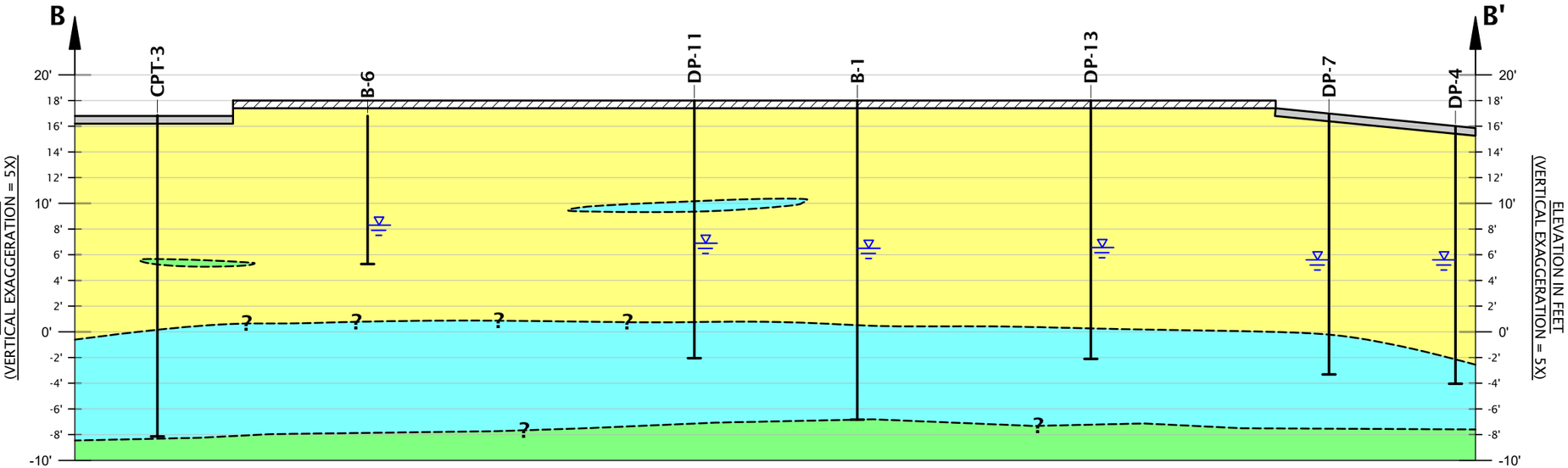
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LEGEND:

- EXISTING GROUND SURFACE
- EXPLORATION/MONITORING WELL
- INTERPRETED CONTACT
- GROUNDWATER
- CONCRETE
- ASPHALT CONCRETE
- GP-GM
- SP-SM
- SM
- ML
- CL

0 10 20
(VERTICAL SCALE IN FEET)

0 50 100
(HORIZONTAL SCALE IN FEET)

CROSS SECTION B-B'

FIGURE 5

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

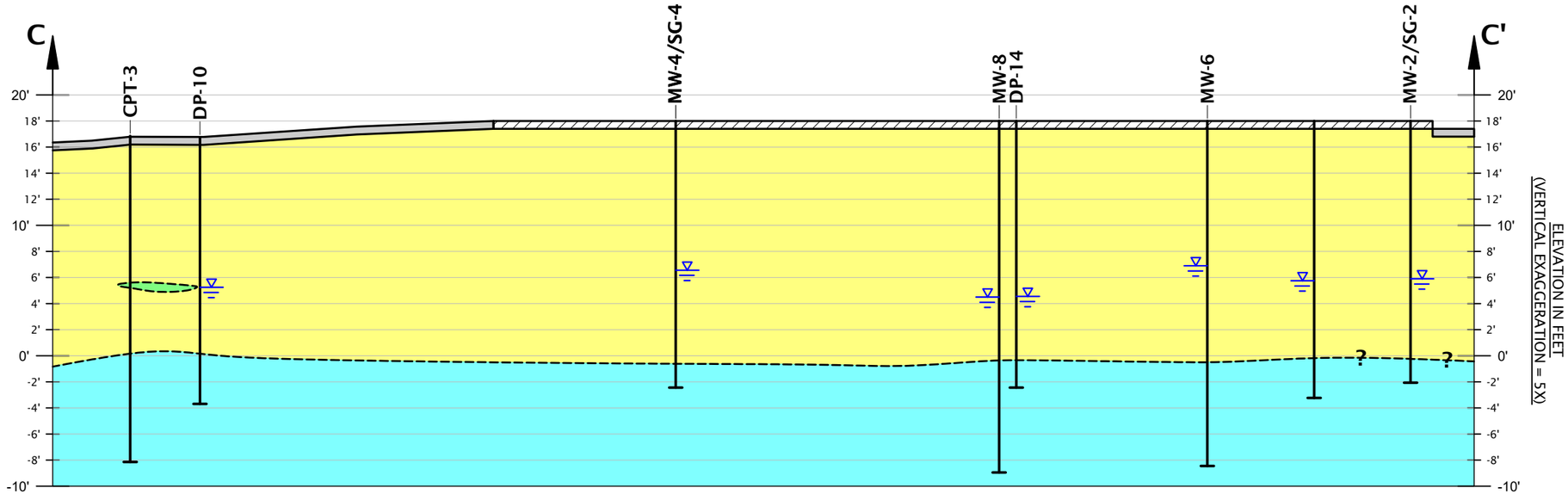
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LEGEND:

- EXISTING GROUND SURFACE
- EXPLORATION/MONITORING WELL
- INTERPRETED CONTACT
- GROUNDWATER
- CONCRETE
- ASPHALT CONCRETE
- GP-GM
- SP-SM
- SM
- ML
- CL

0 10 20
(VERTICAL SCALE IN FEET)

0 50 100
(HORIZONTAL SCALE IN FEET)

CROSS SECTION C-C'

FIGURE 6

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

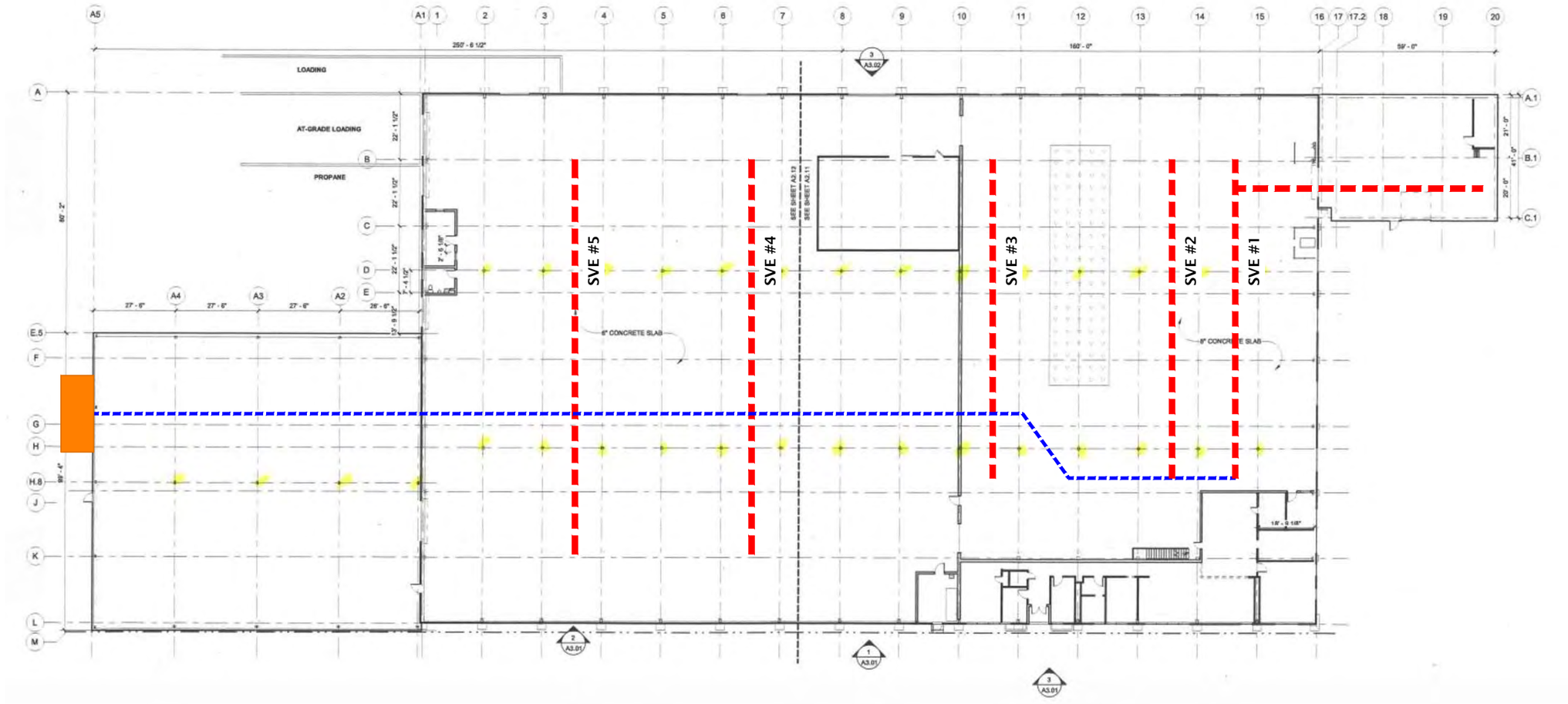
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LEGEND:

- PROPOSED SVE TRENCH (SEE DETAIL FIGURE 8)
- COMMON PIPING TRENCH TO EQUIPMENT CONTAINER (SEE DETAIL FIGURE 8)
- EQUIPMENT CONTAINER (SEE DIAGRAM FIGURE 9)

N

0 40 80

(APPROXIMATE SCALE IN FEET)

FIGURE BASED ON IMAGE OF SHEET A2.10 PLAN, FLOOR - BLD 1 - LEVEL 1 DATED JULY 25, 2019

PROPOSED SVE TRENCH LAYOUT

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE 7

BIGBEAMS-1-01-07

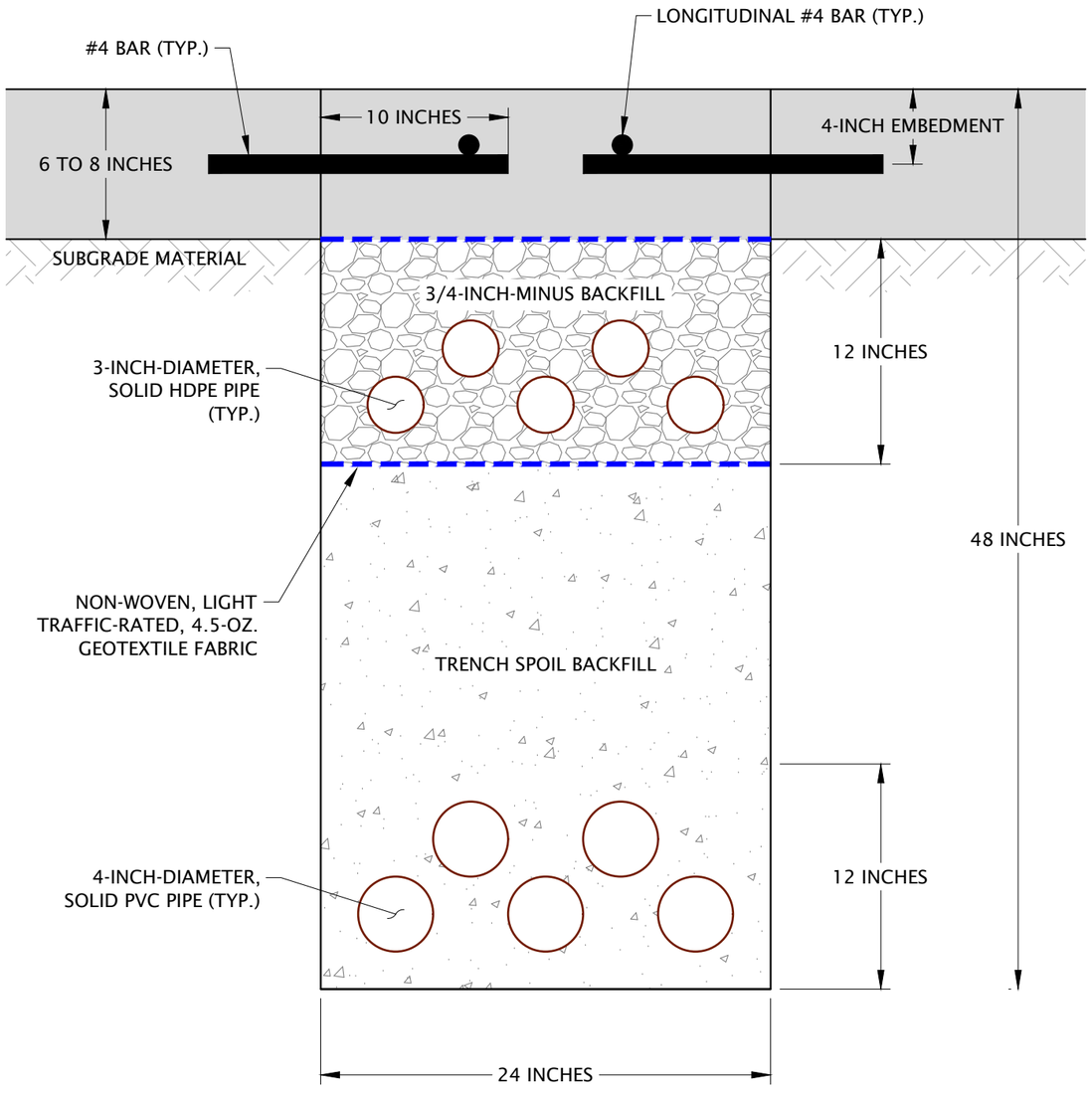
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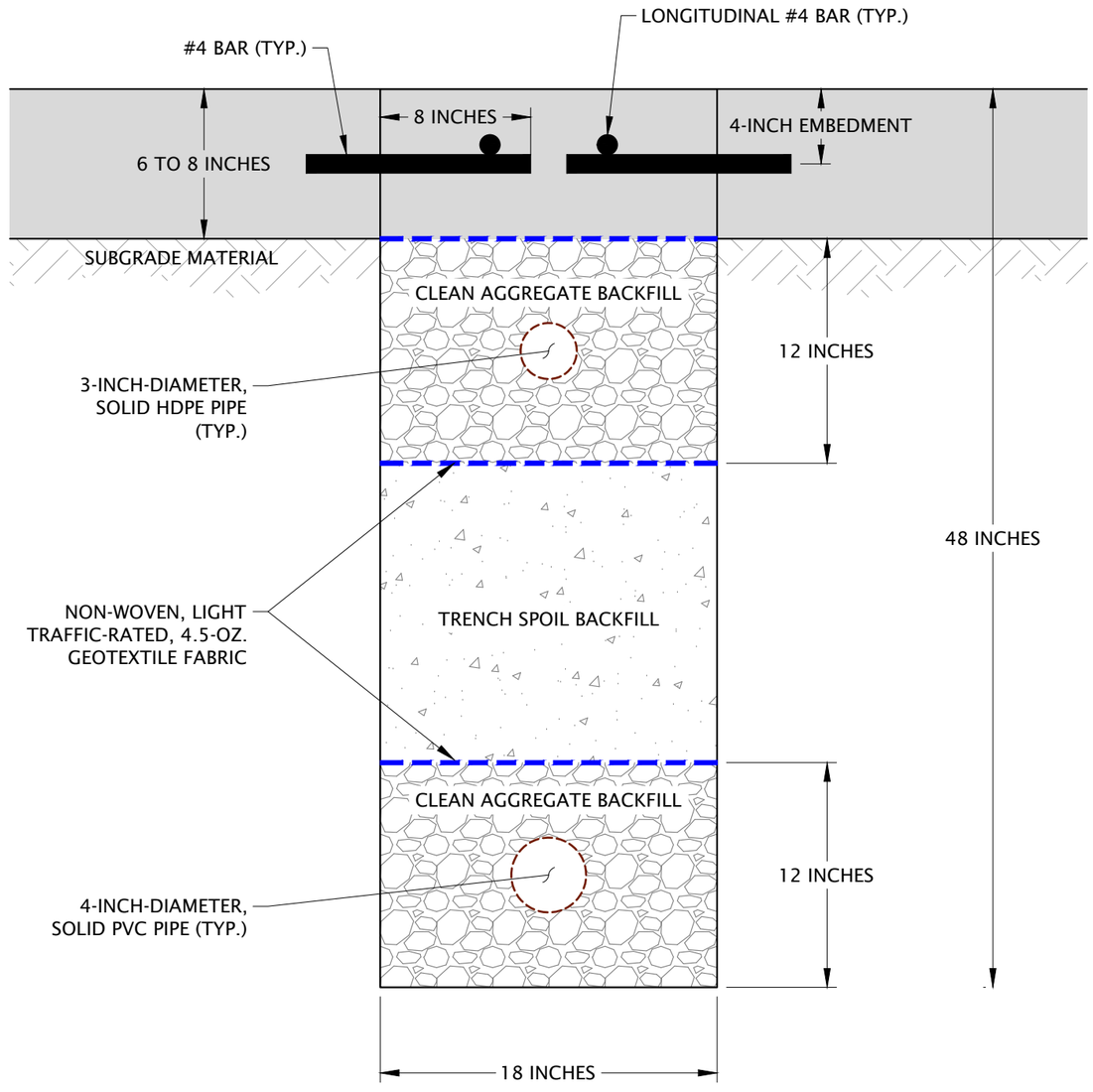
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COMMON TRENCH DETAIL



NOT TO SCALE

SVE TYPICAL TRENCH DETAIL



NOT TO SCALE

PROPOSED SVE TRENCH DETAILS

FIGURE 8

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

BIGBEAMS-1-01-07

MARCH 2020

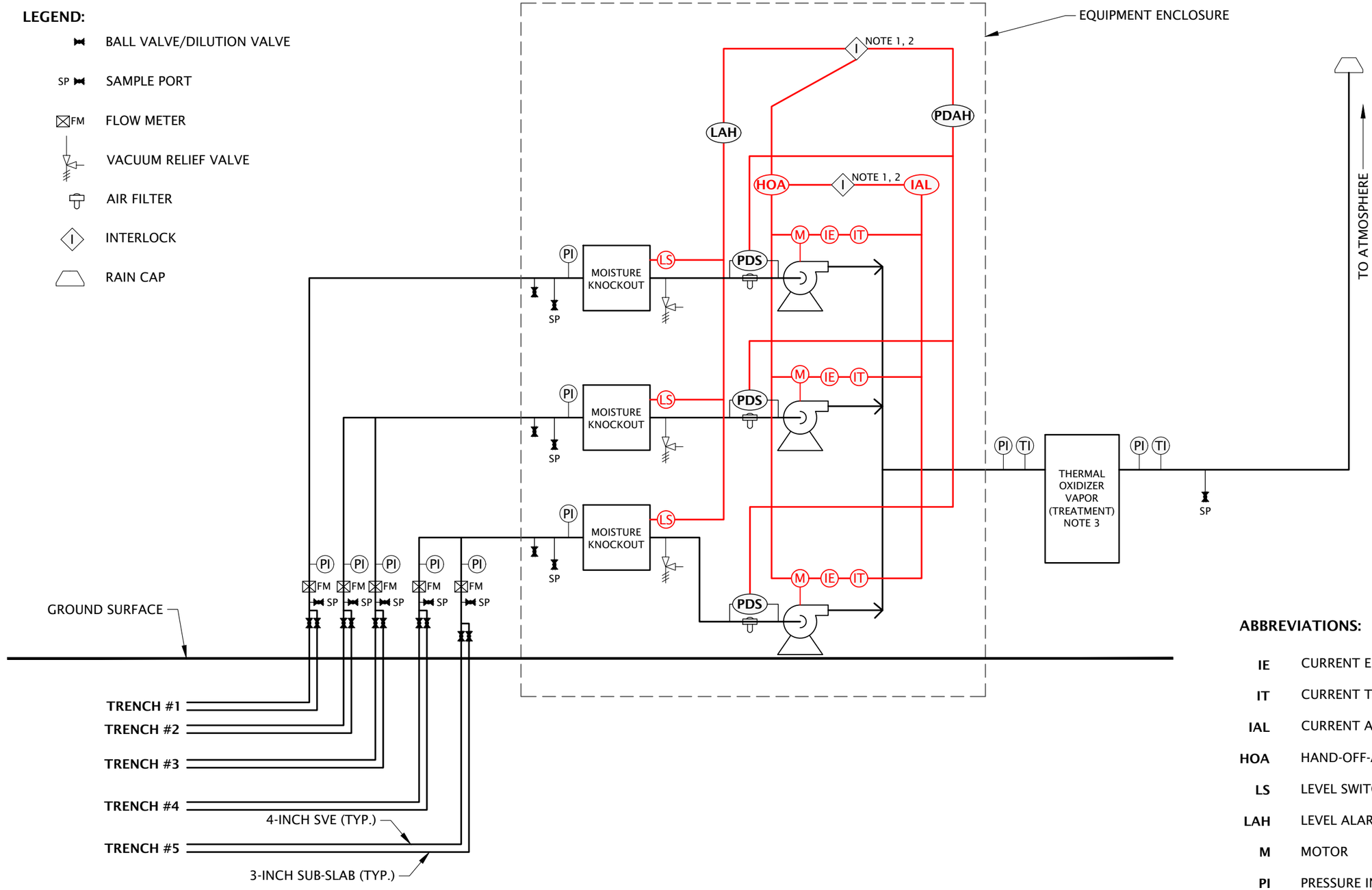
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LEGEND:

- BALL VALVE/DILUTION VALVE
- SP — SAMPLE PORT
- FM — FLOW METER
- VACUUM RELIEF VALVE
- AIR FILTER
- I — INTERLOCK
- RAIN CAP



ABBREVIATIONS:

IE	CURRENT ELEMENT
IT	CURRENT TRANSMITTER
IAL	CURRENT ALARM LOW
HOA	HAND-OFF-AUTO
LS	LEVEL SWITCH
LAH	LEVEL ALARM HIGH
M	MOTOR
PI	PRESSURE INDICATOR
TI	TEMPERATURE INDICATOR
PDS	PRESSURE DIFFERENTIAL SWITCH
PDAH	PRESSURE DIFFERENTIAL ALARM

NOTES:

1. INTERLOCK SHUTS DOWN BLOWER WHEN LIQUID LEVEL IN KNOCKOUT TANK REACHES HIGH ALARM SET POINT AND/OR THE PRESSURE DIFFERENTIAL ACROSS THE AIR FILTER REACHES HIGH ALARM SET POINT.
2. INTERLOCK ACTIVATES AUTODETAILER WHEN BLOWER SHUTS OFF DUE TO POWER LOSS.
3. VAPOR EFFLUENT MAY TRANSITION TO VAPOR-PHASE ACTIVATED CARBON (REFER TO REPORT TEXT).

PROPOSED SVE PIPING AND INSTRUMENTATION DIAGRAM

FIGURE 9

FORMER ASTORIA WAREHOUSE SITE
ASTORIA, OR

BIGBEAMS-1-01-07

MARCH 2020

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TABLES

TABLE 1
Summary of Soil Sample Field Screening and Chemical Analytical Results
Petroleum Hydrocarbons and Lead
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Sample I.D. (depth in feet BGS)	Sample Depth (feet BGS)	Sample Date	Field Screening Results		Gasoline-Range Hydrocarbons Method NWTPH-Gx (mg/kg)		Diesel- and Oil-Range Hydrocarbons Method NWTPH-Dx (mg/kg)				Total Lead EPA Method 6020 (mg/kg)	TCLP Lead EPA Method 6020 (mg/L)
			Sheen	PID (ppm)			Diesel-Range		Oil-Range			
Direct-Push Borings (AEI 2018)												
B-1	10	05/23/18	--	256	**35**		5.3	U	13	U	--	--
B-2*	10	05/23/18	--	741	**3,480**		**1,060**		**107**		--	--
B-3*	10	05/23/18	--	1,147	**1,190**		**602**		12	U	--	--
B-4	10	05/23/18	--	112	**19**		**5.0**	J	**26**		--	--
B-5*	10	05/23/18	--	1,250	**2,300**		**858**		109	U	--	--
B-6	8	05/23/18	--	633	**2.2**	B, J	5.1	U	13	U	--	--
B-7	10	05/23/18	--	10.6	**2.2**	B, J	5.0	U	**25**		--	--
B-8	10	05/23/18	--	4.6	**1.3**	B, J	**2.5**	J	**24**		--	--
B-9	10	05/23/18	--	5.1	**1.1**	B, J	**2.5**	J	**16**		--	--
SB-10	10	05/23/18	--	933.4	**103**		**62**		**9.1**		--	--
SB-11	1.5	05/23/18	--	20.1	--		--		--		**89.6**	--
SB-12	1.0	05/23/18	--	0.0	--		--		--		**3.77**	--
SB-13	1.0	05/23/18	--	0.4	--		--		--		**2.81**	--
SB-14	5	05/23/18	--	0.4	**1.6**	J	**1.5**	J	**5.2**	J	--	--
SB-15	1.0	05/23/18	--	0.2	--		--		--		**3.13**	--
Monitoring Well Borings (PNG 2018 and GeoDesign 2019)												
MW-1/7	7	09/26/18	NS	268	**9.9**		4.9	U	12	U, J	--	--
MW-1/12*	12	09/26/18	NS	1,087	**9,870**		**204**		13	U, J	--	--
MW-1/15*	15	09/26/18	NS	2.6	**11**		5.1	U	13	U, J	--	--
MW-2/4	4	09/26/18	NS	128	**4.0**		4.5	U	11	U, J	--	--
MW-2/10	10	09/26/18	SS	179	**5.0**		4.4	U, Q, UJ	11	U, Q, J	--	--
MW-2/13*	13	09/26/18	SS	1,529	**36,400**		**301**		61	U, J	--	--
MW-2/16.5*	16.5	09/26/18	SS	929	**91**		5.1	U	13	U, J	--	--
MW-3/8	8	09/26/18	NS	0.2	**3.8**		5.4	U	14	U, J	--	--
MW-3/11*	11	09/26/18	NS	0.3	**3.6**		5.2	U	13	U, J	--	--
MW-4/6	6	09/26/18	NS	0.6	2.7	U	4.2	U	11	U, J3, J6	--	--
MW-4/13*	13	09/26/18	MS	1,859	**111**		**310**		63	U, J	--	--
MW-4/17.5*	17.5	09/26/18	NS	158	3.2	U	5.2	U	13	U, J	--	--
MW-5/4	4	09/26/18	NS	0.3	3.9	U	5.9	U	15	U, J	--	--
MW-5/10*	10	09/26/18	SS	1,170	**9,600**		**531**		62	U, J	--	--
MW-5/15*	15	09/26/18	NS	3.3	**8.40**		**4.90**		11	U, J	--	--
MW-6(6-7)	6-7	12/02/19	--	212	**866**		**446**		**46.7**		**8.02**	--
MW-7(5-6)	5-6	12/02/19	NS	1.3	**4.02**	B	85.4	U	**379**		**5.88**	--
MW-8(6-7)	6-7	12/04/19	NS	1,855	2.65	U	4.24	U	10.6	U	**3.61**	--
Direct-Push Borings (GeoDesign 2019)												
DP-1(1-2)	1-2	12/02/19	SS	10.2	**45.6**		**5.61**		**22.1**		**10.7**	--
DP-1(7-8)	7-8	12/02/19	SS	38	**815**		**808**		**636**		**133**	**0.218**
DP-2(2-3)	2-3	12/02/19	SS	68	**43.8**		**15.9**		**63.0**		**24.2**	--
DP-2(7-8)	7-8	12/02/19	SS	220	**161**		**45.9**		**164**		**23.8**	--
DP-3(5-5.5)	5-5.5	12/03/19	SS	162	3.31	U	**77.1**		**266**		**3.96**	--
DP-4(5-6)	5-6	12/03/19	NS	1.0	**5.26**	B	4.37	U	**14.2**		**14.9**	--
DP-5(6-7)	6-7	12/03/19	NS	0.5	2.71	U	4.34	U	10.9	U	**2.34**	--
DP-6(6-7)	6-7	12/03/19	NS	1.2	**4.38**	B	4.45	U	11.1	U	2.74	--
DP-7(5-6)	5-6	12/03/19	NS	1.2	2.76	U	**64.6**		**392**		**3.60**	--
DP-8(1-2)	1-2	12/03/19	SS	47	**48.2**		4.82	U	12.0	U	**3.83**	--
DP-8(7-8)	7-8	12/03/19	SS	58	**12.0**		4.23	U	10.6	U	**2.26**	--
DP-8(10-11)*	10-11	12/03/19	SS	65	**617**		**485**		**36.9**		**3.04**	--
DP-9(5-6)	5-6	12/03/19	NS	0.9	2.79	U	4.46	U	11.1	U	2.30	U --
DP-10(5.5-6.5)	5.5-6.5	12/03/19	NS	2.3	2.84	U	4.40	U	11.0	U	**3.05**	--
DP-11(7-8)	7-8	12/04/19	SS	13	**5.25**	B	4.36	U	10.9	U	**2.64**	--
DP-12(5-6)	5-6	12/04/19	NS	2.4	3.43	U	4.38	J3 J6	11.0	U	**2.72**	--
DP-13(1.5-2.5)	1.5-2.5	12/04/19	NS	3.0	**27.4**		**4.71**		10.9	U	**2.78**	--
DP-13(6-7)	6-7	12/04/19	SS	26	**3.57**		4.17	U	10.4	U	**2.40**	--
DP-14(6-7)	6-7	12/04/19	NS	1.2	2.93	U	4.38	U	10.9	U	**2.07**	--
DP-15(2.5-3.5)	2.5-3.5	12/04/19	NS	5.2	2.60	U	4.16	U	10.4	U	2.12	U --
DP-15(5-6)	5-6	12/04/19	NS	10	2.71	U	4.25	U	10.6	U	2.32	U --
DP-16(6-7)	6-7	12/04/19	NS	1.4	3.65	U	4.98	U	12.4	U	3.48	U --
Pilot Test Wells (GeoDesign 2019)												
PAS-1(1-2)	1-2	12/03/19	SS	6.4	**5.62**		**4.90**	B	10.7	U	**2.45**	--
PAS-1(6-7)	6-7	12/03/19	SS	34	**18.3**		**5.08**	B	10.6	U	**2.34**	--
PAS-2(2-3)	2-3	12/06/19	SS	150	**3.92**	B	**74.5**	J3,J5,J6	**372**		**28.8**	--
PAS-2(6-7)	6-7	12/06/19	SS	31	**4.80**	B	4.29	U	10.7	U	**2.68**	--
OAS-1(7-8)	7-8	12/06/19	SS	107	**20.2**		5.40	U	13.5	U	**3.16**	--
OAS-2(2-3)	2-3	12/05/19	NS	6.0	2.74	U	4.33	U	10.8	U	**33.5**	--
OAS-2(5-6)	5-6	12/05/19	NS	18	**38.9**		4.32	U	10.8	U	**2.23**	--
OAS-3(6-7)	6-7	12/05/19	NS	30	**19.6**		4.25	U	10.6	U	**2.44**	--
OAS-4(2.5-3.5)	2.5-3.5	12/05/19	NS	1.6	**3.63**	B	4.19	U	10.5	U	**2.64**	--
PSVE-1(3-4)	3-4	12/05/19	NS	1.8	**3.38**	B	4.35	U	10.9	U	**2.56**	--
OSVE-1(5-6)	5-6	12/06/19	NS	3.9	**6.53**	B	5.14	U	12.8	U	**3.75**	--
OSVE-2(3-4)	3-4	12/05/19	NS	1.1	**2.73**	B	4.16	U	10.4	U	**2.52**	--
OSVE-4(2-3)	2-3	12/05/19	NS	105	**5.40**	B	4.23	U	**11.0**		**3.03**	--
OSVE-3(5-6)	5-6	12/06/19	NS	15	**9.00**	B	4.29	U	10.7	U	**2.35**	--
DEQ Generic RBCs[1]												
Soil Ingestion, Dermal Contact, and Inhalation												
Occupational			NE	NE	20,000		14,000		NE		800	NE
Construction Worker			NE	NE	9,700		4,600		NE		800	NE
Excavation Worker			NE	NE	>Max		>Max		NE		800	NE

TABLE 1
Summary of Soil Sample Field Screening and Chemical Analytical Results
Petroleum Hydrocarbons and Lead
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Sample I.D. (depth in feet BGS)	Sample Depth (feet BGS)	Sample Date	Field Screening Results		Gasoline-Range Hydrocarbons Method NWTPH-Gx (mg/kg)	Diesel- and Oil-Range Hydrocarbons Method NWTPH-Dx (mg/kg)		Total Lead EPA Method 6020 (mg/kg)	TCLP Lead EPA Method 6020 (mg/L)
			Sheen	PID (ppm)		Diesel-Range	Oil-Range		
Volatilization to Outdoor Air									
Occupational			NE	NE	69,000	>Max	NE	NV	NE
Vapor Intrusion into Buildings									
Occupational			NE	NE	>Max	>Max	NE	NV	NE

Notes:
1. DEQ Generic RBCs dated May 2018
B: The same analyte is found in the associated blank.
J: The result is an estimated quantity.
J3: The associated batch quality control was outside the established quality control range for precisions.
J5: The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6: The sample matrix interfered with the ability to make any accurate determination; spike value is low.
>Max: The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg or 1,000,000 mg/L. Therefore, this substance is deemed not to pose risks in this scenario.
NV: chemical is considered non-volatile
Q: Sample was prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.
U: Not detected. Reporting or detection limit shown.
Bolding indicates analyte detection.
Shading indicates analyte detection at a concentration greater than DEQ RBCs.
*: Sample collected at or below the water table.
--: not analyzed

TABLE 2
Summary of Soil Sample Chemical Analytical Results
VOCs
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Sample I.D. (depth in feet BGS)	Sample Depth (feet BGS)	Sample Date	VOCs[1] EPA Method 8260B (mg/kg)														
			Benzene	n-Butylbenzene	sec-Butylbenzene	1,2-Dichloropropane	Ethylbenzene	P-Isopropyltoluene	Isopropylbenzene	MTBE	Naphthalene	n-Propylbenzene	Toluene	1,2,4-TMB	1,2,3-TMB	1,3,5-TMB	Total Xylenes
Direct-Push Borings (AEI 2018)																	
B-1	10	05/23/18	**0.0795**	**0.130**	**0.0353**	0.00171 U	**0.446**	**0.0195**	**0.0542**	0.000396 U	**0.651**	**0.282**	**0.00904**	**2.08**	**0.514**	**0.415**	**0.572**
B-2*	10	05/23/18	**7.45**	**12.6**	**4.78**	0.0675 U	**64.9**	**1.94**	**12.2**	0.0157 U	**15.9**	**55.1**	**0.404**	**1.14**	**53.2**	**2.91**	**2.71**
B-3*	10	05/23/18	**0.0343** J	**6.00**	**1.66**	0.0625 U	**8.00**	**0.918**	**2.13**	0.0145 U	**32.1**	**13.2**	0.0615 U	**103**	**26.8**	**32.5**	**21.5**
B-4	9	05/23/18	**0.0682**	**0.0701**	**0.0306**	0.00222 U	**0.0218**	0.00406 U	**0.0087**	0.000515 U	**0.019** J	**0.296**	**0.00731** J	**0.0144**	**0.0189**	**0.0119**	**0.0323**
B-5*	10	05/23/18	0.0174 U	**8.27**	**3.36**	0.0551 U	**11.9**	**1.91**	**4.17**	0.0128 U	**29.4**	**23.3**	0.0543 U	**164**	**37.1**	**52.3**	**31.3**
B-6	8	05/23/18	0.000506 U	0.00485 U	0.00320 U	0.00161 U	0.000670 U	0.00295 U	0.0109 U	0.000373 U	0.00394 U	0.00149 U	**0.00912**	0.00147 U	0.00145 U	0.00147 U	0.00604 U
B-7	10	05/23/18	0.000503 U	0.00483 U	0.00318 U	0.00160 U	0.000666 U	0.00293 U	0.00108 U	0.000317 U	**0.00455** J	0.00148 U	**0.00529** J	0.00146 U	0.00145 U	0.00146 U	0.00601 U
B-8	10	05/23/18	**0.000488** J	0.00467 U	0.00308 U	0.00154 U	0.000645 U	0.00608 U	0.00105 U	0.000359 U	0.00380 U	0.00144 U	**0.00665**	0.00141 U	0.00140 U	0.00141 U	0.00581 U
B-9	10	05/23/18	0.000463 U	0.00444 U	0.00293 U	0.00147 U	0.000613 U	0.00270 U	0.000999 U	0.000341 U	0.00361 U	0.00137 U	**0.00463** J	0.00134 U	0.00133 U	0.00134 U	0.00553 U
SB-10	10	05/23/18	**3.24**	**0.155**	**0.0724**	0.00545 U	**5.35**	**0.0293**	**0.278**	0.00127 U	**2.46**	**1.21**	**0.136**	**6.31**	**1.53**	**1.74**	**10.7**
SB-14	5	05/23/18	**0.000591** J	0.00423 U	0.00279 U	0.00140 U	0.00583 U	0.00256 U	0.000950 U	0.000325 U	0.00343 U	0.00130 U	**0.00897**	0.00128 U	0.00127 U	0.00128 U	0.00526 U
Monitoring Wells (PNG 2018 and GeoDesign 2019)																	
MW-1/12*	12	05/23/18	**16.1**	**35.3**	**10.9**	0.0557 U	**311**	**2.87**	**29.3**	0.0111 U	**87.2**	**130**	**1.34**	**98.2**	**144**	**31.3**	**76.1**
MW-2/13*	13	05/23/18	**169**	**114**	**25.8**	0.122 U	**1,150**	**16.5**	**114**	0.0487 U	**402**	**491**	**7.48**	**2,710**	**593**	**634**	**1,880**
MW-3/11*	11	05/23/18	**0.00249**	0.0161 U	0.0161 U	0.00645 U	**0.00912**	0.00645 U	0.00322 U	**0.00138**	0.0161 U	0.00645 U	0.00645 U	**0.00985**	0.00645 U	0.00645 U	**0.0137**
MW-4/13*	13	05/23/18	**1.35**	**0.394**	**0.0951**	0.00628 U	**1.83**	**0.0250**	**0.247**	0.00126 U	**0.601**	**1.17**	**0.152**	**2.78**	**0.878**	**0.638**	**4.13**
MW-5/10*	10	05/23/18	**0.896**	**42.7**	**10.5**	0.0492 U	**65.8**	**0.839** J5	**18.6** V	0.00984 U	**17.7** V, J	**108** J	**0.142**	**2.49**	**60.3**	**21.7**	**0.878**
MW-6(6-7)	6-7	12/02/19	**0.213**	**8.51**	**2.41**	0.046 U	**14.0** V	**1.93**	**2.44**	0.00919 U	**16.2**	**15.0** V	0.046 U	**84.3**	**31.8**	**8.92**	**20.5**
MW-7(5-6)	5-6	12/02/19	0.00112 U	0.0140 U	0.0140 U	0.0056 U	0.00281 U	0.00560 U	0.00281 U	0.00112 U	0.0140 U	0.00560 U	0.00560 U	**0.00632**	0.00560 U	0.00560 U	0.00729 U
MW-8(6-7)	6-7	12/04/19	0.00109 U	0.0137 U	0.0137 U	0.00546 U	**0.00414**	0.00546 U	0.00273 U	0.00109 U	**0.0237**	0.00546 U	0.00546 U	**0.0216**	**0.00827**	0.00546 U	**0.00750**
Direct-Push Borings (GeoDesign 2019)																	
DP-1(1-2)	1-2	12/02/19	**0.531**	0.0116 U	0.0116 U	0.00662 U	**0.437**	0.00662 U	**0.0128**	0.00132 U	0.0116 U	**0.0577**	**0.0206**	**0.105**	**0.0453**	**0.047**	**0.447**
DP-1(7-8)	7-8	12/02/19	**59.5**	**53.2**	**2.36**	**0.181**	**724**	**1.21**	**64.5**	0.00112 U	**78.1**	**279**	**0.0673**	**35.3**	**358**	**316**	**1,020**
DP-2(2-3)	2-3	12/02/19	**1.20**	**0.137**	**0.0608**	0.00594 U	**1.90**	0.00594 U	**0.141**	0.00119 U	**0.908**	**0.780**	**0.0793**	**2.51**	**0.998**	**0.762**	**3.36**
DP-2(7-8)	7-8	12/02/19	**0.0683**	**0.0775**	**0.0318**	0.00548 U	**0.658**	**0.0177**	**0.0597**	0.0011 U	**0.131**	**0.369**	0.00548 U	**1.63**	**0.532**	**0.286**	**1.18**
DP-3(5-5.5)	5-5.5	12/03/19	**0.525**	0.0135 U	0.0135 U	0.00542 U	**0.253**	0.00542 U	**0.00425**	0.00108 U	0.0135 U	**0.0192**	**0.0142**	**0.0464**	**0.0146**	**0.0118**	**0.208**
DP-4(5-6)	5-6	12/03/19	0.00114 U	0.0142 U	0.0142 U	0.00568 U	0.00284 U	0.00568 U	0.00284 U	0.00114 U	0.0142 U	0.00568 U	0.00568 U	0.00568 U	0.00568 U	0.00568 U	0.00738 U
DP-5(6-7)	6-7	12/03/19	0.00110 U	0.0137 U	0.0137 U	0.00548 U	0.00275 U	0.00548 U	0.00275 U	0.00110 U	0.0137 U	0.00548 U	0.00548 U	0.00548 U	0.00548 U	0.00548 U	0.00712 U
DP-6(6-7)	6-7	12/03/19	0.00114 U	0.0143 U	0.0143 U	0.00568 U	0.00284 U	0.00568 U	0.00284 U	0.00114 U	0.0143 U	0.00568 U	0.00568 U	0.00568 U	0.00568 U	0.00568 U	0.00738 U
DP-7(5-6)	5-6	12/03/19	0.00110 U	0.0138 U	0.0138 U	0.00552 U	0.00276 U	0.00552 U	0.00276 U	0.00110 U	0.0138 U	0.00552 U	0.00552 U	0.00552 U	0.00552 U	0.00552 U	0.00717 U
DP-8(1-2)	1-2	12/03/19	**0.0588**	0.0164 U	0.0164 U	0.00656 U	**0.0856**	0.00656 U	**0.00637**	0.00131 U	**0.0348**	**0.0330**	**0.00683**	**0.194**	**0.0737**	**0.0570**	**0.226**
DP-8(7-8)	7-8	12/03/19	**0.0697**	**0.0280**	0.0132 U	0.00529 U	**0.162**	**0.00585**	**0.0125**	0.00106 U	**0.239**	**0.0778**	**0.00574**	**0.526**	**0.205**	**0.140**	**0.312**
DP-8(10-11)*	10-11	12/03/19	**15.7**	**17.5**	**7.66**	0.04640 U	**146**	**5.12**	**11.1**	0.00927 U	**53.4** B	**62.8**	**0.653**	**366**	**100**	**65.0**	**181**
DP-9(5-6)	5-6	12/03/19	0.00116 U	0.0145 U	0.0145 U	0.00579 U	**0.00699**	0.00579 U	0.00290 U	**0.00163**	**0.0216**	0.00579 U	**0.00646**	**0.0277**	**0.0117**	**0.00791**	**0.0291**

TABLE 2
Summary of Soil Sample Chemical Analytical Results
VOCs
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Sample I.D. (depth in feet BGS)	Sample Depth (feet BGS)	Sample Date	VOCs[1] EPA Method 8260B (mg/kg)															
			Benzene	n-Butylbenzene	sec-Butylbenzene	1,2-Dichloropropane	Ethylbenzene	P-Isopropyltoluene	Isopropylbenzene	MTBE	Naphthalene	n-Propylbenzene	Toluene	1,2,4-TMB	1,2,3-TMB	1,3,5-TMB	Total Xylenes
DP-10(5.5-6.5)	5.5-6.5	12/03/19	0.00110 U	0.0137 U	0.0137 U	0.00550 U	0.00275 U	0.00550 U	0.00275 U	0.00110 U	0.0137 U	0.0055 U	**0.00608**	0.00550 U	0.00550 U	0.00550 U	0.00715 U
DP-11(7-8)	7-8	12/04/19	**0.0334**	0.0157 U	0.0157 U	0.00626 U	**0.0290**	0.00626 U	0.00314 U	0.00125 U	0.0157 U	0.00626 U	**0.0131** B	0.00626 U	0.00626 U	0.00626 U	**0.0316**
DP-12(5-6)	5-6	12/04/19	0.00116 U	0.0146 U	0.0146 U	0.00581 U	**0.00358**	0.00581 U	0.00290 U	**0.00201**	0.0146 U	**0.00928**	**0.00946**	0.00581 U	0.00581 U	0.00581 U	0.00755 U
DP-13(1.5-2.5)	1.5-2.5	12/04/19	**0.0428**	**0.0322**	0.0168 U	0.00671 U	**0.254**	0.00671 U	**0.0201**	0.00134 U	**0.539**	**0.0923**	**0.00836**	**0.830**	**0.263**	**0.219**	**0.615**
DP-13(6-7)	6-7	12/04/19	**0.00300**	0.0145 U	0.0145 U	0.00578 U	**0.0380**	0.00578 U	**0.00376**	0.00116 U	**0.270**	**0.0183**	**0.0102**	**0.162**	**0.0538**	**0.0408**	**0.0996**
DP-14(6-7)	6-7	12/04/19	**0.0158**	0.0143 U	0.0143 U	0.00575 U	**0.00505**	0.00575 U	0.00288 U	0.00115 U	**0.0515**	0.00575 U	0.00575 U	0.00575 U	0.00575 U	0.00575 U	**0.00863**
DP-15(2.5-3.5)	2.5-3.5	12/04/19	**0.0248**	0.0130 U	0.0130 U	0.00520 U	**0.0338**	0.00520 U	0.00260 U	0.00104 U	0.0130 U	**0.00545**	0.00520 U	**0.0247**	**0.00700**	**0.00650**	**0.0833**
DP-15(5-6)	5-6	12/04/19	**0.0138**	0.0136 U	0.0136 U	0.00542 U	**0.0236**	0.00542 U	0.00271 U	0.00108 U	**0.0368**	**0.0104**	0.00542 U	**0.0795**	**0.0239**	**0.0201**	**0.111**
DP-16(6-7)	6-7	12/04/19	**0.0286**	0.0156 U	0.0156 U	0.00622 U	**0.0180**	0.00622 U	0.00311 U	0.00124 U	0.0156 U	0.00622 U	**0.00697**	0.00622 U	0.00622 U	0.00622 U	**0.0254**
Pilot Test Wells (GeoDesign 2019)																	
PAS-1(1-2)	1-2	12/03/19	**0.0644**	0.0140 U	0.0140 U	0.00561 U	**0.141**	0.00561 U	**0.00777**	0.00112 U	**0.0419**	**0.0446**	0.00561 U	**0.221**	**0.0869**	**0.0739**	**0.311**
PAS-1(6-7)	6-7	12/03/19	**0.114**	**0.0661**	**0.0201**	0.00571 U	**0.363**	**0.0145**	**0.0292**	0.00114 U	**0.368**	**0.191**	0.00571 U	**1.29**	**0.479**	**0.274**	**0.517**
PAS-2(2-3)	2-3	12/06/19	**0.0120**	0.0137 U	0.0137 U	0.00549 U	**0.0477**	0.00549 U	**0.00392**	0.00110 U	**0.0177**	**0.0176**	0.00549 U	**0.103**	**0.0356**	**0.0274**	**0.0862**
PAS-2(6-7)	6-7	12/06/19	**0.0371**	0.0139 U	0.0139 U	0.00557 U	**0.102**	0.00557 U	**0.00767**	0.00111 U	**0.0826**	**0.0387**	0.00557 U	**0.283**	**0.0886**	**0.0536**	**0.143**
OAS-1(7-8)	7-8	12/06/19	**0.130**	**0.0576**	**0.0227**	0.00675 U	**0.483**	**0.0113**	**0.0400**	0.00135 U	**0.270**	**0.192**	**0.00819**	**1.26**	**0.383**	**0.213**	**0.606**
OAS-2(2-3)	2-3	12/05/19	**0.0287**	0.0140 U	0.0140 U	0.00558 U	**0.0512**	0.00558 U	**0.00291**	0.00112 U	**0.0213**	**0.0129**	0.00558 U	**0.0742**	**0.0255**	**0.0148**	**0.0784**
OAS-2(5-6)	5-6	12/05/19	**0.297**	**0.250**	**0.0869**	0.00541 U	**1.55**	**0.0448**	**0.161**	0.00108 U	**0.764**	**0.787**	**0.0195**	**4.92**	**1.49**	**0.555**	**1.98**
OAS-3(6-7)	6-7	12/05/19	**0.0912**	**0.0981**	**0.0359**	0.00557 U	**0.725**	**0.0190**	**0.0720**	0.00111 U	**0.244**	**0.323**	**0.0115**	**1.89**	**0.518**	**0.322**	**0.981**
OAS-4(2.5-3.5)	2.5-3.5	12/05/19	**0.206**	0.0190 U	0.0190 U	0.00760 U	**0.167**	0.00760 U	**0.00778**	0.00152 U	**0.284**	**0.0334**	**0.0116**	**0.0454**	**0.0532**	**0.0356**	**0.244**
PSVE-1(3-4)	3-4	12/05/19	**0.0140**	0.0148 U	0.0148 U	0.00592 U	**0.0305**	0.00592 U	0.00297	0.00118 U	**0.0351**	**0.0102**	0.00592 U	**0.0686**	**0.0222**	**0.0184**	**0.0471**
OSVE-1(5-6)	5-6	12/06/19	**0.0266**	**0.0370**	0.0161 U	0.00642 U	**0.808**	**0.00746**	**0.0477**	**0.00260**	**0.0797**	**0.153**	**0.00825**	**1.07**	**0.310**	**0.306**	**1.43**
OSVE-2(3-4)	3-4	12/05/19	**0.0133**	0.0135 U	0.0135 U	0.00540 U	**0.0356**	0.00540 U	**0.00286**	0.00108 U	**0.0187**	**0.0128**	0.00540 U	**0.0770**	**0.0266**	**0.0143**	**0.0518**
OSVE-3(5-6)	5-6	12/06/19	**0.108**	**0.0223**	0.0146 U	0.00585 U	**0.185**	0.00585 U	**0.0127**	0.00117 U	**0.131**	**0.0651**	**0.00598**	**0.468**	**0.147**	**0.0865**	**0.256**
OSVE-4(2-3)	2-3	12/05/19	**0.0718**	0.0133 U	0.0133 U	0.00535 U	**0.115**	0.00535 U	**0.00802**	0.00107 U	**0.0615**	**0.0336**	0.00535 U	**0.207**	**0.0643**	**0.0486**	**0.204**
DEQ Generic RBCs[2]																	
Soil Ingestion, Dermal Contact, and Inhalation																	
Occupational			37	NE	NE	NE	150	NE	57,000	1,100	23	NE	88,000	6,900	NE	6,900	25,000
Construction Worker			380	NE	NE	NE	1,700	NE	27,000	12,000	580	NE	28,000	2,900	NE	2,900	20,000
Excavation Worker			11,000	NE	NE	NE	49,000	NE	750,000	320,000	16,000	NE	770,000	81,000	NE	81,000	560,000
Volatilization to Outdoor Air																	
Occupational			50	NE	NE	NE	160	NE	>Csat	1,500	83	NE	>Csat	>Csat	NE	>Csat	>Csat
Vapor Intrusion into Buildings																	
Occupational			2.1	NE	NE	NE	17	NE	>Csat	110	83	NE	>Csat	>Csat	NE	>Csat	>Csat

TABLE 2
Summary of Soil Sample Chemical Analytical Results
VOCs
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Sample I.D. (depth in feet BGS)	Sample Depth (feet BGS)	Sample Date	VOCs[1] EPA Method 8260B (mg/kg)														
			Benzene	n-Butylbenzene	sec-Butylbenzene	1,2-Dichloropropane	Ethylbenzene	P-Isopropyltoluene	Isopropylbenzene	MTBE	Naphthalene	n-Propylbenzene	Toluene	1,2,4-TMB	1,2,3-TMB	1,3,5-TMB	Total Xylenes

Notes:
1. Only detected VOCs are shown.
2. DEQ Generic RBCs dated May 2018
>Csat: This soil RBC exceeds the limit of three-phase equilibrium partitioning. Refer to Appendix D of DEQ's RBDM guidance document for the corresponding value of Csat. Soil concentrations in excess of Csat indicate that free product might be present.
B: The same analyte is found in the associated blank.
J: The result is an estimated quantity.
J5: The sample matrix interfered with the ability to make an accurate determination; spike value is high.
U: Not detected. Reporting or detection limit shown.
V: The sample concentration is too high to evaluate accurate spike recoveries.
Bolding indicates analyte detection.
Shading indicates analyte detection at a concentration greater than DEQ RBCs.
*: Sample collected at or below the water table.

TABLE 3
Summary of Soil Sample Chemical Analytical Results
PAHs
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Sample I.D. (depth in feet BGS)	Sample Depth (feet BGS)	Sample Date	PAHs EPA Method 8270M-SIM (mg/kg)																	
			Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
Direct-Push Borings (AEI 2018)																				
B-1	10.0	05/23/18	0.0079 U	--	0.0079 U	0.00789 U	0.0079 U	0.0079 U	0.0079 U	0.0079 U	0.00789 U	0.0079 U	0.0079 U	0.0079 U	0.0079 U	**0.066**	**0.14**	--	0.0079 U	0.0079 U
B-2*	10.0	05/23/18	**0.59**	--	**0.23**	**0.0605**	**0.025**	**0.033**	**0.011**	**0.021**	**0.051**	**0.0035 J**	**0.36**	**0.60**	**0.012**	**24**	**50**	--	**1.1**	**0.26**
B-3*	10.0	05/23/18	**0.055**	--	**0.026**	**0.00659 J**	**0.0026 J**	**0.0027 J**	**0.0012 J**	**0.0030 J**	**0.00476 J**	0.0074 U	**0.035**	**0.048**	**0.0010 J**	**3.2 V**	**5.5**	--	**0.084**	**0.028**
B-4	9	05/23/18	**0.0018 J**	--	0.0086 U	**0.00101 J**	**0.0012 J**	**0.0016 J**	0.0086 U	**0.0019 J**	**0.0010 J**	0.0086 U	**0.0036 J**	**0.0017 J**	**0.0010 J**	**0.028 J**	**0.0050 J**	--	**0.0023 J**	**0.0030 J**
B-6	8	05/23/18	0.0076 U	--	0.0076 U	**0.00759**	0.0076 U	0.0076 U	0.0076 U	0.0076 U	0.00759 U	0.0076 U	0.0076 U	0.0076 U	0.0076 U	**0.025**	0.025 U	--	**0.0076**	**0.0076**
B-7	10	05/23/18	**0.0011 J**	--	**0.0011 J**	**0.00251 J**	**0.0058 J**	**0.0046 J**	**0.00084 J**	**0.0081**	**0.0020 J**	**0.0026 J**	**0.0031 J**	**0.0015 J**	**0.0025 J**	**0.0069 J**	**0.011**	--	**0.0042 J**	**0.0049 J**
B-8	10	05/23/18	0.0073 U	--	**0.0081 J**	**0.00224 J**	**0.0032 J**	**0.0049 J**	**0.0013 J**	**0.0055 J**	**0.00331 J**	**0.0017**	**0.0047 J**	0.0073 U	**0.0020 J**	**0.0042 J**	**0.0056 J**	--	**0.0051 J**	**0.0058 J**
B-9	10	05/23/18	0.0069 U	--	0.0069 U	**0.00119 J**	**0.0012 J**	**0.0020 J**	0.0069 U	**0.0017 J**	**0.00138 J**	0.0069 U	**0.0026 J**	0.0069 U	**0.0011 J**	0.023 U	0.0023 U	--	**0.0021 J**	**0.0024 J**
SB-11	1.5	05/23/18	**0.0066**	--	**0.012**	**0.0259**	**0.041**	**0.049**	**0.011**	**0.052**	**0.039**	**0.0082**	**0.076**	**0.011**	**0.033**	**0.13**	**0.22**	--	**0.22**	**0.066**
SB-12	1	05/23/18	0.0065 U	--	**0.0010 J**	**0.00115 J**	**0.0017 J**	**0.0035 J**	**0.00095 J**	**0.0033 J**	**0.00151 J**	0.0065 U	**0.0030 J**	0.0065 U	**0.0019 J**	0.022 U	0.022 U	--	**0.0015 J**	**0.0030 J**
SB-13	1	05/23/18	**0.0020 J**	--	**0.018**	**0.0109**	**0.017**	**0.031**	**0.0079**	**0.016**	**0.00964**	**0.0044 J**	**0.014**	**0.0016 J**	**0.0081**	0.021 U	0.021 U	--	**0.0088**	**0.030**
SB-15	1	05/23/18	0.0064 U	--	**0.0033 J**	**0.00109 J**	**0.0013 J**	**0.0022 J**	**0.00067 J**	**0.0031 J**	**0.0010 J**	0.0064 U	**0.0018 J**	0.0064 U	**0.0019 J**	0.021 U	0.021 U	--	**0.00070 J**	**0.018 J**
Monitoring Wells (PNG 2018 and GeoDesign 2019)																				
MW-1/12*	12.0	09/26/18	**0.29**	0.0080 U	**0.15**	**0.034**	**0.014**	**0.018**	0.0080 U	**0.010**	**0.025**	0.0080 U	**0.22**	**0.28**	0.0080 U	**9.4**	**19**	**21**	**0.59**	**0.17**
MW-2/13*	13.0	09/26/18	**0.31**	**0.046**	**0.22**	**0.047**	**0.023**	**0.031**	**0.0097**	**0.020**	**0.036**	0.0073 U	**0.24**	**0.34**	**0.0098**	**20**	**39**	**48**	**0.65**	**0.20**
MW-3/11*	11.0	09/26/18	0.0077 U	0.0077 U	0.0077 U	0.0077 U	0.0077 U	0.0077 U	0.0077 U	0.0077 U	0.0077 U	0.0077 U	0.0077 U	0.0077 U	0.0077 U	0.026 U	0.026 U	0.026 U	0.0077 U	0.0077 U
MW-4/13*	13.0	09/26/18	**0.19**	0.0075 U	**0.083**	**0.024**	**0.0083**	**0.012**	0.0075 U	0.0075 U	**0.017**	0.0075 U	**0.15**	**0.18**	0.0075 U	**4.4**	**8.4**	**9.3**	**0.37**	**0.11**
MW-5/10*	10	09/26/18	**0.17**	0.0074 U	**0.15**	**0.029**	**0.018**	**0.020**	0.0074 U	**0.021**	**0.021**	0.0074 U	**0.092**	**0.21**	0.0074 U	**12**	**13**	**5.5**	**0.30**	**0.10**
MW-6(6-7)	6-7	12/02/19	**0.314**	0.00644 U	**0.175**	**0.0499**	**0.0223**	**0.0294**	**0.00807**	**0.0171**	**0.0448**	0.00644 U	**0.266**	**0.334**	**0.00898**	**11.5**	**23.8**	**19.9**	**0.649**	**0.183**
Direct-Push Borings (GeoDesign 2019)																				
DP-1(7-8)	7-8	12/02/19	**0.412 V**	0.00651 U	**0.302 J5**	**0.0252**	**0.0229**	**0.0227**	0.00651 U	**0.0202**	**0.0334 J5**	0.00651 U	**0.0447**	**0.499 V**	0.00651 U	**3.88**	**7.16**	**5.57**	**1.16 J3, V**	**0.138**
DP-2(2-3)	2-3	12/02/19	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.0218 U	0.0218 U	0.0218 U	0.00654 U	0.00654 U
DP-7(5-6)	5-6	12/03/19	0.00662 U	**0.0116**	**0.0224**	**0.00797**	0.00662 U	**0.0181**	0.00662 U	**0.0146**	**0.0106**	0.00662 U	**0.00748**	**0.00814**	0.00662 U	0.0221 U	0.0221 U	0.0221 U	**0.0119**	**0.0118**
DP-13(1.5-2.5)	1.5-2.5	12/04/19	**0.0317**	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.00654 U	0.00654 U	**0.173**	**0.331**	**0.722**	0.00654 U	0.00654 U
Pilot Test Wells (GeoDesign 2019)																				
PAS-2(2-3)	2-3	12/06/19	0.00659 U	0.00659 U	0.00659 U	0.00659 U	0.00659 U	0.00659 U	0.00659 U	0.00659 U	0.00659 U	0.00659 U	0.00659 U	0.00659 U	0.00659 U	0.0220 U	**0.0308**	**0.163**	0.00659 U	0.00659 U
OAS-2(5-6)	5-6	12/05/19	0.00649 U	0.00649 U	0.00649 U	0.00649 U	0.00649 U	0.00649 U	0.00649 U	0.00649 U	0.00649 U	0.00649 U	0.00649 U	0.00649 U	0.00649 U	**0.0870**	**0.215**	**0.617**	0.00649 U	0.00649 U
OAS-4(2.5-3.5)	2.5-3.5	12/05/19	0.00629 U	0.00629 U	0.00629 U	0.00629 U	0.00629 U	0.00629 U	0.00629 U	0.00629 U	0.00629 U	0.00629 U	0.00629 U	0.00629 U	0.00629 U	0.0210 U	0.0210 U	**0.0215**	0.00629 U	0.00629 U
OSVE-4(2-3)	2-3	12/05/19	0.00635 U	0.00635 U	0.00635 U	0.00635 U	0.00635 U	0.00635 U	0.00635 U	0.00635 U	0.00635 U	0.00635 U	0.00635 U	0.00635 U	0.00635 U	0.0212 U	**0.0285**	**0.111**	0.00635 U	0.00635 U
DEQ Generic RBCs[1]																				
Soil Ingestion, Dermal Contact, and Inhalation																				
Occupational			70,000	NE	350,000	21	2.1	21	210	NE	2,100	2.1	30,000	47,000	21	NE	NE	23	NE	23,000
Construction Worker			21,000	NE	110,000	170	17	170	1,700	NE	17,000	17	10,000	14,000	170	NE	NE	580	NE	7,500
Excavation Worker			590,000	NE	>Max	4,800	490	4,900	49,000	NE	490,000	490	280,000	390,000	4,900	NE	NE	16,000	NE	210,000

TABLE 3
Summary of Soil Sample Chemical Analytical Results
PAHs
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Sample I.D. (depth in feet BGS)	Sample Depth (feet BGS)	Sample Date	PAHs EPA Method 8270M-SIM (mg/kg)																	
			Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
Volatilization to Outdoor Air																				
Occupational			>Max	NE	>Max	>Csat	NV	NV	NV	NE	NV	NV	NV	>Max	NV	NE	NE	83	NE	>Max
Vapor Intrusion into Buildings																				
Occupational			>Max	NE	>Max	>Csat	NV	NV	NV	NE	NV	NV	NV	>Max	NV	NE	NE	83	NE	>Max

Notes:
1. DEQ Generic RBCs dated May 2018
J: The result is an estimated quantity.
J3: The associated batch quality control was outside the established quality control range for precisions.
J5: The sample matrix interfered with the ability to make any accurate determination; spike value is high.
>Csat: This soil RBC exceeds the limit of three-phase equilibrium partitioning. Refer to Appendix D of DEQ's RBDM guidance document for the corresponding value of Csat. Soil concentrations in excess of Csat indicate that free product might be present.
>Max: The constituent RBC for this pathway is calculated as greater than 1,000,000 mg/kg or 1,000,000 mg/L. Therefore, this substance is deemed not to pose risks in this scenario.
NV: chemical is considered non-volatile
U: Not detected. Reporting or detection limit shown.
V: The sample concentration is too high to evaluate accurate spike recoveries.
Bolding indicates analyte detection.
*: Sample collected at or below the water table.
--: not analyzed

TABLE 4
Summary of Grab Groundwater Sample Chemical Analytical Results
Petroleum Hydrocarbons and Lead
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Sample I.D.	Sample Date	Gasoline-Range Hydrocarbons Method NWTPH-Gx (µg/L)	Diesel- and Oil-Range Hydrocarbons Method NWTPH-Dx (µg/L)		Total Lead EPA Method 6020 (µg/L)	Dissolved Lead EPA Method 6020 (µg/L)
			Diesel-Range	Oil-Range		
AEI 2018						
B-1-W	05/23/18	**51,200**	**30,300**	**3,350**	--	--
B-2-W	05/23/18	**26,200**	**5,700**	**1,240** J	--	--
B-3-W	05/23/18	**6,560**	**3,100**	**613**	--	--
B-4-W	05/23/18	**351**	**277**	**178** J	--	--
B-5-W	05/23/18	**12,700**	**1,030**	1,250 U	--	--
B-6-W	05/23/18	100 U	**1,360**	**965** J	--	--
B-7-W	05/23/18	100 U	**59** J	**209** J	--	--
B-8-W	05/23/18	100 U	**96** J	**96** J	--	--
B-9-W	05/23/18	100 U	**35** J	250 U	--	--
GeoDesign 2019						
DP-3(120319)	12/03/19	**993**	**343**	250 U	2.00 U	2.00 U
DP-4(120319)	12/03/19	**2,080**	**359**	250 U	**7.17**	2.00 U
DP-5(120319)	12/03/19	100 U	100 U	250 U	2.00 U	2.00 U
DP-6(120319)	12/03/19	**9,040**	**1,490**	250 U	2.00 U	2.00 U
DP-7(120319)	12/03/19	**8,920**	**702**	250 U	2.00 U	2.00 U
DP-8(120319)	12/03/19	**13,700**	**1,150**	250 U	2.00 U	2.00 U
DP-9(120319)	12/03/19	**1,980**	**145**	250 U	2.00 U	2.00 U
DP-10(120319)	12/03/19	100 U	**135**	250 U	**95.0**	2.00 U
DP-11(120419)	12/04/19	**16,300**	**1,530**	250 U	2.00 U	2.00 U
DP-12(120419)	12/04/19	**1,200**	**300**	250 U	2.00 U	2.00 U
DP-13(120419)	12/04/19	**18,300**	**1,910**	250 U	2.00 U	2.00 U
DP-14(120419)	12/04/19	**21,200**	**996**	250 U	2.00 U	2.00 U
DP-15(120419)	12/04/19	**13,100**	**1,190**	250 U	**33.2**	2.00 U
DP-16(120419)	12/04/19	**2,290**	**399**	250 U	**10.5**	2.00 U
DEQ Generic RBCs[1]						
Volatilization to Outdoor Air						
Occupational		>S	>S	NE	NV	NV
Vapor Intrusion into Buildings						
Occupational		>S	>S	NE	NV	NV
Groundwater in Excavation						
Construction/Excavation Worker		14,000	>S	NE	>S	>S

Notes:

1. DEQ Generic RBCs dated May 2018

J: The result is an estimated quantity.

NV: chemical is considered non-volatile

>S: This groundwater RBC exceeds the solubility limit. Refer to Appendix D of DEQ's RBDM guidance document for the corresponding value of S. Groundwater concentrations in excess of S indicate that free product may be present.

U: Not detected. Reporting or detection limit shown.

Bolding indicates analyte detection.

Shading indicates analyte detection at a concentration greater than DEQ RBCs.

--: not analyzed

TABLE 5
Summary of Grab Groundwater Sample Chemical Analytical Results
VOCs
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Sample I.D.	Sample Date	VOCs[1] EPA Method 8260B (µg/L)														
		Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Ethylbenzene	Isopropylbenzene	P-Isopropyltoluene	MTBE	Naphthalene	n-Propylbenzene	Toluene	1,2,4-TMB	1,2,3-TMB	1,3,5-TMB	Total Xylenes
AEI 2018																
B-1-W	05/23/18	6,820	43.2 J	28.3 J	50.0 U	2,290	178	50.0 U	65.3	5,390	564 U	63.4	2,730	707	463	2,850
B-2-W	05/23/18	1,710	16.2	11.6	10.0 U	1,150	120	8.89 J	10.0 U	214	311 J	30.0	26.9	412	26.5	135
B-3-W	05/23/18	123	47.4	22.3	5.00 U	161	84.6	5.00 U	5.00 U	131	282	8.55	90.0	147	33.9	184
B-4-W	05/23/18	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.347 J	1.00 U	57	0.14 B, J	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	3.00 U
B-5-W	05/23/18	2,450	15.5	9.39	0.589 J	1,450	96.9	3.28	0.53 J	180	276	75.5	648	431	158	1,880
B-6-W	05/23/18	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.90 J	0.240 B, J	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	3.00 U
B-7-W	05/23/18	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.0991 B, J	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	3.00 U
B-8-W	05/23/18	1.00 U	1.00 U	1.00 U	1.00 U	0.46 J	1.00 U	1.00 U	1.00 U	0.0719 B, J	0.430 J	1.00 U	2.68	0.716 J	0.777 J	1.53 J
B-9-W	05/23/18	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	0.126 B, J	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	3.00 U
GeoDesign 2019																
DP-3(120319)	12/03/19	1.00 U	1.35	1.00 U	1.00 U	2.72	1.58	1.00 U	2.01	5.00 U	2.51	1.00 U	1.45	1.52	1.00 U	3.00 U
DP-4(120319)	12/03/19	1.00 U	9.44	4.47	1.00 U	5.05	6.67	1.98	1.00 U	6.70	39.2	1.00 U	133	50.9	65.5	3.00 U
DP-5(120319)	12/03/19	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	5.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	3.00 U
DP-6(120319)	12/03/19	78.7	21.4	13.9	1.84	310	117	1.00 U	9.3	193	418	5.11	1.04	41.9	2.01	9.73
DP-7(120319)	12/03/19	609	33.6	15.6	2.11	122	81.4	1.84	6.18	18.2	284	16.5	3.19	25.9	1.23	30.2
DP-8(120319)	12/03/19	745	21.3	10.2	1.00 U	146	57.3	4.03	4.36	91.6	196	25.9	89.0	49.1	197	149
DP-9(120319)	12/03/19	9.64	3.54	1.93	1.00 U	59.6	10.4	1.00 U	10.0	22.2	24.7	2.32	82.1	28.5	21.4	250
DP-10(120319)	12/03/19	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	3.78	5.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	3.00 U
DP-11(120419)	12/04/19	40.4	32.7	16.8	1.36	1,510	151	2.20	17.7	434	450	2.68	21.7	353	49.8	121
DP-12(120419)	12/04/19	6.74	3.14	1.40	1.00 U	2.31	4.24	1.00 U	157	5.00 U	10.6	1.48	1.00 U	3.32	1.00 U	3.00 U
DP-13(120419)	12/04/19	289	46.5	22.5	1.08	2,030	132	2.06	14.7	573	355	20.2	176	513	43.4	274
DP-14(120419)	12/04/19	3,140	21.7	11.3	10.00 U	778	100	10.00 U	11.9	196	291	87.8	316	210	115	936
DP-15(120419)	12/04/19	492	1.00 U	20.0	1.21	239	168	7.22	1.00 U	46.4	247	32.3	167	82.5	62.3	340
DP-16(120419)	12/04/19	29.1	4.59	3.29	1.00 U	45.4	17.8	1.00 U	1.00 U	6.08	40.3	2.54	18.6	12	5.04	17.2
DEQ Generic RBCs[2]																
Volatilization to Outdoor Air																
Occupational		14,000	NE	NE	NE	43,000	>S	NE	1,500,000	16,000	NE	>S	>S	NE	>S	>S
Vapor Intrusion into Buildings																
Occupational		2,800	NE	NE	NE	8,200	>S	NE	870,000	11,000	NE	>S	>S	NE	>S	>S
Groundwater in Excavation																
Construction/Excavation Worker		1,800	NE	NE	NE	4,500	51,000	NE	63,000	500	NE	220,000	6,300	NE	7,500	23,000

Notes:
1. Only detected VOCs are shown. Napthalene concentrations for B-1 through B-9 were analyzed by EPA Method 8270-SIM.
2. DEQ Generic RBCs dated May 2018
B: The same analyte is found in the associated blank.
J: The result is an estimated quantity.
>S: This groundwater RBC exceeds the solubility limit. Refer to Appendix D of DEQ's RBDM guidance document for the corresponding value of S. Groundwater concentrations in excess of S indicate that free product may be present.
U: Not detected. Reporting or detection limit shown.
Bolding indicates analyte detection.
Shading indicates analyte detection at a concentration greater than DEQ RBCs.

TABLE 6
Summary of Grab Groundwater Sample Chemical Analytical Results
PAHs
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Sample I.D.	Sample Date	PAHs EPA Method 8270M-SIM (µg/L)																		
		Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
AEI 2018																			
B-I-W	05/23/18	**39.5**	--	**19.1**	**5.63**	**2.47**	**2.90**	**1.16**	**1.71**	**5.33**	**0.291**	**29.9**	**36.0**	**0.906**	**1,900**	**4,070**	--	**83.1**	**24.3**
B-2-W	05/23/18	**2.99**	--	**0.60**	**0.172**	**0.0707** J	**0.0916** J	0.1500 U	**0.621** J	**0.135** J	0.1500 U	**0.907**	**1.91**	0.150 U	**121**	**202**	--	**3.11**	**0.702**
B-3-W	05/23/18	**4.18**	--	**1.37**	**0.509**	**0.205**	**0.224**	**0.0737** J	**0.193**	**0.390**	**0.0251** J	**3.20**	**3.06**	**0.070** J	**145**	**134**	--	**6.36**	**2.33**
B-4-W	05/23/18	**0.509**	--	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	**0.0306** J	0.0500 U	**0.0743** J	**0.0274** J	--	**0.112**	0.0500 U
B-5-W	05/23/18	**4.52**	--	**0.472**	**0.129** J	**0.0406** J	**0.0617** J	0.1500 U	**0.0365** J	**0.0931** J	0.1500 U	**0.740**	**2.77**	0.150 U	**59.6**	**70.5**	--	**3.19**	**0.50**
B-6-W	05/23/18	**0.132** J	--	0.150 U	0.1500 U	0.1500 U	0.1500 U	0.1500 U	0.150 U	0.1500 U	0.1500 U	0.1500 U	0.150 U	0.150 U	**0.0322** J	**0.0344** J	--	0.150 U	0.150 U
B-7-W	05/23/18	0.150 U	--	0.150 U	**0.0324** J	0.1500 U	**0.0218** J	0.1500 U	**0.0159** J	0.1500 U	0.1500 U	0.1500 U	0.150 U	0.150 U	0.750 U	0.750 U	--	**0.0476** J	0.150 U
B-8-W	05/23/18	**0.0117** J	--	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	**0.0148** J	0.0500 U	**0.0469** J	**0.0767** J	--	**0.039** J	0.0500 U
B-9-W	05/23/18	0.0500 U	--	0.0500 U	0.0500 U	0.0500 U	**0.0031** J	0.0500 U	**0.0024** J	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	**0.0397** J	0.0689 U	--	**0.0169** J	0.0500 U
GeoDesign 2019																			
DP-11	12/04/19	**2.05**	0.0500 U	**0.113**	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	**0.0798**	**1.04**	0.0500 U	**156**	**206**	**506**	**0.634**	**0.0614**
DP-13	12/04/19	**6.02**	0.0500 U	**0.171**	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	**0.112**	**1.71**	0.0500 U	**148**	**238**	**573**	**1.16**	**0.0684**
DEQ Generic RBCs[1]																			
Volatilization to Outdoor Air																			
Occupational		>S	NE	>S	>S	NV	NV	NV	NE	NV	NV	NV	>S	NV	NE	NE	16,000	NE	>S
Vapor Intrusion into Buildings																			
Occupational		>S	NE	>S	>S	NV	NV	NV	NE	NV	NV	NV	>S	NV	NE	NE	11,000	NE	>S
Groundwater in Excavation																			
Construction/ Excavation Worker		>S	NE	>S	>S	>S	>S	>S	NE	>S	>S	>S	>S	>S	NE	NE	500	NE	>S

Notes:
1. DEQ Generic RBCs dated May 2018
J: The result is an estimated quantity.
NV: chemical is considered non-volatile
>S: This groundwater RBC exceeds the solubility limit. Refer to Appendix D of DEQ's RBDM guidance document for the corresponding value of S. Groundwater concentrations in excess of S indicate that free product may be present.
U: Not detected. Reporting or detection limit shown.
Bolding indicates analyte detection.
Shading indicates analyte detection at a concentration greater than DEQ RBCs.
--: not analyzed

TABLE 7
Summary of Groundwater Elevation Data
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Monitoring Well I.D.	Top of Casing Elevation (feet MSL)	Stickup (feet)	Well Depth (feet BGS)	Screened Interval (feet BGS)	Date Measured	Depth to Water (BTOC)	Groundwater Elevation (feet MSL)
MW-1	16.45	-0.35	19.2	4 -19	10/03/18	10.91	5.54
					06/28/19	11.31	5.14
					12/07/19	10.84	5.61
					12/16/19	10.34	6.11
MW-2	17.78	-0.55	19.0	4 -19	10/03/18	12.38	5.40
					06/28/19	13.01	4.77
					12/07/19	12.41	5.37
					12/16/19	12.12	5.66
MW-3	16.70	-0.33	18.6	4 -19	10/03/18	8.79	7.91
					06/28/19	8.67	8.03
					12/07/19	8.22	8.48
					12/16/19	7.87	8.83
MW-4	17.70	-0.35	18.8	4 -19	10/03/18	12.08	5.62
					06/28/19	12.32	5.38
					12/07/19	11.90	5.80
					12/16/19	11.53	6.17
MW-5	17.97	-0.35	19.2	4 -19	10/03/18	10.24	7.73
					06/28/19	9.79	8.18
					12/07/19	9.05	8.92
					12/16/19	9.40	8.57
MW-6	17.14	-0.25	25.5	5-25	12/07/19	11.49	5.65
					12/16/19	11.11	6.03
MW-7	16.41	-0.25	25.3	5-25	12/07/19	10.20	6.21
					12/16/19	10.99	5.42
MW-8	16.62	-0.31	25.3	5-25	12/07/19	10.99	5.63
					12/16/19	10.51	6.11

Note:
Vertical datum is Nad83.

TABLE 8
Summary of Groundwater Parameters in Monitoring Well Samples
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Sample I.D.	Sample Date	Temperature (F)	Dissolved Oxygen (mg/L)	pH	ORP (mV)	Specific Conductivity (µS/cm)	Turbidity (NTU)	Ferrous Iron (mg/L)
MW-1	11/15/19	60.8	0.30	6.54	-99.9	505	4.99	28.8
	10/03/18	61.7	0.19	6.42	-74.9	673	0.44	--
MW-2	11/15/19	59.5	0.41	6.61	-118.1	670	0.10	64.6
	10/03/18	60.2	0.23	6.55	-124.5	791	0.51	--
MW-3	11/15/19	60.5	0.90	6.76	-81.5	444	7.54	13.1
	10/03/18	60.7	0.29	6.75	-49.5	427	0.28	--
MW-4	11/15/19	57.3	0.41	6.55	-110.5	440	0.53	53.8
	10/03/18	57.5	0.28	7.13	-62.0	362	0.30	--
MW-5	11/15/19	60.6	0.34	6.55	-84.7	354	0.86	26.9
	10/03/18	60.7	0.26	6.99	-54.1	304	0.24	--
MW-6	12/07/19	57.0	0.38	6.55	-87.6	607	2.71	--
MW-7	12/07/19	58.6	0.24	6.72	-105.2	672	2.29	--
MW-8	12/07/19	56.2	0.52	6.57	-86.2	587	3.67	--
PAS-2	12/07/19	59.9	0.38	6.86	-109.0	577	0.77	--

TABLE 9
Summary of Monitoring Well Groundwater Sample Chemical Analytical Results
Petroleum Hydrocarbons and Lead
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Sample I.D.	Sample Date	Gasoline-Range Hydrocarbons Method NWTPH-Gx (µg/L)	Diesel- and Oil-Range Hydrocarbons Method NWTPH-Dx (µg/L)		Total Lead EPA Method 6020 (µg/L)	Dissolved Lead EPA Method 6020 (µg/L)
			Diesel-Range	Oil-Range		
MW-1	11/15/19	**6,280**	**626**	250 U	2.00 U	2.00 U
	10/03/18	**19,900**	**944**	250 U	--	--
MW-2	11/15/19	**7,000**	**621**	250 U	2.00 U	2.00 U
	10/03/18	**34,500**	**1,280**	**304**	--	--
MW-3	11/15/19	**370**	**323**	**250** U	2.00 U	2.00 U
	10/03/18	**148** B, J	100 U	250 U	--	--
MW-4	11/15/19	**10,600**	**1,300**	250 U	2.00 U	2.00 U
	10/03/18	**6,080**	**240**	250 U	--	--
MW-5	11/15/19	**3,420**	**460**	250 U	2.00 U	2.00 U
	10/03/18	**6,010**	**450**	250 U	--	--
MW-6	12/07/19	**23,700**	**1,860**	250 U	**2.37**	**2.93**
MW-7	12/07/19	**5,920**	**888**	**252**	2.00 U	2.00 U
MW-8	12/07/19	**8,290**	**885**	250 U	2.00 U	2.00 U
PAS-2	12/07/19	**8,160**	**863**	**279**	2.00 U	2.00 U
DEQ Generic RBCs[1]						
Volatilization to Outdoor Air						
Occupational		>S	>S	NE	NV	NV
Vapor Intrusion into Buildings						
Occupational		>S	>S	NE	NV	NV
Groundwater in Excavation						
Construction/Excavation Worker		14,000	>S	NE	>S	>S

Notes:

1. DEQ Generic RBCs dated May 2018

B: The same analyte is found in the associated blank.

J: The result is an estimated quantity.

NV: chemical is considered non-volatile

>S: This groundwater RBC exceeds the solubility limit. Refer to Appendix D of DEQ's RBDM guidance document for the corresponding value of S. Groundwater concentrations in excess of S indicate that free product may be present.

U: Not detected. Reporting or detection limit shown.

Bolding indicates analyte detection.

Shading indicates analyte detection at a concentration greater than DEQ RBCs.

--: not analyzed

TABLE 10
Summary of Monitoring Well Groundwater Sample Chemical Analytical Results
VOCs
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Sample I.D.	Sample Date	VOCs[1] EPA Method 8260B (µg/L)														
		Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Ethylbenzene	Isopropylbenzene	P-Isopropyltoluene	MTBE	Naphthalene	n-Propylbenzene	Toluene	1,2,4-TMB	1,2,3-TMB	1,3,5-TMB	Total Xylenes
MW-1	11/15/19	**292**	5.00 U	5.00 U	5.00 U	**529**	**25.3**	5.00 U	**5.06**	**174**	**73.9**	**6.36**	**5.82**	**143**	5.00 U	**29.1**
	10/03/18	**1,000**	0.500 U	0.500 U	0.500 U	**1,090**	**98.4**	**7.60**	**11.5**	**397**	**83.1**	**25.1**	**54.5**	**208**	**40.6**	**196**
MW-2	11/15/19	**416**	10.0 U	10.0 U	10.0 U	**290**	**36.3**	10.0 U	**14.1**	**80.7**	**72.0**	**11.1**	**207**	**127**	**49.6**	**335**
	10/03/18	**2,320**	5.00 U	5.00 U	5.00 U	**1,690**	**89.6**	**21.7**	**26.0**	**465**	**277**	**52.3**	**1,650**	**490**	**370**	**3,180**
MW-3	11/15/19	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	**4.19**	1.00 U	**6.68**	5.00 U	**1.23**	1.00 U	1.00 U	1.00 U	1.00 U	3.00 U
	10/03/18	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**1.30**	2.50 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	1.50 U
MW-4	11/15/19	**561**	25.0 U	25.0 U	25.0 U	**493**	**30.5**	25.0 U	25.0 U	**133**	**80.3**	**90.0**	**456**	**206**	**113**	**1,660**
	10/03/18	**133**	0.500 U	0.500 U	0.500 U	**168**	**18.7**	**3.99**	**6.45**	**33.0**	**65.0**	**82.1**	**167**	**51.6**	**56.1**	**757**
MW-5	11/15/19	**83.5**	10.0 U	10.0 U	10.0 U	**48.2**	**23.8**	10.0 U	10.0 U	50.0 U	**79.8**	10.0	**10.4**	**26.1**	10.0 U	30.0 U
	10/03/18	**167**	0.500 U	**14.3**	0.500 U	**88.2**	**49.0**	**2.25**	0.500 U	**14.9**	**184**	**9.37**	**16.0**	**25.1**	**5.84**	**16.0**
MW-6	12/07/19	**796**	10.0 U	10.0 U	10.0 U	**1,980**	**129**	**18.0**	**12.8**	**268**	**345**	**71.7**	**926**	**356**	**273**	**2,390**
MW-7	12/07/19	**151**	1.00 U	**7.96**	1.00 U	**216**	**59.7**	**5.34**	**9.97**	**113**	**168**	**12.6**	**67.7**	**173**	**63.4**	**185**
MW-8	12/07/19	**1,520**	1.00 U	**8.68**	1.00 U	**263**	**80.6**	**6.17**	**8.35**	**95.5**	**199**	**35.1**	**249**	**177**	**86.8**	**530**
PAS-2	12/07/19	**102**	**124**	**7.07**	**1.22**	**122**	**109**	1.00 U	**10.4**	**13.9**	**163**	**16.0**	10.0 U	**64.1**	**28.8**	**49.0**
DEQ Generic RBCs[2]																
Volatilization to Outdoor Air																
Occupational		14,000	NE	NE	NE	43,000	>S	NE	1,500,000	16,000	NE	>S	>S	NE	>S	>S
Vapor Intrusion into Buildings																
Occupational		2,800	NE	NE	NE	8,200	>S	NE	870,000	11,000	NE	>S	>S	NE	>S	>S
Groundwater in Excavation																
Construction/Excavation Worker		1,800	NE	NE	NE	4,500	51,000	NE	63,000	500	NE	220,000	6,300	NE	7,500	23,000

Notes:
1. Only detected VOCs are shown.
2. DEQ Generic RBCs dated May 2018
>S: This groundwater RBC exceeds the solubility limit. Refer to Appendix D of DEQ's RBDM guidance document for the corresponding value of S. Groundwater concentrations in excess of S indicate that free product may be present.
U: Not detected. Reporting or detection limit shown.
Bolding indicates analyte detection.
Shading indicates analyte detection at a concentration greater than DEQ RBCs.

TABLE 11
Summary of Monitoring Well Groundwater Sample Chemical Analytical Results
PAHs
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Sample I.D.	Sample Date	PAHs EPA Method 8270M-SIM (µg/L)																	
		Acenaphthene	Acenaphthylene	Anthracene	Benz(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene
MW-1	10/03/18	**1.8**	0.0500 U	**0.19**	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	**0.12**	**1.1**	0.0500 U	**93**	**136**	**373**	**1.6**	**0.066**
MW-2	10/03/18	**2.2**	0.0500 U	**0.14**	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	**0.090**	**0.80**	0.0500 U	**87**	**126**	**364**	**0.78**	**0.052**
MW-3	10/03/18	**0.11**	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.05 U	0.0500 U	0.25 U	0.25 U	0.25 U	0.05 U	0.0500 U
MW-4	10/03/18	**5.8**	**0.073**	**0.14**	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	**0.088**	**1.9**	0.0500 U	**18**	**6.1**	**24**	**0.43**	0.0500 U
MW-5	10/03/18	**1.7**	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	**0.56**	0.0500 U	**65**	**18**	**31**	**0.13**	0.0500 U
MW-6	12/07/19	**68.8** J3	0.0500 U	**1.69**	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	**0.8680** J3	**25.5** J3	0.0500 U	**70.7** J3	**67.4** J3	**380** J3	**18.0** J3	**0.432** J3
DEQ Generic RBCs[1]																			
Volatilization to Outdoor Air																			
Occupational		>S	NE	>S	>S	NV	NV	NV	NE	NV	NV	NV	>S	NV	NE	NE	16,000	NE	>S
Vapor Intrusion into Buildings																			
Occupational		>S	NE	>S	>S	NV	NV	NV	NE	NV	NV	NV	>S	NV	NE	NE	11,000	NE	>S
Groundwater in Excavation																			
Construction/ Excavation Worker		>S	NE	>S	>S	>S	>S	>S	NE	>S	>S	>S	>S	>S	NE	NE	500	NE	>S

Notes:
1. DEQ Generic RBCs dated May 2018
J3: The associated batch QC was outside the established quality control range for precision.
NV: chemical is considered non-volatile
>S: This groundwater RBC exceeds the solubility limit. Refer to Appendix D of DEQ's RBDM guidance document for the corresponding value of S. Groundwater concentrations in excess of S indicate that free product may be present.
U: Not detected. Reporting or detection limit shown.
Bolding indicates analyte detection.

APPENDIX A

APPENDIX A

GEOPHYSICAL SURVEY REPORT

PACIFIC GEOPHYSICS
Applied Geophysics

GEOPHYSICAL SURVEY LETTER REPORT

Kyle Haggart
GeoDesign, Inc. [GDI]

Project: 191014
Survey Dates: November 13-14, 2019

Fort George Brewing Property
70 W Marine Drive
Astoria, Oregon

A geophysical survey was conducted across two areas of the warehouse property located at the address shown above, for GeoDesign. The property is being developed for Fort George Brewing. The scope of the survey was as follows:

- To detect possible underground storage tanks (USTs) across the two areas.
- To locate the excavation from the removal of a known UST in the eastern lot.
- To clear several proposed boreholes of buried obstructions at various locations at the exterior and interior of the property before drilling began.

No surface evidence of USTs, like fill ports and vent pipes, was seen in the survey area.

East Lot:
The survey to locate USTs covered the asphalt parking lot and concrete sidewalk between the street curb to the south and the building to the north, and the building to the west the curb to the east, as shown in Figure 1. A Geometrics G858 cesium-vapor magnetometer was used to collect magnetic data across the survey area. A grid was established across the site with a measuring wheel and tapes. Traverses were made along survey lines spaced every 5 feet. Figure 2 shows the resulting magnetic map. Data were contoured using a contour interval of 250 nT (nanoTesla). In the figure, magnetic anomalies higher in amplitude than the normal local magnetic background are shown in red and are usually found over areas where ferrous objects are located below the sensor, carried at a height of about 3 feet. USTs usually produce red-colored anomalies. Magnetic anomalies at or below the amplitude of the local magnetic field are shown in blue and are generally caused by ferrous objects located above the sensor. Buildings, fences, metal posts, and cars, usually produce magnetic lows. Depending on their size and orientation, large buried objects may produce both positive (red) and negative (blue) anomalies.

Surface metallic features included the building, a pole, and the pole anchor. The building created some magnetic interference. Buried metallic objects of interest located near the building may have been missed because of the magnetic noise produced by it.

A Schonstedt magnetic gradiometer and an Aqua-Tronics Tracer metal detector were used to pinpoint and characterize the anomalies found with this survey. The Tracer is excellent at determining if a buried object is linear (a possible pipe) or 3D (a possible UST). A GSSI SIR2000 ground-penetrating radar (GPR) system connected to a 400-MHz antenna was also used.

Three magnetic anomalies were investigated and are labeled alphabetically in Figure 2.

Magnetic anomaly A is interpreted to be caused by a pipe. The anomaly continues to the north for several feet. Two suspicious tank-like radar reflectors were seen in profiles north of the anomaly at a depth of 5 feet. No three-dimensional objects were detected with the Tracer at this location though.

Anomaly B is caused by a very small buried object.

Anomaly C is caused by a buried pipe.

No USTs were located in this area.

After the magnetic survey was completed, GPR was used across the parking lot to detect a disturbed-soil zone that may be the excavation from the removal of a UST. East-west profiles were taken every 8-10 feet. Strong flat reflectors were seen in the entire survey area except the northwest corner of the lot where the subsurface appeared subtly disturbed. This zone is interpreted to be the tank excavation and matches the reported location of the removed tank. The suspicious radar reflectors mentioned above may be debris inside this excavation. It is advised that exploration of this zone is conducted with caution.

West lot:
The magnetometer was used in the area between the two buildings and from the Marine Drive curb up to the fourth catch basin seen along the west building.

Surface metallic features included the metal-sided buildings, chain-link fencing, a pole, a hydrant, and a drum. Buried metallic objects of interest located near or under these objects may have been missed because of the magnetic noise produced by them.

Several magnetic anomalies were detected in this area and were investigated further.

Magnetic anomaly D is a suspicious high-amplitude high-low anomaly that appears to be caused by the fence, based on the responses of hand-held instruments and GPR. No three-dimensional objects were detected at this location.

Anomaly E appears to be caused by a concrete footing with cut-off posts, while anomaly F is caused by surface metal.

Anomalies G are interpreted to be caused by the building walls.

No USTs were located in this area.

A Radio Detection RD8000PDL power locator, GPR, and the Tracer, were used to clear several proposed borehole locations across the exterior of the property. Interior borehole locations were cleared with the RD detector and GPR using a GSSI 900-MHz antenna. The Tracer could not be used because of rebar reinforcement.

Nikos Tzetos of Pacific Geophysics conducted the survey for Mr. Kyle Haggart of GDI on November 13 and 14, 2019. This letter report was written by Nikos Tzetos and emailed to Mr. Haggart on November 25, 2019.

Limitations

The conclusions presented in this report were based upon widely accepted geophysical principles, methods and equipment. This survey was conducted with limited knowledge of the site, the site history and the subsurface conditions.
The goal of near-surface geophysics is to provide a rapid means of characterizing the subsurface using non-intrusive methods. Conclusions based upon these methods are generally reliable; however, due to the inherent ambiguity of the methods, no single interpretation of the data can be made. As an example, rocks and roots produce radar reflections that may appear the same as pipes and tanks.

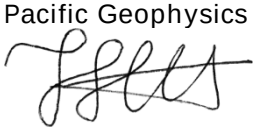
Under reasonable conditions, geophysical surveys are good at detecting changes in the subsurface caused by man-made objects or changes in subsurface conditions, but they are poor at actually identifying those objects or subsurface conditions.

Objects of interest are not always detectable due to surface and subsurface conditions. The deeper an object is buried, the more difficult it is to detect, and the less accurately it can be located.

The only way to see an object is to physically expose it.

Nikos Tzetos
Pacific Geophysics

November 25, 2019



Appendix A. Geophysical Survey Methods

Magnetometer Surveys

Small disturbances in the Earth's local magnetic field are called "magnetic anomalies". These may be caused by naturally occurring features such as metallic mineral ore bodies, or from manmade features such as metal buildings, vehicles, fences, and underground storage tanks. The magnetometer only detects changes produced by ***ferrous*** objects. Aluminum and brass are non-ferrous metals and cannot be detected using a magnetometer.

A magnetometer is an electronic instrument designed to detect small changes in the Earth's local magnetic field. Over the years different technologies have been used in magnetometers. The Geometrics G-858 Portable Cesium Magnetometer used to collect magnetic data for Pacific Geophysics uses one of the most recent methods to detect magnetic anomalies. A detailed discussion describing the method this unit uses is available at Geometrics.com.

This magnetometer enables the operator to collect data rapidly and continuously rather than the older instruments that collected data at discreet points only. The G-858 is carried by hand across the site. The sensor is carried at waist level. Typically individual data points collected at normal walking speed are about 6" apart along survey lines usually 5 feet apart, depending on the dimensions of the target objects.

It is critical to know the exact location of each data point so that if an anomaly is detected it can be accurately plotted on a magnetic contour map. At most small sites, data are collected along straight, parallel survey lines set up on the site before the data collection stage begins. For very large, complex sites, the G-858 can be connected to a Global Positioning System (GPS) antenna which allows the operator to collect accurately-located data without establishing a survey grid. With GPS, data are collected and positioned wherever the operator walks. A limitation using GPS is that the GPS antenna must have line of sight with the GPS satellites. Data can be mislocated if the GPS antenna is under trees or near tall buildings.

Data are stored in the unit's memory for later downloading and processing. A magnetic contour map of the data is plotted in the field. Geographical features are plotted on the map. Magnetic anomalies appearing to be caused by objects of interest are then investigated on the site using several small hand-held metal detectors. If an object appears to be a possible object of interest, it may be investigated with GPR.

Magnetic contour maps may be printed in color in order to highlight anomalies caused by ferrous objects located under the magnetic sensor. Usually, ferrous objects situated below the sensor produce magnetic "highs" and anomalies located above the sensor produce magnetic "lows". Magnetic highs are of interest to the operator since most objects of interest are located underground.

Depending on the orientation, shape and mass of a metallic object, a high/low pair of magnetic anomalies may be present. In the northern hemisphere the magnetic low is located north of the object and the magnetic high toward the south. The object producing the anomaly is located part way between the high and the low anomalies.

Magnetometer surveys have limitations. Magnetometers only detect objects made of ferrous (iron-containing) metal. Large ferrous objects (buildings, cars, fences, etc.)

within several feet of the magnetometer create interference that may hide the anomaly produced by a nearby object of interest.

Ground Penetrating Radar

A Geophysical Survey Systems, Inc. (GSSI) SIR-2000 GPR system coupled to GSSI antennas of various central frequencies is used to obtain the radar data for our surveys.

GPR antennas both transmit and receive electromagnetic energy. EM energy is transmitted into the material the antenna passes over. A portion of that energy is reflected back to the antenna and amplified. Reflections are displayed in real-time in a continuous cross section. Reflections are produced where there is a sufficient electrical contrast between two materials. Changes in the electrical properties (namely the dielectric constant) that produce radar reflections are caused by changes in the moisture content, porosity, mineralogy, and texture of the material. Metallic objects of interest exhibit a strong electrical contrast with the surrounding material and thus produce relatively strong reflections. Non-metallic objects of interest (septic tanks, cesspools, dry wells, and PVC and clay tile pipes) are not always good reflectors.

Radar data are ambiguous. It can be difficult to distinguish the reflection produced by an object of interest from the reflection caused by some natural feature. Rocks or tree roots have reflections that appear similar to reflections from pipes. In concrete investigations reflections produced by metal rebar look exactly like those from electrical conduit or post-tension cables. Objects with too small an electrical contrast may produce no reflections at all and may be missed. Target objects buried below objects with contrasting properties that also produce reflections may be missed (e.g. USTs below roots, concrete pieces, pipes or rocks). If an object of interest like a UST is buried below the depth of penetration of the radar signal, it will be missed.

In addition to interpreting ambiguous data, radar has several limitations that cannot be controlled by the operator. The radar signal is severely attenuated by electrically conductive material, including wet, clay-rich soil and reinforced concrete. The quality of the data is affected by the surface conditions over which the antenna is pulled. Ideally the antenna should rest firmly on a smooth surface. Rough terrain and tall grass reduce the quality of radar data.

It is the job of an experienced interpreter to examine the GPR profiles and deduce if reflections are from objects of interest. A GPR interpreter cannot see underground, but can only interpret reflections based on experience.

The only way to truly identify an object is to excavate.

Hand-held Metal detectors

Two small, non-recording metal detectors are used to locate suspect magnetic anomalies detected using the G-858 Magnetometer in order to determine the likely cause of the anomaly. First, the magnetic contour map and a Schonstedt Magnetic Gradiometer are used to locate the center of the magnetic anomalies.

Once the anomaly is located an Aqua-Tronics Tracer is used to determine if the object producing the anomaly is a possible object of interest. Most anomalies are at least in part produced by features observed on the ground surface.

Schonstedt Magnetic Gradiometer: This magnetometer has two magnetic sensors separated vertically by 10". The magnetic field surrounding a ferrous object is strongest near the object and decreases rapidly as the distance increases. If the magnitude measured by the sensor located in the tip of the Schonstedt is very high, and the magnetic field measured by the sensor located farther up the shaft of the Schonstedt is low, there is a large vertical magnetic gradient and the instrument responds with a loud whistle indicating the object is near the surface. If there is a small difference in the magnitudes measured by the two sensors, the object is deeper. The instrument responds with a softer tone. A discussion of this instrument is available at Schonstedt.com.

Aqua-Tronics A-6 Tracer: The Aqua-Tronics A-6 Tracer uses a different method of detecting metallic objects. This instrument measures the electrical conductivity of a metal object. It is capable of detecting any electrically conductive metal, including non-ferrous aluminum and brass. The Tracer is capable of detecting three-dimensional objects as well as pipes.

The Tracer consists of a transmitter coil and a receiver coil. In the absence of any electrically conductive material in the vicinity of the Tracer, the electromagnetic field around each coil is balanced.

Basically the electromagnetic field produced by the transmitter induces an electric current into the area surrounding the instrument. Nearby conductive objects distort the EM field. The balance between the two coils is disturbed and the instrument produces an audible tone and meter indication.

Radio Detection RD8000 PDL pipe and cable detector: This instrument may be used to detect buried, conductive pipes and utilities. It consists of a transmitter and a receiver and can be used in two configurations.

The transmitter may be used to directly apply a small electrical current to exposed, electrically conductive pipes and utilities. The RD receiver is then able to "trace" the underground portion of the pipe or utility, under some conditions for several hundred feet. The transmitter can also induce an electrical current into buried pipes and utilities where direct contact is not available.

The receiver can also be used alone. It has the capability to locate pipes and utilities by detecting the very small electrical currents induced into the features by nearby AM/FM radio stations.

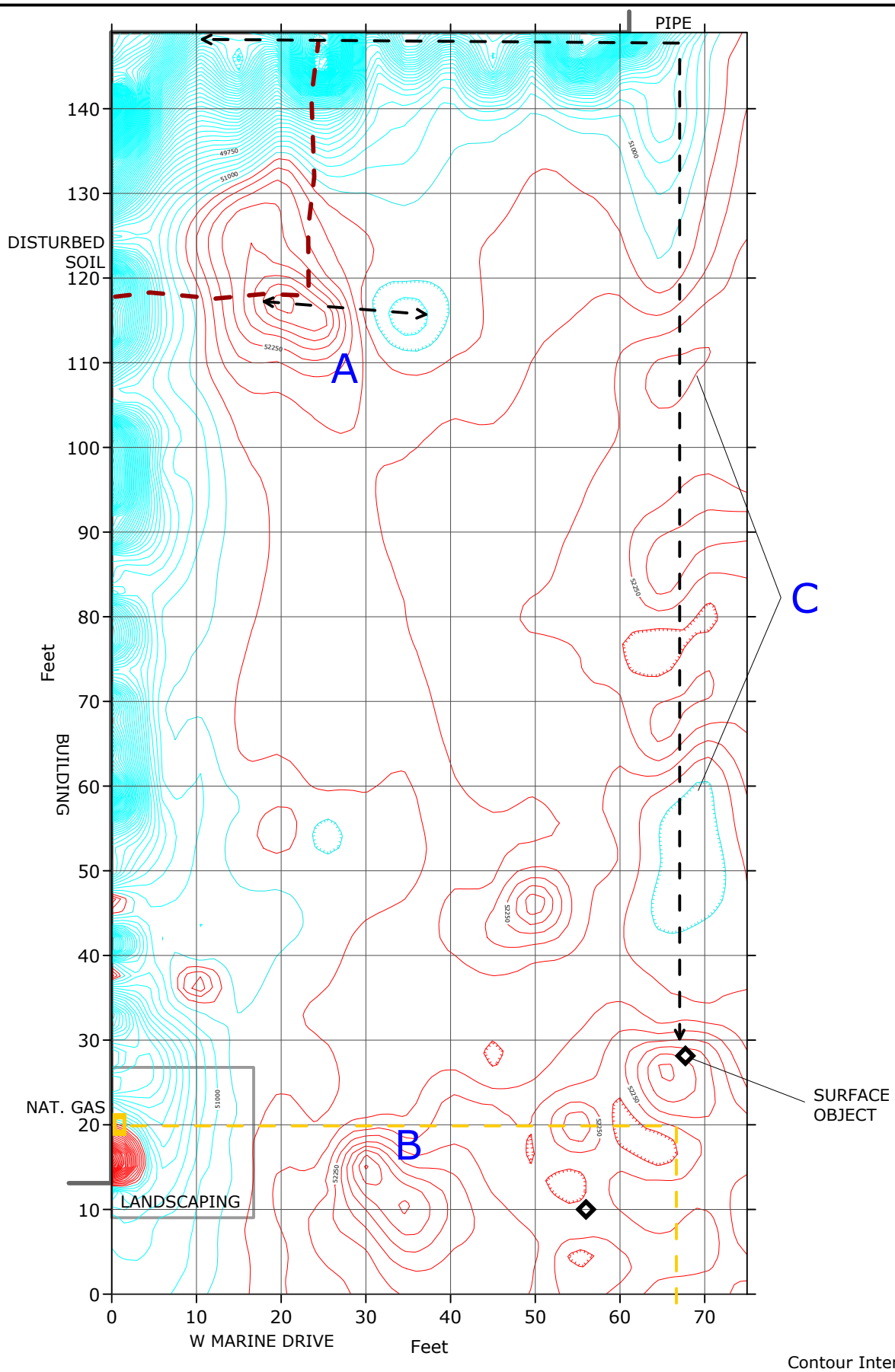
The receiver also has an AC power function that may be used to detect underground power lines.



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FIGURE 1	Site Location and Areas	
	Project: 191014	Fort George Brewing Property 70 W Marine Drive Astoria, Oregon
	Drawn by : NT	Prepared for: GeoDesign
		Base Photo from Google Earth Pro



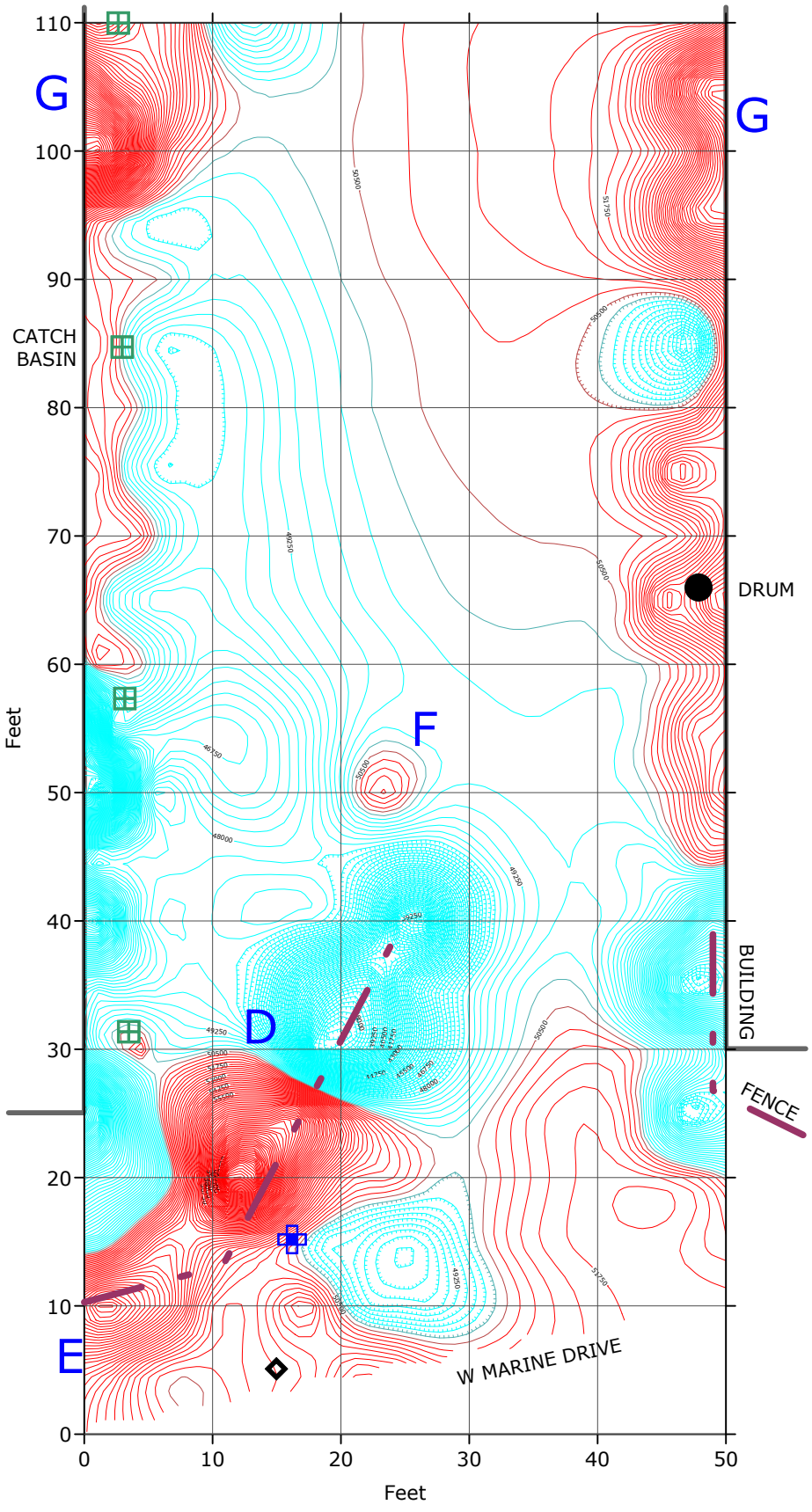
Contour Interval: 250 nT

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FIGURE 2

Magnetic Contour Map-East Lot

Project: 191014	Fort George Brewing Property 70 W Marine Drive Astoria, Oregon
Drawn by : NT	Prepared for: GeoDesign
	Survey Dates: November 13-14, 2019



Contour Interval: 250 nT

PACIFIC GEOPHYSICS
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FIGURE 3	Magnetic Contour Map-West Lot	
	Project: 191014	Fort George Brewing Property 70 W Marine Drive Astoria, Oregon
	Drawn by : NT	Prepared for: GeoDesign
		Survey Dates: November 13-14, 2019

APPENDIX B

APPENDIX B

FIELD PROCEDURES

GEOPHYSICAL SURVEY

On November 13 and 14, 2019 Pacific Geophysics conducted a geophysical survey of the parking area located on the east portion of the project site and an area between warehouses 2 and 3 (Figure 2) to identify potential USTs and/or former excavation pits. Pacific Geophysics used a Geometrics 858G Cesium vapor magnetometer and a Schonstedt GA52 Magnetic Gradiometer to scan and map the parking area for buried ferrous objects. The parking area and potential anomalies were also scanned in a grid pattern using a GSSI SIR2000 GPR system with a 400-MHz antenna. A geophysical survey was attempted in the shop and former can manufacturing warehouse, but the GPR system could not see below the reinforced concrete.

EXPLORATIONS

On December 2 through 6, 2019 the following field activities were conducted at the project site:

- Advanced 16 direct-push borings (DP-1 through DP-16)
- Installed three monitoring wells (MW-6 through MW-8)
- Installed one SVE pilot test well (PSVE-1)
- Installed four SVE observation wells (OSVE-1 through OSVE-4)
- Installed and abandoned AS pilot test well PAS-1
- Installed AS pilot test well PAS-2
- Installed four AS observation wells (OAS-1 through OAS-4)

The drilling activities were conducted using equipment owned and operated by Cascade Drilling of Clackamas, Oregon. The locations of the borings and wells are shown on Figures 2 and 3.

A GeoDesign field representative observed the drilling activities and collected soil and groundwater samples from the borings. The soil encountered in the borings was visually classified in general accordance with ASTM D2488.

Soil Sampling

Continuous soil samples were collected from the borings. Soil samples collected from the borings were collected from 2-inch-diameter, 60-inch-long samplers lined with acrylic sleeves. Soil samples were collected into laboratory-provided containers in general accordance with EPA Method 5035A and immediately placed in an ice chest and kept cool until delivery to the laboratory. Standard chain-of-custody procedures were observed during transport of the samples to the laboratory.

Soil Sampling Field Screening Methods

A GeoDesign representative performed field screening tests on select soil samples collected from the borings. Field screening results aided in the selection of soil samples for chemical analysis. Screening methods included visual examination, water sheen screening, and headspace vapor screening using a 10.6-eV MiniRAE 3000 PID.

Visual screening consisted of inspecting the soil for discoloration indicative of the presence of petroleum contamination in the sample. Water sheen screening involved placing soil in water and observing the water surface for signs of sheen. Sheen classifications are as follows:

No Sheen	No visible sheen on the water surface.
Slight Sheen	Light, colorless, dull sheen; spread is irregular, not rapid; sheen dissipates rapidly. Natural organic matter in the soil may produce a slight sheen.
Moderate Sheen	Light to heavy sheen; may have some color/iridescence; spread is irregular to flowing, may be rapid; few remaining areas of no sheen on water surface.
Heavy Sheen	Heavy sheen with color/iridescence; spread is rapid; entire water surface may be covered with sheen.

Headspace vapor screening is performed by placing a soil sample in a plastic bag. Air is captured in the bag, and the bag is shaken to expose the soil to the air trapped in the bag. The probe of a MiniRAE 3000 PID is inserted into the bag, and the MiniRAE PID measures VOC vapor concentrations in units of ppm. The MiniRAE 3000 PID is calibrated to isobutylene. The MiniRAE PID is designed to quantify VOC vapor concentrations in the range between 10 and 2,000 ppm with an accuracy of 2 percent of the reading and between 2,000 and 10,000 ppm with an accuracy of 20 percent of the reading.

Field screening results are site and exploration specific. The results may vary with temperature, soil moisture content, soil type, and type of contaminant.

Groundwater Sampling

Temporary PVC wells with 0.010-inch slot screens were installed in direct-push borings DP-3 through DP-16. The screens were set from 10 to 20 feet BGS in all the borings except boring DP-5, which was set from 5 to 15 feet BGS. Grab groundwater samples were collected using peristaltic pump equipped with new, disposable HDPE and silicon tubing. Each well was purged until turbidity decreased and/or stabilized (approximately 1 gallon to 3 gallons). Groundwater samples were placed into laboratory-provided containers and immediately placed in an ice chest and kept cool until delivery to the laboratory. Standard chain-of-custody procedures were observed during transport of the samples to the laboratory.

On November 15, 2019 monitoring wells MW-1 through MW-5 were sampled and on December 7, 2019 monitoring wells MW-6 through MW-8 and PAS-2 were sampled. Each groundwater sample was collected using a peristaltic pump and new, disposal HDPE and silicon tubing. Prior to sampling, each well was purged using a peristaltic pump to reduce turbidity. During purging, field parameters, including pH, conductivity, temperature, dissolved oxygen, ORP, and turbidity, were measured every three to five minutes. Purging continued until field parameters have stabilized, as follows:

- pH: ±0.1 unit
- Conductivity: ±3 percent
- Temperature: ±3 percent
- Dissolved oxygen: ±10 percent (or three readings less than 0.5 mg/L)
- ORP: ±10 millivolts
- Turbidity: ±10 percent (or three readings less than 5 NTUs)

Groundwater samples collected for analysis of dissolved metals were field-filtered using a new, disposable 0.45-micron filter. Standard chain-of-custody procedures were observed during transport of the samples to the laboratory.

DECONTAMINATION

All sampling equipment used in the collection of samples was decontaminated prior to use. Decontamination was performed on all sample re-usable processing equipment that came into contact with sampling media, including tools, stainless steel implements, trowels, etc. Decontamination was performed prior to sampling each location using the following procedures:

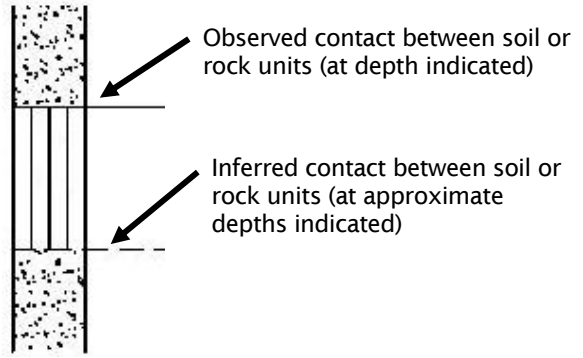
1. Rinsed with tap water and scrubbed with a scrub brush until free of large particles (e.g., sediment or soil)
2. Washed with phosphate-free (Alconox™) detergent solution
3. Rinsed with tap water
4. Rinsed with distilled water

IDW MANAGEMENT

IDW from the borings (soil cuttings, purged groundwater, and decontamination water) was placed into a 55-gallon drums and left at the project site pending disposal.

SYMBOL	SAMPLING DESCRIPTION
	Location of sample collected in general accordance with ASTM D1586 using Standard Penetration Test with recovery
	Location of sample collected using thin-wall Shelby tube or Geoprobe® sampler in general accordance with ASTM D1587 with recovery
	Location of sample collected using Dames & Moore sampler and 300-pound hammer or pushed with recovery
	Location of sample collected using Dames & Moore sampler and 140-pound hammer or pushed with recovery
	Location of sample collected using 3-inch-O.D. California split-spoon sampler and 140-pound hammer with recovery
	Location of grab sample
	Rock coring interval
	Water level during drilling
	Water level taken on date shown

Graphic Log of Soil and Rock Types



GEOTECHNICAL TESTING EXPLANATIONS

ATT	Atterberg Limits	P	Pushed Sample
CBR	California Bearing Ratio	PP	Pocket Penetrometer
CON	Consolidation	P200	Percent Passing U.S. Standard No. 200 Sieve
DD	Dry Density		
DS	Direct Shear	RES	Resilient Modulus
HYD	Hydrometer Gradation	SIEV	Sieve Gradation
MC	Moisture Content	TOR	Torvane
MD	Moisture-Density Relationship	UC	Unconfined Compressive Strength
NP	Non-Plastic	VS	Vane Shear
OC	Organic Content	kPa	Kilopascal

ENVIRONMENTAL TESTING EXPLANATIONS

CA	Sample Submitted for Chemical Analysis	ND	Not Detected
P	Pushed Sample	NS	No Visible Sheen
PID	Photoionization Detector Headspace Analysis	SS	Slight Sheen
		MS	Moderate Sheen
ppm	Parts per Million	HS	Heavy Sheen

RELATIVE DENSITY - COARSE-GRAINED SOIL

Relative Density	Standard Penetration Resistance	Dames & Moore Sampler (140-pound hammer)	Dames & Moore Sampler (300-pound hammer)
Very Loose	0 – 4	0 – 11	0 – 4
Loose	4 – 10	11 – 26	4 – 10
Medium Dense	10 – 30	26 – 74	10 – 30
Dense	30 – 50	74 – 120	30 – 47
Very Dense	More than 50	More than 120	More than 47

CONSISTENCY - FINE-GRAINED SOIL

Consistency	Standard Penetration Resistance	Dames & Moore Sampler (140-pound hammer)	Dames & Moore Sampler (300-pound hammer)	Unconfined Compressive Strength (tsf)
Very Soft	Less than 2	Less than 3	Less than 2	Less than 0.25
Soft	2 – 4	3 – 6	2 – 5	0.25 – 0.50
Medium Stiff	4 – 8	6 – 12	5 – 9	0.50 – 1.0
Stiff	8 – 15	12 – 25	9 – 19	1.0 – 2.0
Very Stiff	15 – 30	25 – 65	19 – 31	2.0 – 4.0
Hard	More than 30	More than 65	More than 31	More than 4.0

PRIMARY SOIL DIVISIONS			GROUP SYMBOL	GROUP NAME
COARSE-GRAINED SOIL (more than 50% retained on No. 200 sieve)	GRAVEL (more than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (< 5% fines)	GW or GP	GRAVEL
		GRAVEL WITH FINES (≥ 5% and ≤ 12% fines)	GW-GM or GP-GM	GRAVEL with silt
			GW-GC or GP-GC	GRAVEL with clay
		GRAVEL WITH FINES (> 12% fines)	GM	silty GRAVEL
			GC	clayey GRAVEL
			GC-GM	silty, clayey GRAVEL
	SAND (50% or more of coarse fraction passing No. 4 sieve)	CLEAN SAND (<5% fines)	SW or SP	SAND
		SAND WITH FINES (≥ 5% and ≤ 12% fines)	SW-SM or SP-SM	SAND with silt
			SW-SC or SP-SC	SAND with clay
		SAND WITH FINES (> 12% fines)	SM	silty SAND
			SC	clayey SAND
			SC-SM	silty, clayey SAND
FINE-GRAINED SOIL (50% or more passing No. 200 sieve)	SILT AND CLAY	Liquid limit less than 50	ML	SILT
			CL	CLAY
			CL-ML	silty CLAY
			OL	ORGANIC SILT or ORGANIC CLAY
		Liquid limit 50 or greater	MH	SILT
			CH	CLAY
			OH	ORGANIC SILT or ORGANIC CLAY
HIGHLY ORGANIC SOIL			PT	PEAT

MOISTURE CLASSIFICATION

Term	Field Test
dry	very low moisture, dry to touch
moist	damp, without visible moisture
wet	visible free water, usually saturated

ADDITIONAL CONSTITUENTS

Secondary granular components or other materials such as organics, man-made debris, etc.

Percent	Silt and Clay In: Fine-Grained Soil	Silt and Clay In: Coarse-Grained Soil	Percent	Sand and Gravel In: Fine-Grained Soil	Sand and Gravel In: Coarse-Grained Soil
< 5	trace	trace	< 5	trace	trace
5 – 12	minor	with	5 – 15	minor	minor
> 12	some	silty/clayey	15 – 30	with	with
			> 30	sandy/gravelly	Indicate %

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SOIL CLASSIFICATION SYSTEM

TABLE B-2

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	INSTALLATION AND COMMENTS
0.0	ASPHALT CONCRETE (3.0 inches).	0.3			
	Gray SAND with silt (SP-SM); moist, petroleum-like odor - **FILL**.		CA	P	DP-1(1-2) SS PID = 10.2 ppm
2.5					SS PID = 7.8 ppm
5.0	strong petroleum-like odor at 5.0 feet				SS PID = 36 ppm
7.5			CA	P	DP-1(7-8) SS PID = 38 ppm
10.0				P	SS PID = 545 ppm
12.5					SS PID = 600 ppm
	Exploration terminated at a depth of 13.0 feet due to refusal on concrete.	13.0			Surface elevation was not measured at the time of exploration.
15.0					
17.5					
20.0					
22.5					
25.0					
27.5					
30.0					

GRAPHIC LOG

▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%

SAMPLE: 0 50 100

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/02/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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BIGBEAMS-1-01-07

MARCH 2020

BORING DP-1

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-1

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC% (0 50 100)	INSTALLATION AND COMMENTS
0.0		ASPHALT CONCRETE (3.0 inches).	0.3				
		AGGREGATE BASE (3.0 inches).	0.5				
		Brown-gray SAND with silt (SP-SM); moist - **FILL**.		CA	P		NS PID = 6.8 ppm DP-2(2-3) SS PID = 68 ppm
2.5		gray; petroleum-like odor at 2.0 feet					
5.0		petroleum-like odor at 5.0 feet					SS PID = 110 ppm
				CA	P		DP-2(7-8) SS PID = 220 ppm
7.5							
10.0					P		SS PID = 635 ppm
12.5							SS PID = 700 ppm
		Exploration terminated at a depth of 13.0 feet due to refusal on concrete.	13.0				Surface elevation was not measured at the time of exploration.
15.0							
17.5							
20.0							
22.5							
25.0							
27.5							
30.0							

DRILLED BY: Cascade Drilling, L.P. LOGGED BY: K. Haggart COMPLETED: 12/02/19

BORING METHOD: direct push (see document text) BORING BIT DIAMETER: 2 1/4 inches

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BIGBEAMS-1-01-07

BORING DP-2

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-2

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	INSTALLATION AND COMMENTS
0.0	ASPHALT CONCRETE (3.0 inches).	0.3			
	Brown SAND with silt (SP-SM); moist - **FILL**.				
2.5				P	NS PID = 0.5 ppm
5.0	gray; petroleum-like odor at 5.5 feet		CA		DP-3(5-5.5) NS PID = 4.5 ppm SS PID = 162 ppm
7.5				P	
10.0					
12.5				P	SS PID = 1,060 ppm
15.0	wet at 15.0 feet				SS PID = 106 ppm
17.5	Gray, silty SAND (SM); wet.	17.5		P	SS PID = 117 ppm
20.0	Exploration completed at a depth of 20.0 feet.	20.0			Groundwater sample DP-3(120319) collected. Screen set from 10.0 to 20.0 feet. Surface elevation was not measured at the time of exploration.
22.5					
25.0					
27.5					
30.0					

GRAPHIC LOG

▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%

0 50 100

11.28 feet during drilling

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/03/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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BORING DP-3

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-3

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	INSTALLATION AND COMMENTS
0.0	ASPHALT CONCRETE (3.0 inches).	0.3			
	AGGREGATE BASE (2.0 inches).	0.4			
	Brown SAND with silt (SP-SM); moist - **FILL**.				
2.5				P	NS PID = 1.6 ppm
5.0			CA		DP-4(5-6) NS PID = 1.0 ppm
7.5				P	NS PID = 1.2 ppm
10.0					NS PID = 5.3 ppm
12.5	gray; wet, petroleum-like odor at 11.5 feet brown at 12.5 feet			P	SS PID = 61 ppm
15.0	gray at 16.0 feet				SS PID = 1,424 ppm
17.5	Gray, silty SAND (SM), trace organics; wet.	17.5		P	SS PID = 33 ppm
20.0	Exploration completed at a depth of 20.0 feet.	20.0			Groundwater sample DP-4(120319) collected. Screen set from 10.0 to 20.0 feet. Surface elevation was not measured at the time of exploration.
22.5					
25.0					
27.5					
30.0					

GRAPHIC LOG

SAMPLE: ▲ BLOW COUNT; ● MOISTURE CONTENT %; RQD%; CORE REC%; 0; 50; 100

10.42 feet during drilling

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/03/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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BIGBEAMS-1-01-07

BORING DP-4

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-4

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	INSTALLATION AND COMMENTS
0.0	ASPHALT CONCRETE (3.0 inches).	0.3			
	AGGREGATE BASE (2.0 inches).	0.4			
	Brown SAND with silt (SP-SM); moist - **FILL**.			P	NS PID = 1.2 ppm
2.5					
5.0			CA		DP-5(6-7) NS PID = 0.5 ppm
7.5	wet at 7.5 feet			P	
10.0	Gray GRAVEL with silt and sand (GP-GM), trace organics (wood debris); wet - **FILL**.	10.0 10.5			NS PID = 0.2 ppm
	Gray SAND with silt (SP-SM); moist - **FILL**.			P	NS PID = 0.6 ppm
15.0	Exploration completed at a depth of 15.0 feet.	15.0			Groundwater sample DP-5(120319) collected. Screen set between 5.0 and 15.0 feet. Surface elevation was not measured at the time of exploration.
17.5					
20.0					
22.5					
25.0					
27.5					
30.0					

▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%
0 50 100

8.62 feet during drilling

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/03/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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MARCH 2020

BORING DP-5

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-5

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	INSTALLATION AND COMMENTS
0.0	ASPHALT CONCRETE (3.0 inches).	0.3			
	Brown SAND with silt (SP-SM); moist - **FILL**.				NS PID = 1.0 ppm
2.5				P	
5.0			CA		DP-6(6-7) NS PID = 1.2 ppm
7.5	gray; petroleum-like odor at 7.5 feet			P	SS PID = 896 ppm
10.0	wet at 10.0 feet				SS PID = 1,029 ppm
	Gray, sandy SILT (ML); wet, without petroleum-like odor - **FILL**.	11.5		P	NS PID = 2.4 ppm
12.5					
15.0	trace organics (wood debris); petroleum-like odor at 15.0 feet				HS PID = 3.2 ppm
17.5	debris (piece of glass) at 17.5 feet			P	
20.0	Exploration completed at a depth of 20.0 feet.	20.0			Groundwater sample DP-6(120319) collected. Screen set from 10.0 to 20.0 feet. Surface elevation was not measured at the time of exploration.
22.5					
25.0					
27.5					
30.0					

▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%

0 50 100

11.19 feet during drilling

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/03/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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MARCH 2020

BORING DP-6

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-6

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC% (0 50 100)	INSTALLATION AND COMMENTS
0.0		ASPHALT CONCRETE (3.0 inches).	0.3				
		AGGREGATE BASE (2.0 inches).	0.4				
		Brown SAND with silt (SP-SM); moist - **FILL**.					NS PID = 0.8 ppm
2.5					P		
5.0				CA			DP-7(5-6) NS PID = 1.2 ppm
		gray; petroleum-like odor at 6.5 feet					
7.5					P		SS PID = 271 ppm
10.0							
		wet at 11.5 feet					NS PID = 706 ppm
12.5					P		
15.0							
		Gray, silty SAND (SM); wet, petroleum-like odor.	17.0				NS PID = 793 ppm
17.5					P		
20.0		Exploration completed at a depth of 20.0 feet.	20.0				Groundwater sample DP-7(120319) collected. Screen set from 10.0 to 20.0 feet. Surface elevation was not measured at the time of exploration.
22.5							
25.0							
27.5							
30.0							

▽ 11.29 feet during drilling

DRILLED BY: Cascade Drilling, L.P. LOGGED BY: K. Haggart COMPLETED: 12/03/19

BORING METHOD: direct push (see document text) BORING BIT DIAMETER: 2 1/4 inches

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BORING DP-7

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-7

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	INSTALLATION AND COMMENTS
0.0	ASPHALT CONCRETE (3.0 inches).	0.3			
	AGGREGATE BASE (3.0 inches).	0.5	CA		
	Gray SAND with silt (SP-SM); moist, petroleum-like odor - **FILL**.			P	DP-8(1-2) SS PID = 47 ppm
2.5					
5.0					
7.5			CA	P	DP-8(7-8) SS PID = 58 ppm
10.0	wet at 11.0 feet				DP-8(10-11) SS PID = 65 ppm
12.5	interbedded layers of gray SILT, trace sand at 12.0 feet without interbedded layers at 12.5 feet			P	SS PID = 49 ppm
15.0					
17.5				P	SS PID = 53 ppm
	Gray, silty SAND (SM), trace organics (wood debris); wet, petroleum-like odor - **FILL**.	18.5			SS PID = 67 ppm
20.0	Exploration completed at a depth of 20.0 feet.	20.0			Groundwater sample DP-8(120319) collected. Screen set from 10.0 to 20.0 feet. Surface elevation was not measured at the time of exploration.
22.5					
25.0					
27.5					
30.0					

▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%
0 50 100

12.21 feet during drilling

DRILLED BY: Cascade Drilling, L.P.
LOGGED BY: K. Haggart
COMPLETED: 12/03/19

BORING METHOD: direct push (see document text)
BORING BIT DIAMETER: 2 1/4 inches

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BORING DP-8

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-8

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	INSTALLATION AND COMMENTS
0.0	ASPHALT CONCRETE (3.0 inches).	0.3			
	Brown-gray GRAVEL with silt and sand (GP-GM); moist - **FILL**.			P	NS PID = 0.4 ppm
5.0	Brown SAND with silt (SP-SM); moist - **FILL**.	5.0	CA		DP-9(5-6) NS PID = 0.9 ppm
	gray; moist to wet, slight petroleum-like odor at 6.5 feet			P	NS PID = 108 ppm
10.0	wet at 10.0 feet				SS PID = 1,145 ppm
12.5	lens of gray SILT, trace sand; wet (3 inches thick) at 12.0 feet			P	SS PID = 435 ppm
15.0					SS PID = 78 ppm
17.5				P	
20.0	Exploration completed at a depth of 20.0 feet.	20.0			Groundwater sample DP-9(120319) collected. Screen set from 10.0 to 20.0 feet. Surface elevation was not measured at the time of exploration.
22.5					
25.0					
27.5					
30.0					

GRAPHIC LOG

▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%
0 50 100

▽ 12.30 feet during drilling

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/03/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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BORING DP-9

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-9

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC% (0 50 100)	INSTALLATION AND COMMENTS
0.0		ASPHALT CONCRETE (3.0 inches).	0.3				
		AGGREGATE BASE (2.0 inches).	0.4				
		Brown SAND with silt (SP-SM); moist - **FILL**.					NS PID = 1.0 ppm
2.5					P		
5.0				CA			DP-10(5.5-6.5) NS PID = 2.3 ppm
7.5					P		NS PID = 3.8 ppm
10.0		gray, trace organics (wood debris); wet at 10.0 feet					
12.5					P		NS PID = 1.8 ppm
15.0							
17.5		Gray, sandy SILT (ML), trace organics (wood debris); wet.	17.0		P		NS PID = 2.9 ppm
20.0		Exploration completed at a depth of 20.0 feet.	20.0				Groundwater sample DP-10(120319) collected. Screen set from 10.0 to 20.0 feet. Surface elevation was not measured at the time of exploration.
22.5							
25.0							
27.5							
30.0							

▽ 11.55 feet during drilling

DRILLED BY: Cascade Drilling, L.P. LOGGED BY: K. Haggart COMPLETED: 12/03/19

BORING METHOD: direct push (see document text) BORING BIT DIAMETER: 2 1/4 inches

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BORING DP-10

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-10

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	INSTALLATION AND COMMENTS
0.0	CONCRETE (7.0 inches).				
	Brown SAND with silt (SP-SM); moist - **FILL**.	0.6			
2.5				P	NS PID = 0.4 ppm
					NS PID = 0.4 ppm
5.0					
7.5			CA	P	DP-11(7-8)
	Gray, silty SAND (SM); moist, petroleum-like odor - **FILL**.	8.0 8.5			SS PID = 13 ppm
10.0	Gray SAND with silt (SP-SM); moist, petroleum-like odor - **FILL**. wet at 10.0 feet				SS PID = 1,050 ppm
	lens of gray SILT with sand (2 inches thick) at 11.5 feet			P	
12.5					
15.0					SS PID = 25 ppm
17.5	Gray, silty SAND (SM); wet, petroleum-like odor.	17.0		P	SS PID = 19 ppm
20.0	Exploration completed at a depth of 20.0 feet.	20.0			Groundwater sample DP-11(120419) collected. Screen set from 10.0 to 20.0 feet. Surface elevation was not measured at the time of exploration.
22.5					
25.0					
27.5					
30.0					

▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%
0 50 100

11.18 feet during drilling

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/04/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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MARCH 2020

BORING DP-11

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-11

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	INSTALLATION AND COMMENTS
0.0	CONCRETE (6.0 inches).				
	Brown SAND with silt (SP-SM); moist - **FILL**.	0.5			
2.5				P	NS PID = 3.2 ppm
5.0			CA		DP-12(5-6) NS PID = 2.4 ppm
					SS
7.5	gray; petroleum-like odor at 7.8 feet			P	SS PID = 374 ppm
10.0	wet, petroleum-like odor at 10.0 feet				SS PID = 1,006 ppm
	Gray GRAVEL with silt and sand (GP-GM); wet, petroleum-like odor - **FILL**.	11.5			
12.5				P	
15.0	Gray SAND with silt (SP-SM); wet, petroleum-like odor - **FILL**. piece of glass at 16.0 feet	15.0			SS PID = 36 ppm
17.5	Gray, silty SAND (SM), trace clay and organics (wood debris); wet - **FILL**.	17.0		P	NS PID = 12 ppm
20.0	Exploration completed at a depth of 20.0 feet.	20.0			Groundwater sample DP-12(120419) collected. Screen set between 10.0 and 20.0 feet. Surface elevation not measured at the time of exploration.
22.5					
25.0					
27.5					
30.0					

▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%
0 50 100

10.71 feet during drilling

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/04/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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BORING DP-12

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-12

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	INSTALLATION AND COMMENTS
0.0	CONCRETE (7.0 inches).				
	Brown SAND with silt (SP-SM); moist - **FILL**.	0.6	CA	P	DP-13(1.5-2.5) NS PID = 3.0 ppm
2.5	gray at 2.0 feet				
5.0	brown at 5.0 feet		CA		NS PID = 25 ppm DP-13(6-7)
7.5	gray; petroleum-like odor at 7.0 feet			P	SS PID = 26 ppm
10.0	wet at 10.0 feet				SS PID = 926 ppm
12.5	lens of gray SILT with sand; petroleum-like odor (3 inches thick) at 11.5 feet			P	
15.0					SS PID = 268 ppm
17.5				P	SS PID = 48 ppm
20.0	Exploration completed at a depth of 20.0 feet.	20.0			Groundwater sample DP-13(120419) collected. Screen set between 10.0 and 20.0 feet. Surface elevation was not measured at the time of exploration.
22.5					
25.0					
27.5					
30.0					

▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%
0 50 100

11.45 feet during drilling

DRILLED BY: Cascade Drilling, L.P.
LOGGED BY: K. Haggart
COMPLETED: 12/04/19

BORING METHOD: direct push (see document text)
BORING BIT DIAMETER: 2 1/4 inches

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BIGBEAMS-1-01-07
MARCH 2020

BORING DP-13
FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-13

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC% (0 50 100)	INSTALLATION AND COMMENTS
0.0	CONCRETE (7.0 inches).					
	Brown SAND with silt (SP-SM); moist - **FILL**.	0.6				
2.5				P		NS PID = 1.3 ppm
5.0			CA			DP-14(6-7) NS PID = 1.2 ppm
7.5	gray; petroleum-like odor at 7.5 feet			P		SS PID = 52 ppm
10.0	wet, petroleum-like odor at 10.0 feet					SS PID = 1,448 ppm
12.5				P		SS PID = 137 ppm
15.0						SS PID = 166 ppm
17.5	Gray, silty SAND (SM); wet, without petroleum-like odor.	17.0		P		NS PID = 27 ppm
20.0	Exploration completed at a depth of 20.0 feet.	20.0				Groundwater sample DP-14(120419) collected. Screen set from 10.0 to 20.0 feet. Surface elevation was not measured at the time of exploration.
22.5						
25.0						
27.5						
30.0						

12.48 feet during drilling

DRILLED BY: Cascade Drilling, L.P. LOGGED BY: K. Haggart COMPLETED: 12/04/19

BORING METHOD: direct push (see document text) BORING BIT DIAMETER: 2 1/4 inches

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BIGBEAMS-1-01-07

BORING DP-14

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-14

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	INSTALLATION AND COMMENTS
0.0	CONCRETE (7.0 inches).				
	Brown SAND with silt (SP-SM); moist - **FILL**.	0.6			
	gray-brown at 1.0 foot				
2.5				P	NS PID = 1.4 ppm
					NS PID = 5.2 ppm
5.0			CA		DP-15(5-6) NS PID = 10 ppm
	black (1 inch thick) at 7.0 feet			P	
7.5					NS PID = 26 ppm
	black (2 inches thick) at 8.5 feet				
10.0	wet, petroleum-like odor at 10.0 feet				SS PID = 1,709 ppm
12.5				P	SS PID = 398 ppm
15.0					SS PID = 728 ppm
17.5				P	SS PID = 102 ppm
20.0	Exploration completed at a depth of 20.0 feet	20.0			Groundwater sample DP-15(120419) collected. Screen set between 10.0 and 20.0 feet. Surface elevation was not measured at the time of exploration.
22.5					
25.0					
27.5					
30.0					

GRAPHIC LOG

SAMPLE: ▲ BLOW COUNT; ● MOISTURE CONTENT %; RQD%; CORE REC%; 0 50 100

INSTALLATION AND COMMENTS: ▽ 12.60 feet during drilling

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/04/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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BIGBEAMS-1-01-07

MARCH 2020

BORING DP-15

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-15

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	INSTALLATION AND COMMENTS
0.0	CONCRETE (7.0 inches).				
	Brown SAND with silt (SP-SM); moist - **FILL**.	0.6			
2.5				P	NS PID = 1.1 ppm
5.0	interbeds of SILT with sand (0.25-inch thick) at 5.0 feet		CA		DP-16(6-7) NS PID = 1.4 ppm
7.5	gray; without interbeds, petroleum-like odor at 7.0 feet			P	SS PID = 52 ppm
10.0	wet at 10.0 feet				SS PID = 874 ppm
12.5				P	SS PID = 532 ppm
15.0					SS PID = 10 ppm
17.5				P	
	Gray, silty SAND (SM); wet, without petroleum-like odor.	18.0			NS PID = 7.8 ppm
20.0	Exploration completed at a depth of 20.0 feet.	20.0			Groundwater sample DP-16(120419) collected. Screen set between 10.0 and 20.0 feet. Surface elevation was not measured at the time of exploration.
22.5					
25.0					
27.5					
30.0					

GRAPHIC LOG

▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%
0 50 100

11.52 feet during drilling

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/04/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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BIGBEAMS-1-01-07

MARCH 2020

BORING DP-16

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-16

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC%	INSTALLATION AND COMMENTS
0.0		ASPHALT CONCRETE (3.0 inches).	0.3			0 50 100	Flush-mount monument with 1.5 feet of concrete backfill
		Brown SAND with silt (SP-SM); moist.					Bentonite chips NS PID = 1.2 ppm
2.5					P		
5.0							2-inch, Schedule 40 PVC well casing
				CA			MW-6(6-7) SS PID = 212 ppm
7.5		gray; petroleum-like odor at 7.0 feet			P		
							10/20 filter pack sand
10.0							SS PID = 1,570 ppm
12.5		wet at 12.0 feet			P		SS PID = 960 ppm
15.0							No recovery at 15.0 feet.
17.5		Gray, silty SAND (SM), trace organics; wet, without petroleum-like odor.	17.5		P		2-inch, Schedule 40 PVC screen, 0.010-inch slot width
20.0							
22.5					P		SS PID = 12.5 ppm
							NS PID = 4.6 ppm
25.0		Exploration completed at a depth of 25.0 feet.	25.0				Surface elevation was not measured at the time of exploration.
27.5							
30.0						0 50 100	

DRILLED BY: Cascade Drilling, L.P. LOGGED BY: K. Haggart COMPLETED: 12/02/19

BORING METHOD: direct push (see document text) BORING BIT DIAMETER: 2 1/4 inches

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BIGBEAMS-1-01-07

BORING MW-6

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-17

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	INSTALLATION AND COMMENTS
0.0	ASPHALT CONCRETE (3.0 inches).	0.3			Flush-mount monument with 1.5 feet of concrete backfill
	AGGREGATE BASE (3.0 inches).	0.5			Bentonite chips
	Brown SAND with silt (SP-SM); moist - **FILL**.				NS PID = 0.5 ppm
2.5				P	2-inch, Schedule 40 PVC well casing
5.0			CA		MW-7(5-6) NS PID = 1.3 ppm
	gray; petroleum-like odor at 6.0 feet				SS PID = 3.6 ppm
7.5				P	10/20 filter pack sand
					2-inch, Schedule 40 PVC screen, 0.010-inch slot width
10.0	moist to wet at 10.0 feet				SS PID = 1,400 ppm
12.5				P	
					SS PID = 800 ppm
15.0	wet at 15.0 feet				SS PID = 280 ppm
17.5				P	
					SS PID = 310 ppm
20.0	Gray, silty SAND (SM), trace organics; wet, petroleum-like odor.	20.0			
22.5				P	NS PID = 1.2 ppm
					NS PID = 2.2 ppm
25.0	Exploration completed at a depth of 25.0 feet.	25.0			Surface elevation was not measured at the time of exploration.
27.5					
30.0					

SAMPLE: ▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC% — 0 50 100

DRILLED BY: Cascade Drilling, L.P. LOGGED BY: K. Haggart COMPLETED: 12/02/19

BORING METHOD: direct push (see document text) BORING BIT DIAMETER: 2 1/4 inches

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BIGBEAMS-1-01-07

BORING MW-7

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-18

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC%	INSTALLATION AND COMMENTS
0.0		ASPHALT CONCRETE (3.0 inches).	0.3			0 50 100	Flush-mount monument with 1.5 feet of concrete backfill
		AGGREGATE BASE (5.0 inches).	0.7				NS PID = 0.3 ppm
		Brown SAND with silt (SP-SM); moist - **FILL**.					Bentonite chips
2.5					P		NS PID = 0.4 ppm
							2-inch, Schedule 40 PVC well casing
5.0				CA			NS PID = 4.6 ppm
							MW-8(6-7)
7.5		gray; petroleum-like odor at 7.0 feet			P		SS PID = 1,855 ppm
10.0		wet at 10.0 feet					10/20 filter pack sand
							SS PID = 248 ppm
12.5					P		2-inch, Schedule 40 PVC screen, 0.010-inch slot width
15.0							SS PID = 48 ppm
17.5					P		
		Gray, silty SAND (SM), trace organics (wood debris); wet - **FILL**.	18.0				
20.0							NS PID = 3.4 ppm
22.5					P		
25.0		Exploration completed at a depth of 25.0 feet.	25.0				Surface elevation was not measured at the time of exploration.
27.5							
30.0						0 50 100	

DRILLED BY: Cascade Drilling, L.P. LOGGED BY: K. Haggart COMPLETED: 12/04/19

BORING METHOD: direct push (see document text) BORING BIT DIAMETER: 2 1/4 inches

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BIGBEAMS-1-01-07

BORING MW-8

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-19

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	INSTALLATION AND COMMENTS
0.0	CONCRETE (12.0 inches).				
	Gray SAND with silt (SP-SM); moist, slight petroleum-like odor - **FILL**.	1.0	CA	P	PAS-1(1-2) SS PID = 6.4 ppm
2.5				P	SS PID = 2.8 ppm
5.0			CA		PAS-1(6-7) SS PID = 34 ppm
7.5				P	
10.0	wet at 10.0 feet				SS PID = 1,382 ppm
12.5				P	
15.0					NS PID = 36 ppm
17.5	trace gravel at 17.5 feet			P	
20.0	Gray, sandy SILT (ML), trace clay and organics (wood debris); wet, petroleum-like odor.	20.0			
22.5				P	
25.0	Exploration completed at a depth of 25.0 feet.	25.0			Surface elevation was not measured at the time of exploration.
27.5					
30.0					

GRAPHIC LOG

SAMPLE: ▲ BLOW COUNT; ● MOISTURE CONTENT %; RQD%; CORE REC%; 0; 50; 100

10.0 feet during drilling

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/03/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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BIGBEAMS-1-01-07

BORING PAS-1

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-20

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE
0.0	CONCRETE (12.0 inches).			
	AGGREGATE BASE (4.0 inches).	1.0		
	Gray SAND with silt (SP-SM); moist, petroleum-like odor - **FILL**.	1.3	CA	P
2.5				
5.0			CA	
	lens of gray, sandy SILT (1-inch thick) at 6.0 feet			
7.5				P
10.0				
	wet at 11.0 feet			
	lens of GRAVEL (1-inch thick) at 12.0 feet			P
12.5				
15.0				
	lens of GRAVEL (1-inch thick) at 17.0 feet			P
17.5				
	Gray, silty SAND (SM); wet.	18.0		
20.0				P
	Exploration completed at a depth of 21.0 feet.	21.0		
22.5				
25.0				
27.5				
30.0				

SAMPLE: ▲ BLOW COUNT; ● MOISTURE CONTENT %; RQD%; CORE REC%. Scale: 0, 50, 100

INSTALLATION AND COMMENTS

- Flush-mount monument with 1.5 feet of concrete backfill
- PAS-2(2-3) SS PID = 150 ppm
- 2-inch, Schedule 40 PVC well casing
- PAS-2(6-7) SS PID = 31 ppm
- Bentonite chips
- SS PID = 184 ppm
- SS PID = 1,614 ppm
- 10/20 filter pack sand
- 2-inch, Schedule 40 PVC screen, 0.020-inch slot width SS PID = 49 ppm
- ⊻ 11.0 feet during drilling
- Surface elevation was not measured at the time of exploration.

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/06/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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BIGBEAMS-1-01-07

MARCH 2020

BORING PAS-2

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-21

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC% (0 50 100)	INSTALLATION AND COMMENTS
0.0		CONCRETE (12.0 inches).					Flush-mount monument with 1.5 feet of concrete backfill
		AGGREGATE BASE (4.0 inches).	1.0				
		Brown SAND with silt (SP-SM), trace gravel; moist - **FILL**.	1.3				Bentonite chips
2.5		gray, without gravel at 3.0 feet			P		NS PID = 2.6 ppm
5.0		petroleum-like odor at 5.0 feet					2-inch, Schedule 40 PVC well casing
		interbeds of gray, silty SAND at 6.0 feet					SS PID = 85 ppm
7.5				CA	P		OAS-1(7-8) SS PID = 107 ppm
							10/20 filter pack sand
10.0		without interbeds at 10.0 feet					SS PID = 1,481 ppm
		wet at 11.0 feet					▽ 12.21 feet during drilling
12.5					P		SS PID = 1,937 ppm
							2-inch, Schedule 40 PVC screen, 0.010-inch slot width
15.0							SS PID = 33 ppm
17.5					P		NS PID = 19 ppm
20.0		Exploration completed at a depth of 20.0 feet.	20.0				Surface elevation was not measured at the time of exploration.
22.5							
25.0							
27.5							
30.0							

DRILLED BY: Cascade Drilling, L.P. LOGGED BY: K. Haggart COMPLETED: 12/06/19

BORING METHOD: direct push (see document text) BORING BIT DIAMETER: 2 1/4 inches

GeoDesign Inc an NV5 company

BIGBEAMS-1-01-07

BORING OAS-1

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-22

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING
0.0	CONCRETE (12.0 inches).		
	AGGREGATE BASE (4.0 inches).	1.0	
	Gray SAND with silt (SP-SM); moist - **FILL**.	1.3	CA
5.0	petroleum-like odor at 5.0 feet		CA
10.0	wet at 11.0 feet		
15.0	trace gravel at 16.0 feet		
20.0	Exploration completed at a depth of 20.0 feet.	20.0	

SAMPLE: ▲ BLOW COUNT; ● MOISTURE CONTENT %; RQD%; CORE REC%. Scale: 0, 50, 100.

INSTALLATION AND COMMENTS

- Flush-mount monument with 1.5 feet of concrete backfill
- OAS-2(2-3) NS PID = 6.0 ppm
- Bentonite chips
- OAS-2(5-6) NS PID = 18 ppm
- 2-inch, Schedule 40 PVC well casing
- 10/20 filter pack sand
- SS PID = 1,048 ppm
- 2-inch, Schedule 40 PVC screen, 0.010-inch slot width
- SS PID = 120 ppm
- 12.13 feet during drilling
- Surface elevation was not measured at the time of exploration.

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/05/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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BIGBEAMS-1-01-07

BORING OAS-2

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-23

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

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DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	INSTALLATION AND COMMENTS
0.0	CONCRETE (12.0 inches).				Flush-mount monument with 1.5 feet of concrete backfill NS PID = 5.8 ppm Bentonite chips 2-inch, Schedule 40 PVC well casing NS PID = 108 ppm
	AGGREGATE BASE (4.0 inches).	1.0			
	Gray SAND with silt (SP-SM); moist - **FILL**.	1.3			
2.5				P	
5.0	petroleum-like odor at 5.0 feet		CA		NS PID = 19 ppm OAS-3(6-7) NS
7.5				P	NS PID = 30 ppm
10.0	wet at 10.5 feet lens of gray SILT with sand (2 inches thick) at 11.0 feet				10/20 filter pack sand SS PID = 1,611 ppm
12.5				P	2-inch, Schedule 40 PVC screen, 0.010-inch slot width SS PID = 980 ppm
15.0					SS PID = 28 ppm
17.5	Gray-black GRAVEL with silt and sand (GP-GM); wet, petroleum-like odor - **FILL**.	17.0		P	SS PID = 31 ppm
20.0	Exploration completed at a depth of 20.0 feet.	20.0			Surface elevation was not measured at the time of exploration.
22.5					
25.0					
27.5					
30.0					

GRAPHIC LOG

SAMPLE: ▲ BLOW COUNT; ● MOISTURE CONTENT %; RQD%; CORE REC%; 0 50 100

12.25 feet during drilling

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/05/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

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BIGBEAMS-1-01-07

BORING OAS-3

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-24

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE
0.0	CONCRETE (12.0 inches).			
	AGGREGATE BASE (5.0 inches).	1.0		
	Gray SAND with silt (SP-SM); moist - **FILL**.	1.4		
2.5			CA	P
5.0	petroleum-like odor at 5.0 feet			
7.5				P
10.0	wet at 11.0 feet			
12.5				P
15.0	trace gravel at 16.0 feet			
17.5				P
	Gray GRAVEL with silt and sand (GP-GM); wet, petroleum-like odor - **FILL**.	18.0		
20.0	Exploration completed at a depth of 20.0 feet.	20.0		
22.5				
25.0				
27.5				
30.0				

▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%

0 50 100

INSTALLATION AND COMMENTS

Flush-mount monument with 1.5 feet of concrete backfill

Bentonite chips

OAS-4(2.5-3.5)
NS
PID = 1.6 ppm

2-inch, Schedule 40 PVC well casing

NS
PID = 18 ppm

NS
PID = 16 ppm

10/20 filter pack sand

2-inch, Schedule 40 PVC screen, 0.010-inch slot width

SS
PID = 910 ppm

11.0 feet during drilling

NS
PID = 102 ppm

Surface elevation was not measured at the time of exploration.

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/05/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

GeoDesign Inc
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BIGBEAMS-1-01-07

BORING OAS-4

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-25

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

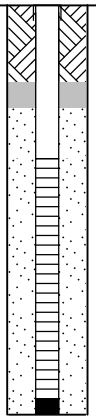
DRAFT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE
0.0		CONCRETE (12.0 inches).			
		Brown SAND with silt (SP-SM); moist - **FILL**.	1.0		
2.5		gray; petroleum-like odor at 3.0 feet		CA	P
5.0					P
7.5					
		Exploration completed at a depth of 8.0 feet.	8.0		
10.0					
12.5					
15.0					
17.5					
20.0					
22.5					
25.0					
27.5					
30.0					

▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%

0 50 100

INSTALLATION AND COMMENTS



Flush-mount monument with 1.5 feet of concrete backfill
Bentonite chips
NS
PID = 3.2 ppm
2-inch, Schedule 40 PVC well casing
10/20 filter pack sand
PSVE-1(3-4)
NS
PID = 1.8 ppm
2-inch, Schedule 40 PVC screen, 0.020-inch slot width

PID = 80 ppm

Surface elevation was not measured at the time of exploration.

0 50 100

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/05/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

GeoDesign Inc
AN NV5 COMPANY

BIGBEAMS-1-01-07

MARCH 2020

BORING PSVE-1

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-26

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE
0.0		CONCRETE (12.0 inches).			
		AGGREGATE BASE (6.0 inches).	1.0		
		Brown SAND with silt (SP-SM); moist - **FILL**.	1.5		
2.5					P
5.0		interbeds of gray, silty SAND (1 to 2 inches thick); petroleum-like odor at 5.0 feet		CA	P
7.5					
		Exploration completed at a depth of 8.0 feet.	8.0		
10.0					
12.5					
15.0					
17.5					
20.0					
22.5					
25.0					
27.5					
30.0					

▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%

0 50 100

0 50 100

INSTALLATION AND COMMENTS

Flush-mount monument with 1.5 feet of concrete backfill
Bentonite chips
NS
PID = 1.4 ppm
10/20 filter pack sand
2-inch, Schedule 40 PVC well casing
SS
PID = 23 ppm

OSVE-1(5-6)
SS

2-inch, Schedule 40 PVC screen, 0.010-inch slot width

Surface elevation was not measured at the time of exploration.

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/05/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

GeoDesign Inc
AN NV5 COMPANY

BIGBEAMS-1-01-07

MARCH 2020

BORING OSVE-1

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-27

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING
0.0	CONCRETE (12.0 inches).		
	AGGREGATE BASE (6.0 inches).	1.0	
	Gray SAND with silt (SP-SM); moist - **FILL**.	1.5	
2.5			CA
5.0	petroleum-like odor at 5.0 feet lens of gray SILT with sand (1-inch thick) at 6.0 feet		CA
7.5			
	Exploration completed at a depth of 8.0 feet.	8.0	
10.0			
12.5			
15.0			
17.5			
20.0			
22.5			
25.0			
27.5			
30.0			

GRAPHIC LOG

SAMPLE: P, P

▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%

0 50 100

INSTALLATION AND COMMENTS

Flush-mount monument with 1.5 feet of concrete backfill
Bentonite chips
2-inch, Schedule 40 PVC well casing
NS
PID = 0.3 ppm
10/20 filter pack sand
OSVE-2(3-4)
NS
PID = 11 ppm
2-inch, Schedule 40 PVC screen, 0.010-inch slot width
OSVE-2(6-7)
NS
PID = 3.9 ppm

Surface elevation was not measured at the time of exploration.

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/06/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

GeoDesign Inc
AN NV5 COMPANY

BIGBEAMS-1-01-07

BORING OSVE-2

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-28

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

DRAFT

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE	▲ BLOW COUNT ● MOISTURE CONTENT % RQD% CORE REC% (0 50 100)	INSTALLATION AND COMMENTS
0.0		CONCRETE (12.0 inches).					Flush-mount monument with 1.5 feet of concrete backfill
		AGGREGATE BASE (4.0 inches).	1.0				Bentonite chips
		Gray SAND with silt (SP-SM), trace gravel; moist - **FILL**.	1.3				10/20 filter pack sand NS PID = 1.9 ppm 2-inch, Schedule 40 PVC well casing
2.5					P		
5.0		petroleum-like odor at 5.0 feet		CA			OSVE-3(5-6) NS PID = 15 ppm
7.5					P		2-inch, Schedule 40 PVC screen, 0.010-inch slot width
		Exploration completed at a depth of 8.0 feet.	8.0				Surface elevation was not measured at the time of exploration.
10.0							
12.5							
15.0							
17.5							
20.0							
22.5							
25.0							
27.5							
30.0							

DRILLED BY: Cascade Drilling, L.P. LOGGED BY: K. Haggart COMPLETED: 12/06/19

BORING METHOD: direct push (see document text) BORING BIT DIAMETER: 2 1/4 inches

GeoDesign Inc an NV5 company

BIGBEAMS-1-01-07

BORING OSVE-3

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-29

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

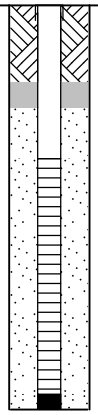
DRAFT

DEPTH FEET	MATERIAL DESCRIPTION	ELEVATION / DEPTH	TESTING	SAMPLE
0.0	CONCRETE (12.0 inches).			
	AGGREGATE BASE (4.0 inches).	1.0		
	Brown SAND with silt and gravel (SP-SM); moist - **FILL**.	1.3	CA	P
2.5	gray, without gravel at 2.0 feet			
5.0	petroleum-like odor at 6.0 feet			P
7.5	Exploration completed at a depth of 8.0 feet.	8.0		
10.0				
12.5				
15.0				
17.5				
20.0				
22.5				
25.0				
27.5				
30.0				

▲ BLOW COUNT
● MOISTURE CONTENT %
RQD% CORE REC%

0 50 100

INSTALLATION AND COMMENTS



Flush-mount monument with 1.5 feet of concrete backfill
Bentonite chips
10/20 filter pack sand
OSVE-4(2-3)
NS
PID = 105 ppm
2-inch, Schedule 40 PVC well casing
2-inch, Schedule 40 PVC screen, 0.010-inch slot width

NS
PID = 125 ppm

Surface elevation was not measured at the time of exploration.

DRILLED BY: Cascade Drilling, L.P.

LOGGED BY: K. Haggart

COMPLETED: 12/05/19

BORING METHOD: direct push (see document text)

BORING BIT DIAMETER: 2 1/4 inches

GeoDesign Inc
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BIGBEAMS-1-01-07

BORING OSVE-4

MARCH 2020

FORMER ASTORIA WAREHOUSING SITE
ASTORIA, OR

FIGURE B-30

BORING LOG - GDI-NV5 - 1 PER PAGE BIGBEAMS-1-01-07-DP1_16-MW6_8-PAS1_2-OAS1_4-PSVE1-OSVE1_4.GPJ GDI_NV5.GDT PRINT DATE: 3/3/20:KM

APPENDIX C

APPENDIX C

CHEMICAL ANALYTICAL PROGRAM

GENERAL

Chain-of-custody procedures were followed during handling and transport of the soil and groundwater samples to the analytical laboratory. The laboratory holds the samples in cold storage pending extraction and/or analysis. The analytical results, analytical methods reference, and laboratory QC records are included in this appendix. The analytical results also are summarized in the tables of this report.

REVIEW OF ANALYTICAL DATA

The analytical laboratories used for this project maintain an internal quality assurance programs consisting of a combination of the following:

Blanks: Blanks are laboratory-prepared water samples that are free of contaminants. The blanks are carried through the analysis procedure along with the field samples to document that contaminants were not introduced to the samples during sample handling and analysis.

Surrogate Recoveries: Surrogates are organic compounds that are similar in nature to the analytes of concern but are not normally found in nature. The surrogates are added to QC and field samples prior to analysis. The percent recovery of the surrogate is calculated to demonstrate acceptable method performance.

Duplicates: Duplicates are obtained by splitting a sample into two parts. The two separate parts are carried through the analyses. The analytical results are then compared by calculating the RPD between the samples.

MS/MSD Recoveries: An MS sample is a sample that has been split into a second portion. The MSD is obtained by further splitting the MS sample. A known concentration of the analyte of interest is added to the MS and MSD samples. The analytical results for both samples are then compared for RPD and percent recovery to demonstrate acceptable method performance.

BS/BSD Recoveries: BS and BSD samples are obtained and analyzed in the same procedure as the MS/MSD samples; however, the laboratory blank sample is used to obtain the BS/BSD samples. The percent recovery and RPD of the known concentration of analyte of interest added to the BS/BSD sample is calculated after chemical analyses to demonstrate acceptable method performance.

SUMMARY OF ANALYTICAL DATA REVIEW

GeoDesign reviewed the attached analytical data reports for data quality exceptions and deviations from acceptable method performance criteria. Based on our review of the analytical reports, the analytical data appear acceptable for their intended use.

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 13, 2019

GeoDesign Inc. - Wilsonville, OR

Sample Delivery Group:	L1168019
Samples Received:	12/06/2019
Project Number:	BIGBEAMS-1-01-07
Description:	

Report To: Kyle Haggart
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Entire Report Reviewed By:

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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DP-1(1-2) L1168019-01 Solid

Collected by: Kyle Haggart | Collected date/time: 12/02/19 11:00 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392815	1	12/09/19 10:58	12/09/19 11:10	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/08/19 22:42	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1393869	25.3	12/02/19 11:00	12/10/19 14:35	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	1.22	12/02/19 11:00	12/09/19 13:49	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393216	1	12/08/19 22:02	12/09/19 03:26	KME	Mt. Juliet, TN

DP-1(7-8) L1168019-02 Solid

Collected by: Kyle Haggart | Collected date/time: 12/02/19 11:10 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392815	1	12/09/19 10:58	12/09/19 11:10	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	10	12/07/19 11:20	12/09/19 00:08	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394316	285	12/02/19 11:10	12/11/19 18:11	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	1	12/02/19 11:10	12/09/19 14:08	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394255	200	12/02/19 11:10	12/11/19 12:38	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395291	2000	12/02/19 11:10	12/12/19 10:22	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393216	20	12/08/19 22:02	12/09/19 07:05	KME	Mt. Juliet, TN

DP-2(2-3) L1168019-03 Solid

Collected by: Kyle Haggart | Collected date/time: 12/02/19 11:25 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392815	1	12/09/19 10:58	12/09/19 11:10	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/08/19 22:57	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1393869	25.3	12/02/19 11:25	12/10/19 15:17	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	1.09	12/02/19 11:25	12/09/19 14:28	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394255	10.9	12/02/19 11:25	12/11/19 12:58	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393216	1	12/08/19 22:02	12/09/19 05:04	KME	Mt. Juliet, TN

DP-2(7-8) L1168019-04 Solid

Collected by: Kyle Haggart | Collected date/time: 12/02/19 11:30 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392815	1	12/09/19 10:58	12/09/19 11:10	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/08/19 23:01	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1393869	25	12/02/19 11:30	12/10/19 15:38	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	1	12/02/19 11:30	12/09/19 14:47	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393216	1	12/08/19 22:02	12/09/19 05:36	KME	Mt. Juliet, TN

MW-6(6-7) L1168019-05 Solid

Collected by: Kyle Haggart | Collected date/time: 12/02/19 14:10 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392815	1	12/09/19 10:58	12/09/19 11:10	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/08/19 23:05	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1393869	106	12/02/19 14:10	12/10/19 15:58	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	8.56	12/02/19 14:10	12/09/19 19:13	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394255	214	12/02/19 14:10	12/11/19 13:18	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393216	1	12/08/19 22:02	12/09/19 11:26	KME	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393216	10	12/08/19 22:02	12/09/19 06:01	KME	Mt. Juliet, TN

MW-7(5-6) L1168019-06 Solid

Collected by: Kyle Haggart | Collected date/time: 12/02/19 12:05 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392817	1	12/09/19 10:47	12/09/19 10:55	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/08/19 23:08	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1393869	30.5	12/02/19 12:05	12/10/19 16:19	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	1.05	12/02/19 12:05	12/09/19 15:06	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394255	1.05	12/02/19 12:05	12/11/19 10:56	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393216	20	12/08/19 22:02	12/09/19 06:52	KME	Mt. Juliet, TN

DP-3(5-5.5) L1168019-07 Solid

Collected by: Kyle Haggart | Collected date/time: 12/03/19 11:00 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392817	1	12/09/19 10:47	12/09/19 10:55	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/08/19 23:12	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1393869	30.8	12/03/19 11:00	12/10/19 16:40	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	1.01	12/03/19 11:00	12/09/19 15:25	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393216	5	12/08/19 22:02	12/09/19 05:49	KME	Mt. Juliet, TN

DP-4(5-6) L1168019-08 Solid

Collected by: Kyle Haggart | Collected date/time: 12/03/19 11:00 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392817	1	12/09/19 10:47	12/09/19 10:55	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/08/19 22:23	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1393869	36.5	12/03/19 11:00	12/10/19 17:21	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	1.04	12/03/19 11:00	12/09/19 15:44	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394255	1.04	12/03/19 11:00	12/11/19 11:17	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393216	1	12/08/19 22:02	12/09/19 11:13	KME	Mt. Juliet, TN

DP-5(6-7) L1168019-09 Solid

Collected by: Kyle Haggart | Collected date/time: 12/03/19 11:00 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392817	1	12/09/19 10:47	12/09/19 10:55	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/08/19 23:16	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1393869	25	12/03/19 11:00	12/10/19 17:41	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	1.01	12/03/19 11:00	12/09/19 16:03	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394255	1.01	12/03/19 11:00	12/11/19 11:38	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393216	1	12/08/19 22:02	12/09/19 02:10	KME	Mt. Juliet, TN

DP-6(6-7) L1168019-10 Solid

Collected by: Kyle Haggart | Collected date/time: 12/03/19 11:00 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392817	1	12/09/19 10:47	12/09/19 10:55	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/08/19 23:19	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1393869	26.8	12/03/19 11:00	12/10/19 18:02	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	1.02	12/03/19 11:00	12/09/19 16:22	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394255	1.02	12/03/19 11:00	12/11/19 11:58	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393216	1	12/08/19 22:02	12/09/19 02:22	KME	Mt. Juliet, TN

DP-7(5-6) L1168019-11 Solid

Collected by: Kyle Haggart | Collected date/time: 12/03/19 11:00 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392817	1	12/09/19 10:47	12/09/19 10:55	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/08/19 23:23	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1393869	25	12/03/19 11:00	12/10/19 18:23	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	1	12/03/19 11:00	12/09/19 16:41	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394255	1	12/03/19 11:00	12/11/19 12:18	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393216	10	12/08/19 22:02	12/09/19 11:51	KME	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393216	20	12/08/19 22:02	12/09/19 06:27	KME	Mt. Juliet, TN

DP-8(1-2) L1168019-12 Solid

Collected by: Kyle Haggart | Collected date/time: 12/03/19 11:00 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392817	1	12/09/19 10:47	12/09/19 10:55	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/08/19 23:27	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394104	28.2	12/03/19 11:00	12/11/19 02:40	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	1.09	12/03/19 11:00	12/09/19 17:00	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393216	1	12/08/19 22:02	12/09/19 02:35	KME	Mt. Juliet, TN

DP-8(7-8) L1168019-13 Solid

Collected by: Kyle Haggart | Collected date/time: 12/03/19 11:05 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392817	1	12/09/19 10:47	12/09/19 10:55	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/08/19 23:30	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394104	25	12/03/19 11:05	12/11/19 03:01	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	1	12/03/19 11:05	12/09/19 17:19	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393216	1	12/08/19 22:02	12/09/19 02:48	KME	Mt. Juliet, TN

DP-8(10-11) L1168019-14 Solid

Collected by: Kyle Haggart | Collected date/time: 12/03/19 11:10 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392817	1	12/09/19 10:47	12/09/19 10:55	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/08/19 23:42	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394104	100	12/03/19 11:10	12/11/19 03:22	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	8.72	12/03/19 11:10	12/09/19 19:32	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394255	872	12/03/19 11:10	12/11/19 13:38	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393750	1	12/10/19 06:58	12/10/19 20:44	KME	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393750	5	12/10/19 06:58	12/11/19 17:33	TJD	Mt. Juliet, TN

DP-9(5-6) L1168019-15 Solid

Collected by: Kyle Haggart | Collected date/time: 12/03/19 13:25 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392817	1	12/09/19 10:47	12/09/19 10:55	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/08/19 23:46	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394104	25	12/03/19 13:25	12/11/19 03:42	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	1.04	12/03/19 13:25	12/09/19 17:38	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393750	1	12/10/19 06:58	12/10/19 17:55	FM	Mt. Juliet, TN

DP-10(5.5-6.5) L1168019-16 Solid

Collected by: Kyle Haggart | Collected date/time: 12/03/19 14:00 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392818	1	12/09/19 10:35	12/09/19 10:45	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/08/19 23:49	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394104	25.8	12/03/19 14:00	12/11/19 04:03	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	1	12/03/19 14:00	12/09/19 17:57	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393750	1	12/10/19 06:58	12/10/19 19:15	FM	Mt. Juliet, TN

PAS-1(1-2) L1168019-17 Solid

Collected by: Kyle Haggart | Collected date/time: 12/03/19 12:20 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392818	1	12/09/19 10:35	12/09/19 10:45	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/08/19 23:53	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394104	25	12/03/19 12:20	12/11/19 04:24	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	1.05	12/03/19 12:20	12/09/19 18:16	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393750	1	12/10/19 06:58	12/10/19 18:08	FM	Mt. Juliet, TN

PAS-1(6-7) L1168019-18 Solid

Collected by: Kyle Haggart | Collected date/time: 12/03/19 12:25 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392818	1	12/09/19 10:35	12/09/19 10:45	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/08/19 23:57	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394104	25	12/03/19 12:25	12/11/19 04:44	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	1.08	12/03/19 12:25	12/09/19 18:35	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393750	1	12/10/19 06:58	12/10/19 18:21	FM	Mt. Juliet, TN

MW-8(6-7) L1168019-19 Solid

Collected by: Kyle Haggart | Collected date/time: 12/04/19 08:40 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392818	1	12/09/19 10:35	12/09/19 10:45	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/09/19 00:00	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394104	25	12/04/19 08:40	12/11/19 05:05	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393507	1.03	12/04/19 08:40	12/09/19 18:54	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393750	1	12/10/19 06:58	12/10/19 19:03	FM	Mt. Juliet, TN

DP-11(7-8) L1168019-20 Solid

Collected by: Kyle Haggart | Collected date/time: 12/04/19 08:45 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392818	1	12/09/19 10:35	12/09/19 10:45	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392803	5	12/07/19 11:20	12/09/19 00:04	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394846	25	12/04/19 08:45	12/12/19 01:00	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1393923	1.15	12/04/19 08:45	12/10/19 16:44	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393750	1	12/10/19 06:58	12/10/19 18:37	FM	Mt. Juliet, TN

DP-12(5-6) L1168019-21 Solid

Collected by: Kyle Haggart | Collected date/time: 12/04/19 10:50 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395160	1	12/12/19 07:50	12/12/19 08:05	KBC	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1395202	5	12/12/19 11:44	12/12/19 17:43	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394953	31.3	12/04/19 10:50	12/12/19 10:45	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1.06	12/04/19 10:50	12/12/19 11:03	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1395066	1	12/12/19 06:58	12/12/19 16:52	FM	Mt. Juliet, TN

DP-13(1.5-2.5) L1168019-22 Solid

Collected by: Kyle Haggart | Collected date/time: 12/04/19 11:20 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395160	1	12/12/19 07:50	12/12/19 08:05	KBC	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1395202	5	12/12/19 11:44	12/12/19 17:47	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394953	25.3	12/04/19 11:20	12/12/19 11:06	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1.23	12/04/19 11:20	12/12/19 11:23	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1395066	1	12/12/19 06:58	12/12/19 18:32	FM	Mt. Juliet, TN

DP-13(6-7) L1168019-23 Solid

Collected by: Kyle Haggart | Collected date/time: 12/04/19 11:25 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395160	1	12/12/19 07:50	12/12/19 08:05	KBC	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1395202	5	12/12/19 11:44	12/12/19 17:58	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394953	26.5	12/04/19 11:25	12/12/19 11:26	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1.11	12/04/19 11:25	12/12/19 11:42	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1395066	1	12/12/19 06:58	12/12/19 17:36	FM	Mt. Juliet, TN

DP-14(6-7) L1168019-24 Solid

Collected by: Kyle Haggart | Collected date/time: 12/04/19 12:10 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395160	1	12/12/19 07:50	12/12/19 08:05	KBC	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1395202	5	12/12/19 11:44	12/12/19 18:01	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394953	26.8	12/04/19 12:10	12/12/19 11:47	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1.05	12/04/19 12:10	12/12/19 12:03	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1395066	1	12/12/19 06:58	12/12/19 16:26	FM	Mt. Juliet, TN

DP-15(2.5-3.5) L1168019-25 Solid

Collected by: Kyle Haggart | Collected date/time: 12/04/19 12:30 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395160	1	12/12/19 07:50	12/12/19 08:05	KBC	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1395202	5	12/12/19 11:44	12/12/19 18:04	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394953	25	12/04/19 12:30	12/12/19 12:07	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1	12/04/19 12:30	12/12/19 12:23	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1395066	1	12/12/19 06:58	12/12/19 16:39	FM	Mt. Juliet, TN

DP-15(5-6) L1168019-26 Solid

Collected by: Kyle Haggart
Collected date/time: 12/04/19 12:40
Received date/time: 12/06/19 08:30

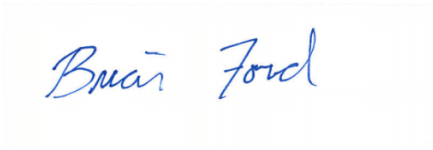
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395160	1	12/12/19 07:50	12/12/19 08:05	KBC	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1395202	5	12/12/19 11:44	12/12/19 18:08	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394953	25.5	12/04/19 12:40	12/12/19 12:34	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1.02	12/04/19 12:40	12/12/19 12:43	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1395066	1	12/12/19 06:58	12/12/19 17:56	FM	Mt. Juliet, TN

DP-16(6-7) L1168019-27 Solid

Collected by: Kyle Haggart
Collected date/time: 12/04/19 13:05
Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395163	1	12/12/19 18:11	12/12/19 18:21	KBC	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1395202	5	12/12/19 11:44	12/12/19 18:11	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394953	29.3	12/04/19 13:05	12/12/19 13:51	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1	12/04/19 13:05	12/12/19 13:03	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1395066	1	12/12/19 06:58	12/12/19 18:13	FM	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford
Project Manager

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.2		1	12/09/2019 11:10	WG1392815

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	10.7		0.542	5	12/08/2019 22:42	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	45.6		2.74	25.3	12/10/2019 14:35	WG1393869
(S) a,a,a-Trifluorotoluene(FID)	*102*		*77.0-120*		*12/10/2019 14:35*	WG1393869

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0331	1.22	12/09/2019 13:49	WG1393507
Acrylonitrile	ND	J4	0.0166	1.22	12/09/2019 13:49	WG1393507
Benzene	0.531		0.00132	1.22	12/09/2019 13:49	WG1393507
Bromobenzene	ND		0.0166	1.22	12/09/2019 13:49	WG1393507
Bromodichloromethane	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
Bromoform	ND		0.0331	1.22	12/09/2019 13:49	WG1393507
Bromomethane	ND	J0	0.0166	1.22	12/09/2019 13:49	WG1393507
n-Butylbenzene	ND		0.0166	1.22	12/09/2019 13:49	WG1393507
sec-Butylbenzene	ND		0.0166	1.22	12/09/2019 13:49	WG1393507
tert-Butylbenzene	ND		0.00662	1.22	12/09/2019 13:49	WG1393507
Carbon tetrachloride	ND		0.00662	1.22	12/09/2019 13:49	WG1393507
Chlorobenzene	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
Chlorodibromomethane	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
Chloroethane	ND		0.00662	1.22	12/09/2019 13:49	WG1393507
Chloroform	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
Chloromethane	ND		0.0166	1.22	12/09/2019 13:49	WG1393507
2-Chlorotoluene	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
4-Chlorotoluene	ND		0.00662	1.22	12/09/2019 13:49	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.0331	1.22	12/09/2019 13:49	WG1393507
1,2-Dibromoethane	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
Dibromomethane	ND		0.00662	1.22	12/09/2019 13:49	WG1393507
1,2-Dichlorobenzene	ND		0.00662	1.22	12/09/2019 13:49	WG1393507
1,3-Dichlorobenzene	ND		0.00662	1.22	12/09/2019 13:49	WG1393507
1,4-Dichlorobenzene	ND		0.00662	1.22	12/09/2019 13:49	WG1393507
Dichlorodifluoromethane	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
1,1-Dichloroethane	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
1,2-Dichloroethane	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
1,1-Dichloroethene	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
cis-1,2-Dichloroethene	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
trans-1,2-Dichloroethene	ND		0.00662	1.22	12/09/2019 13:49	WG1393507
1,2-Dichloropropane	ND		0.00662	1.22	12/09/2019 13:49	WG1393507
1,1-Dichloropropene	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
1,3-Dichloropropane	ND		0.00662	1.22	12/09/2019 13:49	WG1393507
cis-1,3-Dichloropropene	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
trans-1,3-Dichloropropene	ND		0.00662	1.22	12/09/2019 13:49	WG1393507
2,2-Dichloropropane	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
Di-isopropyl ether	ND	J4	0.00132	1.22	12/09/2019 13:49	WG1393507
Ethylbenzene	0.437		0.00331	1.22	12/09/2019 13:49	WG1393507

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0331	1.22	12/09/2019 13:49	WG1393507
Isopropylbenzene	0.0128		0.00331	1.22	12/09/2019 13:49	WG1393507
p-Isopropyltoluene	ND		0.00662	1.22	12/09/2019 13:49	WG1393507
2-Butanone (MEK)	ND	J4	0.0331	1.22	12/09/2019 13:49	WG1393507
Methylene Chloride	ND		0.0331	1.22	12/09/2019 13:49	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.0331	1.22	12/09/2019 13:49	WG1393507
Methyl tert-butyl ether	ND		0.00132	1.22	12/09/2019 13:49	WG1393507
Naphthalene	ND		0.0166	1.22	12/09/2019 13:49	WG1393507
n-Propylbenzene	0.0577		0.00662	1.22	12/09/2019 13:49	WG1393507
Styrene	ND		0.0166	1.22	12/09/2019 13:49	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
Tetrachloroethene	ND	J0	0.00331	1.22	12/09/2019 13:49	WG1393507
Toluene	0.0206		0.00662	1.22	12/09/2019 13:49	WG1393507
1,2,3-Trichlorobenzene	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
1,2,4-Trichlorobenzene	ND		0.0166	1.22	12/09/2019 13:49	WG1393507
1,1,1-Trichloroethane	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
1,1,2-Trichloroethane	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
Trichloroethene	ND		0.00132	1.22	12/09/2019 13:49	WG1393507
Trichlorofluoromethane	ND		0.00331	1.22	12/09/2019 13:49	WG1393507
1,2,3-Trichloropropane	ND		0.0166	1.22	12/09/2019 13:49	WG1393507
1,2,4-Trimethylbenzene	0.105		0.00662	1.22	12/09/2019 13:49	WG1393507
1,2,3-Trimethylbenzene	0.0453		0.00662	1.22	12/09/2019 13:49	WG1393507
1,3,5-Trimethylbenzene	0.0470		0.00662	1.22	12/09/2019 13:49	WG1393507
Vinyl chloride	ND	J0	0.00331	1.22	12/09/2019 13:49	WG1393507
Xylenes, Total	0.447		0.00860	1.22	12/09/2019 13:49	WG1393507
(S) Toluene-d8	*93.1*		*75.0-131*		*12/09/2019 13:49*	WG1393507
(S) 4-Bromofluorobenzene	*93.9*		*67.0-138*		*12/09/2019 13:49*	WG1393507
(S) 1,2-Dichloroethane-d4	*108*		*70.0-130*		*12/09/2019 13:49*	WG1393507

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	5.61		4.34	1	12/09/2019 03:26	WG1393216
Residual Range Organics (RRO)	22.1		10.8	1	12/09/2019 03:26	WG1393216
(S) o-Terphenyl	*42.3*		*18.0-148*		*12/09/2019 03:26*	WG1393216

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.3		1	12/09/2019 11:10	WG1392815

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	133		1.12	10	12/09/2019 00:08	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	815		31.9	285	12/11/2019 18:11	WG1394316
(S) a,a,a-Trifluorotoluene(FID)	*105*		*77.0-120*		*12/11/2019 18:11*	WG1394316

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0280	1	12/09/2019 14:08	WG1393507
Acrylonitrile	ND	J4	0.0140	1	12/09/2019 14:08	WG1393507
Benzene	59.5		0.224	200	12/11/2019 12:38	WG1394255
Bromobenzene	ND		0.0140	1	12/09/2019 14:08	WG1393507
Bromodichloromethane	ND		0.00280	1	12/09/2019 14:08	WG1393507
Bromoform	ND		0.0280	1	12/09/2019 14:08	WG1393507
Bromomethane	ND	J0	0.0140	1	12/09/2019 14:08	WG1393507
n-Butylbenzene	53.2		2.80	200	12/11/2019 12:38	WG1394255
sec-Butylbenzene	2.36		0.0140	1	12/09/2019 14:08	WG1393507
tert-Butylbenzene	ND		0.00560	1	12/09/2019 14:08	WG1393507
Carbon tetrachloride	ND		0.00560	1	12/09/2019 14:08	WG1393507
Chlorobenzene	ND		0.00280	1	12/09/2019 14:08	WG1393507
Chlorodibromomethane	ND		0.00280	1	12/09/2019 14:08	WG1393507
Chloroethane	ND		0.00560	1	12/09/2019 14:08	WG1393507
Chloroform	ND		0.00280	1	12/09/2019 14:08	WG1393507
Chloromethane	ND		0.0140	1	12/09/2019 14:08	WG1393507
2-Chlorotoluene	ND		0.00280	1	12/09/2019 14:08	WG1393507
4-Chlorotoluene	ND		0.00560	1	12/09/2019 14:08	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.0280	1	12/09/2019 14:08	WG1393507
1,2-Dibromoethane	ND		0.00280	1	12/09/2019 14:08	WG1393507
Dibromomethane	ND		0.00560	1	12/09/2019 14:08	WG1393507
1,2-Dichlorobenzene	ND		0.00560	1	12/09/2019 14:08	WG1393507
1,3-Dichlorobenzene	ND		0.00560	1	12/09/2019 14:08	WG1393507
1,4-Dichlorobenzene	ND		0.00560	1	12/09/2019 14:08	WG1393507
Dichlorodifluoromethane	ND		0.00280	1	12/09/2019 14:08	WG1393507
1,1-Dichloroethane	ND		0.00280	1	12/09/2019 14:08	WG1393507
1,2-Dichloroethane	ND		0.00280	1	12/09/2019 14:08	WG1393507
1,1-Dichloroethene	ND		0.00280	1	12/09/2019 14:08	WG1393507
cis-1,2-Dichloroethene	ND		0.00280	1	12/09/2019 14:08	WG1393507
trans-1,2-Dichloroethene	ND		0.00560	1	12/09/2019 14:08	WG1393507
1,2-Dichloropropane	0.181		0.00560	1	12/09/2019 14:08	WG1393507
1,1-Dichloropropene	ND		0.00280	1	12/09/2019 14:08	WG1393507
1,3-Dichloropropane	ND		0.00560	1	12/09/2019 14:08	WG1393507
cis-1,3-Dichloropropene	ND		0.00280	1	12/09/2019 14:08	WG1393507
trans-1,3-Dichloropropene	ND		0.00560	1	12/09/2019 14:08	WG1393507
2,2-Dichloropropane	ND		0.00280	1	12/09/2019 14:08	WG1393507
Di-isopropyl ether	ND	J4	0.00112	1	12/09/2019 14:08	WG1393507
Ethylbenzene	724		0.560	200	12/11/2019 12:38	WG1394255

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0280	1	12/09/2019 14:08	WG1393507
Isopropylbenzene	64.5		0.560	200	12/11/2019 12:38	WG1394255
p-Isopropyltoluene	1.21		0.00560	1	12/09/2019 14:08	WG1393507
2-Butanone (MEK)	ND	J4	0.0280	1	12/09/2019 14:08	WG1393507
Methylene Chloride	ND		0.0280	1	12/09/2019 14:08	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.0280	1	12/09/2019 14:08	WG1393507
Methyl tert-butyl ether	ND		0.00112	1	12/09/2019 14:08	WG1393507
Naphthalene	78.1		2.80	200	12/11/2019 12:38	WG1394255
n-Propylbenzene	279		1.12	200	12/11/2019 12:38	WG1394255
Styrene	ND		0.0140	1	12/09/2019 14:08	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.00280	1	12/09/2019 14:08	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.00280	1	12/09/2019 14:08	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.00280	1	12/09/2019 14:08	WG1393507
Tetrachloroethene	ND	J0	0.00280	1	12/09/2019 14:08	WG1393507
Toluene	0.0673		0.00560	1	12/09/2019 14:08	WG1393507
1,2,3-Trichlorobenzene	ND		0.00280	1	12/09/2019 14:08	WG1393507
1,2,4-Trichlorobenzene	ND		0.0140	1	12/09/2019 14:08	WG1393507
1,1,1-Trichloroethane	ND		0.00280	1	12/09/2019 14:08	WG1393507
1,1,2-Trichloroethane	ND		0.00280	1	12/09/2019 14:08	WG1393507
Trichloroethene	ND		0.00112	1	12/09/2019 14:08	WG1393507
Trichlorofluoromethane	ND		0.00280	1	12/09/2019 14:08	WG1393507
1,2,3-Trichloropropane	ND		0.0140	1	12/09/2019 14:08	WG1393507
1,2,4-Trimethylbenzene	35.3		11.2	2000	12/12/2019 10:22	WG1395291
1,2,3-Trimethylbenzene	358		1.12	200	12/11/2019 12:38	WG1394255
1,3,5-Trimethylbenzene	316		1.12	200	12/11/2019 12:38	WG1394255
Vinyl chloride	ND	J0	0.00280	1	12/09/2019 14:08	WG1393507
Xylenes, Total	1020		1.46	200	12/11/2019 12:38	WG1394255
(S) Toluene-d8	*51.6*	J2	*75.0-131*		*12/09/2019 14:08*	WG1393507
(S) Toluene-d8	*107*		*75.0-131*		*12/11/2019 12:38*	WG1394255
(S) Toluene-d8	*110*		*75.0-131*		*12/12/2019 10:22*	WG1395291
(S) 4-Bromofluorobenzene	*89.8*		*67.0-138*		*12/09/2019 14:08*	WG1393507
(S) 4-Bromofluorobenzene	*106*		*67.0-138*		*12/11/2019 12:38*	WG1394255
(S) 4-Bromofluorobenzene	*108*		*67.0-138*		*12/12/2019 10:22*	WG1395291
(S) 1,2-Dichloroethane-d4	*147*	J1	*70.0-130*		*12/09/2019 14:08*	WG1393507
(S) 1,2-Dichloroethane-d4	*102*		*70.0-130*		*12/11/2019 12:38*	WG1394255
(S) 1,2-Dichloroethane-d4	*101*		*70.0-130*		*12/12/2019 10:22*	WG1395291

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	808		89.5	20	12/09/2019 07:05	WG1393216
Residual Range Organics (RRO)	636		224	20	12/09/2019 07:05	WG1393216
(S) o-Terphenyl	*53.0*	J7	*18.0-148*		*12/09/2019 07:05*	WG1393216

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.8		1	12/09/2019 11:10	WG1392815

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	24.2		0.545	5	12/08/2019 22:57	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	43.8		2.76	25.3	12/10/2019 15:17	WG1393869
(S) a,a,a-Trifluorotoluene(FID)	*103*		*77.0-120*		*12/10/2019 15:17*	WG1393869

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0297	1.09	12/09/2019 14:28	WG1393507
Acrylonitrile	ND	J4	0.0148	1.09	12/09/2019 14:28	WG1393507
Benzene	1.20		0.00119	1.09	12/09/2019 14:28	WG1393507
Bromobenzene	ND		0.0148	1.09	12/09/2019 14:28	WG1393507
Bromodichloromethane	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
Bromoform	ND		0.0297	1.09	12/09/2019 14:28	WG1393507
Bromomethane	ND	J0	0.0148	1.09	12/09/2019 14:28	WG1393507
n-Butylbenzene	0.137		0.0148	1.09	12/09/2019 14:28	WG1393507
sec-Butylbenzene	0.0608		0.0148	1.09	12/09/2019 14:28	WG1393507
tert-Butylbenzene	ND		0.00594	1.09	12/09/2019 14:28	WG1393507
Carbon tetrachloride	ND		0.00594	1.09	12/09/2019 14:28	WG1393507
Chlorobenzene	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
Chlorodibromomethane	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
Chloroethane	ND		0.00594	1.09	12/09/2019 14:28	WG1393507
Chloroform	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
Chloromethane	ND		0.0148	1.09	12/09/2019 14:28	WG1393507
2-Chlorotoluene	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
4-Chlorotoluene	ND		0.00594	1.09	12/09/2019 14:28	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.0297	1.09	12/09/2019 14:28	WG1393507
1,2-Dibromoethane	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
Dibromomethane	ND		0.00594	1.09	12/09/2019 14:28	WG1393507
1,2-Dichlorobenzene	ND		0.00594	1.09	12/09/2019 14:28	WG1393507
1,3-Dichlorobenzene	ND		0.00594	1.09	12/09/2019 14:28	WG1393507
1,4-Dichlorobenzene	ND		0.00594	1.09	12/09/2019 14:28	WG1393507
Dichlorodifluoromethane	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
1,1-Dichloroethane	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
1,2-Dichloroethane	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
1,1-Dichloroethene	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
cis-1,2-Dichloroethene	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
trans-1,2-Dichloroethene	ND		0.00594	1.09	12/09/2019 14:28	WG1393507
1,2-Dichloropropane	ND		0.00594	1.09	12/09/2019 14:28	WG1393507
1,1-Dichloropropene	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
1,3-Dichloropropane	ND		0.00594	1.09	12/09/2019 14:28	WG1393507
cis-1,3-Dichloropropene	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
trans-1,3-Dichloropropene	ND		0.00594	1.09	12/09/2019 14:28	WG1393507
2,2-Dichloropropane	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
Di-isopropyl ether	ND	J4	0.00119	1.09	12/09/2019 14:28	WG1393507
Ethylbenzene	1.90		0.00297	1.09	12/09/2019 14:28	WG1393507

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0297	1.09	12/09/2019 14:28	WG1393507
Isopropylbenzene	0.141		0.00297	1.09	12/09/2019 14:28	WG1393507
p-Isopropyltoluene	ND		0.00594	1.09	12/09/2019 14:28	WG1393507
2-Butanone (MEK)	ND	J4	0.0297	1.09	12/09/2019 14:28	WG1393507
Methylene Chloride	ND		0.0297	1.09	12/09/2019 14:28	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.0297	1.09	12/09/2019 14:28	WG1393507
Methyl tert-butyl ether	ND		0.00119	1.09	12/09/2019 14:28	WG1393507
Naphthalene	0.908		0.148	10.9	12/11/2019 12:58	WG1394255
n-Propylbenzene	0.780		0.00594	1.09	12/09/2019 14:28	WG1393507
Styrene	ND		0.0148	1.09	12/09/2019 14:28	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
Tetrachloroethene	ND	J0	0.00297	1.09	12/09/2019 14:28	WG1393507
Toluene	0.0793		0.00594	1.09	12/09/2019 14:28	WG1393507
1,2,3-Trichlorobenzene	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
1,2,4-Trichlorobenzene	ND		0.0148	1.09	12/09/2019 14:28	WG1393507
1,1,1-Trichloroethane	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
1,1,2-Trichloroethane	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
Trichloroethene	ND		0.00119	1.09	12/09/2019 14:28	WG1393507
Trichlorofluoromethane	ND		0.00297	1.09	12/09/2019 14:28	WG1393507
1,2,3-Trichloropropane	ND		0.0148	1.09	12/09/2019 14:28	WG1393507
1,2,4-Trimethylbenzene	2.51		0.0594	10.9	12/11/2019 12:58	WG1394255
1,2,3-Trimethylbenzene	0.998		0.00594	1.09	12/09/2019 14:28	WG1393507
1,3,5-Trimethylbenzene	0.762		0.00594	1.09	12/09/2019 14:28	WG1393507
Vinyl chloride	ND	J0	0.00297	1.09	12/09/2019 14:28	WG1393507
Xylenes, Total	3.36		0.00772	1.09	12/09/2019 14:28	WG1393507
(S) Toluene-d8	*91.8*		*75.0-131*		*12/09/2019 14:28*	WG1393507
(S) Toluene-d8	*108*		*75.0-131*		*12/11/2019 12:58*	WG1394255
(S) 4-Bromofluorobenzene	*93.1*		*67.0-138*		*12/09/2019 14:28*	WG1393507
(S) 4-Bromofluorobenzene	*106*		*67.0-138*		*12/11/2019 12:58*	WG1394255
(S) 1,2-Dichloroethane-d4	*112*		*70.0-130*		*12/09/2019 14:28*	WG1393507
(S) 1,2-Dichloroethane-d4	*101*		*70.0-130*		*12/11/2019 12:58*	WG1394255

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	15.9		4.36	1	12/09/2019 05:04	WG1393216
Residual Range Organics (RRO)	63.0		10.9	1	12/09/2019 05:04	WG1393216
(S) o-Terphenyl	*50.8*		*18.0-148*		*12/09/2019 05:04*	WG1393216

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.3		1	12/09/2019 11:10	WG1392815

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	23.8		0.548	5	12/08/2019 23:01	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	161		2.74	25	12/10/2019 15:38	WG1393869
(S) a,a,a-Trifluorotoluene(FID)	*110*		*77.0-120*		*12/10/2019 15:38*	WG1393869

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0274	1	12/09/2019 14:47	WG1393507
Acrylonitrile	ND	J4	0.0137	1	12/09/2019 14:47	WG1393507
Benzene	0.0683		0.00110	1	12/09/2019 14:47	WG1393507
Bromobenzene	ND		0.0137	1	12/09/2019 14:47	WG1393507
Bromodichloromethane	ND		0.00274	1	12/09/2019 14:47	WG1393507
Bromoform	ND		0.0274	1	12/09/2019 14:47	WG1393507
Bromomethane	ND	J0	0.0137	1	12/09/2019 14:47	WG1393507
n-Butylbenzene	0.0775		0.0137	1	12/09/2019 14:47	WG1393507
sec-Butylbenzene	0.0318		0.0137	1	12/09/2019 14:47	WG1393507
tert-Butylbenzene	ND		0.00548	1	12/09/2019 14:47	WG1393507
Carbon tetrachloride	ND		0.00548	1	12/09/2019 14:47	WG1393507
Chlorobenzene	ND		0.00274	1	12/09/2019 14:47	WG1393507
Chlorodibromomethane	ND		0.00274	1	12/09/2019 14:47	WG1393507
Chloroethane	ND		0.00548	1	12/09/2019 14:47	WG1393507
Chloroform	ND		0.00274	1	12/09/2019 14:47	WG1393507
Chloromethane	ND		0.0137	1	12/09/2019 14:47	WG1393507
2-Chlorotoluene	ND		0.00274	1	12/09/2019 14:47	WG1393507
4-Chlorotoluene	ND		0.00548	1	12/09/2019 14:47	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.0274	1	12/09/2019 14:47	WG1393507
1,2-Dibromoethane	ND		0.00274	1	12/09/2019 14:47	WG1393507
Dibromomethane	ND		0.00548	1	12/09/2019 14:47	WG1393507
1,2-Dichlorobenzene	ND		0.00548	1	12/09/2019 14:47	WG1393507
1,3-Dichlorobenzene	ND		0.00548	1	12/09/2019 14:47	WG1393507
1,4-Dichlorobenzene	ND		0.00548	1	12/09/2019 14:47	WG1393507
Dichlorodifluoromethane	ND		0.00274	1	12/09/2019 14:47	WG1393507
1,1-Dichloroethane	ND		0.00274	1	12/09/2019 14:47	WG1393507
1,2-Dichloroethane	ND		0.00274	1	12/09/2019 14:47	WG1393507
1,1-Dichloroethene	ND		0.00274	1	12/09/2019 14:47	WG1393507
cis-1,2-Dichloroethene	ND		0.00274	1	12/09/2019 14:47	WG1393507
trans-1,2-Dichloroethene	ND		0.00548	1	12/09/2019 14:47	WG1393507
1,2-Dichloropropane	ND		0.00548	1	12/09/2019 14:47	WG1393507
1,1-Dichloropropene	ND		0.00274	1	12/09/2019 14:47	WG1393507
1,3-Dichloropropane	ND		0.00548	1	12/09/2019 14:47	WG1393507
cis-1,3-Dichloropropene	ND		0.00274	1	12/09/2019 14:47	WG1393507
trans-1,3-Dichloropropene	ND		0.00548	1	12/09/2019 14:47	WG1393507
2,2-Dichloropropane	ND		0.00274	1	12/09/2019 14:47	WG1393507
Di-isopropyl ether	ND	J4	0.00110	1	12/09/2019 14:47	WG1393507
Ethylbenzene	0.658		0.00274	1	12/09/2019 14:47	WG1393507

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0274	1	12/09/2019 14:47	WG1393507
Isopropylbenzene	0.0597		0.00274	1	12/09/2019 14:47	WG1393507
p-Isopropyltoluene	0.0177		0.00548	1	12/09/2019 14:47	WG1393507
2-Butanone (MEK)	ND	J4	0.0274	1	12/09/2019 14:47	WG1393507
Methylene Chloride	ND		0.0274	1	12/09/2019 14:47	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.0274	1	12/09/2019 14:47	WG1393507
Methyl tert-butyl ether	ND		0.00110	1	12/09/2019 14:47	WG1393507
Naphthalene	0.131		0.0137	1	12/09/2019 14:47	WG1393507
n-Propylbenzene	0.369		0.00548	1	12/09/2019 14:47	WG1393507
Styrene	ND		0.0137	1	12/09/2019 14:47	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.00274	1	12/09/2019 14:47	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.00274	1	12/09/2019 14:47	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.00274	1	12/09/2019 14:47	WG1393507
Tetrachloroethene	ND	J0	0.00274	1	12/09/2019 14:47	WG1393507
Toluene	ND		0.00548	1	12/09/2019 14:47	WG1393507
1,2,3-Trichlorobenzene	ND		0.00274	1	12/09/2019 14:47	WG1393507
1,2,4-Trichlorobenzene	ND		0.0137	1	12/09/2019 14:47	WG1393507
1,1,1-Trichloroethane	ND		0.00274	1	12/09/2019 14:47	WG1393507
1,1,2-Trichloroethane	ND		0.00274	1	12/09/2019 14:47	WG1393507
Trichloroethene	ND		0.00110	1	12/09/2019 14:47	WG1393507
Trichlorofluoromethane	ND		0.00274	1	12/09/2019 14:47	WG1393507
1,2,3-Trichloropropane	ND		0.0137	1	12/09/2019 14:47	WG1393507
1,2,4-Trimethylbenzene	1.63		0.00548	1	12/09/2019 14:47	WG1393507
1,2,3-Trimethylbenzene	0.532		0.00548	1	12/09/2019 14:47	WG1393507
1,3,5-Trimethylbenzene	0.286		0.00548	1	12/09/2019 14:47	WG1393507
Vinyl chloride	ND	J0	0.00274	1	12/09/2019 14:47	WG1393507
Xylenes, Total	1.18		0.00712	1	12/09/2019 14:47	WG1393507
(S) Toluene-d8	*95.3*		*75.0-131*		*12/09/2019 14:47*	WG1393507
(S) 4-Bromofluorobenzene	*95.5*		*67.0-138*		*12/09/2019 14:47*	WG1393507
(S) 1,2-Dichloroethane-d4	*107*		*70.0-130*		*12/09/2019 14:47*	WG1393507

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	45.9		4.38	1	12/09/2019 05:36	WG1393216
Residual Range Organics (RRO)	164		11.0	1	12/09/2019 05:36	WG1393216
(S) o-Terphenyl	*57.9*		*18.0-148*		*12/09/2019 05:36*	WG1393216

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.1		1	12/09/2019 11:10	WG1392815

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	8.02		0.537	5	12/08/2019 23:05	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	866		11.4	106	12/10/2019 15:58	WG1393869
(S) a,a,a-Trifluorotoluene(FID)	*105*		*77.0-120*		*12/10/2019 15:58*	WG1393869

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND	J5	0.230	8.56	12/09/2019 19:13	WG1393507
Acrylonitrile	ND	J4 J5	0.115	8.56	12/09/2019 19:13	WG1393507
Benzene	0.213		0.00919	8.56	12/09/2019 19:13	WG1393507
Bromobenzene	ND		0.115	8.56	12/09/2019 19:13	WG1393507
Bromodichloromethane	ND		0.0230	8.56	12/09/2019 19:13	WG1393507
Bromoform	ND		0.230	8.56	12/09/2019 19:13	WG1393507
Bromomethane	ND	J0	0.115	8.56	12/09/2019 19:13	WG1393507
n-Butylbenzene	8.51		0.115	8.56	12/09/2019 19:13	WG1393507
sec-Butylbenzene	2.41		0.115	8.56	12/09/2019 19:13	WG1393507
tert-Butylbenzene	ND		0.0460	8.56	12/09/2019 19:13	WG1393507
Carbon tetrachloride	ND		0.0460	8.56	12/09/2019 19:13	WG1393507
Chlorobenzene	ND		0.0230	8.56	12/09/2019 19:13	WG1393507
Chlorodibromomethane	ND		0.0230	8.56	12/09/2019 19:13	WG1393507
Chloroethane	ND		0.0460	8.56	12/09/2019 19:13	WG1393507
Chloroform	ND		0.0230	8.56	12/09/2019 19:13	WG1393507
Chloromethane	ND		0.115	8.56	12/09/2019 19:13	WG1393507
2-Chlorotoluene	ND		0.0230	8.56	12/09/2019 19:13	WG1393507
4-Chlorotoluene	ND		0.0460	8.56	12/09/2019 19:13	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.230	8.56	12/09/2019 19:13	WG1393507
1,2-Dibromoethane	ND		0.0230	8.56	12/09/2019 19:13	WG1393507
Dibromomethane	ND		0.0460	8.56	12/09/2019 19:13	WG1393507
1,2-Dichlorobenzene	ND		0.0460	8.56	12/09/2019 19:13	WG1393507
1,3-Dichlorobenzene	ND		0.0460	8.56	12/09/2019 19:13	WG1393507
1,4-Dichlorobenzene	ND		0.0460	8.56	12/09/2019 19:13	WG1393507
Dichlorodifluoromethane	ND	J3	0.0230	8.56	12/09/2019 19:13	WG1393507
1,1-Dichloroethane	ND		0.0230	8.56	12/09/2019 19:13	WG1393507
1,2-Dichloroethane	ND		0.0230	8.56	12/09/2019 19:13	WG1393507
1,1-Dichloroethene	ND	J3	0.0230	8.56	12/09/2019 19:13	WG1393507
cis-1,2-Dichloroethene	ND		0.0230	8.56	12/09/2019 19:13	WG1393507
trans-1,2-Dichloroethene	ND		0.0460	8.56	12/09/2019 19:13	WG1393507
1,2-Dichloropropane	ND		0.0460	8.56	12/09/2019 19:13	WG1393507
1,1-Dichloropropene	ND		0.0230	8.56	12/09/2019 19:13	WG1393507
1,3-Dichloropropane	ND		0.0460	8.56	12/09/2019 19:13	WG1393507
cis-1,3-Dichloropropene	ND		0.0230	8.56	12/09/2019 19:13	WG1393507
trans-1,3-Dichloropropene	ND		0.0460	8.56	12/09/2019 19:13	WG1393507
2,2-Dichloropropane	ND		0.0230	8.56	12/09/2019 19:13	WG1393507
Di-isopropyl ether	ND	J4	0.00919	8.56	12/09/2019 19:13	WG1393507
Ethylbenzene	14.0	V	0.0230	8.56	12/09/2019 19:13	WG1393507

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.230	8.56	12/09/2019 19:13	WG1393507
Isopropylbenzene	2.44		0.0230	8.56	12/09/2019 19:13	WG1393507
p-Isopropyltoluene	1.93		0.0460	8.56	12/09/2019 19:13	WG1393507
2-Butanone (MEK)	ND	J4 J5	0.230	8.56	12/09/2019 19:13	WG1393507
Methylene Chloride	ND		0.230	8.56	12/09/2019 19:13	WG1393507
4-Methyl-2-pentanone (MIBK)	ND	J5	0.230	8.56	12/09/2019 19:13	WG1393507
Methyl tert-butyl ether	ND		0.00919	8.56	12/09/2019 19:13	WG1393507
Naphthalene	16.2		2.88	214	12/11/2019 13:18	WG1394255
n-Propylbenzene	15.0	V	0.0460	8.56	12/09/2019 19:13	WG1393507
Styrene	ND		0.115	8.56	12/09/2019 19:13	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.0230	8.56	12/09/2019 19:13	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.0230	8.56	12/09/2019 19:13	WG1393507
1,1,2-Trichlorotrifluoroethane	ND	J3	0.0230	8.56	12/09/2019 19:13	WG1393507
Tetrachloroethene	ND	J0	0.0230	8.56	12/09/2019 19:13	WG1393507
Toluene	ND		0.0460	8.56	12/09/2019 19:13	WG1393507
1,2,3-Trichlorobenzene	ND		0.0230	8.56	12/09/2019 19:13	WG1393507
1,2,4-Trichlorobenzene	ND		0.115	8.56	12/09/2019 19:13	WG1393507
1,1,1-Trichloroethane	ND		0.0230	8.56	12/09/2019 19:13	WG1393507
1,1,2-Trichloroethane	ND		0.0230	8.56	12/09/2019 19:13	WG1393507
Trichloroethene	ND		0.00919	8.56	12/09/2019 19:13	WG1393507
Trichlorofluoromethane	ND	J3	0.0230	8.56	12/09/2019 19:13	WG1393507
1,2,3-Trichloropropane	ND		0.115	8.56	12/09/2019 19:13	WG1393507
1,2,4-Trimethylbenzene	84.3		1.15	214	12/11/2019 13:18	WG1394255
1,2,3-Trimethylbenzene	31.8		1.15	214	12/11/2019 13:18	WG1394255
1,3,5-Trimethylbenzene	8.92		0.0460	8.56	12/09/2019 19:13	WG1393507
Vinyl chloride	ND	J0 J3	0.0230	8.56	12/09/2019 19:13	WG1393507
Xylenes, Total	20.5		0.0597	8.56	12/09/2019 19:13	WG1393507
(S) Toluene-d8	*88.1*		*75.0-131*		*12/09/2019 19:13*	WG1393507
(S) Toluene-d8	*107*		*75.0-131*		*12/11/2019 13:18*	WG1394255
(S) 4-Bromofluorobenzene	*93.1*		*67.0-138*		*12/09/2019 19:13*	WG1393507
(S) 4-Bromofluorobenzene	*106*		*67.0-138*		*12/11/2019 13:18*	WG1394255
(S) 1,2-Dichloroethane-d4	*112*		*70.0-130*		*12/09/2019 19:13*	WG1393507
(S) 1,2-Dichloroethane-d4	*99.2*		*70.0-130*		*12/11/2019 13:18*	WG1394255

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	446		43.0	10	12/09/2019 06:01	WG1393216
Residual Range Organics (RRO)	46.7		10.7	1	12/09/2019 11:26	WG1393216
(S) o-Terphenyl	*66.9*		*18.0-148*		*12/09/2019 06:01*	WG1393216
(S) o-Terphenyl	*73.0*		*18.0-148*		*12/09/2019 11:26*	WG1393216

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.7		1	12/09/2019 10:55	WG1392817

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	5.88		0.534	5	12/08/2019 23:08	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	4.02	B	3.26	30.5	12/10/2019 16:19	WG1393869
(S) a,a,a-Trifluorotoluene(FID)	*97.5*		*77.0-120*		*12/10/2019 16:19*	WG1393869

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0281	1.05	12/09/2019 15:06	WG1393507
Acrylonitrile	ND	J4	0.0140	1.05	12/09/2019 15:06	WG1393507
Benzene	ND		0.00112	1.05	12/11/2019 10:56	WG1394255
Bromobenzene	ND		0.0140	1.05	12/09/2019 15:06	WG1393507
Bromodichloromethane	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
Bromoform	ND		0.0281	1.05	12/09/2019 15:06	WG1393507
Bromomethane	ND	J0	0.0140	1.05	12/09/2019 15:06	WG1393507
n-Butylbenzene	ND		0.0140	1.05	12/11/2019 10:56	WG1394255
sec-Butylbenzene	ND		0.0140	1.05	12/11/2019 10:56	WG1394255
tert-Butylbenzene	ND		0.00560	1.05	12/09/2019 15:06	WG1393507
Carbon tetrachloride	ND		0.00560	1.05	12/09/2019 15:06	WG1393507
Chlorobenzene	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
Chlorodibromomethane	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
Chloroethane	ND		0.00560	1.05	12/09/2019 15:06	WG1393507
Chloroform	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
Chloromethane	ND		0.0140	1.05	12/09/2019 15:06	WG1393507
2-Chlorotoluene	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
4-Chlorotoluene	ND		0.00560	1.05	12/09/2019 15:06	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.0281	1.05	12/09/2019 15:06	WG1393507
1,2-Dibromoethane	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
Dibromomethane	ND		0.00560	1.05	12/09/2019 15:06	WG1393507
1,2-Dichlorobenzene	ND		0.00560	1.05	12/09/2019 15:06	WG1393507
1,3-Dichlorobenzene	ND		0.00560	1.05	12/09/2019 15:06	WG1393507
1,4-Dichlorobenzene	ND		0.00560	1.05	12/09/2019 15:06	WG1393507
Dichlorodifluoromethane	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
1,1-Dichloroethane	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
1,2-Dichloroethane	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
1,1-Dichloroethene	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
cis-1,2-Dichloroethene	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
trans-1,2-Dichloroethene	ND		0.00560	1.05	12/09/2019 15:06	WG1393507
1,2-Dichloropropane	ND		0.00560	1.05	12/09/2019 15:06	WG1393507
1,1-Dichloropropene	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
1,3-Dichloropropane	ND		0.00560	1.05	12/09/2019 15:06	WG1393507
cis-1,3-Dichloropropene	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
trans-1,3-Dichloropropene	ND		0.00560	1.05	12/09/2019 15:06	WG1393507
2,2-Dichloropropane	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
Di-isopropyl ether	ND	J4	0.00112	1.05	12/09/2019 15:06	WG1393507
Ethylbenzene	ND		0.00281	1.05	12/11/2019 10:56	WG1394255

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0281	1.05	12/09/2019 15:06	WG1393507
Isopropylbenzene	ND		0.00281	1.05	12/11/2019 10:56	WG1394255
p-Isopropyltoluene	ND		0.00560	1.05	12/09/2019 15:06	WG1393507
2-Butanone (MEK)	ND	J4	0.0281	1.05	12/09/2019 15:06	WG1393507
Methylene Chloride	ND		0.0281	1.05	12/09/2019 15:06	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.0281	1.05	12/09/2019 15:06	WG1393507
Methyl tert-butyl ether	ND		0.00112	1.05	12/09/2019 15:06	WG1393507
Naphthalene	ND		0.0140	1.05	12/11/2019 10:56	WG1394255
n-Propylbenzene	ND		0.00560	1.05	12/11/2019 10:56	WG1394255
Styrene	ND		0.0140	1.05	12/09/2019 15:06	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
Tetrachloroethene	ND	J0	0.00281	1.05	12/09/2019 15:06	WG1393507
Toluene	ND		0.00560	1.05	12/11/2019 10:56	WG1394255
1,2,3-Trichlorobenzene	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
1,2,4-Trichlorobenzene	ND		0.0140	1.05	12/09/2019 15:06	WG1393507
1,1,1-Trichloroethane	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
1,1,2-Trichloroethane	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
Trichloroethene	ND		0.00112	1.05	12/09/2019 15:06	WG1393507
Trichlorofluoromethane	ND		0.00281	1.05	12/09/2019 15:06	WG1393507
1,2,3-Trichloropropane	ND		0.0140	1.05	12/09/2019 15:06	WG1393507
1,2,4-Trimethylbenzene	0.00632		0.00560	1.05	12/11/2019 10:56	WG1394255
1,2,3-Trimethylbenzene	ND		0.00560	1.05	12/11/2019 10:56	WG1394255
1,3,5-Trimethylbenzene	ND		0.00560	1.05	12/11/2019 10:56	WG1394255
Vinyl chloride	ND	J0	0.00281	1.05	12/09/2019 15:06	WG1393507
Xylenes, Total	ND		0.00729	1.05	12/11/2019 10:56	WG1394255
(S) Toluene-d8	*92.1*		*75.0-131*		*12/09/2019 15:06*	WG1393507
(S) Toluene-d8	*109*		*75.0-131*		*12/11/2019 10:56*	WG1394255
(S) 4-Bromofluorobenzene	*96.4*		*67.0-138*		*12/09/2019 15:06*	WG1393507
(S) 4-Bromofluorobenzene	*104*		*67.0-138*		*12/11/2019 10:56*	WG1394255
(S) 1,2-Dichloroethane-d4	*108*		*70.0-130*		*12/09/2019 15:06*	WG1393507
(S) 1,2-Dichloroethane-d4	*97.1*		*70.0-130*		*12/11/2019 10:56*	WG1394255

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		85.4	20	12/09/2019 06:52	WG1393216
Residual Range Organics (RRO)	379		214	20	12/09/2019 06:52	WG1393216
(S) o-Terphenyl	*70.4*	J7	*18.0-148*		*12/09/2019 06:52*	WG1393216

Sample Narrative:

L1168019-06 WG1393216: Dilution due to matrix.

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.2		1	12/09/2019 10:55	WG1392817

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	3.96		0.537	5	12/08/2019 23:12	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	ND		3.31	30.8	12/10/2019 16:40	WG1393869
(S) a,a,a-Trifluorotoluene(FID)	*97.5*		*77.0-120*		*12/10/2019 16:40*	WG1393869

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0272	1.01	12/09/2019 15:25	WG1393507
Acrylonitrile	ND	J4	0.0135	1.01	12/09/2019 15:25	WG1393507
Benzene	0.525		0.00108	1.01	12/09/2019 15:25	WG1393507
Bromobenzene	ND		0.0135	1.01	12/09/2019 15:25	WG1393507
Bromodichloromethane	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
Bromoform	ND		0.0272	1.01	12/09/2019 15:25	WG1393507
Bromomethane	ND	J0	0.0135	1.01	12/09/2019 15:25	WG1393507
n-Butylbenzene	ND		0.0135	1.01	12/09/2019 15:25	WG1393507
sec-Butylbenzene	ND		0.0135	1.01	12/09/2019 15:25	WG1393507
tert-Butylbenzene	ND		0.00542	1.01	12/09/2019 15:25	WG1393507
Carbon tetrachloride	ND		0.00542	1.01	12/09/2019 15:25	WG1393507
Chlorobenzene	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
Chlorodibromomethane	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
Chloroethane	ND		0.00542	1.01	12/09/2019 15:25	WG1393507
Chloroform	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
Chloromethane	ND		0.0135	1.01	12/09/2019 15:25	WG1393507
2-Chlorotoluene	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
4-Chlorotoluene	ND		0.00542	1.01	12/09/2019 15:25	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.0272	1.01	12/09/2019 15:25	WG1393507
1,2-Dibromoethane	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
Dibromomethane	ND		0.00542	1.01	12/09/2019 15:25	WG1393507
1,2-Dichlorobenzene	ND		0.00542	1.01	12/09/2019 15:25	WG1393507
1,3-Dichlorobenzene	ND		0.00542	1.01	12/09/2019 15:25	WG1393507
1,4-Dichlorobenzene	ND		0.00542	1.01	12/09/2019 15:25	WG1393507
Dichlorodifluoromethane	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
1,1-Dichloroethane	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
1,2-Dichloroethane	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
1,1-Dichloroethene	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
cis-1,2-Dichloroethene	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
trans-1,2-Dichloroethene	ND		0.00542	1.01	12/09/2019 15:25	WG1393507
1,2-Dichloropropane	ND		0.00542	1.01	12/09/2019 15:25	WG1393507
1,1-Dichloropropene	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
1,3-Dichloropropane	ND		0.00542	1.01	12/09/2019 15:25	WG1393507
cis-1,3-Dichloropropene	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
trans-1,3-Dichloropropene	ND		0.00542	1.01	12/09/2019 15:25	WG1393507
2,2-Dichloropropane	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
Di-isopropyl ether	ND	J4	0.00108	1.01	12/09/2019 15:25	WG1393507
Ethylbenzene	0.253		0.00272	1.01	12/09/2019 15:25	WG1393507

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0272	1.01	12/09/2019 15:25	WG1393507
Isopropylbenzene	0.00425		0.00272	1.01	12/09/2019 15:25	WG1393507
p-Isopropyltoluene	ND		0.00542	1.01	12/09/2019 15:25	WG1393507
2-Butanone (MEK)	ND	J4	0.0272	1.01	12/09/2019 15:25	WG1393507
Methylene Chloride	ND		0.0272	1.01	12/09/2019 15:25	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.0272	1.01	12/09/2019 15:25	WG1393507
Methyl tert-butyl ether	ND		0.00108	1.01	12/09/2019 15:25	WG1393507
Naphthalene	ND		0.0135	1.01	12/09/2019 15:25	WG1393507
n-Propylbenzene	0.0192		0.00542	1.01	12/09/2019 15:25	WG1393507
Styrene	ND		0.0135	1.01	12/09/2019 15:25	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
Tetrachloroethene	ND	J0	0.00272	1.01	12/09/2019 15:25	WG1393507
Toluene	0.0142		0.00542	1.01	12/09/2019 15:25	WG1393507
1,2,3-Trichlorobenzene	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
1,2,4-Trichlorobenzene	ND		0.0135	1.01	12/09/2019 15:25	WG1393507
1,1,1-Trichloroethane	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
1,1,2-Trichloroethane	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
Trichloroethene	ND		0.00108	1.01	12/09/2019 15:25	WG1393507
Trichlorofluoromethane	ND		0.00272	1.01	12/09/2019 15:25	WG1393507
1,2,3-Trichloropropane	ND		0.0135	1.01	12/09/2019 15:25	WG1393507
1,2,4-Trimethylbenzene	0.0464		0.00542	1.01	12/09/2019 15:25	WG1393507
1,2,3-Trimethylbenzene	0.0146		0.00542	1.01	12/09/2019 15:25	WG1393507
1,3,5-Trimethylbenzene	0.0118		0.00542	1.01	12/09/2019 15:25	WG1393507
Vinyl chloride	ND	J0	0.00272	1.01	12/09/2019 15:25	WG1393507
Xylenes, Total	0.208		0.00704	1.01	12/09/2019 15:25	WG1393507
(S) Toluene-d8	*93.7*		*75.0-131*		*12/09/2019 15:25*	WG1393507
(S) 4-Bromofluorobenzene	*95.8*		*67.0-138*		*12/09/2019 15:25*	WG1393507
(S) 1,2-Dichloroethane-d4	*103*		*70.0-130*		*12/09/2019 15:25*	WG1393507

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	77.1		21.5	5	12/09/2019 05:49	WG1393216
Residual Range Organics (RRO)	266		53.7	5	12/09/2019 05:49	WG1393216
(S) o-Terphenyl	*48.6*		*18.0-148*		*12/09/2019 05:49*	WG1393216

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.6		1	12/09/2019 10:55	WG1392817

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	14.9		0.546	5	12/08/2019 22:23	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	5.26	B	3.99	36.5	12/10/2019 17:21	WG1393869
(S) a,a,a-Trifluorotoluene(FID)	*98.3*		*77.0-120*		*12/10/2019 17:21*	WG1393869

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0284	1.04	12/09/2019 15:44	WG1393507
Acrylonitrile	ND	J4	0.0142	1.04	12/09/2019 15:44	WG1393507
Benzene	ND		0.00114	1.04	12/11/2019 11:17	WG1394255
Bromobenzene	ND		0.0142	1.04	12/09/2019 15:44	WG1393507
Bromodichloromethane	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
Bromoform	ND		0.0284	1.04	12/09/2019 15:44	WG1393507
Bromomethane	ND	J0	0.0142	1.04	12/09/2019 15:44	WG1393507
n-Butylbenzene	ND		0.0142	1.04	12/09/2019 15:44	WG1393507
sec-Butylbenzene	ND		0.0142	1.04	12/09/2019 15:44	WG1393507
tert-Butylbenzene	ND		0.00568	1.04	12/09/2019 15:44	WG1393507
Carbon tetrachloride	ND		0.00568	1.04	12/09/2019 15:44	WG1393507
Chlorobenzene	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
Chlorodibromomethane	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
Chloroethane	ND		0.00568	1.04	12/09/2019 15:44	WG1393507
Chloroform	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
Chloromethane	ND		0.0142	1.04	12/09/2019 15:44	WG1393507
2-Chlorotoluene	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
4-Chlorotoluene	ND		0.00568	1.04	12/09/2019 15:44	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.0284	1.04	12/09/2019 15:44	WG1393507
1,2-Dibromoethane	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
Dibromomethane	ND		0.00568	1.04	12/09/2019 15:44	WG1393507
1,2-Dichlorobenzene	ND		0.00568	1.04	12/09/2019 15:44	WG1393507
1,3-Dichlorobenzene	ND		0.00568	1.04	12/09/2019 15:44	WG1393507
1,4-Dichlorobenzene	ND		0.00568	1.04	12/09/2019 15:44	WG1393507
Dichlorodifluoromethane	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
1,1-Dichloroethane	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
1,2-Dichloroethane	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
1,1-Dichloroethene	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
cis-1,2-Dichloroethene	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
trans-1,2-Dichloroethene	ND		0.00568	1.04	12/09/2019 15:44	WG1393507
1,2-Dichloropropane	ND		0.00568	1.04	12/09/2019 15:44	WG1393507
1,1-Dichloropropene	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
1,3-Dichloropropane	ND		0.00568	1.04	12/09/2019 15:44	WG1393507
cis-1,3-Dichloropropene	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
trans-1,3-Dichloropropene	ND		0.00568	1.04	12/09/2019 15:44	WG1393507
2,2-Dichloropropane	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
Di-isopropyl ether	ND	J4	0.00114	1.04	12/09/2019 15:44	WG1393507
Ethylbenzene	ND		0.00284	1.04	12/11/2019 11:17	WG1394255

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0284	1.04	12/09/2019 15:44	WG1393507
Isopropylbenzene	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
p-Isopropyltoluene	ND		0.00568	1.04	12/09/2019 15:44	WG1393507
2-Butanone (MEK)	ND	J4	0.0284	1.04	12/09/2019 15:44	WG1393507
Methylene Chloride	ND		0.0284	1.04	12/09/2019 15:44	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.0284	1.04	12/09/2019 15:44	WG1393507
Methyl tert-butyl ether	ND		0.00114	1.04	12/09/2019 15:44	WG1393507
Naphthalene	ND		0.0142	1.04	12/11/2019 11:17	WG1394255
n-Propylbenzene	ND		0.00568	1.04	12/11/2019 11:17	WG1394255
Styrene	ND		0.0142	1.04	12/09/2019 15:44	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
Tetrachloroethene	ND	J0	0.00284	1.04	12/09/2019 15:44	WG1393507
Toluene	ND		0.00568	1.04	12/11/2019 11:17	WG1394255
1,2,3-Trichlorobenzene	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
1,2,4-Trichlorobenzene	ND		0.0142	1.04	12/09/2019 15:44	WG1393507
1,1,1-Trichloroethane	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
1,1,2-Trichloroethane	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
Trichloroethene	ND		0.00114	1.04	12/09/2019 15:44	WG1393507
Trichlorofluoromethane	ND		0.00284	1.04	12/09/2019 15:44	WG1393507
1,2,3-Trichloropropane	ND		0.0142	1.04	12/09/2019 15:44	WG1393507
1,2,4-Trimethylbenzene	ND		0.00568	1.04	12/11/2019 11:17	WG1394255
1,2,3-Trimethylbenzene	ND		0.00568	1.04	12/11/2019 11:17	WG1394255
1,3,5-Trimethylbenzene	ND		0.00568	1.04	12/11/2019 11:17	WG1394255
Vinyl chloride	ND	J0	0.00284	1.04	12/09/2019 15:44	WG1393507
Xylenes, Total	ND		0.00738	1.04	12/11/2019 11:17	WG1394255
(S) Toluene-d8	*92.9*		*75.0-131*		*12/09/2019 15:44*	WG1393507
(S) Toluene-d8	*110*		*75.0-131*		*12/11/2019 11:17*	WG1394255
(S) 4-Bromofluorobenzene	*95.0*		*67.0-138*		*12/09/2019 15:44*	WG1393507
(S) 4-Bromofluorobenzene	*105*		*67.0-138*		*12/11/2019 11:17*	WG1394255
(S) 1,2-Dichloroethane-d4	*108*		*70.0-130*		*12/09/2019 15:44*	WG1393507
(S) 1,2-Dichloroethane-d4	*96.1*		*70.0-130*		*12/11/2019 11:17*	WG1394255

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.37	1	12/09/2019 11:13	WG1393216
Residual Range Organics (RRO)	14.2		10.9	1	12/09/2019 11:13	WG1393216
(S) o-Terphenyl	*57.1*		*18.0-148*		*12/09/2019 11:13*	WG1393216

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.1		1	12/09/2019 10:55	WG1392817

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.34		0.543	5	12/08/2019 23:16	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	ND		2.71	25	12/10/2019 17:41	WG1393869
(S) a,a,a-Trifluorotoluene(FID)	*98.1*		*77.0-120*		*12/10/2019 17:41*	WG1393869

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0275	1.01	12/09/2019 16:03	WG1393507
Acrylonitrile	ND	J4	0.0137	1.01	12/09/2019 16:03	WG1393507
Benzene	ND		0.00110	1.01	12/11/2019 11:38	WG1394255
Bromobenzene	ND		0.0137	1.01	12/09/2019 16:03	WG1393507
Bromodichloromethane	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
Bromoform	ND		0.0275	1.01	12/09/2019 16:03	WG1393507
Bromomethane	ND	J0	0.0137	1.01	12/09/2019 16:03	WG1393507
n-Butylbenzene	ND		0.0137	1.01	12/09/2019 16:03	WG1393507
sec-Butylbenzene	ND		0.0137	1.01	12/09/2019 16:03	WG1393507
tert-Butylbenzene	ND		0.00548	1.01	12/09/2019 16:03	WG1393507
Carbon tetrachloride	ND		0.00548	1.01	12/09/2019 16:03	WG1393507
Chlorobenzene	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
Chlorodibromomethane	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
Chloroethane	ND		0.00548	1.01	12/09/2019 16:03	WG1393507
Chloroform	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
Chloromethane	ND		0.0137	1.01	12/09/2019 16:03	WG1393507
2-Chlorotoluene	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
4-Chlorotoluene	ND		0.00548	1.01	12/09/2019 16:03	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.0275	1.01	12/09/2019 16:03	WG1393507
1,2-Dibromoethane	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
Dibromomethane	ND		0.00548	1.01	12/09/2019 16:03	WG1393507
1,2-Dichlorobenzene	ND		0.00548	1.01	12/09/2019 16:03	WG1393507
1,3-Dichlorobenzene	ND		0.00548	1.01	12/09/2019 16:03	WG1393507
1,4-Dichlorobenzene	ND		0.00548	1.01	12/09/2019 16:03	WG1393507
Dichlorodifluoromethane	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
1,1-Dichloroethane	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
1,2-Dichloroethane	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
1,1-Dichloroethene	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
cis-1,2-Dichloroethene	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
trans-1,2-Dichloroethene	ND		0.00548	1.01	12/09/2019 16:03	WG1393507
1,2-Dichloropropane	ND		0.00548	1.01	12/09/2019 16:03	WG1393507
1,1-Dichloropropene	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
1,3-Dichloropropane	ND		0.00548	1.01	12/09/2019 16:03	WG1393507
cis-1,3-Dichloropropene	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
trans-1,3-Dichloropropene	ND		0.00548	1.01	12/09/2019 16:03	WG1393507
2,2-Dichloropropane	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
Di-isopropyl ether	ND	J4	0.00110	1.01	12/09/2019 16:03	WG1393507
Ethylbenzene	ND		0.00275	1.01	12/11/2019 11:38	WG1394255

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0275	1.01	12/09/2019 16:03	WG1393507
Isopropylbenzene	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
p-Isopropyltoluene	ND		0.00548	1.01	12/09/2019 16:03	WG1393507
2-Butanone (MEK)	ND	J4	0.0275	1.01	12/09/2019 16:03	WG1393507
Methylene Chloride	ND		0.0275	1.01	12/09/2019 16:03	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.0275	1.01	12/09/2019 16:03	WG1393507
Methyl tert-butyl ether	ND		0.00110	1.01	12/09/2019 16:03	WG1393507
Naphthalene	ND		0.0137	1.01	12/09/2019 16:03	WG1393507
n-Propylbenzene	ND		0.00548	1.01	12/11/2019 11:38	WG1394255
Styrene	ND		0.0137	1.01	12/09/2019 16:03	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
Tetrachloroethene	ND	J0	0.00275	1.01	12/09/2019 16:03	WG1393507
Toluene	ND		0.00548	1.01	12/11/2019 11:38	WG1394255
1,2,3-Trichlorobenzene	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
1,2,4-Trichlorobenzene	ND		0.0137	1.01	12/09/2019 16:03	WG1393507
1,1,1-Trichloroethane	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
1,1,2-Trichloroethane	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
Trichloroethene	ND		0.00110	1.01	12/09/2019 16:03	WG1393507
Trichlorofluoromethane	ND		0.00275	1.01	12/09/2019 16:03	WG1393507
1,2,3-Trichloropropane	ND		0.0137	1.01	12/09/2019 16:03	WG1393507
1,2,4-Trimethylbenzene	ND		0.00548	1.01	12/11/2019 11:38	WG1394255
1,2,3-Trimethylbenzene	ND		0.00548	1.01	12/11/2019 11:38	WG1394255
1,3,5-Trimethylbenzene	ND		0.00548	1.01	12/11/2019 11:38	WG1394255
Vinyl chloride	ND	J0	0.00275	1.01	12/09/2019 16:03	WG1393507
Xylenes, Total	ND		0.00712	1.01	12/11/2019 11:38	WG1394255
(S) Toluene-d8	*92.8*		*75.0-131*		*12/09/2019 16:03*	WG1393507
(S) Toluene-d8	*108*		*75.0-131*		*12/11/2019 11:38*	WG1394255
(S) 4-Bromofluorobenzene	*97.4*		*67.0-138*		*12/09/2019 16:03*	WG1393507
(S) 4-Bromofluorobenzene	*103*		*67.0-138*		*12/11/2019 11:38*	WG1394255
(S) 1,2-Dichloroethane-d4	*108*		*70.0-130*		*12/09/2019 16:03*	WG1393507
(S) 1,2-Dichloroethane-d4	*95.8*		*70.0-130*		*12/11/2019 11:38*	WG1394255

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.34	1	12/09/2019 02:10	WG1393216
Residual Range Organics (RRO)	ND		10.9	1	12/09/2019 02:10	WG1393216
(S) o-Terphenyl	*68.5*		*18.0-148*		*12/09/2019 02:10*	WG1393216

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.8		1	12/09/2019 10:55	WG1392817

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.74		0.557	5	12/08/2019 23:19	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	4.38	B	2.98	26.8	12/10/2019 18:02	WG1393869
(S) a,a,a-Trifluorotoluene(FID)	*96.9*		*77.0-120*		*12/10/2019 18:02*	WG1393869

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0284	1.02	12/09/2019 16:22	WG1393507
Acrylonitrile	ND	J4	0.0143	1.02	12/09/2019 16:22	WG1393507
Benzene	ND		0.00114	1.02	12/09/2019 16:22	WG1393507
Bromobenzene	ND		0.0143	1.02	12/09/2019 16:22	WG1393507
Bromodichloromethane	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
Bromoform	ND		0.0284	1.02	12/09/2019 16:22	WG1393507
Bromomethane	ND	J0	0.0143	1.02	12/09/2019 16:22	WG1393507
n-Butylbenzene	ND		0.0143	1.02	12/09/2019 16:22	WG1393507
sec-Butylbenzene	ND		0.0143	1.02	12/09/2019 16:22	WG1393507
tert-Butylbenzene	ND		0.00568	1.02	12/09/2019 16:22	WG1393507
Carbon tetrachloride	ND		0.00568	1.02	12/09/2019 16:22	WG1393507
Chlorobenzene	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
Chlorodibromomethane	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
Chloroethane	ND		0.00568	1.02	12/09/2019 16:22	WG1393507
Chloroform	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
Chloromethane	ND		0.0143	1.02	12/09/2019 16:22	WG1393507
2-Chlorotoluene	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
4-Chlorotoluene	ND		0.00568	1.02	12/09/2019 16:22	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.0284	1.02	12/09/2019 16:22	WG1393507
1,2-Dibromoethane	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
Dibromomethane	ND		0.00568	1.02	12/09/2019 16:22	WG1393507
1,2-Dichlorobenzene	ND		0.00568	1.02	12/09/2019 16:22	WG1393507
1,3-Dichlorobenzene	ND		0.00568	1.02	12/09/2019 16:22	WG1393507
1,4-Dichlorobenzene	ND		0.00568	1.02	12/09/2019 16:22	WG1393507
Dichlorodifluoromethane	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
1,1-Dichloroethane	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
1,2-Dichloroethane	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
1,1-Dichloroethene	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
cis-1,2-Dichloroethene	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
trans-1,2-Dichloroethene	ND		0.00568	1.02	12/09/2019 16:22	WG1393507
1,2-Dichloropropane	ND		0.00568	1.02	12/09/2019 16:22	WG1393507
1,1-Dichloropropene	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
1,3-Dichloropropane	ND		0.00568	1.02	12/09/2019 16:22	WG1393507
cis-1,3-Dichloropropene	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
trans-1,3-Dichloropropene	ND		0.00568	1.02	12/09/2019 16:22	WG1393507
2,2-Dichloropropane	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
Di-isopropyl ether	ND	J4	0.00114	1.02	12/09/2019 16:22	WG1393507
Ethylbenzene	ND		0.00284	1.02	12/11/2019 11:58	WG1394255

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0284	1.02	12/09/2019 16:22	WG1393507
Isopropylbenzene	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
p-Isopropyltoluene	ND		0.00568	1.02	12/09/2019 16:22	WG1393507
2-Butanone (MEK)	ND	J4	0.0284	1.02	12/09/2019 16:22	WG1393507
Methylene Chloride	ND		0.0284	1.02	12/09/2019 16:22	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.0284	1.02	12/09/2019 16:22	WG1393507
Methyl tert-butyl ether	ND		0.00114	1.02	12/09/2019 16:22	WG1393507
Naphthalene	ND		0.0143	1.02	12/09/2019 16:22	WG1393507
n-Propylbenzene	ND		0.00568	1.02	12/11/2019 11:58	WG1394255
Styrene	ND		0.0143	1.02	12/09/2019 16:22	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
Tetrachloroethene	ND	J0	0.00284	1.02	12/09/2019 16:22	WG1393507
Toluene	ND		0.00568	1.02	12/11/2019 11:58	WG1394255
1,2,3-Trichlorobenzene	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
1,2,4-Trichlorobenzene	ND		0.0143	1.02	12/09/2019 16:22	WG1393507
1,1,1-Trichloroethane	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
1,1,2-Trichloroethane	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
Trichloroethene	ND		0.00114	1.02	12/09/2019 16:22	WG1393507
Trichlorofluoromethane	ND		0.00284	1.02	12/09/2019 16:22	WG1393507
1,2,3-Trichloropropane	ND		0.0143	1.02	12/09/2019 16:22	WG1393507
1,2,4-Trimethylbenzene	ND		0.00568	1.02	12/11/2019 11:58	WG1394255
1,2,3-Trimethylbenzene	ND		0.00568	1.02	12/11/2019 11:58	WG1394255
1,3,5-Trimethylbenzene	ND		0.00568	1.02	12/11/2019 11:58	WG1394255
Vinyl chloride	ND	J0	0.00284	1.02	12/09/2019 16:22	WG1393507
Xylenes, Total	ND		0.00738	1.02	12/11/2019 11:58	WG1394255
(S) Toluene-d8	*93.9*		*75.0-131*		*12/09/2019 16:22*	WG1393507
(S) Toluene-d8	*108*		*75.0-131*		*12/11/2019 11:58*	WG1394255
(S) 4-Bromofluorobenzene	*94.6*		*67.0-138*		*12/09/2019 16:22*	WG1393507
(S) 4-Bromofluorobenzene	*104*		*67.0-138*		*12/11/2019 11:58*	WG1394255
(S) 1,2-Dichloroethane-d4	*107*		*70.0-130*		*12/09/2019 16:22*	WG1393507
(S) 1,2-Dichloroethane-d4	*96.9*		*70.0-130*		*12/11/2019 11:58*	WG1394255

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.45	1	12/09/2019 02:22	WG1393216
Residual Range Organics (RRO)	ND		11.1	1	12/09/2019 02:22	WG1393216
(S) o-Terphenyl	*63.8*		*18.0-148*		*12/09/2019 02:22*	WG1393216

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.6		1	12/09/2019 10:55	WG1392817

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	3.60		0.552	5	12/08/2019 23:23	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	ND		2.76	25	12/10/2019 18:23	WG1393869
(S) a,a,a-Trifluorotoluene(FID)	*97.9*		*77.0-120*		*12/10/2019 18:23*	WG1393869

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0276	1	12/09/2019 16:41	WG1393507
Acrylonitrile	ND	J4	0.0138	1	12/09/2019 16:41	WG1393507
Benzene	ND		0.00110	1	12/09/2019 16:41	WG1393507
Bromobenzene	ND		0.0138	1	12/09/2019 16:41	WG1393507
Bromodichloromethane	ND		0.00276	1	12/09/2019 16:41	WG1393507
Bromoform	ND		0.0276	1	12/09/2019 16:41	WG1393507
Bromomethane	ND	J0	0.0138	1	12/09/2019 16:41	WG1393507
n-Butylbenzene	ND		0.0138	1	12/09/2019 16:41	WG1393507
sec-Butylbenzene	ND		0.0138	1	12/09/2019 16:41	WG1393507
tert-Butylbenzene	ND		0.00552	1	12/09/2019 16:41	WG1393507
Carbon tetrachloride	ND		0.00552	1	12/09/2019 16:41	WG1393507
Chlorobenzene	ND		0.00276	1	12/09/2019 16:41	WG1393507
Chlorodibromomethane	ND		0.00276	1	12/09/2019 16:41	WG1393507
Chloroethane	ND		0.00552	1	12/09/2019 16:41	WG1393507
Chloroform	ND		0.00276	1	12/09/2019 16:41	WG1393507
Chloromethane	ND		0.0138	1	12/09/2019 16:41	WG1393507
2-Chlorotoluene	ND		0.00276	1	12/09/2019 16:41	WG1393507
4-Chlorotoluene	ND		0.00552	1	12/09/2019 16:41	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.0276	1	12/09/2019 16:41	WG1393507
1,2-Dibromoethane	ND		0.00276	1	12/09/2019 16:41	WG1393507
Dibromomethane	ND		0.00552	1	12/09/2019 16:41	WG1393507
1,2-Dichlorobenzene	ND		0.00552	1	12/09/2019 16:41	WG1393507
1,3-Dichlorobenzene	ND		0.00552	1	12/09/2019 16:41	WG1393507
1,4-Dichlorobenzene	ND		0.00552	1	12/09/2019 16:41	WG1393507
Dichlorodifluoromethane	ND		0.00276	1	12/09/2019 16:41	WG1393507
1,1-Dichloroethane	ND		0.00276	1	12/09/2019 16:41	WG1393507
1,2-Dichloroethane	ND		0.00276	1	12/09/2019 16:41	WG1393507
1,1-Dichloroethene	ND		0.00276	1	12/09/2019 16:41	WG1393507
cis-1,2-Dichloroethene	ND		0.00276	1	12/09/2019 16:41	WG1393507
trans-1,2-Dichloroethene	ND		0.00552	1	12/09/2019 16:41	WG1393507
1,2-Dichloropropane	ND		0.00552	1	12/09/2019 16:41	WG1393507
1,1-Dichloropropene	ND		0.00276	1	12/09/2019 16:41	WG1393507
1,3-Dichloropropane	ND		0.00552	1	12/09/2019 16:41	WG1393507
cis-1,3-Dichloropropene	ND		0.00276	1	12/09/2019 16:41	WG1393507
trans-1,3-Dichloropropene	ND		0.00552	1	12/09/2019 16:41	WG1393507
2,2-Dichloropropane	ND		0.00276	1	12/09/2019 16:41	WG1393507
Di-isopropyl ether	ND	J4	0.00110	1	12/09/2019 16:41	WG1393507
Ethylbenzene	ND		0.00276	1	12/09/2019 16:41	WG1393507

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0276	1	12/09/2019 16:41	WG1393507
Isopropylbenzene	ND		0.00276	1	12/09/2019 16:41	WG1393507
p-Isopropyltoluene	ND		0.00552	1	12/09/2019 16:41	WG1393507
2-Butanone (MEK)	ND	J4	0.0276	1	12/09/2019 16:41	WG1393507
Methylene Chloride	ND		0.0276	1	12/09/2019 16:41	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.0276	1	12/09/2019 16:41	WG1393507
Methyl tert-butyl ether	ND		0.00110	1	12/09/2019 16:41	WG1393507
Naphthalene	ND		0.0138	1	12/09/2019 16:41	WG1393507
n-Propylbenzene	ND		0.00552	1	12/11/2019 12:18	WG1394255
Styrene	ND		0.0138	1	12/09/2019 16:41	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.00276	1	12/09/2019 16:41	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.00276	1	12/09/2019 16:41	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.00276	1	12/09/2019 16:41	WG1393507
Tetrachloroethene	ND	J0	0.00276	1	12/09/2019 16:41	WG1393507
Toluene	ND		0.00552	1	12/09/2019 16:41	WG1393507
1,2,3-Trichlorobenzene	ND		0.00276	1	12/09/2019 16:41	WG1393507
1,2,4-Trichlorobenzene	ND		0.0138	1	12/09/2019 16:41	WG1393507
1,1,1-Trichloroethane	ND		0.00276	1	12/09/2019 16:41	WG1393507
1,1,2-Trichloroethane	ND		0.00276	1	12/09/2019 16:41	WG1393507
Trichloroethene	ND		0.00110	1	12/09/2019 16:41	WG1393507
Trichlorofluoromethane	ND		0.00276	1	12/09/2019 16:41	WG1393507
1,2,3-Trichloropropane	ND		0.0138	1	12/09/2019 16:41	WG1393507
1,2,4-Trimethylbenzene	ND		0.00552	1	12/11/2019 12:18	WG1394255
1,2,3-Trimethylbenzene	ND		0.00552	1	12/11/2019 12:18	WG1394255
1,3,5-Trimethylbenzene	ND		0.00552	1	12/11/2019 12:18	WG1394255
Vinyl chloride	ND	J0	0.00276	1	12/09/2019 16:41	WG1393507
Xylenes, Total	ND		0.00717	1	12/09/2019 16:41	WG1393507
(S) Toluene-d8	*94.8*		*75.0-131*		*12/09/2019 16:41*	WG1393507
(S) Toluene-d8	*110*		*75.0-131*		*12/11/2019 12:18*	WG1394255
(S) 4-Bromofluorobenzene	*96.3*		*67.0-138*		*12/09/2019 16:41*	WG1393507
(S) 4-Bromofluorobenzene	*102*		*67.0-138*		*12/11/2019 12:18*	WG1394255
(S) 1,2-Dichloroethane-d4	*108*		*70.0-130*		*12/09/2019 16:41*	WG1393507
(S) 1,2-Dichloroethane-d4	*99.5*		*70.0-130*		*12/11/2019 12:18*	WG1394255

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	64.6		44.1	10	12/09/2019 11:51	WG1393216
Residual Range Organics (RRO)	392		221	20	12/09/2019 06:27	WG1393216
(S) o-Terphenyl	*69.2*	J7	*18.0-148*		*12/09/2019 06:27*	WG1393216
(S) o-Terphenyl	*76.5*		*18.0-148*		*12/09/2019 11:51*	WG1393216

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	83.0		1	12/09/2019 10:55	WG1392817

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	3.83		0.602	5	12/08/2019 23:27	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	48.2		3.40	28.2	12/11/2019 02:40	WG1394104
(S) a,a,a-Trifluorotoluene(FID)	*96.0*		*77.0-120*		*12/11/2019 02:40*	WG1394104

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0329	1.09	12/09/2019 17:00	WG1393507
Acrylonitrile	ND	J4	0.0164	1.09	12/09/2019 17:00	WG1393507
Benzene	0.0588		0.00131	1.09	12/09/2019 17:00	WG1393507
Bromobenzene	ND		0.0164	1.09	12/09/2019 17:00	WG1393507
Bromodichloromethane	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
Bromoform	ND		0.0329	1.09	12/09/2019 17:00	WG1393507
Bromomethane	ND	J0	0.0164	1.09	12/09/2019 17:00	WG1393507
n-Butylbenzene	ND		0.0164	1.09	12/09/2019 17:00	WG1393507
sec-Butylbenzene	ND		0.0164	1.09	12/09/2019 17:00	WG1393507
tert-Butylbenzene	ND		0.00656	1.09	12/09/2019 17:00	WG1393507
Carbon tetrachloride	ND		0.00656	1.09	12/09/2019 17:00	WG1393507
Chlorobenzene	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
Chlorodibromomethane	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
Chloroethane	ND		0.00656	1.09	12/09/2019 17:00	WG1393507
Chloroform	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
Chloromethane	ND		0.0164	1.09	12/09/2019 17:00	WG1393507
2-Chlorotoluene	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
4-Chlorotoluene	ND		0.00656	1.09	12/09/2019 17:00	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.0329	1.09	12/09/2019 17:00	WG1393507
1,2-Dibromoethane	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
Dibromomethane	ND		0.00656	1.09	12/09/2019 17:00	WG1393507
1,2-Dichlorobenzene	ND		0.00656	1.09	12/09/2019 17:00	WG1393507
1,3-Dichlorobenzene	ND		0.00656	1.09	12/09/2019 17:00	WG1393507
1,4-Dichlorobenzene	ND		0.00656	1.09	12/09/2019 17:00	WG1393507
Dichlorodifluoromethane	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
1,1-Dichloroethane	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
1,2-Dichloroethane	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
1,1-Dichloroethene	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
cis-1,2-Dichloroethene	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
trans-1,2-Dichloroethene	ND		0.00656	1.09	12/09/2019 17:00	WG1393507
1,2-Dichloropropane	ND		0.00656	1.09	12/09/2019 17:00	WG1393507
1,1-Dichloropropene	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
1,3-Dichloropropane	ND		0.00656	1.09	12/09/2019 17:00	WG1393507
cis-1,3-Dichloropropene	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
trans-1,3-Dichloropropene	ND		0.00656	1.09	12/09/2019 17:00	WG1393507
2,2-Dichloropropane	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
Di-isopropyl ether	ND	J4	0.00131	1.09	12/09/2019 17:00	WG1393507
Ethylbenzene	0.0856		0.00329	1.09	12/09/2019 17:00	WG1393507

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0329	1.09	12/09/2019 17:00	WG1393507
Isopropylbenzene	0.00637		0.00329	1.09	12/09/2019 17:00	WG1393507
p-Isopropyltoluene	ND		0.00656	1.09	12/09/2019 17:00	WG1393507
2-Butanone (MEK)	ND	J4	0.0329	1.09	12/09/2019 17:00	WG1393507
Methylene Chloride	ND		0.0329	1.09	12/09/2019 17:00	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.0329	1.09	12/09/2019 17:00	WG1393507
Methyl tert-butyl ether	ND		0.00131	1.09	12/09/2019 17:00	WG1393507
Naphthalene	0.0348		0.0164	1.09	12/09/2019 17:00	WG1393507
n-Propylbenzene	0.0330		0.00656	1.09	12/09/2019 17:00	WG1393507
Styrene	ND		0.0164	1.09	12/09/2019 17:00	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
Tetrachloroethene	ND	J0	0.00329	1.09	12/09/2019 17:00	WG1393507
Toluene	0.00683		0.00656	1.09	12/09/2019 17:00	WG1393507
1,2,3-Trichlorobenzene	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
1,2,4-Trichlorobenzene	ND		0.0164	1.09	12/09/2019 17:00	WG1393507
1,1,1-Trichloroethane	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
1,1,2-Trichloroethane	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
Trichloroethene	ND		0.00131	1.09	12/09/2019 17:00	WG1393507
Trichlorofluoromethane	ND		0.00329	1.09	12/09/2019 17:00	WG1393507
1,2,3-Trichloropropane	ND		0.0164	1.09	12/09/2019 17:00	WG1393507
1,2,4-Trimethylbenzene	0.194		0.00656	1.09	12/09/2019 17:00	WG1393507
1,2,3-Trimethylbenzene	0.0737		0.00656	1.09	12/09/2019 17:00	WG1393507
1,3,5-Trimethylbenzene	0.0570		0.00656	1.09	12/09/2019 17:00	WG1393507
Vinyl chloride	ND	J0	0.00329	1.09	12/09/2019 17:00	WG1393507
Xylenes, Total	0.226		0.00853	1.09	12/09/2019 17:00	WG1393507
(S) Toluene-d8	*93.2*		*75.0-131*		*12/09/2019 17:00*	WG1393507
(S) 4-Bromofluorobenzene	*97.1*		*67.0-138*		*12/09/2019 17:00*	WG1393507
(S) 1,2-Dichloroethane-d4	*106*		*70.0-130*		*12/09/2019 17:00*	WG1393507

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.82	1	12/09/2019 02:35	WG1393216
Residual Range Organics (RRO)	ND		12.0	1	12/09/2019 02:35	WG1393216
(S) o-Terphenyl	*50.9*		*18.0-148*		*12/09/2019 02:35*	WG1393216

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.5		1	12/09/2019 10:55	WG1392817

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.26		0.529	5	12/08/2019 23:30	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	12.0		2.64	25	12/11/2019 03:01	WG1394104
(S) a,a,a-Trifluorotoluene(FID)	*99.0*		*77.0-120*		*12/11/2019 03:01*	WG1394104

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0264	1	12/09/2019 17:19	WG1393507
Acrylonitrile	ND	J4	0.0132	1	12/09/2019 17:19	WG1393507
Benzene	0.0697		0.00106	1	12/09/2019 17:19	WG1393507
Bromobenzene	ND		0.0132	1	12/09/2019 17:19	WG1393507
Bromodichloromethane	ND		0.00264	1	12/09/2019 17:19	WG1393507
Bromoform	ND		0.0264	1	12/09/2019 17:19	WG1393507
Bromomethane	ND	J0	0.0132	1	12/09/2019 17:19	WG1393507
n-Butylbenzene	0.0280		0.0132	1	12/09/2019 17:19	WG1393507
sec-Butylbenzene	ND		0.0132	1	12/09/2019 17:19	WG1393507
tert-Butylbenzene	ND		0.00529	1	12/09/2019 17:19	WG1393507
Carbon tetrachloride	ND		0.00529	1	12/09/2019 17:19	WG1393507
Chlorobenzene	ND		0.00264	1	12/09/2019 17:19	WG1393507
Chlorodibromomethane	ND		0.00264	1	12/09/2019 17:19	WG1393507
Chloroethane	ND		0.00529	1	12/09/2019 17:19	WG1393507
Chloroform	ND		0.00264	1	12/09/2019 17:19	WG1393507
Chloromethane	ND		0.0132	1	12/09/2019 17:19	WG1393507
2-Chlorotoluene	ND		0.00264	1	12/09/2019 17:19	WG1393507
4-Chlorotoluene	ND		0.00529	1	12/09/2019 17:19	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.0264	1	12/09/2019 17:19	WG1393507
1,2-Dibromoethane	ND		0.00264	1	12/09/2019 17:19	WG1393507
Dibromomethane	ND		0.00529	1	12/09/2019 17:19	WG1393507
1,2-Dichlorobenzene	ND		0.00529	1	12/09/2019 17:19	WG1393507
1,3-Dichlorobenzene	ND		0.00529	1	12/09/2019 17:19	WG1393507
1,4-Dichlorobenzene	ND		0.00529	1	12/09/2019 17:19	WG1393507
Dichlorodifluoromethane	ND		0.00264	1	12/09/2019 17:19	WG1393507
1,1-Dichloroethane	ND		0.00264	1	12/09/2019 17:19	WG1393507
1,2-Dichloroethane	ND		0.00264	1	12/09/2019 17:19	WG1393507
1,1-Dichloroethene	ND		0.00264	1	12/09/2019 17:19	WG1393507
cis-1,2-Dichloroethene	ND		0.00264	1	12/09/2019 17:19	WG1393507
trans-1,2-Dichloroethene	ND		0.00529	1	12/09/2019 17:19	WG1393507
1,2-Dichloropropane	ND		0.00529	1	12/09/2019 17:19	WG1393507
1,1-Dichloropropene	ND		0.00264	1	12/09/2019 17:19	WG1393507
1,3-Dichloropropane	ND		0.00529	1	12/09/2019 17:19	WG1393507
cis-1,3-Dichloropropene	ND		0.00264	1	12/09/2019 17:19	WG1393507
trans-1,3-Dichloropropene	ND		0.00529	1	12/09/2019 17:19	WG1393507
2,2-Dichloropropane	ND		0.00264	1	12/09/2019 17:19	WG1393507
Di-isopropyl ether	ND	J4	0.00106	1	12/09/2019 17:19	WG1393507
Ethylbenzene	0.162		0.00264	1	12/09/2019 17:19	WG1393507

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0264	1	12/09/2019 17:19	WG1393507
Isopropylbenzene	0.0125		0.00264	1	12/09/2019 17:19	WG1393507
p-Isopropyltoluene	0.00585		0.00529	1	12/09/2019 17:19	WG1393507
2-Butanone (MEK)	ND	J4	0.0264	1	12/09/2019 17:19	WG1393507
Methylene Chloride	ND		0.0264	1	12/09/2019 17:19	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.0264	1	12/09/2019 17:19	WG1393507
Methyl tert-butyl ether	ND		0.00106	1	12/09/2019 17:19	WG1393507
Naphthalene	0.239		0.0132	1	12/09/2019 17:19	WG1393507
n-Propylbenzene	0.0778		0.00529	1	12/09/2019 17:19	WG1393507
Styrene	ND		0.0132	1	12/09/2019 17:19	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.00264	1	12/09/2019 17:19	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.00264	1	12/09/2019 17:19	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.00264	1	12/09/2019 17:19	WG1393507
Tetrachloroethene	ND	J0	0.00264	1	12/09/2019 17:19	WG1393507
Toluene	0.00574		0.00529	1	12/09/2019 17:19	WG1393507
1,2,3-Trichlorobenzene	ND		0.00264	1	12/09/2019 17:19	WG1393507
1,2,4-Trichlorobenzene	ND		0.0132	1	12/09/2019 17:19	WG1393507
1,1,1-Trichloroethane	ND		0.00264	1	12/09/2019 17:19	WG1393507
1,1,2-Trichloroethane	ND		0.00264	1	12/09/2019 17:19	WG1393507
Trichloroethene	ND		0.00106	1	12/09/2019 17:19	WG1393507
Trichlorofluoromethane	ND		0.00264	1	12/09/2019 17:19	WG1393507
1,2,3-Trichloropropane	ND		0.0132	1	12/09/2019 17:19	WG1393507
1,2,4-Trimethylbenzene	0.526		0.00529	1	12/09/2019 17:19	WG1393507
1,2,3-Trimethylbenzene	0.205		0.00529	1	12/09/2019 17:19	WG1393507
1,3,5-Trimethylbenzene	0.140		0.00529	1	12/09/2019 17:19	WG1393507
Vinyl chloride	ND	J0	0.00264	1	12/09/2019 17:19	WG1393507
Xylenes, Total	0.312		0.00688	1	12/09/2019 17:19	WG1393507
(S) Toluene-d8	*90.8*		*75.0-131*		*12/09/2019 17:19*	WG1393507
(S) 4-Bromofluorobenzene	*95.6*		*67.0-138*		*12/09/2019 17:19*	WG1393507
(S) 1,2-Dichloroethane-d4	*112*		*70.0-130*		*12/09/2019 17:19*	WG1393507

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.23	1	12/09/2019 02:48	WG1393216
Residual Range Organics (RRO)	ND		10.6	1	12/09/2019 02:48	WG1393216
(S) o-Terphenyl	*65.0*		*18.0-148*		*12/09/2019 02:48*	WG1393216

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.1		1	12/09/2019 10:55	WG1392817

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	3.04		0.532	5	12/08/2019 23:42	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	617		10.6	100	12/11/2019 03:22	WG1394104
(S) a,a,a-Trifluorotoluene(FID)	*106*		*77.0-120*		*12/11/2019 03:22*	WG1394104

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.232	8.72	12/09/2019 19:32	WG1393507
Acrylonitrile	ND	J4	0.116	8.72	12/09/2019 19:32	WG1393507
Benzene	15.7		0.00927	8.72	12/09/2019 19:32	WG1393507
Bromobenzene	ND		0.116	8.72	12/09/2019 19:32	WG1393507
Bromodichloromethane	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
Bromoform	ND		0.232	8.72	12/09/2019 19:32	WG1393507
Bromomethane	ND	J0	0.116	8.72	12/09/2019 19:32	WG1393507
n-Butylbenzene	17.5		11.6	872	12/11/2019 13:38	WG1394255
sec-Butylbenzene	7.66		0.116	8.72	12/09/2019 19:32	WG1393507
tert-Butylbenzene	ND		0.0464	8.72	12/09/2019 19:32	WG1393507
Carbon tetrachloride	ND		0.0464	8.72	12/09/2019 19:32	WG1393507
Chlorobenzene	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
Chlorodibromomethane	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
Chloroethane	ND		0.0464	8.72	12/09/2019 19:32	WG1393507
Chloroform	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
Chloromethane	ND		0.116	8.72	12/09/2019 19:32	WG1393507
2-Chlorotoluene	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
4-Chlorotoluene	ND		0.0464	8.72	12/09/2019 19:32	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.232	8.72	12/09/2019 19:32	WG1393507
1,2-Dibromoethane	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
Dibromomethane	ND		0.0464	8.72	12/09/2019 19:32	WG1393507
1,2-Dichlorobenzene	ND		0.0464	8.72	12/09/2019 19:32	WG1393507
1,3-Dichlorobenzene	ND		0.0464	8.72	12/09/2019 19:32	WG1393507
1,4-Dichlorobenzene	ND		0.0464	8.72	12/09/2019 19:32	WG1393507
Dichlorodifluoromethane	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
1,1-Dichloroethane	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
1,2-Dichloroethane	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
1,1-Dichloroethene	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
cis-1,2-Dichloroethene	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
trans-1,2-Dichloroethene	ND		0.0464	8.72	12/09/2019 19:32	WG1393507
1,2-Dichloropropane	ND		0.0464	8.72	12/09/2019 19:32	WG1393507
1,1-Dichloropropene	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
1,3-Dichloropropane	ND		0.0464	8.72	12/09/2019 19:32	WG1393507
cis-1,3-Dichloropropene	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
trans-1,3-Dichloropropene	ND		0.0464	8.72	12/09/2019 19:32	WG1393507
2,2-Dichloropropane	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
Di-isopropyl ether	ND	J4	0.00927	8.72	12/09/2019 19:32	WG1393507
Ethylbenzene	146		2.32	872	12/11/2019 13:38	WG1394255

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.232	8.72	12/09/2019 19:32	WG1393507
Isopropylbenzene	11.1		0.0232	8.72	12/09/2019 19:32	WG1393507
p-Isopropyltoluene	5.12		0.0464	8.72	12/09/2019 19:32	WG1393507
2-Butanone (MEK)	ND	J4	0.232	8.72	12/09/2019 19:32	WG1393507
Methylene Chloride	ND		0.232	8.72	12/09/2019 19:32	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.232	8.72	12/09/2019 19:32	WG1393507
Methyl tert-butyl ether	ND		0.00927	8.72	12/09/2019 19:32	WG1393507
Naphthalene	53.4	B	11.6	872	12/11/2019 13:38	WG1394255
n-Propylbenzene	62.8		4.64	872	12/11/2019 13:38	WG1394255
Styrene	ND		0.116	8.72	12/09/2019 19:32	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
Tetrachloroethene	ND	J0	0.0232	8.72	12/09/2019 19:32	WG1393507
Toluene	0.653		0.0464	8.72	12/09/2019 19:32	WG1393507
1,2,3-Trichlorobenzene	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
1,2,4-Trichlorobenzene	ND		0.116	8.72	12/09/2019 19:32	WG1393507
1,1,1-Trichloroethane	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
1,1,2-Trichloroethane	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
Trichloroethene	ND		0.00927	8.72	12/09/2019 19:32	WG1393507
Trichlorofluoromethane	ND		0.0232	8.72	12/09/2019 19:32	WG1393507
1,2,3-Trichloropropane	ND		0.116	8.72	12/09/2019 19:32	WG1393507
1,2,4-Trimethylbenzene	366		4.64	872	12/11/2019 13:38	WG1394255
1,2,3-Trimethylbenzene	100		4.64	872	12/11/2019 13:38	WG1394255
1,3,5-Trimethylbenzene	65.0		4.64	872	12/11/2019 13:38	WG1394255
Vinyl chloride	ND	J0	0.0232	8.72	12/09/2019 19:32	WG1393507
Xylenes, Total	181		6.03	872	12/11/2019 13:38	WG1394255
(S) Toluene-d8	*72.9*	J2	*75.0-131*		*12/09/2019 19:32*	WG1393507
(S) Toluene-d8	*107*		*75.0-131*		*12/11/2019 13:38*	WG1394255
(S) 4-Bromofluorobenzene	*80.9*		*67.0-138*		*12/09/2019 19:32*	WG1393507
(S) 4-Bromofluorobenzene	*102*		*67.0-138*		*12/11/2019 13:38*	WG1394255
(S) 1,2-Dichloroethane-d4	*128*		*70.0-130*		*12/09/2019 19:32*	WG1393507
(S) 1,2-Dichloroethane-d4	*99.1*		*70.0-130*		*12/11/2019 13:38*	WG1394255

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	485		21.3	5	12/11/2019 17:33	WG1393750
Residual Range Organics (RRO)	36.9		10.6	1	12/10/2019 20:44	WG1393750
(S) o-Terphenyl	*69.5*		*18.0-148*		*12/11/2019 17:33*	WG1393750
(S) o-Terphenyl	*88.0*		*18.0-148*		*12/10/2019 20:44*	WG1393750

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.8		1	12/09/2019 10:55	WG1392817

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.30		0.557	5	12/08/2019 23:46	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	ND		2.79	25	12/11/2019 03:42	WG1394104
(S) a,a,a-Trifluorotoluene(FID)	*97.5*		*77.0-120*		*12/11/2019 03:42*	WG1394104

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0290	1.04	12/09/2019 17:38	WG1393507
Acrylonitrile	ND	J4	0.0145	1.04	12/09/2019 17:38	WG1393507
Benzene	ND		0.00116	1.04	12/09/2019 17:38	WG1393507
Bromobenzene	ND		0.0145	1.04	12/09/2019 17:38	WG1393507
Bromodichloromethane	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
Bromoform	ND		0.0290	1.04	12/09/2019 17:38	WG1393507
Bromomethane	ND	J0	0.0145	1.04	12/09/2019 17:38	WG1393507
n-Butylbenzene	ND		0.0145	1.04	12/09/2019 17:38	WG1393507
sec-Butylbenzene	ND		0.0145	1.04	12/09/2019 17:38	WG1393507
tert-Butylbenzene	ND		0.00579	1.04	12/09/2019 17:38	WG1393507
Carbon tetrachloride	ND		0.00579	1.04	12/09/2019 17:38	WG1393507
Chlorobenzene	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
Chlorodibromomethane	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
Chloroethane	ND		0.00579	1.04	12/09/2019 17:38	WG1393507
Chloroform	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
Chloromethane	ND		0.0145	1.04	12/09/2019 17:38	WG1393507
2-Chlorotoluene	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
4-Chlorotoluene	ND		0.00579	1.04	12/09/2019 17:38	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.0290	1.04	12/09/2019 17:38	WG1393507
1,2-Dibromoethane	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
Dibromomethane	ND		0.00579	1.04	12/09/2019 17:38	WG1393507
1,2-Dichlorobenzene	ND		0.00579	1.04	12/09/2019 17:38	WG1393507
1,3-Dichlorobenzene	ND		0.00579	1.04	12/09/2019 17:38	WG1393507
1,4-Dichlorobenzene	ND		0.00579	1.04	12/09/2019 17:38	WG1393507
Dichlorodifluoromethane	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
1,1-Dichloroethane	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
1,2-Dichloroethane	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
1,1-Dichloroethene	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
cis-1,2-Dichloroethene	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
trans-1,2-Dichloroethene	ND		0.00579	1.04	12/09/2019 17:38	WG1393507
1,2-Dichloropropane	ND		0.00579	1.04	12/09/2019 17:38	WG1393507
1,1-Dichloropropene	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
1,3-Dichloropropane	ND		0.00579	1.04	12/09/2019 17:38	WG1393507
cis-1,3-Dichloropropene	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
trans-1,3-Dichloropropene	ND		0.00579	1.04	12/09/2019 17:38	WG1393507
2,2-Dichloropropane	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
Di-isopropyl ether	ND	J4	0.00116	1.04	12/09/2019 17:38	WG1393507
Ethylbenzene	0.00699		0.00290	1.04	12/09/2019 17:38	WG1393507

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0290	1.04	12/09/2019 17:38	WG1393507
Isopropylbenzene	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
p-Isopropyltoluene	ND		0.00579	1.04	12/09/2019 17:38	WG1393507
2-Butanone (MEK)	ND	J4	0.0290	1.04	12/09/2019 17:38	WG1393507
Methylene Chloride	ND		0.0290	1.04	12/09/2019 17:38	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.0290	1.04	12/09/2019 17:38	WG1393507
Methyl tert-butyl ether	0.00163		0.00116	1.04	12/09/2019 17:38	WG1393507
Naphthalene	0.0216		0.0145	1.04	12/09/2019 17:38	WG1393507
n-Propylbenzene	ND		0.00579	1.04	12/09/2019 17:38	WG1393507
Styrene	ND		0.0145	1.04	12/09/2019 17:38	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
Tetrachloroethene	ND	J0	0.00290	1.04	12/09/2019 17:38	WG1393507
Toluene	0.00646		0.00579	1.04	12/09/2019 17:38	WG1393507
1,2,3-Trichlorobenzene	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
1,2,4-Trichlorobenzene	ND		0.0145	1.04	12/09/2019 17:38	WG1393507
1,1,1-Trichloroethane	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
1,1,2-Trichloroethane	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
Trichloroethene	ND		0.00116	1.04	12/09/2019 17:38	WG1393507
Trichlorofluoromethane	ND		0.00290	1.04	12/09/2019 17:38	WG1393507
1,2,3-Trichloropropane	ND		0.0145	1.04	12/09/2019 17:38	WG1393507
1,2,4-Trimethylbenzene	0.0277		0.00579	1.04	12/09/2019 17:38	WG1393507
1,2,3-Trimethylbenzene	0.0117		0.00579	1.04	12/09/2019 17:38	WG1393507
1,3,5-Trimethylbenzene	0.00791		0.00579	1.04	12/09/2019 17:38	WG1393507
Vinyl chloride	ND	J0	0.00290	1.04	12/09/2019 17:38	WG1393507
Xylenes, Total	0.0291		0.00753	1.04	12/09/2019 17:38	WG1393507
(S) Toluene-d8	*92.2*		*75.0-131*		*12/09/2019 17:38*	WG1393507
(S) 4-Bromofluorobenzene	*96.5*		*67.0-138*		*12/09/2019 17:38*	WG1393507
(S) 1,2-Dichloroethane-d4	*107*		*70.0-130*		*12/09/2019 17:38*	WG1393507

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.46	1	12/10/2019 17:55	WG1393750
Residual Range Organics (RRO)	ND		11.1	1	12/10/2019 17:55	WG1393750
(S) o-Terphenyl	*61.9*		*18.0-148*		*12/10/2019 17:55*	WG1393750

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.9		1	12/09/2019 10:45	WG1392818

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	3.05		0.550	5	12/08/2019 23:49	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	ND		2.84	25.8	12/11/2019 04:03	WG1394104
(S) a,a,a-Trifluorotoluene(FID)	*98.1*		*77.0-120*		*12/11/2019 04:03*	WG1394104

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0275	1	12/09/2019 17:57	WG1393507
Acrylonitrile	ND	J4	0.0137	1	12/09/2019 17:57	WG1393507
Benzene	ND		0.00110	1	12/09/2019 17:57	WG1393507
Bromobenzene	ND		0.0137	1	12/09/2019 17:57	WG1393507
Bromodichloromethane	ND		0.00275	1	12/09/2019 17:57	WG1393507
Bromoform	ND		0.0275	1	12/09/2019 17:57	WG1393507
Bromomethane	ND	J0	0.0137	1	12/09/2019 17:57	WG1393507
n-Butylbenzene	ND		0.0137	1	12/09/2019 17:57	WG1393507
sec-Butylbenzene	ND		0.0137	1	12/09/2019 17:57	WG1393507
tert-Butylbenzene	ND		0.00550	1	12/09/2019 17:57	WG1393507
Carbon tetrachloride	ND		0.00550	1	12/09/2019 17:57	WG1393507
Chlorobenzene	ND		0.00275	1	12/09/2019 17:57	WG1393507
Chlorodibromomethane	ND		0.00275	1	12/09/2019 17:57	WG1393507
Chloroethane	ND		0.00550	1	12/09/2019 17:57	WG1393507
Chloroform	ND		0.00275	1	12/09/2019 17:57	WG1393507
Chloromethane	ND		0.0137	1	12/09/2019 17:57	WG1393507
2-Chlorotoluene	ND		0.00275	1	12/09/2019 17:57	WG1393507
4-Chlorotoluene	ND		0.00550	1	12/09/2019 17:57	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.0275	1	12/09/2019 17:57	WG1393507
1,2-Dibromoethane	ND		0.00275	1	12/09/2019 17:57	WG1393507
Dibromomethane	ND		0.00550	1	12/09/2019 17:57	WG1393507
1,2-Dichlorobenzene	ND		0.00550	1	12/09/2019 17:57	WG1393507
1,3-Dichlorobenzene	ND		0.00550	1	12/09/2019 17:57	WG1393507
1,4-Dichlorobenzene	ND		0.00550	1	12/09/2019 17:57	WG1393507
Dichlorodifluoromethane	ND		0.00275	1	12/09/2019 17:57	WG1393507
1,1-Dichloroethane	ND		0.00275	1	12/09/2019 17:57	WG1393507
1,2-Dichloroethane	ND		0.00275	1	12/09/2019 17:57	WG1393507
1,1-Dichloroethene	ND		0.00275	1	12/09/2019 17:57	WG1393507
cis-1,2-Dichloroethene	ND		0.00275	1	12/09/2019 17:57	WG1393507
trans-1,2-Dichloroethene	ND		0.00550	1	12/09/2019 17:57	WG1393507
1,2-Dichloropropane	ND		0.00550	1	12/09/2019 17:57	WG1393507
1,1-Dichloropropene	ND		0.00275	1	12/09/2019 17:57	WG1393507
1,3-Dichloropropane	ND		0.00550	1	12/09/2019 17:57	WG1393507
cis-1,3-Dichloropropene	ND		0.00275	1	12/09/2019 17:57	WG1393507
trans-1,3-Dichloropropene	ND		0.00550	1	12/09/2019 17:57	WG1393507
2,2-Dichloropropane	ND		0.00275	1	12/09/2019 17:57	WG1393507
Di-isopropyl ether	ND	J4	0.00110	1	12/09/2019 17:57	WG1393507
Ethylbenzene	ND		0.00275	1	12/09/2019 17:57	WG1393507

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0275	1	12/09/2019 17:57	WG1393507
Isopropylbenzene	ND		0.00275	1	12/09/2019 17:57	WG1393507
p-Isopropyltoluene	ND		0.00550	1	12/09/2019 17:57	WG1393507
2-Butanone (MEK)	ND	J4	0.0275	1	12/09/2019 17:57	WG1393507
Methylene Chloride	ND		0.0275	1	12/09/2019 17:57	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.0275	1	12/09/2019 17:57	WG1393507
Methyl tert-butyl ether	ND		0.00110	1	12/09/2019 17:57	WG1393507
Naphthalene	ND		0.0137	1	12/09/2019 17:57	WG1393507
n-Propylbenzene	ND		0.00550	1	12/09/2019 17:57	WG1393507
Styrene	ND		0.0137	1	12/09/2019 17:57	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.00275	1	12/09/2019 17:57	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.00275	1	12/09/2019 17:57	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.00275	1	12/09/2019 17:57	WG1393507
Tetrachloroethene	ND	J0	0.00275	1	12/09/2019 17:57	WG1393507
Toluene	0.00608		0.00550	1	12/09/2019 17:57	WG1393507
1,2,3-Trichlorobenzene	ND		0.00275	1	12/09/2019 17:57	WG1393507
1,2,4-Trichlorobenzene	ND		0.0137	1	12/09/2019 17:57	WG1393507
1,1,1-Trichloroethane	ND		0.00275	1	12/09/2019 17:57	WG1393507
1,1,2-Trichloroethane	ND		0.00275	1	12/09/2019 17:57	WG1393507
Trichloroethene	ND		0.00110	1	12/09/2019 17:57	WG1393507
Trichlorofluoromethane	ND		0.00275	1	12/09/2019 17:57	WG1393507
1,2,3-Trichloropropane	ND		0.0137	1	12/09/2019 17:57	WG1393507
1,2,4-Trimethylbenzene	ND		0.00550	1	12/09/2019 17:57	WG1393507
1,2,3-Trimethylbenzene	ND		0.00550	1	12/09/2019 17:57	WG1393507
1,3,5-Trimethylbenzene	ND		0.00550	1	12/09/2019 17:57	WG1393507
Vinyl chloride	ND	J0	0.00275	1	12/09/2019 17:57	WG1393507
Xylenes, Total	ND		0.00715	1	12/09/2019 17:57	WG1393507
(S) Toluene-d8	*92.3*		*75.0-131*		*12/09/2019 17:57*	WG1393507
(S) 4-Bromofluorobenzene	*94.5*		*67.0-138*		*12/09/2019 17:57*	WG1393507
(S) 1,2-Dichloroethane-d4	*108*		*70.0-130*		*12/09/2019 17:57*	WG1393507

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.40	1	12/10/2019 19:15	WG1393750
Residual Range Organics (RRO)	ND		11.0	1	12/10/2019 19:15	WG1393750
(S) o-Terphenyl	*73.8*		*18.0-148*		*12/10/2019 19:15*	WG1393750

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.6		1	12/09/2019 10:45	WG1392818

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.45		0.534	5	12/08/2019 23:53	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	5.62		2.67	25	12/11/2019 04:24	WG1394104
(S) a,a,a-Trifluorotoluene(FID)	*100*		*77.0-120*		*12/11/2019 04:24*	WG1394104

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0281	1.05	12/09/2019 18:16	WG1393507
Acrylonitrile	ND	J4	0.0140	1.05	12/09/2019 18:16	WG1393507
Benzene	0.0644		0.00112	1.05	12/09/2019 18:16	WG1393507
Bromobenzene	ND		0.0140	1.05	12/09/2019 18:16	WG1393507
Bromodichloromethane	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
Bromoform	ND		0.0281	1.05	12/09/2019 18:16	WG1393507
Bromomethane	ND	J0	0.0140	1.05	12/09/2019 18:16	WG1393507
n-Butylbenzene	ND		0.0140	1.05	12/09/2019 18:16	WG1393507
sec-Butylbenzene	ND		0.0140	1.05	12/09/2019 18:16	WG1393507
tert-Butylbenzene	ND		0.00561	1.05	12/09/2019 18:16	WG1393507
Carbon tetrachloride	ND		0.00561	1.05	12/09/2019 18:16	WG1393507
Chlorobenzene	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
Chlorodibromomethane	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
Chloroethane	ND		0.00561	1.05	12/09/2019 18:16	WG1393507
Chloroform	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
Chloromethane	ND		0.0140	1.05	12/09/2019 18:16	WG1393507
2-Chlorotoluene	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
4-Chlorotoluene	ND		0.00561	1.05	12/09/2019 18:16	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.0281	1.05	12/09/2019 18:16	WG1393507
1,2-Dibromoethane	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
Dibromomethane	ND		0.00561	1.05	12/09/2019 18:16	WG1393507
1,2-Dichlorobenzene	ND		0.00561	1.05	12/09/2019 18:16	WG1393507
1,3-Dichlorobenzene	ND		0.00561	1.05	12/09/2019 18:16	WG1393507
1,4-Dichlorobenzene	ND		0.00561	1.05	12/09/2019 18:16	WG1393507
Dichlorodifluoromethane	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
1,1-Dichloroethane	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
1,2-Dichloroethane	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
1,1-Dichloroethene	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
cis-1,2-Dichloroethene	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
trans-1,2-Dichloroethene	ND		0.00561	1.05	12/09/2019 18:16	WG1393507
1,2-Dichloropropane	ND		0.00561	1.05	12/09/2019 18:16	WG1393507
1,1-Dichloropropene	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
1,3-Dichloropropane	ND		0.00561	1.05	12/09/2019 18:16	WG1393507
cis-1,3-Dichloropropene	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
trans-1,3-Dichloropropene	ND		0.00561	1.05	12/09/2019 18:16	WG1393507
2,2-Dichloropropane	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
Di-isopropyl ether	ND	J4	0.00112	1.05	12/09/2019 18:16	WG1393507
Ethylbenzene	0.141		0.00281	1.05	12/09/2019 18:16	WG1393507

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0281	1.05	12/09/2019 18:16	WG1393507
Isopropylbenzene	0.00777		0.00281	1.05	12/09/2019 18:16	WG1393507
p-Isopropyltoluene	ND		0.00561	1.05	12/09/2019 18:16	WG1393507
2-Butanone (MEK)	ND	J4	0.0281	1.05	12/09/2019 18:16	WG1393507
Methylene Chloride	ND		0.0281	1.05	12/09/2019 18:16	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.0281	1.05	12/09/2019 18:16	WG1393507
Methyl tert-butyl ether	ND		0.00112	1.05	12/09/2019 18:16	WG1393507
Naphthalene	0.0419		0.0140	1.05	12/09/2019 18:16	WG1393507
n-Propylbenzene	0.0446		0.00561	1.05	12/09/2019 18:16	WG1393507
Styrene	ND		0.0140	1.05	12/09/2019 18:16	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
Tetrachloroethene	ND	J0	0.00281	1.05	12/09/2019 18:16	WG1393507
Toluene	ND		0.00561	1.05	12/09/2019 18:16	WG1393507
1,2,3-Trichlorobenzene	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
1,2,4-Trichlorobenzene	ND		0.0140	1.05	12/09/2019 18:16	WG1393507
1,1,1-Trichloroethane	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
1,1,2-Trichloroethane	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
Trichloroethene	ND		0.00112	1.05	12/09/2019 18:16	WG1393507
Trichlorofluoromethane	ND		0.00281	1.05	12/09/2019 18:16	WG1393507
1,2,3-Trichloropropane	ND		0.0140	1.05	12/09/2019 18:16	WG1393507
1,2,4-Trimethylbenzene	0.221		0.00561	1.05	12/09/2019 18:16	WG1393507
1,2,3-Trimethylbenzene	0.0869		0.00561	1.05	12/09/2019 18:16	WG1393507
1,3,5-Trimethylbenzene	0.0739		0.00561	1.05	12/09/2019 18:16	WG1393507
Vinyl chloride	ND	J0	0.00281	1.05	12/09/2019 18:16	WG1393507
Xylenes, Total	0.311		0.00730	1.05	12/09/2019 18:16	WG1393507
(S) Toluene-d8	*93.4*		*75.0-131*		*12/09/2019 18:16*	WG1393507
(S) 4-Bromofluorobenzene	*96.1*		*67.0-138*		*12/09/2019 18:16*	WG1393507
(S) 1,2-Dichloroethane-d4	*107*		*70.0-130*		*12/09/2019 18:16*	WG1393507

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	4.90	B	4.27	1	12/10/2019 18:08	WG1393750
Residual Range Organics (RRO)	ND		10.7	1	12/10/2019 18:08	WG1393750
(S) o-Terphenyl	*66.3*		*18.0-148*		*12/10/2019 18:08*	WG1393750

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.6		1	12/09/2019 10:45	WG1392818

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.34		0.529	5	12/08/2019 23:57	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	18.3		2.64	25	12/11/2019 04:44	WG1394104
(S) a,a,a-Trifluorotoluene(FID)	*99.3*		*77.0-120*		*12/11/2019 04:44*	WG1394104

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0285	1.08	12/09/2019 18:35	WG1393507
Acrylonitrile	ND	J4	0.0143	1.08	12/09/2019 18:35	WG1393507
Benzene	0.114		0.00114	1.08	12/09/2019 18:35	WG1393507
Bromobenzene	ND		0.0143	1.08	12/09/2019 18:35	WG1393507
Bromodichloromethane	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
Bromoform	ND		0.0285	1.08	12/09/2019 18:35	WG1393507
Bromomethane	ND	J0	0.0143	1.08	12/09/2019 18:35	WG1393507
n-Butylbenzene	0.0661		0.0143	1.08	12/09/2019 18:35	WG1393507
sec-Butylbenzene	0.0201		0.0143	1.08	12/09/2019 18:35	WG1393507
tert-Butylbenzene	ND		0.00571	1.08	12/09/2019 18:35	WG1393507
Carbon tetrachloride	ND		0.00571	1.08	12/09/2019 18:35	WG1393507
Chlorobenzene	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
Chlorodibromomethane	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
Chloroethane	ND		0.00571	1.08	12/09/2019 18:35	WG1393507
Chloroform	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
Chloromethane	ND		0.0143	1.08	12/09/2019 18:35	WG1393507
2-Chlorotoluene	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
4-Chlorotoluene	ND		0.00571	1.08	12/09/2019 18:35	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.0285	1.08	12/09/2019 18:35	WG1393507
1,2-Dibromoethane	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
Dibromomethane	ND		0.00571	1.08	12/09/2019 18:35	WG1393507
1,2-Dichlorobenzene	ND		0.00571	1.08	12/09/2019 18:35	WG1393507
1,3-Dichlorobenzene	ND		0.00571	1.08	12/09/2019 18:35	WG1393507
1,4-Dichlorobenzene	ND		0.00571	1.08	12/09/2019 18:35	WG1393507
Dichlorodifluoromethane	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
1,1-Dichloroethane	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
1,2-Dichloroethane	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
1,1-Dichloroethene	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
cis-1,2-Dichloroethene	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
trans-1,2-Dichloroethene	ND		0.00571	1.08	12/09/2019 18:35	WG1393507
1,2-Dichloropropane	ND		0.00571	1.08	12/09/2019 18:35	WG1393507
1,1-Dichloropropene	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
1,3-Dichloropropane	ND		0.00571	1.08	12/09/2019 18:35	WG1393507
cis-1,3-Dichloropropene	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
trans-1,3-Dichloropropene	ND		0.00571	1.08	12/09/2019 18:35	WG1393507
2,2-Dichloropropane	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
Di-isopropyl ether	ND	J4	0.00114	1.08	12/09/2019 18:35	WG1393507
Ethylbenzene	0.363		0.00285	1.08	12/09/2019 18:35	WG1393507

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0285	1.08	12/09/2019 18:35	WG1393507
Isopropylbenzene	0.0292		0.00285	1.08	12/09/2019 18:35	WG1393507
p-Isopropyltoluene	0.0145		0.00571	1.08	12/09/2019 18:35	WG1393507
2-Butanone (MEK)	ND	J4	0.0285	1.08	12/09/2019 18:35	WG1393507
Methylene Chloride	ND		0.0285	1.08	12/09/2019 18:35	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.0285	1.08	12/09/2019 18:35	WG1393507
Methyl tert-butyl ether	ND		0.00114	1.08	12/09/2019 18:35	WG1393507
Naphthalene	0.368		0.0143	1.08	12/09/2019 18:35	WG1393507
n-Propylbenzene	0.191		0.00571	1.08	12/09/2019 18:35	WG1393507
Styrene	ND		0.0143	1.08	12/09/2019 18:35	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
Tetrachloroethene	ND	J0	0.00285	1.08	12/09/2019 18:35	WG1393507
Toluene	ND		0.00571	1.08	12/09/2019 18:35	WG1393507
1,2,3-Trichlorobenzene	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
1,2,4-Trichlorobenzene	ND		0.0143	1.08	12/09/2019 18:35	WG1393507
1,1,1-Trichloroethane	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
1,1,2-Trichloroethane	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
Trichloroethene	ND		0.00114	1.08	12/09/2019 18:35	WG1393507
Trichlorofluoromethane	ND		0.00285	1.08	12/09/2019 18:35	WG1393507
1,2,3-Trichloropropane	ND		0.0143	1.08	12/09/2019 18:35	WG1393507
1,2,4-Trimethylbenzene	1.29		0.00571	1.08	12/09/2019 18:35	WG1393507
1,2,3-Trimethylbenzene	0.479		0.00571	1.08	12/09/2019 18:35	WG1393507
1,3,5-Trimethylbenzene	0.274		0.00571	1.08	12/09/2019 18:35	WG1393507
Vinyl chloride	ND	J0	0.00285	1.08	12/09/2019 18:35	WG1393507
Xylenes, Total	0.517		0.00742	1.08	12/09/2019 18:35	WG1393507
(S) Toluene-d8	*93.7*		*75.0-131*		*12/09/2019 18:35*	WG1393507
(S) 4-Bromofluorobenzene	*94.3*		*67.0-138*		*12/09/2019 18:35*	WG1393507
(S) 1,2-Dichloroethane-d4	*107*		*70.0-130*		*12/09/2019 18:35*	WG1393507

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	5.08	B	4.23	1	12/10/2019 18:21	WG1393750
Residual Range Organics (RRO)	ND		10.6	1	12/10/2019 18:21	WG1393750
(S) o-Terphenyl	*69.7*		*18.0-148*		*12/10/2019 18:21*	WG1393750

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.3		1	12/09/2019 10:45	WG1392818

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	3.61		0.530	5	12/09/2019 00:00	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	ND		2.65	25	12/11/2019 05:05	WG1394104
(S) a,a,a-Trifluorotoluene(FID)	*98.0*		*77.0-120*		*12/11/2019 05:05*	WG1394104

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0273	1.03	12/09/2019 18:54	WG1393507
Acrylonitrile	ND	J4	0.0137	1.03	12/09/2019 18:54	WG1393507
Benzene	ND		0.00109	1.03	12/09/2019 18:54	WG1393507
Bromobenzene	ND		0.0137	1.03	12/09/2019 18:54	WG1393507
Bromodichloromethane	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
Bromoform	ND		0.0273	1.03	12/09/2019 18:54	WG1393507
Bromomethane	ND	J0	0.0137	1.03	12/09/2019 18:54	WG1393507
n-Butylbenzene	ND		0.0137	1.03	12/09/2019 18:54	WG1393507
sec-Butylbenzene	ND		0.0137	1.03	12/09/2019 18:54	WG1393507
tert-Butylbenzene	ND		0.00546	1.03	12/09/2019 18:54	WG1393507
Carbon tetrachloride	ND		0.00546	1.03	12/09/2019 18:54	WG1393507
Chlorobenzene	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
Chlorodibromomethane	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
Chloroethane	ND		0.00546	1.03	12/09/2019 18:54	WG1393507
Chloroform	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
Chloromethane	ND		0.0137	1.03	12/09/2019 18:54	WG1393507
2-Chlorotoluene	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
4-Chlorotoluene	ND		0.00546	1.03	12/09/2019 18:54	WG1393507
1,2-Dibromo-3-Chloropropane	ND		0.0273	1.03	12/09/2019 18:54	WG1393507
1,2-Dibromoethane	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
Dibromomethane	ND		0.00546	1.03	12/09/2019 18:54	WG1393507
1,2-Dichlorobenzene	ND		0.00546	1.03	12/09/2019 18:54	WG1393507
1,3-Dichlorobenzene	ND		0.00546	1.03	12/09/2019 18:54	WG1393507
1,4-Dichlorobenzene	ND		0.00546	1.03	12/09/2019 18:54	WG1393507
Dichlorodifluoromethane	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
1,1-Dichloroethane	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
1,2-Dichloroethane	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
1,1-Dichloroethene	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
cis-1,2-Dichloroethene	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
trans-1,2-Dichloroethene	ND		0.00546	1.03	12/09/2019 18:54	WG1393507
1,2-Dichloropropane	ND		0.00546	1.03	12/09/2019 18:54	WG1393507
1,1-Dichloropropene	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
1,3-Dichloropropane	ND		0.00546	1.03	12/09/2019 18:54	WG1393507
cis-1,3-Dichloropropene	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
trans-1,3-Dichloropropene	ND		0.00546	1.03	12/09/2019 18:54	WG1393507
2,2-Dichloropropane	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
Di-isopropyl ether	ND	J4	0.00109	1.03	12/09/2019 18:54	WG1393507
Ethylbenzene	0.00414		0.00273	1.03	12/09/2019 18:54	WG1393507

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0273	1.03	12/09/2019 18:54	WG1393507
Isopropylbenzene	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
p-Isopropyltoluene	ND		0.00546	1.03	12/09/2019 18:54	WG1393507
2-Butanone (MEK)	ND	J4	0.0273	1.03	12/09/2019 18:54	WG1393507
Methylene Chloride	ND		0.0273	1.03	12/09/2019 18:54	WG1393507
4-Methyl-2-pentanone (MIBK)	ND		0.0273	1.03	12/09/2019 18:54	WG1393507
Methyl tert-butyl ether	ND		0.00109	1.03	12/09/2019 18:54	WG1393507
Naphthalene	0.0237		0.0137	1.03	12/09/2019 18:54	WG1393507
n-Propylbenzene	ND		0.00546	1.03	12/09/2019 18:54	WG1393507
Styrene	ND		0.0137	1.03	12/09/2019 18:54	WG1393507
1,1,1,2-Tetrachloroethane	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
1,1,2,2-Tetrachloroethane	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
1,1,2-Trichlorotrifluoroethane	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
Tetrachloroethene	ND	J0	0.00273	1.03	12/09/2019 18:54	WG1393507
Toluene	ND		0.00546	1.03	12/09/2019 18:54	WG1393507
1,2,3-Trichlorobenzene	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
1,2,4-Trichlorobenzene	ND		0.0137	1.03	12/09/2019 18:54	WG1393507
1,1,1-Trichloroethane	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
1,1,2-Trichloroethane	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
Trichloroethene	ND		0.00109	1.03	12/09/2019 18:54	WG1393507
Trichlorofluoromethane	ND		0.00273	1.03	12/09/2019 18:54	WG1393507
1,2,3-Trichloropropane	ND		0.0137	1.03	12/09/2019 18:54	WG1393507
1,2,4-Trimethylbenzene	0.0216		0.00546	1.03	12/09/2019 18:54	WG1393507
1,2,3-Trimethylbenzene	0.00827		0.00546	1.03	12/09/2019 18:54	WG1393507
1,3,5-Trimethylbenzene	ND		0.00546	1.03	12/09/2019 18:54	WG1393507
Vinyl chloride	ND	J0	0.00273	1.03	12/09/2019 18:54	WG1393507
Xylenes, Total	0.00750		0.00710	1.03	12/09/2019 18:54	WG1393507
(S) Toluene-d8	*92.6*		*75.0-131*		*12/09/2019 18:54*	WG1393507
(S) 4-Bromofluorobenzene	*96.3*		*67.0-138*		*12/09/2019 18:54*	WG1393507
(S) 1,2-Dichloroethane-d4	*107*		*70.0-130*		*12/09/2019 18:54*	WG1393507

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.24	1	12/10/2019 19:03	WG1393750
Residual Range Organics (RRO)	ND		10.6	1	12/10/2019 19:03	WG1393750
(S) o-Terphenyl	*67.3*		*18.0-148*		*12/10/2019 19:03*	WG1393750

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.8		1	12/09/2019 10:45	WG1392818

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.64		0.545	5	12/09/2019 00:04	WG1392803

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	5.25	B	2.72	25	12/12/2019 01:00	WG1394846
(S) a,a,a-Trifluorotoluene(FID)	*106*		*77.0-120*		*12/12/2019 01:00*	WG1394846

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0314	1.15	12/10/2019 16:44	WG1393923
Acrylonitrile	ND		0.0157	1.15	12/10/2019 16:44	WG1393923
Benzene	0.0334		0.00125	1.15	12/10/2019 16:44	WG1393923
Bromobenzene	ND		0.0157	1.15	12/10/2019 16:44	WG1393923
Bromodichloromethane	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
Bromoform	ND		0.0314	1.15	12/10/2019 16:44	WG1393923
Bromomethane	ND		0.0157	1.15	12/10/2019 16:44	WG1393923
n-Butylbenzene	ND		0.0157	1.15	12/10/2019 16:44	WG1393923
sec-Butylbenzene	ND		0.0157	1.15	12/10/2019 16:44	WG1393923
tert-Butylbenzene	ND		0.00626	1.15	12/10/2019 16:44	WG1393923
Carbon tetrachloride	ND		0.00626	1.15	12/10/2019 16:44	WG1393923
Chlorobenzene	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
Chlorodibromomethane	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
Chloroethane	ND		0.00626	1.15	12/10/2019 16:44	WG1393923
Chloroform	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
Chloromethane	ND		0.0157	1.15	12/10/2019 16:44	WG1393923
2-Chlorotoluene	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
4-Chlorotoluene	ND		0.00626	1.15	12/10/2019 16:44	WG1393923
1,2-Dibromo-3-Chloropropane	ND		0.0314	1.15	12/10/2019 16:44	WG1393923
1,2-Dibromoethane	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
Dibromomethane	ND		0.00626	1.15	12/10/2019 16:44	WG1393923
1,2-Dichlorobenzene	ND		0.00626	1.15	12/10/2019 16:44	WG1393923
1,3-Dichlorobenzene	ND		0.00626	1.15	12/10/2019 16:44	WG1393923
1,4-Dichlorobenzene	ND		0.00626	1.15	12/10/2019 16:44	WG1393923
Dichlorodifluoromethane	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
1,1-Dichloroethane	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
1,2-Dichloroethane	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
1,1-Dichloroethene	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
cis-1,2-Dichloroethene	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
trans-1,2-Dichloroethene	ND		0.00626	1.15	12/10/2019 16:44	WG1393923
1,2-Dichloropropane	ND		0.00626	1.15	12/10/2019 16:44	WG1393923
1,1-Dichloropropene	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
1,3-Dichloropropane	ND		0.00626	1.15	12/10/2019 16:44	WG1393923
cis-1,3-Dichloropropene	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
trans-1,3-Dichloropropene	ND		0.00626	1.15	12/10/2019 16:44	WG1393923
2,2-Dichloropropane	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
Di-isopropyl ether	ND		0.00125	1.15	12/10/2019 16:44	WG1393923
Ethylbenzene	0.0290		0.00314	1.15	12/10/2019 16:44	WG1393923

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0314	1.15	12/10/2019 16:44	WG1393923
Isopropylbenzene	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
p-Isopropyltoluene	ND		0.00626	1.15	12/10/2019 16:44	WG1393923
2-Butanone (MEK)	ND		0.0314	1.15	12/10/2019 16:44	WG1393923
Methylene Chloride	ND		0.0314	1.15	12/10/2019 16:44	WG1393923
4-Methyl-2-pentanone (MIBK)	ND		0.0314	1.15	12/10/2019 16:44	WG1393923
Methyl tert-butyl ether	ND		0.00125	1.15	12/10/2019 16:44	WG1393923
Naphthalene	ND		0.0157	1.15	12/10/2019 16:44	WG1393923
n-Propylbenzene	ND		0.00626	1.15	12/10/2019 16:44	WG1393923
Styrene	ND		0.0157	1.15	12/10/2019 16:44	WG1393923
1,1,1,2-Tetrachloroethane	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
1,1,2,2-Tetrachloroethane	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
1,1,2-Trichlorotrifluoroethane	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
Tetrachloroethene	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
Toluene	0.0131	B	0.00626	1.15	12/10/2019 16:44	WG1393923
1,2,3-Trichlorobenzene	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
1,2,4-Trichlorobenzene	ND		0.0157	1.15	12/10/2019 16:44	WG1393923
1,1,1-Trichloroethane	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
1,1,2-Trichloroethane	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
Trichloroethene	ND		0.00125	1.15	12/10/2019 16:44	WG1393923
Trichlorofluoromethane	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
1,2,3-Trichloropropane	ND		0.0157	1.15	12/10/2019 16:44	WG1393923
1,2,4-Trimethylbenzene	ND		0.00626	1.15	12/10/2019 16:44	WG1393923
1,2,3-Trimethylbenzene	ND		0.00626	1.15	12/10/2019 16:44	WG1393923
1,3,5-Trimethylbenzene	ND		0.00626	1.15	12/10/2019 16:44	WG1393923
Vinyl chloride	ND		0.00314	1.15	12/10/2019 16:44	WG1393923
Xylenes, Total	0.0316		0.00815	1.15	12/10/2019 16:44	WG1393923
(S) Toluene-d8	*118*		*75.0-131*		*12/10/2019 16:44*	WG1393923
(S) 4-Bromofluorobenzene	*104*		*67.0-138*		*12/10/2019 16:44*	WG1393923
(S) 1,2-Dichloroethane-d4	*83.6*		*70.0-130*		*12/10/2019 16:44*	WG1393923

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.36	1	12/10/2019 18:37	WG1393750
Residual Range Organics (RRO)	ND		10.9	1	12/10/2019 18:37	WG1393750
(S) o-Terphenyl	*85.6*		*18.0-148*		*12/10/2019 18:37*	WG1393750

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.3		1	12/12/2019 08:05	WG1395160

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.72		0.548	5	12/12/2019 17:43	WG1395202

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	ND		3.43	31.3	12/12/2019 10:45	WG1394953
(S) a,a,a-Trifluorotoluene(FID)	*92.7*		*77.0-120*		*12/12/2019 10:45*	WG1394953

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0290	1.06	12/12/2019 11:03	WG1395299
Acrylonitrile	ND		0.0146	1.06	12/12/2019 11:03	WG1395299
Benzene	ND		0.00116	1.06	12/12/2019 11:03	WG1395299
Bromobenzene	ND		0.0146	1.06	12/12/2019 11:03	WG1395299
Bromodichloromethane	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
Bromoform	ND		0.0290	1.06	12/12/2019 11:03	WG1395299
Bromomethane	ND	J0	0.0146	1.06	12/12/2019 11:03	WG1395299
n-Butylbenzene	ND		0.0146	1.06	12/12/2019 11:03	WG1395299
sec-Butylbenzene	ND		0.0146	1.06	12/12/2019 11:03	WG1395299
tert-Butylbenzene	ND		0.00581	1.06	12/12/2019 11:03	WG1395299
Carbon tetrachloride	ND		0.00581	1.06	12/12/2019 11:03	WG1395299
Chlorobenzene	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
Chlorodibromomethane	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
Chloroethane	ND	J0	0.00581	1.06	12/12/2019 11:03	WG1395299
Chloroform	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
Chloromethane	ND		0.0146	1.06	12/12/2019 11:03	WG1395299
2-Chlorotoluene	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
4-Chlorotoluene	ND		0.00581	1.06	12/12/2019 11:03	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0290	1.06	12/12/2019 11:03	WG1395299
1,2-Dibromoethane	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
Dibromomethane	ND		0.00581	1.06	12/12/2019 11:03	WG1395299
1,2-Dichlorobenzene	ND		0.00581	1.06	12/12/2019 11:03	WG1395299
1,3-Dichlorobenzene	ND		0.00581	1.06	12/12/2019 11:03	WG1395299
1,4-Dichlorobenzene	ND		0.00581	1.06	12/12/2019 11:03	WG1395299
Dichlorodifluoromethane	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
1,1-Dichloroethane	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
1,2-Dichloroethane	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
1,1-Dichloroethene	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
cis-1,2-Dichloroethene	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
trans-1,2-Dichloroethene	ND		0.00581	1.06	12/12/2019 11:03	WG1395299
1,2-Dichloropropane	ND		0.00581	1.06	12/12/2019 11:03	WG1395299
1,1-Dichloropropene	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
1,3-Dichloropropane	ND		0.00581	1.06	12/12/2019 11:03	WG1395299
cis-1,3-Dichloropropene	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
trans-1,3-Dichloropropene	ND		0.00581	1.06	12/12/2019 11:03	WG1395299
2,2-Dichloropropane	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
Di-isopropyl ether	ND		0.00116	1.06	12/12/2019 11:03	WG1395299
Ethylbenzene	0.00358		0.00290	1.06	12/12/2019 11:03	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0290	1.06	12/12/2019 11:03	WG1395299
Isopropylbenzene	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
p-Isopropyltoluene	ND		0.00581	1.06	12/12/2019 11:03	WG1395299
2-Butanone (MEK)	ND		0.0290	1.06	12/12/2019 11:03	WG1395299
Methylene Chloride	ND		0.0290	1.06	12/12/2019 11:03	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0290	1.06	12/12/2019 11:03	WG1395299
Methyl tert-butyl ether	0.00201		0.00116	1.06	12/12/2019 11:03	WG1395299
Naphthalene	ND		0.0146	1.06	12/12/2019 11:03	WG1395299
n-Propylbenzene	0.00928		0.00581	1.06	12/12/2019 11:03	WG1395299
Styrene	ND		0.0146	1.06	12/12/2019 11:03	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
Tetrachloroethene	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
Toluene	0.00946		0.00581	1.06	12/12/2019 11:03	WG1395299
1,2,3-Trichlorobenzene	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
1,2,4-Trichlorobenzene	ND		0.0146	1.06	12/12/2019 11:03	WG1395299
1,1,1-Trichloroethane	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
1,1,2-Trichloroethane	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
Trichloroethene	ND		0.00116	1.06	12/12/2019 11:03	WG1395299
Trichlorofluoromethane	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
1,2,3-Trichloropropane	ND		0.0146	1.06	12/12/2019 11:03	WG1395299
1,2,4-Trimethylbenzene	ND		0.00581	1.06	12/12/2019 11:03	WG1395299
1,2,3-Trimethylbenzene	ND		0.00581	1.06	12/12/2019 11:03	WG1395299
1,3,5-Trimethylbenzene	ND		0.00581	1.06	12/12/2019 11:03	WG1395299
Vinyl chloride	ND		0.00290	1.06	12/12/2019 11:03	WG1395299
Xylenes, Total	ND		0.00755	1.06	12/12/2019 11:03	WG1395299
(S) Toluene-d8	*109*		*75.0-131*		*12/12/2019 11:03*	WG1395299
(S) 4-Bromofluorobenzene	*106*		*67.0-138*		*12/12/2019 11:03*	WG1395299
(S) 1,2-Dichloroethane-d4	*97.0*		*70.0-130*		*12/12/2019 11:03*	WG1395299

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND	J3 J6	4.38	1	12/12/2019 16:52	WG1395066
Residual Range Organics (RRO)	ND		11.0	1	12/12/2019 16:52	WG1395066
(S) o-Terphenyl	*57.5*		*18.0-148*		*12/12/2019 16:52*	WG1395066

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.7		1	12/12/2019 08:05	WG1395160

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.78		0.545	5	12/12/2019 17:47	WG1395202

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	27.4		2.76	25.3	12/12/2019 11:06	WG1394953
(S) a,a,a-Trifluorotoluene(FID)	*99.5*		*77.0-120*		*12/12/2019 11:06*	WG1394953

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0336	1.23	12/12/2019 11:23	WG1395299
Acrylonitrile	ND		0.0168	1.23	12/12/2019 11:23	WG1395299
Benzene	0.0428		0.00134	1.23	12/12/2019 11:23	WG1395299
Bromobenzene	ND		0.0168	1.23	12/12/2019 11:23	WG1395299
Bromodichloromethane	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
Bromoform	ND		0.0336	1.23	12/12/2019 11:23	WG1395299
Bromomethane	ND	J0	0.0168	1.23	12/12/2019 11:23	WG1395299
n-Butylbenzene	0.0322		0.0168	1.23	12/12/2019 11:23	WG1395299
sec-Butylbenzene	ND		0.0168	1.23	12/12/2019 11:23	WG1395299
tert-Butylbenzene	ND		0.00671	1.23	12/12/2019 11:23	WG1395299
Carbon tetrachloride	ND		0.00671	1.23	12/12/2019 11:23	WG1395299
Chlorobenzene	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
Chlorodibromomethane	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
Chloroethane	ND	J0	0.00671	1.23	12/12/2019 11:23	WG1395299
Chloroform	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
Chloromethane	ND		0.0168	1.23	12/12/2019 11:23	WG1395299
2-Chlorotoluene	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
4-Chlorotoluene	ND		0.00671	1.23	12/12/2019 11:23	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0336	1.23	12/12/2019 11:23	WG1395299
1,2-Dibromoethane	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
Dibromomethane	ND		0.00671	1.23	12/12/2019 11:23	WG1395299
1,2-Dichlorobenzene	ND		0.00671	1.23	12/12/2019 11:23	WG1395299
1,3-Dichlorobenzene	ND		0.00671	1.23	12/12/2019 11:23	WG1395299
1,4-Dichlorobenzene	ND		0.00671	1.23	12/12/2019 11:23	WG1395299
Dichlorodifluoromethane	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
1,1-Dichloroethane	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
1,2-Dichloroethane	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
1,1-Dichloroethene	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
cis-1,2-Dichloroethene	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
trans-1,2-Dichloroethene	ND		0.00671	1.23	12/12/2019 11:23	WG1395299
1,2-Dichloropropane	ND		0.00671	1.23	12/12/2019 11:23	WG1395299
1,1-Dichloropropene	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
1,3-Dichloropropane	ND		0.00671	1.23	12/12/2019 11:23	WG1395299
cis-1,3-Dichloropropene	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
trans-1,3-Dichloropropene	ND		0.00671	1.23	12/12/2019 11:23	WG1395299
2,2-Dichloropropane	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
Di-isopropyl ether	ND		0.00134	1.23	12/12/2019 11:23	WG1395299
Ethylbenzene	0.254		0.00336	1.23	12/12/2019 11:23	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0336	1.23	12/12/2019 11:23	WG1395299
Isopropylbenzene	0.0201		0.00336	1.23	12/12/2019 11:23	WG1395299
p-Isopropyltoluene	ND		0.00671	1.23	12/12/2019 11:23	WG1395299
2-Butanone (MEK)	ND		0.0336	1.23	12/12/2019 11:23	WG1395299
Methylene Chloride	ND		0.0336	1.23	12/12/2019 11:23	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0336	1.23	12/12/2019 11:23	WG1395299
Methyl tert-butyl ether	ND		0.00134	1.23	12/12/2019 11:23	WG1395299
Naphthalene	0.539		0.0168	1.23	12/12/2019 11:23	WG1395299
n-Propylbenzene	0.0923		0.00671	1.23	12/12/2019 11:23	WG1395299
Styrene	ND		0.0168	1.23	12/12/2019 11:23	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
Tetrachloroethene	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
Toluene	0.00836		0.00671	1.23	12/12/2019 11:23	WG1395299
1,2,3-Trichlorobenzene	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
1,2,4-Trichlorobenzene	ND		0.0168	1.23	12/12/2019 11:23	WG1395299
1,1,1-Trichloroethane	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
1,1,2-Trichloroethane	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
Trichloroethene	ND		0.00134	1.23	12/12/2019 11:23	WG1395299
Trichlorofluoromethane	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
1,2,3-Trichloropropane	ND		0.0168	1.23	12/12/2019 11:23	WG1395299
1,2,4-Trimethylbenzene	0.830		0.00671	1.23	12/12/2019 11:23	WG1395299
1,2,3-Trimethylbenzene	0.263		0.00671	1.23	12/12/2019 11:23	WG1395299
1,3,5-Trimethylbenzene	0.219		0.00671	1.23	12/12/2019 11:23	WG1395299
Vinyl chloride	ND		0.00336	1.23	12/12/2019 11:23	WG1395299
Xylenes, Total	0.615		0.00872	1.23	12/12/2019 11:23	WG1395299
(S) Toluene-d8	*108*		*75.0-131*		*12/12/2019 11:23*	WG1395299
(S) 4-Bromofluorobenzene	*104*		*67.0-138*		*12/12/2019 11:23*	WG1395299
(S) 1,2-Dichloroethane-d4	*99.7*		*70.0-130*		*12/12/2019 11:23*	WG1395299

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	4.71		4.36	1	12/12/2019 18:32	WG1395066
Residual Range Organics (RRO)	ND		10.9	1	12/12/2019 18:32	WG1395066
(S) o-Terphenyl	*59.9*		*18.0-148*		*12/12/2019 18:32*	WG1395066

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.0		1	12/12/2019 08:05	WG1395160

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.40		0.521	5	12/12/2019 17:58	WG1395202

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	3.57		2.76	26.5	12/12/2019 11:26	WG1394953
(S) a,a,a-Trifluorotoluene(FID)	*97.9*		*77.0-120*		*12/12/2019 11:26*	WG1394953

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0289	1.11	12/12/2019 11:42	WG1395299
Acrylonitrile	ND		0.0145	1.11	12/12/2019 11:42	WG1395299
Benzene	0.00300		0.00116	1.11	12/12/2019 11:42	WG1395299
Bromobenzene	ND		0.0145	1.11	12/12/2019 11:42	WG1395299
Bromodichloromethane	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
Bromoform	ND		0.0289	1.11	12/12/2019 11:42	WG1395299
Bromomethane	ND	J0	0.0145	1.11	12/12/2019 11:42	WG1395299
n-Butylbenzene	ND		0.0145	1.11	12/12/2019 11:42	WG1395299
sec-Butylbenzene	ND		0.0145	1.11	12/12/2019 11:42	WG1395299
tert-Butylbenzene	ND		0.00578	1.11	12/12/2019 11:42	WG1395299
Carbon tetrachloride	ND		0.00578	1.11	12/12/2019 11:42	WG1395299
Chlorobenzene	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
Chlorodibromomethane	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
Chloroethane	ND	J0	0.00578	1.11	12/12/2019 11:42	WG1395299
Chloroform	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
Chloromethane	ND		0.0145	1.11	12/12/2019 11:42	WG1395299
2-Chlorotoluene	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
4-Chlorotoluene	ND		0.00578	1.11	12/12/2019 11:42	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0289	1.11	12/12/2019 11:42	WG1395299
1,2-Dibromoethane	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
Dibromomethane	ND		0.00578	1.11	12/12/2019 11:42	WG1395299
1,2-Dichlorobenzene	ND		0.00578	1.11	12/12/2019 11:42	WG1395299
1,3-Dichlorobenzene	ND		0.00578	1.11	12/12/2019 11:42	WG1395299
1,4-Dichlorobenzene	ND		0.00578	1.11	12/12/2019 11:42	WG1395299
Dichlorodifluoromethane	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
1,1-Dichloroethane	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
1,2-Dichloroethane	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
1,1-Dichloroethene	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
cis-1,2-Dichloroethene	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
trans-1,2-Dichloroethene	ND		0.00578	1.11	12/12/2019 11:42	WG1395299
1,2-Dichloropropane	ND		0.00578	1.11	12/12/2019 11:42	WG1395299
1,1-Dichloropropene	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
1,3-Dichloropropane	ND		0.00578	1.11	12/12/2019 11:42	WG1395299
cis-1,3-Dichloropropene	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
trans-1,3-Dichloropropene	ND		0.00578	1.11	12/12/2019 11:42	WG1395299
2,2-Dichloropropane	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
Di-isopropyl ether	ND		0.00116	1.11	12/12/2019 11:42	WG1395299
Ethylbenzene	0.0380		0.00289	1.11	12/12/2019 11:42	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0289	1.11	12/12/2019 11:42	WG1395299
Isopropylbenzene	0.00376		0.00289	1.11	12/12/2019 11:42	WG1395299
p-Isopropyltoluene	ND		0.00578	1.11	12/12/2019 11:42	WG1395299
2-Butanone (MEK)	ND		0.0289	1.11	12/12/2019 11:42	WG1395299
Methylene Chloride	ND		0.0289	1.11	12/12/2019 11:42	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0289	1.11	12/12/2019 11:42	WG1395299
Methyl tert-butyl ether	ND		0.00116	1.11	12/12/2019 11:42	WG1395299
Naphthalene	0.270		0.0145	1.11	12/12/2019 11:42	WG1395299
n-Propylbenzene	0.0183		0.00578	1.11	12/12/2019 11:42	WG1395299
Styrene	ND		0.0145	1.11	12/12/2019 11:42	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
Tetrachloroethene	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
Toluene	0.0102		0.00578	1.11	12/12/2019 11:42	WG1395299
1,2,3-Trichlorobenzene	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
1,2,4-Trichlorobenzene	ND		0.0145	1.11	12/12/2019 11:42	WG1395299
1,1,1-Trichloroethane	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
1,1,2-Trichloroethane	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
Trichloroethene	ND		0.00116	1.11	12/12/2019 11:42	WG1395299
Trichlorofluoromethane	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
1,2,3-Trichloropropane	ND		0.0145	1.11	12/12/2019 11:42	WG1395299
1,2,4-Trimethylbenzene	0.162		0.00578	1.11	12/12/2019 11:42	WG1395299
1,2,3-Trimethylbenzene	0.0538		0.00578	1.11	12/12/2019 11:42	WG1395299
1,3,5-Trimethylbenzene	0.0408		0.00578	1.11	12/12/2019 11:42	WG1395299
Vinyl chloride	ND		0.00289	1.11	12/12/2019 11:42	WG1395299
Xylenes, Total	0.0996		0.00752	1.11	12/12/2019 11:42	WG1395299
(S) Toluene-d8	*108*		*75.0-131*		*12/12/2019 11:42*	WG1395299
(S) 4-Bromofluorobenzene	*105*		*67.0-138*		*12/12/2019 11:42*	WG1395299
(S) 1,2-Dichloroethane-d4	*98.2*		*70.0-130*		*12/12/2019 11:42*	WG1395299

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.17	1	12/12/2019 17:36	WG1395066
Residual Range Organics (RRO)	ND		10.4	1	12/12/2019 17:36	WG1395066
(S) o-Terphenyl	*67.9*		*18.0-148*		*12/12/2019 17:36*	WG1395066

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.3		1	12/12/2019 08:05	WG1395160

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.07		0.547	5	12/12/2019 18:01	WG1395202

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	ND		2.93	26.8	12/12/2019 11:47	WG1394953
(S) a,a,a-Trifluorotoluene(FID)	*97.5*		*77.0-120*		*12/12/2019 11:47*	WG1394953

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0288	1.05	12/12/2019 12:03	WG1395299
Acrylonitrile	ND		0.0143	1.05	12/12/2019 12:03	WG1395299
Benzene	0.0158		0.00115	1.05	12/12/2019 12:03	WG1395299
Bromobenzene	ND		0.0143	1.05	12/12/2019 12:03	WG1395299
Bromodichloromethane	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
Bromoform	ND		0.0288	1.05	12/12/2019 12:03	WG1395299
Bromomethane	ND	J0	0.0143	1.05	12/12/2019 12:03	WG1395299
n-Butylbenzene	ND		0.0143	1.05	12/12/2019 12:03	WG1395299
sec-Butylbenzene	ND		0.0143	1.05	12/12/2019 12:03	WG1395299
tert-Butylbenzene	ND		0.00575	1.05	12/12/2019 12:03	WG1395299
Carbon tetrachloride	ND		0.00575	1.05	12/12/2019 12:03	WG1395299
Chlorobenzene	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
Chlorodibromomethane	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
Chloroethane	ND	J0	0.00575	1.05	12/12/2019 12:03	WG1395299
Chloroform	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
Chloromethane	ND		0.0143	1.05	12/12/2019 12:03	WG1395299
2-Chlorotoluene	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
4-Chlorotoluene	ND		0.00575	1.05	12/12/2019 12:03	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0288	1.05	12/12/2019 12:03	WG1395299
1,2-Dibromoethane	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
Dibromomethane	ND		0.00575	1.05	12/12/2019 12:03	WG1395299
1,2-Dichlorobenzene	ND		0.00575	1.05	12/12/2019 12:03	WG1395299
1,3-Dichlorobenzene	ND		0.00575	1.05	12/12/2019 12:03	WG1395299
1,4-Dichlorobenzene	ND		0.00575	1.05	12/12/2019 12:03	WG1395299
Dichlorodifluoromethane	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
1,1-Dichloroethane	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
1,2-Dichloroethane	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
1,1-Dichloroethene	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
cis-1,2-Dichloroethene	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
trans-1,2-Dichloroethene	ND		0.00575	1.05	12/12/2019 12:03	WG1395299
1,2-Dichloropropane	ND		0.00575	1.05	12/12/2019 12:03	WG1395299
1,1-Dichloropropene	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
1,3-Dichloropropane	ND		0.00575	1.05	12/12/2019 12:03	WG1395299
cis-1,3-Dichloropropene	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
trans-1,3-Dichloropropene	ND		0.00575	1.05	12/12/2019 12:03	WG1395299
2,2-Dichloropropane	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
Di-isopropyl ether	ND		0.00115	1.05	12/12/2019 12:03	WG1395299
Ethylbenzene	0.00505		0.00288	1.05	12/12/2019 12:03	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0288	1.05	12/12/2019 12:03	WG1395299
Isopropylbenzene	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
p-Isopropyltoluene	ND		0.00575	1.05	12/12/2019 12:03	WG1395299
2-Butanone (MEK)	ND		0.0288	1.05	12/12/2019 12:03	WG1395299
Methylene Chloride	ND		0.0288	1.05	12/12/2019 12:03	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0288	1.05	12/12/2019 12:03	WG1395299
Methyl tert-butyl ether	ND		0.00115	1.05	12/12/2019 12:03	WG1395299
Naphthalene	0.0515		0.0143	1.05	12/12/2019 12:03	WG1395299
n-Propylbenzene	ND		0.00575	1.05	12/12/2019 12:03	WG1395299
Styrene	ND		0.0143	1.05	12/12/2019 12:03	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
Tetrachloroethene	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
Toluene	ND		0.00575	1.05	12/12/2019 12:03	WG1395299
1,2,3-Trichlorobenzene	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
1,2,4-Trichlorobenzene	ND		0.0143	1.05	12/12/2019 12:03	WG1395299
1,1,1-Trichloroethane	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
1,1,2-Trichloroethane	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
Trichloroethene	ND		0.00115	1.05	12/12/2019 12:03	WG1395299
Trichlorofluoromethane	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
1,2,3-Trichloropropane	ND		0.0143	1.05	12/12/2019 12:03	WG1395299
1,2,4-Trimethylbenzene	ND		0.00575	1.05	12/12/2019 12:03	WG1395299
1,2,3-Trimethylbenzene	ND		0.00575	1.05	12/12/2019 12:03	WG1395299
1,3,5-Trimethylbenzene	ND		0.00575	1.05	12/12/2019 12:03	WG1395299
Vinyl chloride	ND		0.00288	1.05	12/12/2019 12:03	WG1395299
Xylenes, Total	0.00863		0.00748	1.05	12/12/2019 12:03	WG1395299
(S) Toluene-d8	*109*		*75.0-131*		*12/12/2019 12:03*	WG1395299
(S) 4-Bromofluorobenzene	*104*		*67.0-138*		*12/12/2019 12:03*	WG1395299
(S) 1,2-Dichloroethane-d4	*100*		*70.0-130*		*12/12/2019 12:03*	WG1395299

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.38	1	12/12/2019 16:26	WG1395066
Residual Range Organics (RRO)	ND		10.9	1	12/12/2019 16:26	WG1395066
(S) o-Terphenyl	*66.7*		*18.0-148*		*12/12/2019 16:26*	WG1395066

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.1		1	12/12/2019 08:05	WG1395160

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.12		0.520	5	12/12/2019 18:04	WG1395202

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	ND		2.60	25	12/12/2019 12:07	WG1394953
(S) a,a,a-Trifluorotoluene(FID)	*94.0*		*77.0-120*		*12/12/2019 12:07*	WG1394953

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0260	1	12/12/2019 12:23	WG1395299
Acrylonitrile	ND		0.0130	1	12/12/2019 12:23	WG1395299
Benzene	0.0248		0.00104	1	12/12/2019 12:23	WG1395299
Bromobenzene	ND		0.0130	1	12/12/2019 12:23	WG1395299
Bromodichloromethane	ND		0.00260	1	12/12/2019 12:23	WG1395299
Bromoform	ND		0.0260	1	12/12/2019 12:23	WG1395299
Bromomethane	ND	J0	0.0130	1	12/12/2019 12:23	WG1395299
n-Butylbenzene	ND		0.0130	1	12/12/2019 12:23	WG1395299
sec-Butylbenzene	ND		0.0130	1	12/12/2019 12:23	WG1395299
tert-Butylbenzene	ND		0.00520	1	12/12/2019 12:23	WG1395299
Carbon tetrachloride	ND		0.00520	1	12/12/2019 12:23	WG1395299
Chlorobenzene	ND		0.00260	1	12/12/2019 12:23	WG1395299
Chlorodibromomethane	ND		0.00260	1	12/12/2019 12:23	WG1395299
Chloroethane	ND	J0	0.00520	1	12/12/2019 12:23	WG1395299
Chloroform	ND		0.00260	1	12/12/2019 12:23	WG1395299
Chloromethane	ND		0.0130	1	12/12/2019 12:23	WG1395299
2-Chlorotoluene	ND		0.00260	1	12/12/2019 12:23	WG1395299
4-Chlorotoluene	ND		0.00520	1	12/12/2019 12:23	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0260	1	12/12/2019 12:23	WG1395299
1,2-Dibromoethane	ND		0.00260	1	12/12/2019 12:23	WG1395299
Dibromomethane	ND		0.00520	1	12/12/2019 12:23	WG1395299
1,2-Dichlorobenzene	ND		0.00520	1	12/12/2019 12:23	WG1395299
1,3-Dichlorobenzene	ND		0.00520	1	12/12/2019 12:23	WG1395299
1,4-Dichlorobenzene	ND		0.00520	1	12/12/2019 12:23	WG1395299
Dichlorodifluoromethane	ND		0.00260	1	12/12/2019 12:23	WG1395299
1,1-Dichloroethane	ND		0.00260	1	12/12/2019 12:23	WG1395299
1,2-Dichloroethane	ND		0.00260	1	12/12/2019 12:23	WG1395299
1,1-Dichloroethene	ND		0.00260	1	12/12/2019 12:23	WG1395299
cis-1,2-Dichloroethene	ND		0.00260	1	12/12/2019 12:23	WG1395299
trans-1,2-Dichloroethene	ND		0.00520	1	12/12/2019 12:23	WG1395299
1,2-Dichloropropane	ND		0.00520	1	12/12/2019 12:23	WG1395299
1,1-Dichloropropene	ND		0.00260	1	12/12/2019 12:23	WG1395299
1,3-Dichloropropane	ND		0.00520	1	12/12/2019 12:23	WG1395299
cis-1,3-Dichloropropene	ND		0.00260	1	12/12/2019 12:23	WG1395299
trans-1,3-Dichloropropene	ND		0.00520	1	12/12/2019 12:23	WG1395299
2,2-Dichloropropane	ND		0.00260	1	12/12/2019 12:23	WG1395299
Di-isopropyl ether	ND		0.00104	1	12/12/2019 12:23	WG1395299
Ethylbenzene	0.0338		0.00260	1	12/12/2019 12:23	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0260	1	12/12/2019 12:23	WG1395299
Isopropylbenzene	ND		0.00260	1	12/12/2019 12:23	WG1395299
p-Isopropyltoluene	ND		0.00520	1	12/12/2019 12:23	WG1395299
2-Butanone (MEK)	ND	J0	0.0260	1	12/12/2019 12:23	WG1395299
Methylene Chloride	ND		0.0260	1	12/12/2019 12:23	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0260	1	12/12/2019 12:23	WG1395299
Methyl tert-butyl ether	ND		0.00104	1	12/12/2019 12:23	WG1395299
Naphthalene	ND		0.0130	1	12/12/2019 12:23	WG1395299
n-Propylbenzene	0.00545		0.00520	1	12/12/2019 12:23	WG1395299
Styrene	ND		0.0130	1	12/12/2019 12:23	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00260	1	12/12/2019 12:23	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00260	1	12/12/2019 12:23	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00260	1	12/12/2019 12:23	WG1395299
Tetrachloroethene	ND		0.00260	1	12/12/2019 12:23	WG1395299
Toluene	ND		0.00520	1	12/12/2019 12:23	WG1395299
1,2,3-Trichlorobenzene	ND		0.00260	1	12/12/2019 12:23	WG1395299
1,2,4-Trichlorobenzene	ND		0.0130	1	12/12/2019 12:23	WG1395299
1,1,1-Trichloroethane	ND		0.00260	1	12/12/2019 12:23	WG1395299
1,1,2-Trichloroethane	ND		0.00260	1	12/12/2019 12:23	WG1395299
Trichloroethene	ND		0.00104	1	12/12/2019 12:23	WG1395299
Trichlorofluoromethane	ND		0.00260	1	12/12/2019 12:23	WG1395299
1,2,3-Trichloropropane	ND		0.0130	1	12/12/2019 12:23	WG1395299
1,2,4-Trimethylbenzene	0.0247		0.00520	1	12/12/2019 12:23	WG1395299
1,2,3-Trimethylbenzene	0.00700		0.00520	1	12/12/2019 12:23	WG1395299
1,3,5-Trimethylbenzene	0.00650		0.00520	1	12/12/2019 12:23	WG1395299
Vinyl chloride	ND		0.00260	1	12/12/2019 12:23	WG1395299
Xylenes, Total	0.0833		0.00676	1	12/12/2019 12:23	WG1395299
(S) Toluene-d8	*108*		*75.0-131*		*12/12/2019 12:23*	WG1395299
(S) 4-Bromofluorobenzene	*102*		*67.0-138*		*12/12/2019 12:23*	WG1395299
(S) 1,2-Dichloroethane-d4	*95.1*		*70.0-130*		*12/12/2019 12:23*	WG1395299

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.16	1	12/12/2019 16:39	WG1395066
Residual Range Organics (RRO)	ND		10.4	1	12/12/2019 16:39	WG1395066
(S) o-Terphenyl	*72.6*		*18.0-148*		*12/12/2019 16:39*	WG1395066

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.1		1	12/12/2019 08:05	WG1395160

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.32		0.532	5	12/12/2019 18:08	WG1395202

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	ND		2.71	25.5	12/12/2019 12:34	WG1394953
(S) a,a,a-Trifluorotoluene(FID)	*97.6*		*77.0-120*		*12/12/2019 12:34*	WG1394953

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0271	1.02	12/12/2019 12:43	WG1395299
Acrylonitrile	ND		0.0136	1.02	12/12/2019 12:43	WG1395299
Benzene	0.0138		0.00108	1.02	12/12/2019 12:43	WG1395299
Bromobenzene	ND		0.0136	1.02	12/12/2019 12:43	WG1395299
Bromodichloromethane	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
Bromoform	ND		0.0271	1.02	12/12/2019 12:43	WG1395299
Bromomethane	ND	J0	0.0136	1.02	12/12/2019 12:43	WG1395299
n-Butylbenzene	ND		0.0136	1.02	12/12/2019 12:43	WG1395299
sec-Butylbenzene	ND		0.0136	1.02	12/12/2019 12:43	WG1395299
tert-Butylbenzene	ND		0.00542	1.02	12/12/2019 12:43	WG1395299
Carbon tetrachloride	ND		0.00542	1.02	12/12/2019 12:43	WG1395299
Chlorobenzene	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
Chlorodibromomethane	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
Chloroethane	ND	J0	0.00542	1.02	12/12/2019 12:43	WG1395299
Chloroform	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
Chloromethane	ND		0.0136	1.02	12/12/2019 12:43	WG1395299
2-Chlorotoluene	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
4-Chlorotoluene	ND		0.00542	1.02	12/12/2019 12:43	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0271	1.02	12/12/2019 12:43	WG1395299
1,2-Dibromoethane	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
Dibromomethane	ND		0.00542	1.02	12/12/2019 12:43	WG1395299
1,2-Dichlorobenzene	ND		0.00542	1.02	12/12/2019 12:43	WG1395299
1,3-Dichlorobenzene	ND		0.00542	1.02	12/12/2019 12:43	WG1395299
1,4-Dichlorobenzene	ND		0.00542	1.02	12/12/2019 12:43	WG1395299
Dichlorodifluoromethane	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
1,1-Dichloroethane	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
1,2-Dichloroethane	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
1,1-Dichloroethene	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
cis-1,2-Dichloroethene	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
trans-1,2-Dichloroethene	ND		0.00542	1.02	12/12/2019 12:43	WG1395299
1,2-Dichloropropane	ND		0.00542	1.02	12/12/2019 12:43	WG1395299
1,1-Dichloropropene	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
1,3-Dichloropropane	ND		0.00542	1.02	12/12/2019 12:43	WG1395299
cis-1,3-Dichloropropene	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
trans-1,3-Dichloropropene	ND		0.00542	1.02	12/12/2019 12:43	WG1395299
2,2-Dichloropropane	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
Di-isopropyl ether	ND		0.00108	1.02	12/12/2019 12:43	WG1395299
Ethylbenzene	0.0236		0.00271	1.02	12/12/2019 12:43	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0271	1.02	12/12/2019 12:43	WG1395299
Isopropylbenzene	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
p-Isopropyltoluene	ND		0.00542	1.02	12/12/2019 12:43	WG1395299
2-Butanone (MEK)	ND		0.0271	1.02	12/12/2019 12:43	WG1395299
Methylene Chloride	ND		0.0271	1.02	12/12/2019 12:43	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0271	1.02	12/12/2019 12:43	WG1395299
Methyl tert-butyl ether	ND		0.00108	1.02	12/12/2019 12:43	WG1395299
Naphthalene	0.0368		0.0136	1.02	12/12/2019 12:43	WG1395299
n-Propylbenzene	0.0104		0.00542	1.02	12/12/2019 12:43	WG1395299
Styrene	ND		0.0136	1.02	12/12/2019 12:43	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
Tetrachloroethene	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
Toluene	ND		0.00542	1.02	12/12/2019 12:43	WG1395299
1,2,3-Trichlorobenzene	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
1,2,4-Trichlorobenzene	ND		0.0136	1.02	12/12/2019 12:43	WG1395299
1,1,1-Trichloroethane	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
1,1,2-Trichloroethane	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
Trichloroethene	ND		0.00108	1.02	12/12/2019 12:43	WG1395299
Trichlorofluoromethane	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
1,2,3-Trichloropropane	ND		0.0136	1.02	12/12/2019 12:43	WG1395299
1,2,4-Trimethylbenzene	0.0795		0.00542	1.02	12/12/2019 12:43	WG1395299
1,2,3-Trimethylbenzene	0.0239		0.00542	1.02	12/12/2019 12:43	WG1395299
1,3,5-Trimethylbenzene	0.0201		0.00542	1.02	12/12/2019 12:43	WG1395299
Vinyl chloride	ND		0.00271	1.02	12/12/2019 12:43	WG1395299
Xylenes, Total	0.111		0.00705	1.02	12/12/2019 12:43	WG1395299
(S) Toluene-d8	*109*		*75.0-131*		*12/12/2019 12:43*	WG1395299
(S) 4-Bromofluorobenzene	*104*		*67.0-138*		*12/12/2019 12:43*	WG1395299
(S) 1,2-Dichloroethane-d4	*97.2*		*70.0-130*		*12/12/2019 12:43*	WG1395299

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.25	1	12/12/2019 17:56	WG1395066
Residual Range Organics (RRO)	ND		10.6	1	12/12/2019 17:56	WG1395066
(S) o-Terphenyl	*66.0*		*18.0-148*		*12/12/2019 17:56*	WG1395066

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	80.3		1	12/12/2019 18:21	WG1395163

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	3.48		0.622	5	12/12/2019 18:11	WG1395202

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	ND		3.65	29.3	12/12/2019 13:51	WG1394953
(S) a,a,a-Trifluorotoluene(FID)	*97.7*		*77.0-120*		*12/12/2019 13:51*	WG1394953

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0311	1	12/12/2019 13:03	WG1395299
Acrylonitrile	ND		0.0156	1	12/12/2019 13:03	WG1395299
Benzene	0.0286		0.00124	1	12/12/2019 13:03	WG1395299
Bromobenzene	ND		0.0156	1	12/12/2019 13:03	WG1395299
Bromodichloromethane	ND		0.00311	1	12/12/2019 13:03	WG1395299
Bromoform	ND		0.0311	1	12/12/2019 13:03	WG1395299
Bromomethane	ND	J0	0.0156	1	12/12/2019 13:03	WG1395299
n-Butylbenzene	ND		0.0156	1	12/12/2019 13:03	WG1395299
sec-Butylbenzene	ND		0.0156	1	12/12/2019 13:03	WG1395299
tert-Butylbenzene	ND		0.00622	1	12/12/2019 13:03	WG1395299
Carbon tetrachloride	ND		0.00622	1	12/12/2019 13:03	WG1395299
Chlorobenzene	ND		0.00311	1	12/12/2019 13:03	WG1395299
Chlorodibromomethane	ND		0.00311	1	12/12/2019 13:03	WG1395299
Chloroethane	ND	J0	0.00622	1	12/12/2019 13:03	WG1395299
Chloroform	ND		0.00311	1	12/12/2019 13:03	WG1395299
Chloromethane	ND		0.0156	1	12/12/2019 13:03	WG1395299
2-Chlorotoluene	ND		0.00311	1	12/12/2019 13:03	WG1395299
4-Chlorotoluene	ND		0.00622	1	12/12/2019 13:03	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0311	1	12/12/2019 13:03	WG1395299
1,2-Dibromoethane	ND		0.00311	1	12/12/2019 13:03	WG1395299
Dibromomethane	ND		0.00622	1	12/12/2019 13:03	WG1395299
1,2-Dichlorobenzene	ND		0.00622	1	12/12/2019 13:03	WG1395299
1,3-Dichlorobenzene	ND		0.00622	1	12/12/2019 13:03	WG1395299
1,4-Dichlorobenzene	ND		0.00622	1	12/12/2019 13:03	WG1395299
Dichlorodifluoromethane	ND		0.00311	1	12/12/2019 13:03	WG1395299
1,1-Dichloroethane	ND		0.00311	1	12/12/2019 13:03	WG1395299
1,2-Dichloroethane	ND		0.00311	1	12/12/2019 13:03	WG1395299
1,1-Dichloroethene	ND		0.00311	1	12/12/2019 13:03	WG1395299
cis-1,2-Dichloroethene	ND		0.00311	1	12/12/2019 13:03	WG1395299
trans-1,2-Dichloroethene	ND		0.00622	1	12/12/2019 13:03	WG1395299
1,2-Dichloropropane	ND		0.00622	1	12/12/2019 13:03	WG1395299
1,1-Dichloropropene	ND		0.00311	1	12/12/2019 13:03	WG1395299
1,3-Dichloropropane	ND		0.00622	1	12/12/2019 13:03	WG1395299
cis-1,3-Dichloropropene	ND		0.00311	1	12/12/2019 13:03	WG1395299
trans-1,3-Dichloropropene	ND		0.00622	1	12/12/2019 13:03	WG1395299
2,2-Dichloropropane	ND		0.00311	1	12/12/2019 13:03	WG1395299
Di-isopropyl ether	ND		0.00124	1	12/12/2019 13:03	WG1395299
Ethylbenzene	0.0180		0.00311	1	12/12/2019 13:03	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0311	1	12/12/2019 13:03	WG1395299
Isopropylbenzene	ND		0.00311	1	12/12/2019 13:03	WG1395299
p-Isopropyltoluene	ND		0.00622	1	12/12/2019 13:03	WG1395299
2-Butanone (MEK)	ND		0.0311	1	12/12/2019 13:03	WG1395299
Methylene Chloride	ND		0.0311	1	12/12/2019 13:03	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0311	1	12/12/2019 13:03	WG1395299
Methyl tert-butyl ether	ND		0.00124	1	12/12/2019 13:03	WG1395299
Naphthalene	ND		0.0156	1	12/12/2019 13:03	WG1395299
n-Propylbenzene	ND		0.00622	1	12/12/2019 13:03	WG1395299
Styrene	ND		0.0156	1	12/12/2019 13:03	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00311	1	12/12/2019 13:03	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00311	1	12/12/2019 13:03	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00311	1	12/12/2019 13:03	WG1395299
Tetrachloroethene	ND		0.00311	1	12/12/2019 13:03	WG1395299
Toluene	0.00697		0.00622	1	12/12/2019 13:03	WG1395299
1,2,3-Trichlorobenzene	ND		0.00311	1	12/12/2019 13:03	WG1395299
1,2,4-Trichlorobenzene	ND		0.0156	1	12/12/2019 13:03	WG1395299
1,1,1-Trichloroethane	ND		0.00311	1	12/12/2019 13:03	WG1395299
1,1,2-Trichloroethane	ND		0.00311	1	12/12/2019 13:03	WG1395299
Trichloroethene	ND		0.00124	1	12/12/2019 13:03	WG1395299
Trichlorofluoromethane	ND		0.00311	1	12/12/2019 13:03	WG1395299
1,2,3-Trichloropropane	ND		0.0156	1	12/12/2019 13:03	WG1395299
1,2,4-Trimethylbenzene	ND		0.00622	1	12/12/2019 13:03	WG1395299
1,2,3-Trimethylbenzene	ND		0.00622	1	12/12/2019 13:03	WG1395299
1,3,5-Trimethylbenzene	ND		0.00622	1	12/12/2019 13:03	WG1395299
Vinyl chloride	ND		0.00311	1	12/12/2019 13:03	WG1395299
Xylenes, Total	0.0254		0.00809	1	12/12/2019 13:03	WG1395299
(S) Toluene-d8	*110*		*75.0-131*		*12/12/2019 13:03*	WG1395299
(S) 4-Bromofluorobenzene	*104*		*67.0-138*		*12/12/2019 13:03*	WG1395299
(S) 1,2-Dichloroethane-d4	*98.9*		*70.0-130*		*12/12/2019 13:03*	WG1395299

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.98	1	12/12/2019 18:13	WG1395066
Residual Range Organics (RRO)	ND		12.4	1	12/12/2019 18:13	WG1395066
(S) o-Terphenyl	*42.4*		*18.0-148*		*12/12/2019 18:13*	WG1395066

Method Blank (MB)

(MB) R3480752-1 12/09/19 11:10

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1167913-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1167913-15 12/09/19 11:10 • (DUP) R3480752-3 12/09/19 11:10

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	78.6	78.5	1	0.0619		10

Laboratory Control Sample (LCS)

(LCS) R3480752-2 12/09/19 11:10

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3480748-1 12/09/19 10:55

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00200			

L1168019-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1168019-11 12/09/19 10:55 • (DUP) R3480748-3 12/09/19 10:55

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	90.6	91.1	1	0.552		10

Laboratory Control Sample (LCS)

(LCS) R3480748-2 12/09/19 10:55

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3480743-1 12/09/19 10:45

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1168060-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1168060-07 12/09/19 10:45 • (DUP) R3480743-3 12/09/19 10:45

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	85.7	85.7	1	0.0212		10

Laboratory Control Sample (LCS)

(LCS) R3480743-2 12/09/19 10:45

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3481885-1 12/12/19 08:05

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1168019-25 Original Sample (OS) • Duplicate (DUP)

(OS) L1168019-25 12/12/19 08:05 • (DUP) R3481885-3 12/12/19 08:05

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	96.1	96.1	1	0.0843		10

Laboratory Control Sample (LCS)

(LCS) R3481885-2 12/12/19 08:05

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	49.9	99.8	85.0-115	

Method Blank (MB)

(MB) R3482139-1 12/12/19 18:21

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000			

L1168092-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1168092-03 12/12/19 18:21 • (DUP) R3482139-3 12/12/19 18:21

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	87.2	87.3	1	0.0834		10

Laboratory Control Sample (LCS)

(LCS) R3482139-2 12/12/19 18:21

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3480312-1 12/08/19 22:12

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Lead	U		0.120	0.500

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3480312-2 12/08/19 22:16 • (LCSD) R3480312-3 12/08/19 22:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Lead	100	98.2	96.5	98.2	96.5	80.0-120			1.81	20

L1168019-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168019-08 12/08/19 22:23 • (MS) R3480312-6 12/08/19 22:34 • (MSD) R3480312-7 12/08/19 22:38

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Lead	21.8	14.9	113	117	89.5	93.1	5	75.0-125			3.42	20

Method Blank (MB)

(MB) R3481899-1 12/12/19 17:16

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Lead	U		0.120	0.500

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3481899-2 12/12/19 17:19 • (LCSD) R3481899-3 12/12/19 17:23

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Lead	100	97.7	104	97.7	104	80.0-120			6.18	20

L1168332-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168332-04 12/12/19 17:26 • (MS) R3481899-6 12/12/19 17:37 • (MSD) R3481899-7 12/12/19 17:40

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Lead	25.3	6.84	132	126	99.3	94.4	5	75.0-125			4.76	20

Method Blank (MB)

(MB) R3480973-2 12/10/19 10:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Gasoline Range Organics-NWTPH	0.0355	J	0.0339	0.100
(S) a,a,a-Trifluorotoluene(FID)	*98.6*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3480973-1 12/10/19 09:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5.50	5.21	94.7	71.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*106*	*77.0-120*	

L1168019-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168019-11 12/10/19 18:23 • (MS) R3480973-3 12/10/19 18:43 • (MSD) R3480973-4 12/10/19 19:04

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	149	ND	131	146	88.1	97.8	25	10.0-149			10.4	27
(S) a,a,a-Trifluorotoluene(FID)					*110*	*113*		*77.0-120*				

Method Blank (MB)

(MB) R3481255-2 12/10/19 21:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Gasoline Range Organics-NWTPH	U		0.0339	0.100
(S) a,a,a-Trifluorotoluene(FID)	*97.5*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3481255-1 12/10/19 20:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5.50	5.63	102	71.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*111*	*77.0-120*	

L1167201-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1167201-09 12/10/19 23:14 • (MS) R3481255-3 12/11/19 05:26 • (MSD) R3481255-4 12/11/19 05:46

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	106	ND	94.2	98.8	88.9	93.2	25	10.0-149			4.77	27
(S) a,a,a-Trifluorotoluene(FID)					*111*	*113*		*77.0-120*				

Method Blank (MB)

(MB) R3481541-3 12/11/19 07:50

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Gasoline Range Organics-NWTPH	U		0.0339	0.100
(S) a,a,a-Trifluorotoluene(FID)	*98.3*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3481541-1 12/11/19 06:48 • (LCSD) R3481541-2 12/11/19 07:09

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	5.50	5.78	5.55	105	101	71.0-124			4.06	20
(S) a,a,a-Trifluorotoluene(FID)				*113*	*112*	*77.0-120*				

Method Blank (MB)

(MB) R3482172-3 12/12/19 00:19

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Gasoline Range Organics-NWTPH	0.0493	J	0.0339	0.100
(S) a,a,a-Trifluorotoluene(FID)	*104*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3482172-2 12/11/19 23:37

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5.50	5.28	96.0	71.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*113*	*77.0-120*	

L1168529-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168529-07 12/12/19 05:29 • (MS) R3482172-6 12/12/19 08:34 • (MSD) R3482172-7 12/12/19 08:55

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	96.6	ND	88.4	94.6	91.4	97.9	25	10.0-149			6.78	27
(S) a,a,a-Trifluorotoluene(FID)					*111*	*112*		*77.0-120*				

Method Blank (MB)

(MB) R3481988-3 12/12/19 07:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Gasoline Range Organics-NWTPH	U		0.0339	0.100
(S) a,a,a-Trifluorotoluene(FID)	*101*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3481988-1 12/12/19 06:17 • (LCSD) R3481988-2 12/12/19 06:38

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	5.50	6.24	5.81	113	106	71.0-124			7.14	20
(S) a,a,a-Trifluorotoluene(FID)				*114*	*112*	*77.0-120*				

L1168019-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168019-21 12/12/19 10:45 • (MS) R3481988-4 12/12/19 16:57 • (MSD) R3481988-5 12/12/19 17:44

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	188	ND	178	190	92.6	99.0	31.3	10.0-149			6.57	27
(S) a,a,a-Trifluorotoluene(FID)					*111*	*112*		*77.0-120*				

Method Blank (MB)

(MB) R3480980-2 12/09/19 10:38

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0137	0.0250
Acrylonitrile	U		0.00190	0.0125
Benzene	U		0.000400	0.00100
Bromobenzene	U		0.00105	0.0125
Bromodichloromethane	U		0.000788	0.00250
Bromoform	U		0.00598	0.0250
Bromomethane	U		0.00370	0.0125
n-Butylbenzene	U		0.00384	0.0125
sec-Butylbenzene	U		0.00253	0.0125
tert-Butylbenzene	U		0.00155	0.00500
Carbon tetrachloride	U		0.00108	0.00500
Chlorobenzene	U		0.000573	0.00250
Chlorodibromomethane	U		0.000450	0.00250
Chloroethane	U		0.00108	0.00500
Chloroform	U		0.000415	0.00250
Chloromethane	U		0.00139	0.0125
2-Chlorotoluene	U		0.000920	0.00250
4-Chlorotoluene	U		0.00113	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00510	0.0250
1,2-Dibromoethane	U		0.000525	0.00250
Dibromomethane	U		0.00100	0.00500
1,2-Dichlorobenzene	U		0.00145	0.00500
1,3-Dichlorobenzene	U		0.00170	0.00500
1,4-Dichlorobenzene	U		0.00197	0.00500
Dichlorodifluoromethane	U		0.000818	0.00250
1,1-Dichloroethane	U		0.000575	0.00250
1,2-Dichloroethane	U		0.000475	0.00250
1,1-Dichloroethene	U		0.000500	0.00250
cis-1,2-Dichloroethene	U		0.000690	0.00250
trans-1,2-Dichloroethene	U		0.00143	0.00500
1,2-Dichloropropane	U		0.00127	0.00500
1,1-Dichloropropene	U		0.000700	0.00250
1,3-Dichloropropane	U		0.00175	0.00500
cis-1,3-Dichloropropene	U		0.000678	0.00250
trans-1,3-Dichloropropene	U		0.00153	0.00500
2,2-Dichloropropane	U		0.000793	0.00250
Di-isopropyl ether	U		0.000350	0.00100
Ethylbenzene	U		0.000530	0.00250
Hexachloro-1,3-butadiene	U		0.0127	0.0250
Isopropylbenzene	U		0.000863	0.00250

Method Blank (MB)

(MB) R3480980-2 12/09/19 10:38

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.00233	0.00500
2-Butanone (MEK)	0.0224	J	0.0125	0.0250
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.0100	0.0250
Methyl tert-butyl ether	U		0.000295	0.00100
Naphthalene	U		0.00312	0.0125
n-Propylbenzene	U		0.00118	0.00500
Styrene	U		0.00273	0.0125
1,1,1,2-Tetrachloroethane	U		0.000500	0.00250
1,1,2,2-Tetrachloroethane	U		0.000390	0.00250
Tetrachloroethene	U		0.000700	0.00250
Toluene	U		0.00125	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000675	0.00250
1,2,3-Trichlorobenzene	0.00222	J	0.000625	0.00250
1,2,4-Trichlorobenzene	U		0.00482	0.0125
1,1,1-Trichloroethane	U		0.000275	0.00250
1,1,2-Trichloroethane	U		0.000883	0.00250
Trichloroethene	U		0.000400	0.00100
Trichlorofluoromethane	U		0.000500	0.00250
1,2,3-Trichloropropane	U		0.00510	0.0125
1,2,3-Trimethylbenzene	U		0.00115	0.00500
1,2,4-Trimethylbenzene	U		0.00116	0.00500
1,3,5-Trimethylbenzene	U		0.00108	0.00500
Vinyl chloride	U		0.000683	0.00250
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*90.8*			*75.0-131*
(S) 4-Bromofluorobenzene	*97.9*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3480980-1 12/09/19 09:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.625	0.854	137	10.0-160	
Acrylonitrile	0.625	1.04	166	45.0-153	J4
Benzene	0.125	0.129	103	70.0-123	
Bromobenzene	0.125	0.123	98.4	73.0-121	
Bromodichloromethane	0.125	0.124	99.2	73.0-121	

Laboratory Control Sample (LCS)

(LCS) R3480980-1 12/09/19 09:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromoform	0.125	0.116	92.8	64.0-132	
Bromomethane	0.125	0.0899	71.9	56.0-147	
n-Butylbenzene	0.125	0.138	110	68.0-135	
sec-Butylbenzene	0.125	0.133	106	74.0-130	
tert-Butylbenzene	0.125	0.132	106	75.0-127	
Carbon tetrachloride	0.125	0.118	94.4	66.0-128	
Chlorobenzene	0.125	0.0994	79.5	76.0-128	
Chlorodibromomethane	0.125	0.116	92.8	74.0-127	
Chloroethane	0.125	0.0907	72.6	61.0-134	
Chloroform	0.125	0.109	87.2	72.0-123	
Chloromethane	0.125	0.112	89.6	51.0-138	
2-Chlorotoluene	0.125	0.134	107	75.0-124	
4-Chlorotoluene	0.125	0.127	102	75.0-124	
1,2-Dibromo-3-Chloropropane	0.125	0.127	102	59.0-130	
1,2-Dibromoethane	0.125	0.126	101	74.0-128	
Dibromomethane	0.125	0.123	98.4	75.0-122	
1,2-Dichlorobenzene	0.125	0.137	110	76.0-124	
1,3-Dichlorobenzene	0.125	0.133	106	76.0-125	
1,4-Dichlorobenzene	0.125	0.119	95.2	77.0-121	
Dichlorodifluoromethane	0.125	0.0902	72.2	43.0-156	
1,1-Dichloroethane	0.125	0.139	111	70.0-127	
1,2-Dichloroethane	0.125	0.111	88.8	65.0-131	
1,1-Dichloroethene	0.125	0.144	115	65.0-131	
cis-1,2-Dichloroethene	0.125	0.109	87.2	73.0-125	
trans-1,2-Dichloroethene	0.125	0.103	82.4	71.0-125	
1,2-Dichloropropane	0.125	0.146	117	74.0-125	
1,1-Dichloropropene	0.125	0.119	95.2	73.0-125	
1,3-Dichloropropane	0.125	0.125	100	80.0-125	
cis-1,3-Dichloropropene	0.125	0.130	104	76.0-127	
trans-1,3-Dichloropropene	0.125	0.116	92.8	73.0-127	
2,2-Dichloropropane	0.125	0.164	131	59.0-135	
Di-isopropyl ether	0.125	0.174	139	60.0-136	J4
Ethylbenzene	0.125	0.102	81.6	74.0-126	
Hexachloro-1,3-butadiene	0.125	0.116	92.8	57.0-150	
Isopropylbenzene	0.125	0.0947	75.8	72.0-127	
p-Isopropyltoluene	0.125	0.155	124	72.0-133	
2-Butanone (MEK)	0.625	1.07	171	30.0-160	J4
Methylene Chloride	0.125	0.108	86.4	68.0-123	
4-Methyl-2-pentanone (MIBK)	0.625	0.822	132	56.0-143	
Methyl tert-butyl ether	0.125	0.140	112	66.0-132	

Laboratory Control Sample (LCS)

(LCS) R3480980-1 12/09/19 09:35

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Naphthalene	0.125	0.118	94.4	59.0-130	
n-Propylbenzene	0.125	0.132	106	74.0-126	
Styrene	0.125	0.101	80.8	72.0-127	
1,1,1,2-Tetrachloroethane	0.125	0.124	99.2	74.0-129	
1,1,2,2-Tetrachloroethane	0.125	0.148	118	68.0-128	
Tetrachloroethene	0.125	0.0961	76.9	70.0-136	
Toluene	0.125	0.0963	77.0	75.0-121	
1,1,2-Trichlorotrifluoroethane	0.125	0.134	107	61.0-139	
1,2,3-Trichlorobenzene	0.125	0.107	85.6	59.0-139	
1,2,4-Trichlorobenzene	0.125	0.106	84.8	62.0-137	
1,1,1-Trichloroethane	0.125	0.106	84.8	69.0-126	
1,1,2-Trichloroethane	0.125	0.107	85.6	78.0-123	
Trichloroethene	0.125	0.118	94.4	76.0-126	
Trichlorofluoromethane	0.125	0.103	82.4	61.0-142	
1,2,3-Trichloropropane	0.125	0.158	126	67.0-129	
1,2,3-Trimethylbenzene	0.125	0.143	114	74.0-124	
1,2,4-Trimethylbenzene	0.125	0.124	99.2	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.135	108	73.0-127	
Vinyl chloride	0.125	0.0853	68.2	63.0-134	
Xylenes, Total	0.375	0.335	89.3	72.0-127	
(S) Toluene-d8			*90.2*	*75.0-131*	
(S) 4-Bromofluorobenzene			*95.9*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*116*	*70.0-130*	

L1168019-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168019-05 12/09/19 19:13 • (MS) R3480980-3 12/09/19 19:51 • (MSD) R3480980-4 12/09/19 20:11

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	5.75	ND	10.3	7.93	179	138	8.56	10.0-160	J5		25.9	40
Acrylonitrile	5.75	ND	11.5	9.03	200	157	8.56	10.0-160	J5		24.0	40
Benzene	1.15	0.213	0.954	1.05	64.5	73.2	8.56	10.0-149			9.95	37
Bromobenzene	1.15	ND	0.902	0.926	78.5	80.6	8.56	10.0-156			2.59	38
Bromodichloromethane	1.15	ND	0.930	0.684	80.9	59.5	8.56	10.0-143			30.5	37
Bromoform	1.15	ND	1.12	0.968	97.2	84.2	8.56	10.0-146			14.3	36
Bromomethane	1.15	ND	0.421	0.546	36.6	47.5	8.56	10.0-149			25.8	38
n-Butylbenzene	1.15	8.51	9.17	9.30	57.9	69.2	8.56	10.0-160			1.40	40
sec-Butylbenzene	1.15	2.41	2.94	3.16	46.7	65.4	8.56	10.0-159			7.04	39
tert-Butylbenzene	1.15	ND	0.810	1.01	70.5	88.3	8.56	10.0-156			22.5	39

L1168019-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168019-05 12/09/19 19:13 • (MS) R3480980-3 12/09/19 19:51 • (MSD) R3480980-4 12/09/19 20:11

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Carbon tetrachloride	1.15	ND	0.465	0.650	40.5	56.5	8.56	10.0-145			33.1	37
Chlorobenzene	1.15	ND	0.696	0.742	60.6	64.6	8.56	10.0-152			6.42	39
Chlorodibromomethane	1.15	ND	1.03	0.928	89.6	80.7	8.56	10.0-146			10.4	37
Chloroethane	1.15	ND	0.348	0.502	30.3	43.6	8.56	10.0-146			36.2	40
Chloroform	1.15	ND	0.727	0.813	63.3	70.7	8.56	10.0-146			11.2	37
Chloromethane	1.15	ND	0.434	0.601	37.8	52.3	8.56	10.0-159			32.4	37
2-Chlorotoluene	1.15	ND	0.911	0.978	79.3	85.1	8.56	10.0-159			7.16	38
4-Chlorotoluene	1.15	ND	0.787	0.876	68.5	76.3	8.56	10.0-155			10.7	39
1,2-Dibromo-3-Chloropropane	1.15	ND	1.68	1.31	146	114	8.56	10.0-151			24.5	39
1,2-Dibromoethane	1.15	ND	1.26	1.10	109	95.3	8.56	10.0-148			13.7	34
Dibromomethane	1.15	ND	1.15	1.05	100	91.4	8.56	10.0-147			8.98	35
1,2-Dichlorobenzene	1.15	ND	1.21	1.20	106	105	8.56	10.0-155			0.889	37
1,3-Dichlorobenzene	1.15	ND	0.926	0.981	80.6	85.3	8.56	10.0-153			5.75	38
1,4-Dichlorobenzene	1.15	ND	0.858	0.897	74.7	78.0	8.56	10.0-151			4.41	38
Dichlorodifluoromethane	1.15	ND	0.200	0.441	17.4	38.4	8.56	10.0-160		J3	75.4	35
1,1-Dichloroethane	1.15	ND	0.761	0.916	66.3	79.7	8.56	10.0-147			18.4	37
1,2-Dichloroethane	1.15	ND	0.912	0.885	79.3	77.0	8.56	10.0-148			2.99	35
1,1-Dichloroethene	1.15	ND	0.518	0.815	45.0	70.9	8.56	10.0-155		J3	44.6	37
cis-1,2-Dichloroethene	1.15	ND	0.673	0.760	58.6	66.2	8.56	10.0-149			12.1	37
trans-1,2-Dichloroethene	1.15	ND	0.473	0.633	41.1	55.0	8.56	10.0-150			29.0	37
1,2-Dichloropropane	1.15	ND	1.12	1.14	97.2	99.1	8.56	10.0-148			1.90	37
1,1-Dichloropropene	1.15	ND	0.495	0.697	43.1	60.7	8.56	10.0-153			33.9	35
1,3-Dichloropropane	1.15	ND	1.13	0.988	98.1	86.0	8.56	10.0-154			13.2	35
cis-1,3-Dichloropropene	1.15	ND	0.999	0.984	86.9	85.6	8.56	10.0-151			1.52	37
trans-1,3-Dichloropropene	1.15	ND	0.971	0.887	84.5	77.2	8.56	10.0-148			9.02	37
2,2-Dichloropropane	1.15	ND	0.709	0.944	61.7	82.1	8.56	10.0-138			28.5	36
Di-isopropyl ether	1.15	ND	1.30	1.26	113	109	8.56	10.0-147			3.36	36
Ethylbenzene	1.15	14.0	14.1	13.7	9.35	0.000	8.56	10.0-160	V	V	2.32	38
Hexachloro-1,3-butadiene	1.15	ND	1.10	1.60	95.3	139	8.56	10.0-160			37.5	40
Isopropylbenzene	1.15	2.44	2.86	2.86	36.4	36.4	8.56	10.0-155			0.000	38
p-Isopropyltoluene	1.15	1.93	2.73	3.05	69.2	97.2	8.56	10.0-160			11.2	40
2-Butanone (MEK)	5.75	ND	14.9	11.5	260	200	8.56	10.0-160	J5	J5	26.0	40
Methylene Chloride	1.15	ND	0.738	0.773	64.2	67.3	8.56	10.0-141			4.69	37
4-Methyl-2-pentanone (MIBK)	5.75	ND	14.9	12.7	260	221	8.56	10.0-160	J5	J5	16.3	35
Methyl tert-butyl ether	1.15	ND	1.21	1.07	106	93.5	8.56	11.0-147			12.2	35
Naphthalene	1.15	29.4	35.7	32.3	542	252	8.56	10.0-160	E V	E V	9.79	36
n-Propylbenzene	1.15	15.0	15.1	14.9	9.35	0.000	8.56	10.0-158	V	V	1.43	38
Styrene	1.15	ND	0.732	0.764	63.7	66.4	8.56	10.0-160			4.16	40
1,1,1,2-Tetrachloroethane	1.15	ND	0.885	0.894	77.0	77.8	8.56	10.0-149			0.966	39

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

L1168019-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168019-05 12/09/19 19:13 • (MS) R3480980-3 12/09/19 19:51 • (MSD) R3480980-4 12/09/19 20:11

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
1,1,2,2-Tetrachloroethane	1.15	ND	1.65	1.45	144	126	8.56	10.0-160			13.1	35
Tetrachloroethene	1.15	ND	0.435	0.593	37.9	51.6	8.56	10.0-156			30.7	39
Toluene	1.15	ND	0.585	0.673	47.3	55.0	8.56	10.0-156			14.0	38
1,1,2-Trichlorotrifluoroethane	1.15	ND	0.365	0.678	31.8	59.0	8.56	10.0-160		J3	59.9	36
1,2,3-Trichlorobenzene	1.15	ND	1.54	1.59	134	138	8.56	10.0-160			3.44	40
1,2,4-Trichlorobenzene	1.15	ND	1.51	1.55	132	135	8.56	10.0-160			2.11	40
1,1,1-Trichloroethane	1.15	ND	0.470	0.626	40.9	54.5	8.56	10.0-144			28.4	35
1,1,2-Trichloroethane	1.15	ND	0.335	0.261	29.2	22.7	8.56	10.0-160			24.9	35
Trichloroethene	1.15	ND	0.635	0.768	55.2	66.8	8.56	10.0-156			19.0	38
Trichlorofluoromethane	1.15	ND	0.324	0.552	28.2	48.0	8.56	10.0-160		J3	52.0	40
1,2,3-Trichloropropane	1.15	ND	1.66	1.42	145	123	8.56	10.0-156			16.0	35
1,2,3-Trimethylbenzene	1.15	38.6	38.7	37.9	9.35	0.000	8.56	10.0-160	E V	E V	1.96	36
1,2,4-Trimethylbenzene	1.15	76.9	74.0	75.5	0.000	0.000	8.56	10.0-160	E V	E V	2.01	36
1,3,5-Trimethylbenzene	1.15	8.92	9.85	9.62	80.4	60.7	8.56	10.0-160			2.32	38
Vinyl chloride	1.15	ND	0.280	0.459	24.4	39.9	8.56	10.0-160		J3	48.3	37
Xylenes, Total	3.45	20.5	22.1	21.6	46.7	31.2	8.56	10.0-160			2.46	38
(S) Toluene-d8					*88.5*	*89.8*		*75.0-131*				
(S) 4-Bromofluorobenzene					*84.8*	*93.6*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*113*	*116*		*70.0-130*				

Method Blank (MB)

(MB) R3481502-2 12/10/19 14:26

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0137	0.0250
Acrylonitrile	U		0.00190	0.0125
Benzene	U		0.000400	0.00100
Bromobenzene	U		0.00105	0.0125
Bromodichloromethane	U		0.000788	0.00250
Bromoform	U		0.00598	0.0250
Bromomethane	U		0.00370	0.0125
n-Butylbenzene	U		0.00384	0.0125
sec-Butylbenzene	U		0.00253	0.0125
tert-Butylbenzene	U		0.00155	0.00500
Carbon tetrachloride	U		0.00108	0.00500
Chlorobenzene	U		0.000573	0.00250
Chlorodibromomethane	U		0.000450	0.00250
Chloroethane	U		0.00108	0.00500
Chloroform	U		0.000415	0.00250
Chloromethane	U		0.00139	0.0125
2-Chlorotoluene	U		0.000920	0.00250
4-Chlorotoluene	U		0.00113	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00510	0.0250
1,2-Dibromoethane	U		0.000525	0.00250
Dibromomethane	U		0.00100	0.00500
1,2-Dichlorobenzene	U		0.00145	0.00500
1,3-Dichlorobenzene	U		0.00170	0.00500
1,4-Dichlorobenzene	U		0.00197	0.00500
Dichlorodifluoromethane	U		0.000818	0.00250
1,1-Dichloroethane	U		0.000575	0.00250
1,2-Dichloroethane	U		0.000475	0.00250
1,1-Dichloroethene	U		0.000500	0.00250
cis-1,2-Dichloroethene	U		0.000690	0.00250
trans-1,2-Dichloroethene	U		0.00143	0.00500
1,2-Dichloropropane	U		0.00127	0.00500
1,1-Dichloropropene	U		0.000700	0.00250
1,3-Dichloropropane	U		0.00175	0.00500
cis-1,3-Dichloropropene	U		0.000678	0.00250
trans-1,3-Dichloropropene	U		0.00153	0.00500
2,2-Dichloropropane	U		0.000793	0.00250
Di-isopropyl ether	U		0.000350	0.00100
Ethylbenzene	0.00158	J	0.000530	0.00250
Hexachloro-1,3-butadiene	U		0.0127	0.0250
Isopropylbenzene	U		0.000863	0.00250

Method Blank (MB)

(MB) R3481502-2 12/10/19 14:26

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.00233	0.00500
2-Butanone (MEK)	0.0241	J	0.0125	0.0250
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.0100	0.0250
Methyl tert-butyl ether	U		0.000295	0.00100
Naphthalene	U		0.00312	0.0125
n-Propylbenzene	U		0.00118	0.00500
Styrene	U		0.00273	0.0125
1,1,1,2-Tetrachloroethane	U		0.000500	0.00250
1,1,2,2-Tetrachloroethane	U		0.000390	0.00250
Tetrachloroethene	U		0.000700	0.00250
Toluene	0.00403	J	0.00125	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000675	0.00250
1,2,3-Trichlorobenzene	U		0.000625	0.00250
1,2,4-Trichlorobenzene	U		0.00482	0.0125
1,1,1-Trichloroethane	U		0.000275	0.00250
1,1,2-Trichloroethane	U		0.000883	0.00250
Trichloroethene	U		0.000400	0.00100
Trichlorofluoromethane	U		0.000500	0.00250
1,2,3-Trichloropropane	U		0.00510	0.0125
1,2,3-Trimethylbenzene	U		0.00115	0.00500
1,2,4-Trimethylbenzene	0.00116	J	0.00116	0.00500
1,3,5-Trimethylbenzene	U		0.00108	0.00500
Vinyl chloride	U		0.000683	0.00250
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*117*			*75.0-131*
(S) 4-Bromofluorobenzene	*105*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*84.7*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3481502-1 12/10/19 13:24

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.625	0.499	79.8	10.0-160	
Acrylonitrile	0.625	0.628	100	45.0-153	
Benzene	0.125	0.124	99.2	70.0-123	
Bromobenzene	0.125	0.112	89.6	73.0-121	
Bromodichloromethane	0.125	0.118	94.4	73.0-121	

Laboratory Control Sample (LCS)

(LCS) R3481502-1 12/10/19 13:24

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromoform	0.125	0.142	114	64.0-132	
Bromomethane	0.125	0.0897	71.8	56.0-147	
n-Butylbenzene	0.125	0.125	100	68.0-135	
sec-Butylbenzene	0.125	0.136	109	74.0-130	
tert-Butylbenzene	0.125	0.132	106	75.0-127	
Carbon tetrachloride	0.125	0.122	97.6	66.0-128	
Chlorobenzene	0.125	0.141	113	76.0-128	
Chlorodibromomethane	0.125	0.145	116	74.0-127	
Chloroethane	0.125	0.0897	71.8	61.0-134	
Chloroform	0.125	0.118	94.4	72.0-123	
Chloromethane	0.125	0.100	80.0	51.0-138	
2-Chlorotoluene	0.125	0.120	96.0	75.0-124	
4-Chlorotoluene	0.125	0.123	98.4	75.0-124	
1,2-Dibromo-3-Chloropropane	0.125	0.113	90.4	59.0-130	
1,2-Dibromoethane	0.125	0.143	114	74.0-128	
Dibromomethane	0.125	0.120	96.0	75.0-122	
1,2-Dichlorobenzene	0.125	0.130	104	76.0-124	
1,3-Dichlorobenzene	0.125	0.135	108	76.0-125	
1,4-Dichlorobenzene	0.125	0.131	105	77.0-121	
Dichlorodifluoromethane	0.125	0.0866	69.3	43.0-156	
1,1-Dichloroethane	0.125	0.125	100	70.0-127	
1,2-Dichloroethane	0.125	0.101	80.8	65.0-131	
1,1-Dichloroethene	0.125	0.126	101	65.0-131	
cis-1,2-Dichloroethene	0.125	0.119	95.2	73.0-125	
trans-1,2-Dichloroethene	0.125	0.127	102	71.0-125	
1,2-Dichloropropane	0.125	0.124	99.2	74.0-125	
1,1-Dichloropropene	0.125	0.120	96.0	73.0-125	
1,3-Dichloropropane	0.125	0.135	108	80.0-125	
cis-1,3-Dichloropropene	0.125	0.118	94.4	76.0-127	
trans-1,3-Dichloropropene	0.125	0.131	105	73.0-127	
2,2-Dichloropropane	0.125	0.138	110	59.0-135	
Di-isopropyl ether	0.125	0.123	98.4	60.0-136	
Ethylbenzene	0.125	0.140	112	74.0-126	
Hexachloro-1,3-butadiene	0.125	0.148	118	57.0-150	
Isopropylbenzene	0.125	0.141	113	72.0-127	
p-Isopropyltoluene	0.125	0.134	107	72.0-133	
2-Butanone (MEK)	0.625	0.605	96.8	30.0-160	
Methylene Chloride	0.125	0.0861	68.9	68.0-123	
4-Methyl-2-pentanone (MIBK)	0.625	0.645	103	56.0-143	
Methyl tert-butyl ether	0.125	0.123	98.4	66.0-132	

Laboratory Control Sample (LCS)

(LCS) R3481502-1 12/10/19 13:24

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Naphthalene	0.125	0.0966	77.3	59.0-130	
n-Propylbenzene	0.125	0.125	100	74.0-126	
Styrene	0.125	0.133	106	72.0-127	
1,1,1,2-Tetrachloroethane	0.125	0.148	118	74.0-129	
1,1,2,2-Tetrachloroethane	0.125	0.133	106	68.0-128	
Tetrachloroethene	0.125	0.160	128	70.0-136	
Toluene	0.125	0.139	111	75.0-121	
1,1,2-Trichlorotrifluoroethane	0.125	0.122	97.6	61.0-139	
1,2,3-Trichlorobenzene	0.125	0.118	94.4	59.0-139	
1,2,4-Trichlorobenzene	0.125	0.128	102	62.0-137	
1,1,1-Trichloroethane	0.125	0.127	102	69.0-126	
1,1,2-Trichloroethane	0.125	0.148	118	78.0-123	
Trichloroethene	0.125	0.137	110	76.0-126	
Trichlorofluoromethane	0.125	0.111	88.8	61.0-142	
1,2,3-Trichloropropane	0.125	0.136	109	67.0-129	
1,2,3-Trimethylbenzene	0.125	0.123	98.4	74.0-124	
1,2,4-Trimethylbenzene	0.125	0.125	100	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.124	99.2	73.0-127	
Vinyl chloride	0.125	0.0948	75.8	63.0-134	
Xylenes, Total	0.375	0.423	113	72.0-127	
(S) Toluene-d8			*117*	*75.0-131*	
(S) 4-Bromofluorobenzene			*102*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*85.1*	*70.0-130*	

Method Blank (MB)

(MB) R3481571-3 12/11/19 09:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000400	0.00100
n-Butylbenzene	U		0.00384	0.0125
sec-Butylbenzene	U		0.00253	0.0125
Ethylbenzene	U		0.000530	0.00250
Isopropylbenzene	U		0.000863	0.00250
Naphthalene	0.00673	J	0.00312	0.0125
n-Propylbenzene	U		0.00118	0.00500
Toluene	U		0.00125	0.00500
1,2,3-Trimethylbenzene	U		0.00115	0.00500
1,2,4-Trimethylbenzene	U		0.00116	0.00500
1,3,5-Trimethylbenzene	U		0.00108	0.00500
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*109*			*75.0-131*
(S) 4-Bromofluorobenzene	*104*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*94.4*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3481571-1 12/11/19 08:23 • (LCSD) R3481571-2 12/11/19 08:43

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.125	0.131	0.135	105	108	70.0-123			3.01	20
n-Butylbenzene	0.125	0.130	0.141	104	113	68.0-135			8.12	20
sec-Butylbenzene	0.125	0.141	0.144	113	115	74.0-130			2.11	20
Ethylbenzene	0.125	0.132	0.137	106	110	74.0-126			3.72	20
Isopropylbenzene	0.125	0.133	0.142	106	114	72.0-127			6.55	20
Naphthalene	0.125	0.141	0.131	113	105	59.0-130			7.35	20
n-Propylbenzene	0.125	0.141	0.143	113	114	74.0-126			1.41	20
Toluene	0.125	0.130	0.135	104	108	75.0-121			3.77	20
1,2,3-Trimethylbenzene	0.125	0.134	0.138	107	110	74.0-124			2.94	20
1,2,4-Trimethylbenzene	0.125	0.141	0.145	113	116	70.0-126			2.80	20
1,3,5-Trimethylbenzene	0.125	0.138	0.140	110	112	73.0-127			1.44	20
Xylenes, Total	0.375	0.400	0.413	107	110	72.0-127			3.20	20
(S) Toluene-d8				*109*	*108*	*75.0-131*				
(S) 4-Bromofluorobenzene				*103*	*104*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*98.4*	*99.7*	*70.0-130*				

Method Blank (MB)

(MB) R3482054-2 12/12/19 08:50

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
1,2,4-Trimethylbenzene	U		0.00116	0.00500
(S) Toluene-d8	*109*			*75.0-131*
(S) 4-Bromofluorobenzene	*107*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*98.7*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3482054-1 12/12/19 07:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,2,4-Trimethylbenzene	0.125	0.126	101	70.0-126	
(S) Toluene-d8			*108*	*75.0-131*	
(S) 4-Bromofluorobenzene			*106*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*102*	*70.0-130*	

Method Blank (MB)

(MB) R3482055-2 12/12/19 08:50

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0137	0.0250
Acrylonitrile	U		0.00190	0.0125
Benzene	U		0.000400	0.00100
Bromobenzene	U		0.00105	0.0125
Bromodichloromethane	U		0.000788	0.00250
Bromoform	U		0.00598	0.0250
Bromomethane	U		0.00370	0.0125
n-Butylbenzene	U		0.00384	0.0125
sec-Butylbenzene	U		0.00253	0.0125
tert-Butylbenzene	U		0.00155	0.00500
Carbon tetrachloride	U		0.00108	0.00500
Chlorobenzene	U		0.000573	0.00250
Chlorodibromomethane	U		0.000450	0.00250
Chloroethane	U		0.00108	0.00500
Chloroform	U		0.000415	0.00250
Chloromethane	U		0.00139	0.0125
2-Chlorotoluene	U		0.000920	0.00250
4-Chlorotoluene	U		0.00113	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00510	0.0250
1,2-Dibromoethane	U		0.000525	0.00250
Dibromomethane	U		0.00100	0.00500
1,2-Dichlorobenzene	U		0.00145	0.00500
1,3-Dichlorobenzene	U		0.00170	0.00500
1,4-Dichlorobenzene	U		0.00197	0.00500
Dichlorodifluoromethane	U		0.000818	0.00250
1,1-Dichloroethane	U		0.000575	0.00250
1,2-Dichloroethane	U		0.000475	0.00250
1,1-Dichloroethene	U		0.000500	0.00250
cis-1,2-Dichloroethene	U		0.000690	0.00250
trans-1,2-Dichloroethene	U		0.00143	0.00500
1,2-Dichloropropane	U		0.00127	0.00500
1,1-Dichloropropene	U		0.000700	0.00250
1,3-Dichloropropane	U		0.00175	0.00500
cis-1,3-Dichloropropene	U		0.000678	0.00250
trans-1,3-Dichloropropene	U		0.00153	0.00500
2,2-Dichloropropane	U		0.000793	0.00250
Di-isopropyl ether	U		0.000350	0.00100
Ethylbenzene	U		0.000530	0.00250
Hexachloro-1,3-butadiene	U		0.0127	0.0250
Isopropylbenzene	U		0.000863	0.00250

Method Blank (MB)

(MB) R3482055-2 12/12/19 08:50

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.00233	0.00500
2-Butanone (MEK)	0.0584		0.0125	0.0250
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.0100	0.0250
Methyl tert-butyl ether	U		0.000295	0.00100
Naphthalene	U		0.00312	0.0125
n-Propylbenzene	U		0.00118	0.00500
Styrene	U		0.00273	0.0125
1,1,1,2-Tetrachloroethane	U		0.000500	0.00250
1,1,2,2-Tetrachloroethane	U		0.000390	0.00250
Tetrachloroethene	U		0.000700	0.00250
Toluene	U		0.00125	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000675	0.00250
1,2,3-Trichlorobenzene	U		0.000625	0.00250
1,2,4-Trichlorobenzene	U		0.00482	0.0125
1,1,1-Trichloroethane	U		0.000275	0.00250
1,1,2-Trichloroethane	U		0.000883	0.00250
Trichloroethene	U		0.000400	0.00100
Trichlorofluoromethane	U		0.000500	0.00250
1,2,3-Trichloropropane	U		0.00510	0.0125
1,2,3-Trimethylbenzene	U		0.00115	0.00500
1,2,4-Trimethylbenzene	U		0.00116	0.00500
1,3,5-Trimethylbenzene	U		0.00108	0.00500
Vinyl chloride	U		0.000683	0.00250
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*109*			*75.0-131*
(S) 4-Bromofluorobenzene	*107*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*98.7*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3482055-1 12/12/19 07:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.625	0.689	110	10.0-160	
Acrylonitrile	0.625	0.777	124	45.0-153	
Benzene	0.125	0.119	95.2	70.0-123	
Bromobenzene	0.125	0.119	95.2	73.0-121	
Bromodichloromethane	0.125	0.125	100	73.0-121	

Laboratory Control Sample (LCS)

(LCS) R3482055-1 12/12/19 07:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromoform	0.125	0.128	102	64.0-132	
Bromomethane	0.125	0.0834	66.7	56.0-147	
n-Butylbenzene	0.125	0.127	102	68.0-135	
sec-Butylbenzene	0.125	0.132	106	74.0-130	
tert-Butylbenzene	0.125	0.129	103	75.0-127	
Carbon tetrachloride	0.125	0.117	93.6	66.0-128	
Chlorobenzene	0.125	0.120	96.0	76.0-128	
Chlorodibromomethane	0.125	0.127	102	74.0-127	
Chloroethane	0.125	0.0871	69.7	61.0-134	
Chloroform	0.125	0.122	97.6	72.0-123	
Chloromethane	0.125	0.139	111	51.0-138	
2-Chlorotoluene	0.125	0.125	100	75.0-124	
4-Chlorotoluene	0.125	0.130	104	75.0-124	
1,2-Dibromo-3-Chloropropane	0.125	0.112	89.6	59.0-130	
1,2-Dibromoethane	0.125	0.129	103	74.0-128	
Dibromomethane	0.125	0.130	104	75.0-122	
1,2-Dichlorobenzene	0.125	0.133	106	76.0-124	
1,3-Dichlorobenzene	0.125	0.131	105	76.0-125	
1,4-Dichlorobenzene	0.125	0.130	104	77.0-121	
Dichlorodifluoromethane	0.125	0.152	122	43.0-156	
1,1-Dichloroethane	0.125	0.139	111	70.0-127	
1,2-Dichloroethane	0.125	0.126	101	65.0-131	
1,1-Dichloroethene	0.125	0.122	97.6	65.0-131	
cis-1,2-Dichloroethene	0.125	0.113	90.4	73.0-125	
trans-1,2-Dichloroethene	0.125	0.116	92.8	71.0-125	
1,2-Dichloropropane	0.125	0.137	110	74.0-125	
1,1-Dichloropropene	0.125	0.125	100	73.0-125	
1,3-Dichloropropane	0.125	0.133	106	80.0-125	
cis-1,3-Dichloropropene	0.125	0.126	101	76.0-127	
trans-1,3-Dichloropropene	0.125	0.128	102	73.0-127	
2,2-Dichloropropane	0.125	0.126	101	59.0-135	
Di-isopropyl ether	0.125	0.155	124	60.0-136	
Ethylbenzene	0.125	0.122	97.6	74.0-126	
Hexachloro-1,3-butadiene	0.125	0.144	115	57.0-150	
Isopropylbenzene	0.125	0.128	102	72.0-127	
p-Isopropyltoluene	0.125	0.134	107	72.0-133	
2-Butanone (MEK)	0.625	0.801	128	30.0-160	
Methylene Chloride	0.125	0.136	109	68.0-123	
4-Methyl-2-pentanone (MIBK)	0.625	0.737	118	56.0-143	
Methyl tert-butyl ether	0.125	0.146	117	66.0-132	

Laboratory Control Sample (LCS)

(LCS) R3482055-1 12/12/19 07:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Naphthalene	0.125	0.111	88.8	59.0-130	
n-Propylbenzene	0.125	0.126	101	74.0-126	
Styrene	0.125	0.125	100	72.0-127	
1,1,1,2-Tetrachloroethane	0.125	0.130	104	74.0-129	
1,1,2,2-Tetrachloroethane	0.125	0.136	109	68.0-128	
Tetrachloroethene	0.125	0.138	110	70.0-136	
Toluene	0.125	0.120	96.0	75.0-121	
1,1,2-Trichlorotrifluoroethane	0.125	0.126	101	61.0-139	
1,2,3-Trichlorobenzene	0.125	0.130	104	59.0-139	
1,2,4-Trichlorobenzene	0.125	0.143	114	62.0-137	
1,1,1-Trichloroethane	0.125	0.130	104	69.0-126	
1,1,2-Trichloroethane	0.125	0.131	105	78.0-123	
Trichloroethene	0.125	0.128	102	76.0-126	
Trichlorofluoromethane	0.125	0.118	94.4	61.0-142	
1,2,3-Trichloropropane	0.125	0.137	110	67.0-129	
1,2,3-Trimethylbenzene	0.125	0.127	102	74.0-124	
1,2,4-Trimethylbenzene	0.125	0.126	101	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.125	100	73.0-127	
Vinyl chloride	0.125	0.102	81.6	63.0-134	
Xylenes, Total	0.375	0.372	99.2	72.0-127	
(S) Toluene-d8			*108*	*75.0-131*	
(S) 4-Bromofluorobenzene			*106*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*102*	*70.0-130*	

Method Blank (MB)

(MB) R3480341-1 12/09/19 01:45

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	*71.2*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3480341-2 12/09/19 01:57

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	37.8	75.6	50.0-150	
(S) o-Terphenyl			*74.9*	*18.0-148*	

Method Blank (MB)

(MB) R3481002-1 12/10/19 16:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	1.46	J	1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	*78.8*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3481002-2 12/10/19 16:14

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	53.2	106	50.0-150	
(S) o-Terphenyl			*95.3*	*18.0-148*	

L1168127-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168127-02 12/10/19 19:40 • (MS) R3481002-3 12/10/19 19:53 • (MSD) R3481002-4 12/10/19 20:06

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	56.0	22.1	64.2	63.0	75.2	73.0	1	50.0-150			1.94	20
(S) o-Terphenyl					*93.1*	*90.4*		*18.0-148*				

Method Blank (MB)

(MB) R3481942-1 12/12/19 16:01

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	*70.6*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3481942-2 12/12/19 16:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	38.4	76.8	50.0-150	
(S) o-Terphenyl			*61.0*	*18.0-148*	

L1168019-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168019-21 12/12/19 16:52 • (MS) R3481942-3 12/12/19 17:11 • (MSD) R3481942-4 12/12/19 17:23

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	52.4	ND	46.1	2.73	81.5	0.000	1	50.0-150		J3 J6	178	20
(S) o-Terphenyl					*51.4*	*4.01*		*18.0-148*		J2		

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J0	J0: The identification of the analyte is acceptable, but the reported concentration is an estimate. The calibration met method criteria.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.

Qualifier	Description
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

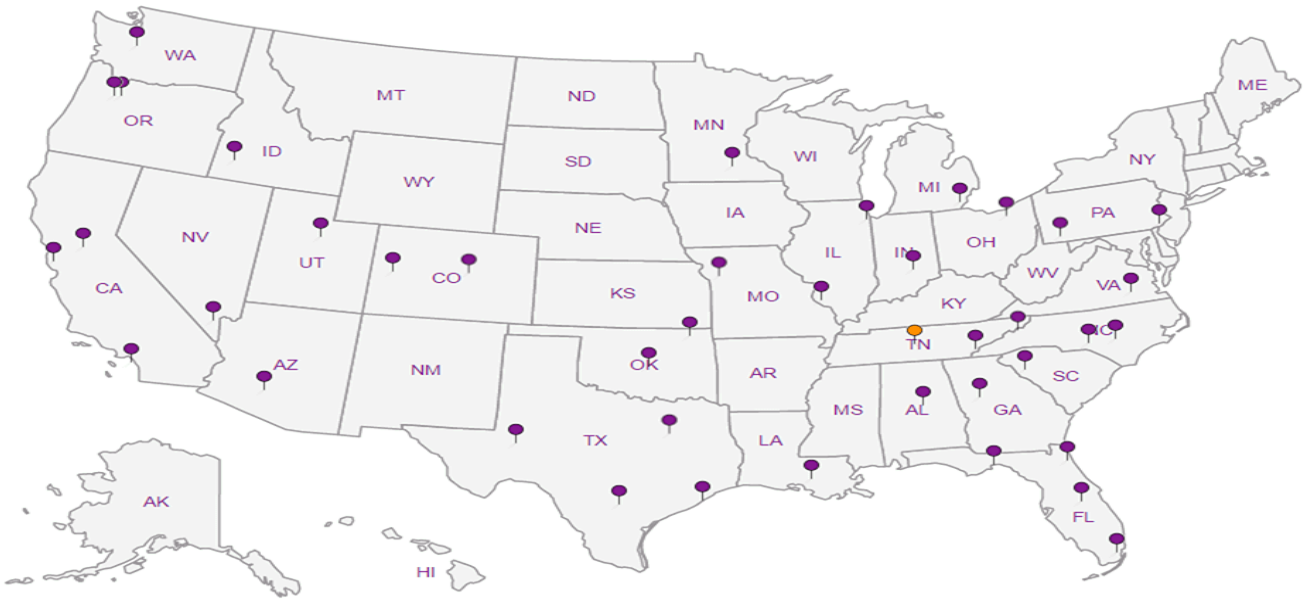
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Pres Chk

Report to: Kyle Haggart

Email To: khaggart@geodesigninc.com

Project Description:

City/State Collected: Astoria OR

Please Circle: PT MT CT ET

Phone: 503-968-8787
Fax:

Client Project # BgBeams-1-01-07

Lab Project # GEODESPOR-HAGGART

Collected by (print): Kyle Haggart

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 1 of 3

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 116819

Table # MCC2

Acctnum: GEODESPOR

Template: T159578

Prelogin: P742144

PM: 110 - Brian Ford

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPHDX NOSGT 8ozClr-NoPres	NWTPHGX 40mlAmb/MeOH5ml/Syr	PAHs (SV8270PAHSIMD) 8ozClr-NoPres	RCRA8 Metals 6020 8ozClr-NoPres	VOCs 8260C 40mlAmb/MeOH5ml/Syr	dry weight 2ozClr-NoPres	Total Lead 6020			Remarks	Sample # (lab only)
DP-1 (1-2)		SS		~~12.2~~ 12.2	1100	4	X	X			X		X				01
DP-1 (7-8)		SS		12.2	1110		X	X			X		X				02
DP-1 (12-13)		SS		12.2	1120												
DP-2 (2-3)		SS		12.2	1125		X	X	~~X~~	~~X~~	X		X				03
DP-2 (7-8)		SS		12.2	1130		X	X	~~X~~	~~X~~	X		X				04
DP-2 (12-13)		SS		12.2	1135												
MW-6 (6-7)		SS		12.2	1410		X	X	~~X~~	~~X~~	X		X				05
MW-6 (7-8)		SS		12.2	1415												
MW-7 (5-6)		SS		12.2	1205		X	X	~~X~~	~~X~~	X		X				06
MW-7 (6-7)		SS		12.2	1210												

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS X FedEx __ Courier _____

Tracking # 1145 2237 6593, 1275 8595 4916 1275 8869 4927

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature)	12.5	1100		6
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.4-.3=1.1°C Bottles Received: ~~30~~ 24
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 12/06/19 Time: 8:30

If preservation required by Login: Date/Time

12-016

Condition: NCF / OK

126

GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Pres Chk

Report to: Kyle Haggart

Email To: khaggart@geodesigninc.com

Project Description:

City/State Collected: Astoria, OR

Please Circle: PT MT CT ET

Phone: 503-968-8787
Fax:

Client Project # BigBeams-1-01-07

Lab Project # GEODESPOR-HAGGART

Collected by (print): Kyle Haggart

Site/Facility ID #

P.O. #

Collected by (signature):

Quote #

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPHDX NOSGT 8ozClr-NoPres	NWTPHGX 40mlAmb/MeOH5ml/Syr	PAHs (SV8270PAHSIMD) 8ozClr-NoPres	RCRA8 Metals 6020 8ozClr-NoPres	VOCs 8260C 40mlAmb/MeOH5ml/Syr	dry weight 2ozClr-NoPres	Total Lead 6020			Remarks	Sample # (lab only)
DP-3 (2.5-3.5)		SS		12.3.19	805	4											
DP-3 (5-5.5)		SS		12.3.19	810	4	X	X			X		X				07
DP-3 (6-7)		SS		12.3.19	815	4											
DP-4 (5-6)		SS		12.3.19	845	4	X	X			X		X				08
DP-4 (10-11)		SS		12.3.19	850	4											
DP-5 (6-7)		SS		12.3.19	920	4	X	X			X		X				09
DP-6 (6-7)		SS		12.3.19	945	4	X	X			X		X				10
DP-7 (5-6)		SS		12.3.19	1020	4	X	X			X		X				11
DP-7 (7-8)		SS		12.3.19	1025	4											
DP-8 (1-2)		SS		12.3.19	1100	4	X	X			X		X				12

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Relinquished by : (Signature) Date: 12.5 Time: 1100 Received by: (Signature)

Relinquished by : (Signature) Date: Time: Received by: (Signature)

Relinquished by : (Signature) Date: Time: Received for lab by: (Signature) Date: 12/4/19 Time: 8:30

Trip Blank Received: (Yes) No
HCL / MeoH
TBR

Temp: 1.4 -1.3 = 1.1 °C Bottles Received: 24

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Chain of Custody Page 2 of 5

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 168019

Table #

Acctnum: GEODESPOR

Template: T159578

Prelogin: P742144

PM: 110 - Brian Ford

PB:

Shipped Via:

GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Pres Chk

Email To: khaggart@geodesigninc.com

Report to: Kyle Haggart

Project Description:

City/State Collected: Astoria, OR

Please Circle: PT MT CT ET

Phone: 503-968-8787
Fax:

Client Project # BigBeams-4-01-07

Lab Project # GEODESPOR-HAGGART

Collected by (print): Kyle Haggart

Site/Facility ID #

P.O. #

Collected by (signature):

Quote #

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPHDX NOSGT 8ozClr-NoPres	NWTPHGX 40mlAmb/MeOH5ml/Syr	PAHs (SV8270PAHSIMD) 8ozClr-NoPres	RCRA8 Metals 6020 8ozClr-NoPres	VOCs 8260C 40mlAmb/MeOH5ml/Syr	dry weight 2ozClr-NoPres	Total Lead 6020	Remarks	Sample # (lab only)
DP-8 (7-8)		SS		12.3.19	1105	4	X	X			X		X		13
DP-8 (10-11)		SS			1110		X				X		X		14
DP-8 (16-17)		SS			1115										
DP-9 (5-6)		SS			1325		X	X			X		X		15
DP-9 (7-8)		SS			1330										
DP-10 (5.5-6.5)		SS			1400		X	X			X		X		16
DP-10 (7-8)		SS			1410										
PAS-1 (1-2)		SS			1220		X	X			X		X		17
PAS-1 (6-7)		SS			1225		X	X			X		X		18
MW-8 (6-7)		SS		12.4.19	540		X	X			X		X		19

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Trip Blank Received: (Yes) / No
HCl / MeOH
TBR

Temp: 1.4 -.3 -1.1 °C Bottles Received: 24 204

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	12.5	1100	
Relinquished by : (Signature)			Received by: (Signature)
Relinquished by : (Signature)			Received for lab by: (Signature)

Date: 12/06/19 Time: 8:30

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Chain of Custody Page 5 of 5

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 116819

Table #

Acctnum: GEODESPOR

Template: T159578

Prelogin: P742144

PM: 110 - Brian Ford

PB:

Shipped Via:

GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Pres Chk

Report to: Kyle Haggart

Email To: khaggart@geodesigninc.com

Project Description:

City/State Collected: Astoria, OR

Please Circle: PT MT CT ET

Phone: 503-968-8787
Fax:

Client Project # BigBeams-1-0-07

Lab Project # GEODESPOR-HAGGART

Collected by (print): Kyle Haggart

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 4 of 3

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 1163619

Table #

Acctnum: GEODESPOR

Template: T159578

Prelogin: P742144

PM: 110 - Brian Ford

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPHDX NOSGT 8ozClr-NoPres	NWTPHGX 40mlAmb/MeOH5ml/Syr	PAHs (SV8270PAHSIMD) 8ozClr-NoPres	RCRA8 Metals 6020 8ozClr-NoPres	VOCs 8260C 40mlAmb/MeOH5ml/Syr	dry weight 2ozClr-NoPres	Total Lead (6020)			Remarks	Sample # (lab only)
MW-8 (8-9)		SS		12/4/19	845	4											
DP-11 (7-8)		SS			1000		X	X			X		X				20
DP-11 (8-9)		SS			1005												
DP-12 (5-6)		SS			1050		X	X			X		X				21
DP-12 (6-7)		SS			1055												
DP-13 (1.5-2.5)		SS			1120		X	X			X		X				26
DP-13 (6-7)		SS			1125		X	X			X		X				23
DP-14 (6-7)		SS			1210		X	X			X		X				24/24
DP-14 (7.5-8.5)		SS			1215												
DP-15 (2.5-3.5)		SS			1230		X	X			X		X				25

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

	Date:	Time:		
Relinquished by: (Signature)	12.5	1100	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 1.4-.8=1.1 5% 2 cpy
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 12/4/19 Time: 8:30

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Pres Chk

Report to: Kyle Haggart

Email To: khaggart@geodesigninc.com

Project Description:

City/State Collected: Astoria, OR

Please Circle: PT MT CT ET

Phone: 503-968-8787
Fax:

Client Project # BigBeams-1-01-07

Lab Project # GEODESPOR-HAGGART

Collected by (print): Kyle Haggart

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPHDX NOSGT 8ozClr-NoPres	NWTPHGX 40mlAmb/MeOH5ml/Syr	PAHs (SV8270PAHSIMD) 8ozClr-NoPres	RCRA8 Metals 6020 8ozClr-NoPres	VOCs 8260C 40mlAmb/MeOH5ml/Syr	dry weight 2ozClr-NoPres	Total Lead 6020			Remarks	Sample # (lab only)
DP-15 (5-6)		SS		12.4	1240	4	X	X			X		X				26
DP-15 (8-9)		SS		"	1235	"											
DP-16 (6-7)		SS		"	1305	"	X	X			X		X				27
		SS															
		SS															
		SS															
		SS															
		SS															
		SS															
		SS															

Chain of Custody Page 2 of 3

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 116201

Table #

Acctnum: GEODESPOR
Template: T159578
Prelogin: P742144
PM: 110 - Brian Ford
PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		X N
Bottles arrive intact:		X N
Correct bottles used:		Y N
Sufficient volume sent:		X N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		X N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	
	12.5	1100		X	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	If preservation required by Login: Date/Time
				1.4-.3=1.1	24
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:
				12/06/19	830

Hold: Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 17, 2019

GeoDesign Inc. - Wilsonville, OR

Sample Delivery Group:	L1168236
Samples Received:	12/06/2019
Project Number:	BIG BEAMS-1-01-07
Description:	

Report To: Kyle Haggart
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Entire Report Reviewed By:

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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DP-3(120319) L1168236-01 GW

Collected by: Kyle Haggart | Collected date/time: 12/03/19 15:40 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1392754	1	12/10/19 06:24	12/10/19 15:46	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392762	1	12/10/19 16:56	12/10/19 20:28	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394214	1	12/11/19 01:59	12/11/19 01:59	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394407	1	12/11/19 07:41	12/11/19 07:41	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1392472	1	12/07/19 15:45	12/08/19 18:33	JN	Mt. Juliet, TN

DP-4(120319) L1168236-02 GW

Collected by: Kyle Haggart | Collected date/time: 12/03/19 16:20 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1392754	1	12/10/19 06:24	12/10/19 15:50	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392762	1	12/10/19 16:56	12/10/19 20:45	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394214	1	12/11/19 02:21	12/11/19 02:21	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394407	1	12/11/19 08:00	12/11/19 08:00	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1392472	1	12/07/19 15:45	12/08/19 18:58	JN	Mt. Juliet, TN

DP-5(120319) L1168236-03 GW

Collected by: Kyle Haggart | Collected date/time: 12/03/19 16:40 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1392754	1	12/10/19 06:24	12/10/19 15:54	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392762	1	12/10/19 16:56	12/10/19 20:48	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394214	1	12/11/19 02:42	12/11/19 02:42	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394407	1	12/11/19 08:19	12/11/19 08:19	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1392472	1	12/07/19 15:45	12/08/19 19:24	JN	Mt. Juliet, TN

DP-6(120319) L1168236-04 GW

Collected by: Kyle Haggart | Collected date/time: 12/03/19 17:10 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1392754	1	12/10/19 06:24	12/10/19 16:10	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392762	1	12/10/19 16:56	12/10/19 20:59	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394214	1	12/11/19 03:04	12/11/19 03:04	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394407	1	12/11/19 08:37	12/11/19 08:37	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1396048	10	12/13/19 16:40	12/13/19 16:40	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393598	1	12/09/19 16:37	12/10/19 02:07	JN	Mt. Juliet, TN

DP-7(120319) L1168236-05 GW

Collected by: Kyle Haggart | Collected date/time: 12/03/19 17:30 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1392754	1	12/10/19 06:24	12/10/19 16:14	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392762	1	12/10/19 16:56	12/10/19 21:03	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394214	1	12/11/19 03:25	12/11/19 03:25	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394407	1	12/11/19 08:56	12/11/19 08:56	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1396048	20	12/13/19 16:59	12/13/19 16:59	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393598	1	12/09/19 16:37	12/10/19 02:27	JN	Mt. Juliet, TN

DP-8(120319) L1168236-06 GW

Collected by: Kyle Haggart | Collected date/time: 12/03/19 15:20 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1392754	1	12/10/19 06:24	12/10/19 16:18	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392762	1	12/10/19 16:56	12/10/19 21:06	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394653	20	12/12/19 22:06	12/12/19 22:06	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394407	1	12/11/19 09:15	12/11/19 09:15	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1396048	50	12/13/19 17:18	12/13/19 17:18	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393598	1	12/09/19 16:37	12/10/19 02:48	JN	Mt. Juliet, TN

DP-9(120319) L1168236-07 GW

Collected by: Kyle Haggart | Collected date/time: 12/03/19 18:15 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1392754	1	12/10/19 06:24	12/10/19 16:21	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392762	1	12/10/19 16:56	12/10/19 21:09	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394214	1	12/11/19 04:09	12/11/19 04:09	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394407	1	12/11/19 09:40	12/11/19 09:40	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393598	1	12/09/19 16:37	12/10/19 03:08	JN	Mt. Juliet, TN

DP-10(120319) L1168236-08 GW

Collected by: Kyle Haggart | Collected date/time: 12/03/19 18:30 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1392754	1	12/10/19 06:24	12/10/19 16:25	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392762	1	12/10/19 16:56	12/10/19 21:12	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394653	1	12/12/19 22:27	12/12/19 22:27	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394407	1	12/11/19 09:58	12/11/19 09:58	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393598	1	12/09/19 16:37	12/10/19 07:05	JN	Mt. Juliet, TN

DP-11(120419) L1168236-09 GW

Collected by: Kyle Haggart | Collected date/time: 12/04/19 14:20 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1392754	1	12/10/19 06:24	12/10/19 16:29	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1392762	1	12/10/19 16:56	12/10/19 21:16	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394653	10	12/12/19 22:48	12/12/19 22:48	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394407	1	12/11/19 10:18	12/11/19 10:18	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1396048	50	12/13/19 17:37	12/13/19 17:37	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393598	1	12/09/19 16:37	12/10/19 07:25	JN	Mt. Juliet, TN

DP-12(120419) L1168236-10 GW

Collected by: Kyle Haggart | Collected date/time: 12/04/19 14:35 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1392762	1	12/10/19 16:56	12/10/19 21:19	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394512	1	12/11/19 19:03	12/11/19 23:04	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394214	1	12/11/19 05:13	12/11/19 05:13	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1396153	1	12/13/19 15:35	12/13/19 15:35	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393598	1	12/09/19 16:37	12/10/19 07:45	JN	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

DP-13(120419) L1168236-11 GW

Collected by: Kyle Haggart | Collected date/time: 12/04/19 15:20 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1392762	1	12/10/19 16:56	12/10/19 21:22	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394512	1	12/11/19 19:03	12/11/19 23:07	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394653	10	12/12/19 23:08	12/12/19 23:08	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394407	1	12/11/19 10:55	12/11/19 10:55	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1396048	50	12/13/19 17:55	12/13/19 17:55	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393598	1	12/09/19 16:37	12/10/19 08:05	JN	Mt. Juliet, TN

DP-14(120419) L1168236-12 GW

Collected by: Kyle Haggart | Collected date/time: 12/04/19 15:35 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1392762	1	12/10/19 16:56	12/10/19 21:26	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394512	1	12/11/19 19:03	12/11/19 23:11	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394214	10	12/11/19 05:57	12/11/19 05:57	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394407	10	12/11/19 11:14	12/11/19 11:14	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1396048	100	12/13/19 18:14	12/13/19 18:14	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393598	1	12/09/19 16:37	12/10/19 08:25	JN	Mt. Juliet, TN

DP-15(120419) L1168236-13 GW

Collected by: Kyle Haggart | Collected date/time: 12/04/19 16:10 | Received date/time: 12/06/19 08:30

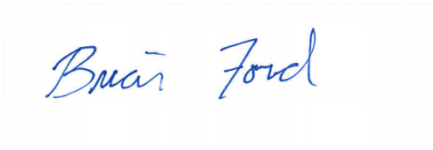
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1392762	1	12/10/19 16:56	12/10/19 21:29	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394512	1	12/11/19 19:03	12/11/19 23:24	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394653	10	12/13/19 00:10	12/13/19 00:10	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394686	1	12/11/19 19:27	12/11/19 19:27	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395726	25	12/12/19 18:45	12/12/19 18:45	JAH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393598	1	12/09/19 16:37	12/10/19 08:46	JN	Mt. Juliet, TN

DP-16(120419) L1168236-14 GW

Collected by: Kyle Haggart | Collected date/time: 12/04/19 16:30 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1392762	1	12/10/19 16:56	12/11/19 23:27	JDG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394512	1	12/09/19 19:03	12/10/19 21:39	JDG	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394214	1	12/11/19 06:40	12/11/19 06:40	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1394686	1	12/11/19 15:23	12/11/19 15:23	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1393598	1	12/09/19 16:37	12/10/19 09:06	JN	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford
Project Manager

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	12/10/2019 20:28	WG1392762
Lead,Dissolved	ND		2.00	1	12/10/2019 15:46	WG1392754

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	993		100	1	12/11/2019 01:59	WG1394214
(S) a,a,a-Trifluorotoluene(FID)	*101*		*78.0-120*		*12/11/2019 01:59*	WG1394214

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND	J4	50.0	1	12/11/2019 07:41	WG1394407
Acrolein	ND		50.0	1	12/11/2019 07:41	WG1394407
Acrylonitrile	ND		10.0	1	12/11/2019 07:41	WG1394407
Benzene	ND		1.00	1	12/11/2019 07:41	WG1394407
Bromobenzene	ND	J0	1.00	1	12/11/2019 07:41	WG1394407
Bromodichloromethane	ND		1.00	1	12/11/2019 07:41	WG1394407
Bromoform	ND		1.00	1	12/11/2019 07:41	WG1394407
Bromomethane	ND		5.00	1	12/11/2019 07:41	WG1394407
n-Butylbenzene	1.35		1.00	1	12/11/2019 07:41	WG1394407
sec-Butylbenzene	ND		1.00	1	12/11/2019 07:41	WG1394407
tert-Butylbenzene	ND		1.00	1	12/11/2019 07:41	WG1394407
Carbon tetrachloride	ND		1.00	1	12/11/2019 07:41	WG1394407
Chlorobenzene	ND		1.00	1	12/11/2019 07:41	WG1394407
Chlorodibromomethane	ND		1.00	1	12/11/2019 07:41	WG1394407
Chloroethane	ND		5.00	1	12/11/2019 07:41	WG1394407
Chloroform	ND		5.00	1	12/11/2019 07:41	WG1394407
Chloromethane	ND	J0	2.50	1	12/11/2019 07:41	WG1394407
2-Chlorotoluene	ND	J0	1.00	1	12/11/2019 07:41	WG1394407
4-Chlorotoluene	ND	J0	1.00	1	12/11/2019 07:41	WG1394407
1,2-Dibromo-3-Chloropropane	ND		5.00	1	12/11/2019 07:41	WG1394407
1,2-Dibromoethane	ND		1.00	1	12/11/2019 07:41	WG1394407
Dibromomethane	ND		1.00	1	12/11/2019 07:41	WG1394407
1,2-Dichlorobenzene	ND		1.00	1	12/11/2019 07:41	WG1394407
1,3-Dichlorobenzene	ND		1.00	1	12/11/2019 07:41	WG1394407
1,4-Dichlorobenzene	ND		1.00	1	12/11/2019 07:41	WG1394407
Dichlorodifluoromethane	ND	J0	5.00	1	12/11/2019 07:41	WG1394407
1,1-Dichloroethane	ND		1.00	1	12/11/2019 07:41	WG1394407
1,2-Dichloroethane	ND		1.00	1	12/11/2019 07:41	WG1394407
1,1-Dichloroethene	ND		1.00	1	12/11/2019 07:41	WG1394407
cis-1,2-Dichloroethene	ND		1.00	1	12/11/2019 07:41	WG1394407
trans-1,2-Dichloroethene	ND		1.00	1	12/11/2019 07:41	WG1394407
1,2-Dichloropropane	ND		1.00	1	12/11/2019 07:41	WG1394407
1,1-Dichloropropene	ND		1.00	1	12/11/2019 07:41	WG1394407
1,3-Dichloropropane	ND		1.00	1	12/11/2019 07:41	WG1394407
cis-1,3-Dichloropropene	ND		1.00	1	12/11/2019 07:41	WG1394407
trans-1,3-Dichloropropene	ND		1.00	1	12/11/2019 07:41	WG1394407
2,2-Dichloropropane	ND		1.00	1	12/11/2019 07:41	WG1394407
Di-isopropyl ether	ND		1.00	1	12/11/2019 07:41	WG1394407
Ethylbenzene	2.72		1.00	1	12/11/2019 07:41	WG1394407
Hexachloro-1,3-butadiene	ND		1.00	1	12/11/2019 07:41	WG1394407
Isopropylbenzene	1.58		1.00	1	12/11/2019 07:41	WG1394407
p-Isopropyltoluene	ND		1.00	1	12/11/2019 07:41	WG1394407
2-Butanone (MEK)	ND		10.0	1	12/11/2019 07:41	WG1394407

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	ND		5.00	1	12/11/2019 07:41	WG1394407
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/11/2019 07:41	WG1394407
Methyl tert-butyl ether	2.01		1.00	1	12/11/2019 07:41	WG1394407
Naphthalene	ND		5.00	1	12/11/2019 07:41	WG1394407
n-Propylbenzene	2.51		1.00	1	12/11/2019 07:41	WG1394407
Styrene	ND		1.00	1	12/11/2019 07:41	WG1394407
1,1,1,2-Tetrachloroethane	ND		1.00	1	12/11/2019 07:41	WG1394407
1,1,2,2-Tetrachloroethane	ND		1.00	1	12/11/2019 07:41	WG1394407
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	12/11/2019 07:41	WG1394407
Tetrachloroethene	ND		1.00	1	12/11/2019 07:41	WG1394407
Toluene	ND		1.00	1	12/11/2019 07:41	WG1394407
1,2,3-Trichlorobenzene	ND		1.00	1	12/11/2019 07:41	WG1394407
1,2,4-Trichlorobenzene	ND		1.00	1	12/11/2019 07:41	WG1394407
1,1,1-Trichloroethane	ND		1.00	1	12/11/2019 07:41	WG1394407
1,1,2-Trichloroethane	ND		1.00	1	12/11/2019 07:41	WG1394407
Trichloroethene	ND		1.00	1	12/11/2019 07:41	WG1394407
Trichlorofluoromethane	ND		5.00	1	12/11/2019 07:41	WG1394407
1,2,3-Trichloropropane	ND		2.50	1	12/11/2019 07:41	WG1394407
1,2,4-Trimethylbenzene	1.45		1.00	1	12/11/2019 07:41	WG1394407
1,2,3-Trimethylbenzene	1.52		1.00	1	12/11/2019 07:41	WG1394407
1,3,5-Trimethylbenzene	ND	J0	1.00	1	12/11/2019 07:41	WG1394407
Vinyl chloride	ND		1.00	1	12/11/2019 07:41	WG1394407
Xylenes, Total	ND		3.00	1	12/11/2019 07:41	WG1394407
(S) Toluene-d8	*94.4*		*80.0-120*		*12/11/2019 07:41*	WG1394407
(S) 4-Bromofluorobenzene	*93.8*		*77.0-126*		*12/11/2019 07:41*	WG1394407
(S) 1,2-Dichloroethane-d4	*118*		*70.0-130*		*12/11/2019 07:41*	WG1394407

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	343		100	1	12/08/2019 18:33	WG1392472
Residual Range Organics (RRO)	ND		250	1	12/08/2019 18:33	WG1392472
(S) o-Terphenyl	*77.5*		*31.0-160*		*12/08/2019 18:33*	WG1392472

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	7.17		2.00	1	12/10/2019 20:45	WG1392762
Lead,Dissolved	ND		2.00	1	12/10/2019 15:50	WG1392754

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	2080		100	1	12/11/2019 02:21	WG1394214
(S) a,a,a-Trifluorotoluene(FID)	*98.1*		*78.0-120*		*12/11/2019 02:21*	WG1394214

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND	J4	50.0	1	12/11/2019 08:00	WG1394407
Acrolein	ND		50.0	1	12/11/2019 08:00	WG1394407
Acrylonitrile	ND		10.0	1	12/11/2019 08:00	WG1394407
Benzene	ND		1.00	1	12/11/2019 08:00	WG1394407
Bromobenzene	ND	J0	1.00	1	12/11/2019 08:00	WG1394407
Bromodichloromethane	ND		1.00	1	12/11/2019 08:00	WG1394407
Bromoform	ND		1.00	1	12/11/2019 08:00	WG1394407
Bromomethane	ND		5.00	1	12/11/2019 08:00	WG1394407
n-Butylbenzene	9.44		1.00	1	12/11/2019 08:00	WG1394407
sec-Butylbenzene	4.47		1.00	1	12/11/2019 08:00	WG1394407
tert-Butylbenzene	ND		1.00	1	12/11/2019 08:00	WG1394407
Carbon tetrachloride	ND		1.00	1	12/11/2019 08:00	WG1394407
Chlorobenzene	ND		1.00	1	12/11/2019 08:00	WG1394407
Chlorodibromomethane	ND		1.00	1	12/11/2019 08:00	WG1394407
Chloroethane	ND		5.00	1	12/11/2019 08:00	WG1394407
Chloroform	ND		5.00	1	12/11/2019 08:00	WG1394407
Chloromethane	ND	J0	2.50	1	12/11/2019 08:00	WG1394407
2-Chlorotoluene	ND	J0	1.00	1	12/11/2019 08:00	WG1394407
4-Chlorotoluene	ND	J0	1.00	1	12/11/2019 08:00	WG1394407
1,2-Dibromo-3-Chloropropane	ND		5.00	1	12/11/2019 08:00	WG1394407
1,2-Dibromoethane	ND		1.00	1	12/11/2019 08:00	WG1394407
Dibromomethane	ND		1.00	1	12/11/2019 08:00	WG1394407
1,2-Dichlorobenzene	ND		1.00	1	12/11/2019 08:00	WG1394407
1,3-Dichlorobenzene	ND		1.00	1	12/11/2019 08:00	WG1394407
1,4-Dichlorobenzene	ND		1.00	1	12/11/2019 08:00	WG1394407
Dichlorodifluoromethane	ND	J0	5.00	1	12/11/2019 08:00	WG1394407
1,1-Dichloroethane	ND		1.00	1	12/11/2019 08:00	WG1394407
1,2-Dichloroethane	ND		1.00	1	12/11/2019 08:00	WG1394407
1,1-Dichloroethene	ND		1.00	1	12/11/2019 08:00	WG1394407
cis-1,2-Dichloroethene	ND		1.00	1	12/11/2019 08:00	WG1394407
trans-1,2-Dichloroethene	ND		1.00	1	12/11/2019 08:00	WG1394407
1,2-Dichloropropane	ND		1.00	1	12/11/2019 08:00	WG1394407
1,1-Dichloropropene	ND		1.00	1	12/11/2019 08:00	WG1394407
1,3-Dichloropropane	ND		1.00	1	12/11/2019 08:00	WG1394407
cis-1,3-Dichloropropene	ND		1.00	1	12/11/2019 08:00	WG1394407
trans-1,3-Dichloropropene	ND		1.00	1	12/11/2019 08:00	WG1394407
2,2-Dichloropropane	ND		1.00	1	12/11/2019 08:00	WG1394407
Di-isopropyl ether	ND		1.00	1	12/11/2019 08:00	WG1394407
Ethylbenzene	5.05		1.00	1	12/11/2019 08:00	WG1394407
Hexachloro-1,3-butadiene	ND		1.00	1	12/11/2019 08:00	WG1394407
Isopropylbenzene	6.67		1.00	1	12/11/2019 08:00	WG1394407
p-Isopropyltoluene	1.98		1.00	1	12/11/2019 08:00	WG1394407
2-Butanone (MEK)	ND		10.0	1	12/11/2019 08:00	WG1394407

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	ND		5.00	1	12/11/2019 08:00	WG1394407
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/11/2019 08:00	WG1394407
Methyl tert-butyl ether	ND		1.00	1	12/11/2019 08:00	WG1394407
Naphthalene	6.70		5.00	1	12/11/2019 08:00	WG1394407
n-Propylbenzene	39.2		1.00	1	12/11/2019 08:00	WG1394407
Styrene	ND		1.00	1	12/11/2019 08:00	WG1394407
1,1,1,2-Tetrachloroethane	ND		1.00	1	12/11/2019 08:00	WG1394407
1,1,2,2-Tetrachloroethane	ND		1.00	1	12/11/2019 08:00	WG1394407
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	12/11/2019 08:00	WG1394407
Tetrachloroethene	ND		1.00	1	12/11/2019 08:00	WG1394407
Toluene	ND		1.00	1	12/11/2019 08:00	WG1394407
1,2,3-Trichlorobenzene	ND		1.00	1	12/11/2019 08:00	WG1394407
1,2,4-Trichlorobenzene	ND		1.00	1	12/11/2019 08:00	WG1394407
1,1,1-Trichloroethane	ND		1.00	1	12/11/2019 08:00	WG1394407
1,1,2-Trichloroethane	ND		1.00	1	12/11/2019 08:00	WG1394407
Trichloroethene	ND		1.00	1	12/11/2019 08:00	WG1394407
Trichlorofluoromethane	ND		5.00	1	12/11/2019 08:00	WG1394407
1,2,3-Trichloropropane	ND		2.50	1	12/11/2019 08:00	WG1394407
1,2,4-Trimethylbenzene	133		1.00	1	12/11/2019 08:00	WG1394407
1,2,3-Trimethylbenzene	50.9		1.00	1	12/11/2019 08:00	WG1394407
1,3,5-Trimethylbenzene	65.5	J0	1.00	1	12/11/2019 08:00	WG1394407
Vinyl chloride	ND		1.00	1	12/11/2019 08:00	WG1394407
Xylenes, Total	ND		3.00	1	12/11/2019 08:00	WG1394407
(S) Toluene-d8	*96.5*		*80.0-120*		*12/11/2019 08:00*	WG1394407
(S) 4-Bromofluorobenzene	*92.7*		*77.0-126*		*12/11/2019 08:00*	WG1394407
(S) 1,2-Dichloroethane-d4	*113*		*70.0-130*		*12/11/2019 08:00*	WG1394407

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	359		100	1	12/08/2019 18:58	WG1392472
Residual Range Organics (RRO)	ND		250	1	12/08/2019 18:58	WG1392472
(S) o-Terphenyl	*69.2*		*31.0-160*		*12/08/2019 18:58*	WG1392472

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	12/10/2019 20:48	WG1392762
Lead,Dissolved	ND		2.00	1	12/10/2019 15:54	WG1392754

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	12/11/2019 02:42	WG1394214
(S) a,a,a-Trifluorotoluene(FID)	*96.8*		*78.0-120*		*12/11/2019 02:42*	WG1394214

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND	J4	50.0	1	12/11/2019 08:19	WG1394407
Acrolein	ND		50.0	1	12/11/2019 08:19	WG1394407
Acrylonitrile	ND		10.0	1	12/11/2019 08:19	WG1394407
Benzene	ND		1.00	1	12/11/2019 08:19	WG1394407
Bromobenzene	ND	J0	1.00	1	12/11/2019 08:19	WG1394407
Bromodichloromethane	ND		1.00	1	12/11/2019 08:19	WG1394407
Bromoform	ND		1.00	1	12/11/2019 08:19	WG1394407
Bromomethane	ND		5.00	1	12/11/2019 08:19	WG1394407
n-Butylbenzene	ND		1.00	1	12/11/2019 08:19	WG1394407
sec-Butylbenzene	ND		1.00	1	12/11/2019 08:19	WG1394407
tert-Butylbenzene	ND		1.00	1	12/11/2019 08:19	WG1394407
Carbon tetrachloride	ND		1.00	1	12/11/2019 08:19	WG1394407
Chlorobenzene	ND		1.00	1	12/11/2019 08:19	WG1394407
Chlorodibromomethane	ND		1.00	1	12/11/2019 08:19	WG1394407
Chloroethane	ND		5.00	1	12/11/2019 08:19	WG1394407
Chloroform	ND		5.00	1	12/11/2019 08:19	WG1394407
Chloromethane	ND	J0	2.50	1	12/11/2019 08:19	WG1394407
2-Chlorotoluene	ND	J0	1.00	1	12/11/2019 08:19	WG1394407
4-Chlorotoluene	ND	J0	1.00	1	12/11/2019 08:19	WG1394407
1,2-Dibromo-3-Chloropropane	ND		5.00	1	12/11/2019 08:19	WG1394407
1,2-Dibromoethane	ND		1.00	1	12/11/2019 08:19	WG1394407
Dibromomethane	ND		1.00	1	12/11/2019 08:19	WG1394407
1,2-Dichlorobenzene	ND		1.00	1	12/11/2019 08:19	WG1394407
1,3-Dichlorobenzene	ND		1.00	1	12/11/2019 08:19	WG1394407
1,4-Dichlorobenzene	ND		1.00	1	12/11/2019 08:19	WG1394407
Dichlorodifluoromethane	ND	J0	5.00	1	12/11/2019 08:19	WG1394407
1,1-Dichloroethane	ND		1.00	1	12/11/2019 08:19	WG1394407
1,2-Dichloroethane	ND		1.00	1	12/11/2019 08:19	WG1394407
1,1-Dichloroethene	ND		1.00	1	12/11/2019 08:19	WG1394407
cis-1,2-Dichloroethene	ND		1.00	1	12/11/2019 08:19	WG1394407
trans-1,2-Dichloroethene	ND		1.00	1	12/11/2019 08:19	WG1394407
1,2-Dichloropropane	ND		1.00	1	12/11/2019 08:19	WG1394407
1,1-Dichloropropene	ND		1.00	1	12/11/2019 08:19	WG1394407
1,3-Dichloropropane	ND		1.00	1	12/11/2019 08:19	WG1394407
cis-1,3-Dichloropropene	ND		1.00	1	12/11/2019 08:19	WG1394407
trans-1,3-Dichloropropene	ND		1.00	1	12/11/2019 08:19	WG1394407
2,2-Dichloropropane	ND		1.00	1	12/11/2019 08:19	WG1394407
Di-isopropyl ether	ND		1.00	1	12/11/2019 08:19	WG1394407
Ethylbenzene	ND		1.00	1	12/11/2019 08:19	WG1394407
Hexachloro-1,3-butadiene	ND		1.00	1	12/11/2019 08:19	WG1394407
Isopropylbenzene	ND		1.00	1	12/11/2019 08:19	WG1394407
p-Isopropyltoluene	ND		1.00	1	12/11/2019 08:19	WG1394407
2-Butanone (MEK)	ND		10.0	1	12/11/2019 08:19	WG1394407

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	ND		5.00	1	12/11/2019 08:19	WG1394407
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/11/2019 08:19	WG1394407
Methyl tert-butyl ether	ND		1.00	1	12/11/2019 08:19	WG1394407
Naphthalene	ND		5.00	1	12/11/2019 08:19	WG1394407
n-Propylbenzene	ND		1.00	1	12/11/2019 08:19	WG1394407
Styrene	ND		1.00	1	12/11/2019 08:19	WG1394407
1,1,1,2-Tetrachloroethane	ND		1.00	1	12/11/2019 08:19	WG1394407
1,1,2,2-Tetrachloroethane	ND		1.00	1	12/11/2019 08:19	WG1394407
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	12/11/2019 08:19	WG1394407
Tetrachloroethene	ND		1.00	1	12/11/2019 08:19	WG1394407
Toluene	ND		1.00	1	12/11/2019 08:19	WG1394407
1,2,3-Trichlorobenzene	ND		1.00	1	12/11/2019 08:19	WG1394407
1,2,4-Trichlorobenzene	ND		1.00	1	12/11/2019 08:19	WG1394407
1,1,1-Trichloroethane	ND		1.00	1	12/11/2019 08:19	WG1394407
1,1,2-Trichloroethane	ND		1.00	1	12/11/2019 08:19	WG1394407
Trichloroethene	ND		1.00	1	12/11/2019 08:19	WG1394407
Trichlorofluoromethane	ND		5.00	1	12/11/2019 08:19	WG1394407
1,2,3-Trichloropropane	ND		2.50	1	12/11/2019 08:19	WG1394407
1,2,4-Trimethylbenzene	ND		1.00	1	12/11/2019 08:19	WG1394407
1,2,3-Trimethylbenzene	ND		1.00	1	12/11/2019 08:19	WG1394407
1,3,5-Trimethylbenzene	ND	J0	1.00	1	12/11/2019 08:19	WG1394407
Vinyl chloride	ND		1.00	1	12/11/2019 08:19	WG1394407
Xylenes, Total	ND		3.00	1	12/11/2019 08:19	WG1394407
(S) Toluene-d8	*99.2*		*80.0-120*		*12/11/2019 08:19*	WG1394407
(S) 4-Bromofluorobenzene	*96.5*		*77.0-126*		*12/11/2019 08:19*	WG1394407
(S) 1,2-Dichloroethane-d4	*116*		*70.0-130*		*12/11/2019 08:19*	WG1394407

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		100	1	12/08/2019 19:24	WG1392472
Residual Range Organics (RRO)	ND		250	1	12/08/2019 19:24	WG1392472
(S) o-Terphenyl	*77.5*		*31.0-160*		*12/08/2019 19:24*	WG1392472

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	12/10/2019 20:59	WG1392762
Lead,Dissolved	ND		2.00	1	12/10/2019 16:10	WG1392754

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	9040		100	1	12/11/2019 03:04	WG1394214
(S) a,a,a-Trifluorotoluene(FID)	*115*		*78.0-120*		*12/11/2019 03:04*	WG1394214

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND	J4	50.0	1	12/11/2019 08:37	WG1394407
Acrolein	ND		50.0	1	12/11/2019 08:37	WG1394407
Acrylonitrile	ND		10.0	1	12/11/2019 08:37	WG1394407
Benzene	78.7		1.00	1	12/11/2019 08:37	WG1394407
Bromobenzene	ND	J0	1.00	1	12/11/2019 08:37	WG1394407
Bromodichloromethane	ND		1.00	1	12/11/2019 08:37	WG1394407
Bromoform	ND		1.00	1	12/11/2019 08:37	WG1394407
Bromomethane	ND		5.00	1	12/11/2019 08:37	WG1394407
n-Butylbenzene	21.4		1.00	1	12/11/2019 08:37	WG1394407
sec-Butylbenzene	13.9		1.00	1	12/11/2019 08:37	WG1394407
tert-Butylbenzene	1.84		1.00	1	12/11/2019 08:37	WG1394407
Carbon tetrachloride	ND		1.00	1	12/11/2019 08:37	WG1394407
Chlorobenzene	ND		1.00	1	12/11/2019 08:37	WG1394407
Chlorodibromomethane	ND		1.00	1	12/11/2019 08:37	WG1394407
Chloroethane	ND		5.00	1	12/11/2019 08:37	WG1394407
Chloroform	ND		5.00	1	12/11/2019 08:37	WG1394407
Chloromethane	ND	J0	2.50	1	12/11/2019 08:37	WG1394407
2-Chlorotoluene	ND	J0	1.00	1	12/11/2019 08:37	WG1394407
4-Chlorotoluene	ND	J0	1.00	1	12/11/2019 08:37	WG1394407
1,2-Dibromo-3-Chloropropane	ND		5.00	1	12/11/2019 08:37	WG1394407
1,2-Dibromoethane	ND		1.00	1	12/11/2019 08:37	WG1394407
Dibromomethane	ND		1.00	1	12/11/2019 08:37	WG1394407
1,2-Dichlorobenzene	ND		1.00	1	12/11/2019 08:37	WG1394407
1,3-Dichlorobenzene	ND		1.00	1	12/11/2019 08:37	WG1394407
1,4-Dichlorobenzene	ND		1.00	1	12/11/2019 08:37	WG1394407
Dichlorodifluoromethane	ND	J0	5.00	1	12/11/2019 08:37	WG1394407
1,1-Dichloroethane	ND		1.00	1	12/11/2019 08:37	WG1394407
1,2-Dichloroethane	ND		1.00	1	12/11/2019 08:37	WG1394407
1,1-Dichloroethene	ND		1.00	1	12/11/2019 08:37	WG1394407
cis-1,2-Dichloroethene	ND		1.00	1	12/11/2019 08:37	WG1394407
trans-1,2-Dichloroethene	ND		1.00	1	12/11/2019 08:37	WG1394407
1,2-Dichloropropane	ND		1.00	1	12/11/2019 08:37	WG1394407
1,1-Dichloropropene	ND		1.00	1	12/11/2019 08:37	WG1394407
1,3-Dichloropropane	ND		1.00	1	12/11/2019 08:37	WG1394407
cis-1,3-Dichloropropene	ND		1.00	1	12/11/2019 08:37	WG1394407
trans-1,3-Dichloropropene	ND		1.00	1	12/11/2019 08:37	WG1394407
2,2-Dichloropropane	ND		1.00	1	12/11/2019 08:37	WG1394407
Di-isopropyl ether	ND		1.00	1	12/11/2019 08:37	WG1394407
Ethylbenzene	310		10.0	10	12/13/2019 16:40	WG1396048
Hexachloro-1,3-butadiene	ND		1.00	1	12/11/2019 08:37	WG1394407
Isopropylbenzene	117		1.00	1	12/11/2019 08:37	WG1394407
p-Isopropyltoluene	ND		1.00	1	12/11/2019 08:37	WG1394407
2-Butanone (MEK)	ND		10.0	1	12/11/2019 08:37	WG1394407

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	ND		5.00	1	12/11/2019 08:37	WG1394407
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/11/2019 08:37	WG1394407
Methyl tert-butyl ether	9.30		1.00	1	12/11/2019 08:37	WG1394407
Naphthalene	193		5.00	1	12/11/2019 08:37	WG1394407
n-Propylbenzene	418		10.0	10	12/13/2019 16:40	WG1396048
Styrene	ND		1.00	1	12/11/2019 08:37	WG1394407
1,1,1,2-Tetrachloroethane	ND		1.00	1	12/11/2019 08:37	WG1394407
1,1,2,2-Tetrachloroethane	ND		1.00	1	12/11/2019 08:37	WG1394407
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	12/11/2019 08:37	WG1394407
Tetrachloroethene	ND		1.00	1	12/11/2019 08:37	WG1394407
Toluene	5.11		1.00	1	12/11/2019 08:37	WG1394407
1,2,3-Trichlorobenzene	ND		1.00	1	12/11/2019 08:37	WG1394407
1,2,4-Trichlorobenzene	ND		1.00	1	12/11/2019 08:37	WG1394407
1,1,1-Trichloroethane	ND		1.00	1	12/11/2019 08:37	WG1394407
1,1,2-Trichloroethane	ND		1.00	1	12/11/2019 08:37	WG1394407
Trichloroethene	ND		1.00	1	12/11/2019 08:37	WG1394407
Trichlorofluoromethane	ND		5.00	1	12/11/2019 08:37	WG1394407
1,2,3-Trichloropropane	ND		2.50	1	12/11/2019 08:37	WG1394407
1,2,4-Trimethylbenzene	1.04		1.00	1	12/11/2019 08:37	WG1394407
1,2,3-Trimethylbenzene	41.9		1.00	1	12/11/2019 08:37	WG1394407
1,3,5-Trimethylbenzene	2.01	J0	1.00	1	12/11/2019 08:37	WG1394407
Vinyl chloride	ND		1.00	1	12/11/2019 08:37	WG1394407
Xylenes, Total	9.73		3.00	1	12/11/2019 08:37	WG1394407
(S) Toluene-d8	*88.8*		*80.0-120*		*12/11/2019 08:37*	WG1394407
(S) Toluene-d8	*102*		*80.0-120*		*12/13/2019 16:40*	WG1396048
(S) 4-Bromofluorobenzene	*87.8*		*77.0-126*		*12/11/2019 08:37*	WG1394407
(S) 4-Bromofluorobenzene	*95.8*		*77.0-126*		*12/13/2019 16:40*	WG1396048
(S) 1,2-Dichloroethane-d4	*128*		*70.0-130*		*12/11/2019 08:37*	WG1394407
(S) 1,2-Dichloroethane-d4	*92.8*		*70.0-130*		*12/13/2019 16:40*	WG1396048

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	1490		100	1	12/10/2019 02:07	WG1393598
Residual Range Organics (RRO)	ND		250	1	12/10/2019 02:07	WG1393598
(S) o-Terphenyl	*86.0*		*31.0-160*		*12/10/2019 02:07*	WG1393598

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	12/10/2019 21:03	WG1392762
Lead,Dissolved	ND		2.00	1	12/10/2019 16:14	WG1392754

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	8920		100	1	12/11/2019 03:25	WG1394214
(S) a,a,a-Trifluorotoluene(FID)	*120*		*78.0-120*		*12/11/2019 03:25*	WG1394214

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND	J4	50.0	1	12/11/2019 08:56	WG1394407
Acrolein	ND		50.0	1	12/11/2019 08:56	WG1394407
Acrylonitrile	ND		10.0	1	12/11/2019 08:56	WG1394407
Benzene	609		20.0	20	12/13/2019 16:59	WG1396048
Bromobenzene	ND	J0	1.00	1	12/11/2019 08:56	WG1394407
Bromodichloromethane	ND		1.00	1	12/11/2019 08:56	WG1394407
Bromoform	ND		1.00	1	12/11/2019 08:56	WG1394407
Bromomethane	ND		5.00	1	12/11/2019 08:56	WG1394407
n-Butylbenzene	33.6		1.00	1	12/11/2019 08:56	WG1394407
sec-Butylbenzene	15.6		1.00	1	12/11/2019 08:56	WG1394407
tert-Butylbenzene	2.11		1.00	1	12/11/2019 08:56	WG1394407
Carbon tetrachloride	ND		1.00	1	12/11/2019 08:56	WG1394407
Chlorobenzene	ND		1.00	1	12/11/2019 08:56	WG1394407
Chlorodibromomethane	ND		1.00	1	12/11/2019 08:56	WG1394407
Chloroethane	ND		5.00	1	12/11/2019 08:56	WG1394407
Chloroform	ND		5.00	1	12/11/2019 08:56	WG1394407
Chloromethane	ND	J0	2.50	1	12/11/2019 08:56	WG1394407
2-Chlorotoluene	ND	J0	1.00	1	12/11/2019 08:56	WG1394407
4-Chlorotoluene	ND	J0	1.00	1	12/11/2019 08:56	WG1394407
1,2-Dibromo-3-Chloropropane	ND		5.00	1	12/11/2019 08:56	WG1394407
1,2-Dibromoethane	ND		1.00	1	12/11/2019 08:56	WG1394407
Dibromomethane	ND		1.00	1	12/11/2019 08:56	WG1394407
1,2-Dichlorobenzene	ND		1.00	1	12/11/2019 08:56	WG1394407
1,3-Dichlorobenzene	ND		1.00	1	12/11/2019 08:56	WG1394407
1,4-Dichlorobenzene	ND		1.00	1	12/11/2019 08:56	WG1394407
Dichlorodifluoromethane	ND	J0	5.00	1	12/11/2019 08:56	WG1394407
1,1-Dichloroethane	ND		1.00	1	12/11/2019 08:56	WG1394407
1,2-Dichloroethane	ND		1.00	1	12/11/2019 08:56	WG1394407
1,1-Dichloroethene	ND		1.00	1	12/11/2019 08:56	WG1394407
cis-1,2-Dichloroethene	ND		1.00	1	12/11/2019 08:56	WG1394407
trans-1,2-Dichloroethene	ND		1.00	1	12/11/2019 08:56	WG1394407
1,2-Dichloropropane	ND		1.00	1	12/11/2019 08:56	WG1394407
1,1-Dichloropropene	ND		1.00	1	12/11/2019 08:56	WG1394407
1,3-Dichloropropane	ND		1.00	1	12/11/2019 08:56	WG1394407
cis-1,3-Dichloropropene	ND		1.00	1	12/11/2019 08:56	WG1394407
trans-1,3-Dichloropropene	ND		1.00	1	12/11/2019 08:56	WG1394407
2,2-Dichloropropane	ND		1.00	1	12/11/2019 08:56	WG1394407
Di-isopropyl ether	ND		1.00	1	12/11/2019 08:56	WG1394407
Ethylbenzene	122		1.00	1	12/11/2019 08:56	WG1394407
Hexachloro-1,3-butadiene	ND		1.00	1	12/11/2019 08:56	WG1394407
Isopropylbenzene	81.4		1.00	1	12/11/2019 08:56	WG1394407
p-Isopropyltoluene	1.84		1.00	1	12/11/2019 08:56	WG1394407
2-Butanone (MEK)	ND		10.0	1	12/11/2019 08:56	WG1394407

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	ND		5.00	1	12/11/2019 08:56	WG1394407
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/11/2019 08:56	WG1394407
Methyl tert-butyl ether	6.18		1.00	1	12/11/2019 08:56	WG1394407
Naphthalene	18.2		5.00	1	12/11/2019 08:56	WG1394407
n-Propylbenzene	284		20.0	20	12/13/2019 16:59	WG1396048
Styrene	ND		1.00	1	12/11/2019 08:56	WG1394407
1,1,1,2-Tetrachloroethane	ND		1.00	1	12/11/2019 08:56	WG1394407
1,1,2,2-Tetrachloroethane	ND		1.00	1	12/11/2019 08:56	WG1394407
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	12/11/2019 08:56	WG1394407
Tetrachloroethene	ND		1.00	1	12/11/2019 08:56	WG1394407
Toluene	16.5		1.00	1	12/11/2019 08:56	WG1394407
1,2,3-Trichlorobenzene	ND		1.00	1	12/11/2019 08:56	WG1394407
1,2,4-Trichlorobenzene	ND		1.00	1	12/11/2019 08:56	WG1394407
1,1,1-Trichloroethane	ND		1.00	1	12/11/2019 08:56	WG1394407
1,1,2-Trichloroethane	ND		1.00	1	12/11/2019 08:56	WG1394407
Trichloroethene	ND		1.00	1	12/11/2019 08:56	WG1394407
Trichlorofluoromethane	ND		5.00	1	12/11/2019 08:56	WG1394407
1,2,3-Trichloropropane	ND		2.50	1	12/11/2019 08:56	WG1394407
1,2,4-Trimethylbenzene	3.19		1.00	1	12/11/2019 08:56	WG1394407
1,2,3-Trimethylbenzene	25.9		1.00	1	12/11/2019 08:56	WG1394407
1,3,5-Trimethylbenzene	1.23	J0	1.00	1	12/11/2019 08:56	WG1394407
Vinyl chloride	ND		1.00	1	12/11/2019 08:56	WG1394407
Xylenes, Total	30.2		3.00	1	12/11/2019 08:56	WG1394407
(S) Toluene-d8	*89.9*		*80.0-120*		*12/11/2019 08:56*	WG1394407
(S) Toluene-d8	*102*		*80.0-120*		*12/13/2019 16:59*	WG1396048
(S) 4-Bromofluorobenzene	*87.8*		*77.0-126*		*12/11/2019 08:56*	WG1394407
(S) 4-Bromofluorobenzene	*95.4*		*77.0-126*		*12/13/2019 16:59*	WG1396048
(S) 1,2-Dichloroethane-d4	*130*		*70.0-130*		*12/11/2019 08:56*	WG1394407
(S) 1,2-Dichloroethane-d4	*89.4*		*70.0-130*		*12/13/2019 16:59*	WG1396048

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	702		100	1	12/10/2019 02:27	WG1393598
Residual Range Organics (RRO)	ND		250	1	12/10/2019 02:27	WG1393598
(S) o-Terphenyl	*85.5*		*31.0-160*		*12/10/2019 02:27*	WG1393598

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	12/10/2019 21:06	WG1392762
Lead,Dissolved	ND		2.00	1	12/10/2019 16:18	WG1392754

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	13700		2000	20	12/12/2019 22:06	WG1394653
(S) a,a,a-Trifluorotoluene(FID)	*96.3*		*78.0-120*		*12/12/2019 22:06*	WG1394653

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND	J4	50.0	1	12/11/2019 09:15	WG1394407
Acrolein	ND		50.0	1	12/11/2019 09:15	WG1394407
Acrylonitrile	ND		10.0	1	12/11/2019 09:15	WG1394407
Benzene	745		50.0	50	12/13/2019 17:18	WG1396048
Bromobenzene	ND	J0	1.00	1	12/11/2019 09:15	WG1394407
Bromodichloromethane	ND		1.00	1	12/11/2019 09:15	WG1394407
Bromoform	ND		1.00	1	12/11/2019 09:15	WG1394407
Bromomethane	ND		5.00	1	12/11/2019 09:15	WG1394407
n-Butylbenzene	21.3		1.00	1	12/11/2019 09:15	WG1394407
sec-Butylbenzene	10.2		1.00	1	12/11/2019 09:15	WG1394407
tert-Butylbenzene	ND		1.00	1	12/11/2019 09:15	WG1394407
Carbon tetrachloride	ND		1.00	1	12/11/2019 09:15	WG1394407
Chlorobenzene	ND		1.00	1	12/11/2019 09:15	WG1394407
Chlorodibromomethane	ND		1.00	1	12/11/2019 09:15	WG1394407
Chloroethane	ND		5.00	1	12/11/2019 09:15	WG1394407
Chloroform	ND		5.00	1	12/11/2019 09:15	WG1394407
Chloromethane	ND	J0	2.50	1	12/11/2019 09:15	WG1394407
2-Chlorotoluene	ND	J0	1.00	1	12/11/2019 09:15	WG1394407
4-Chlorotoluene	ND	J0	1.00	1	12/11/2019 09:15	WG1394407
1,2-Dibromo-3-Chloropropane	ND		5.00	1	12/11/2019 09:15	WG1394407
1,2-Dibromoethane	ND		1.00	1	12/11/2019 09:15	WG1394407
Dibromomethane	ND		1.00	1	12/11/2019 09:15	WG1394407
1,2-Dichlorobenzene	ND		1.00	1	12/11/2019 09:15	WG1394407
1,3-Dichlorobenzene	ND		1.00	1	12/11/2019 09:15	WG1394407
1,4-Dichlorobenzene	ND		1.00	1	12/11/2019 09:15	WG1394407
Dichlorodifluoromethane	ND	J0	5.00	1	12/11/2019 09:15	WG1394407
1,1-Dichloroethane	ND		1.00	1	12/11/2019 09:15	WG1394407
1,2-Dichloroethane	ND		1.00	1	12/11/2019 09:15	WG1394407
1,1-Dichloroethene	ND		1.00	1	12/11/2019 09:15	WG1394407
cis-1,2-Dichloroethene	ND		1.00	1	12/11/2019 09:15	WG1394407
trans-1,2-Dichloroethene	ND		1.00	1	12/11/2019 09:15	WG1394407
1,2-Dichloropropane	ND		1.00	1	12/11/2019 09:15	WG1394407
1,1-Dichloropropene	ND		1.00	1	12/11/2019 09:15	WG1394407
1,3-Dichloropropane	ND		1.00	1	12/11/2019 09:15	WG1394407
cis-1,3-Dichloropropene	ND		1.00	1	12/11/2019 09:15	WG1394407
trans-1,3-Dichloropropene	ND		1.00	1	12/11/2019 09:15	WG1394407
2,2-Dichloropropane	ND		1.00	1	12/11/2019 09:15	WG1394407
Di-isopropyl ether	ND		1.00	1	12/11/2019 09:15	WG1394407
Ethylbenzene	146		50.0	50	12/13/2019 17:18	WG1396048
Hexachloro-1,3-butadiene	ND		1.00	1	12/11/2019 09:15	WG1394407
Isopropylbenzene	57.3		1.00	1	12/11/2019 09:15	WG1394407
p-Isopropyltoluene	4.03		1.00	1	12/11/2019 09:15	WG1394407
2-Butanone (MEK)	ND		10.0	1	12/11/2019 09:15	WG1394407

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	ND		5.00	1	12/11/2019 09:15	WG1394407
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/11/2019 09:15	WG1394407
Methyl tert-butyl ether	4.36		1.00	1	12/11/2019 09:15	WG1394407
Naphthalene	91.6	Z1	50.0	50	12/13/2019 17:18	WG1396048
n-Propylbenzene	196		1.00	1	12/11/2019 09:15	WG1394407
Styrene	ND		1.00	1	12/11/2019 09:15	WG1394407
1,1,1,2-Tetrachloroethane	ND		1.00	1	12/11/2019 09:15	WG1394407
1,1,2,2-Tetrachloroethane	ND		1.00	1	12/11/2019 09:15	WG1394407
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	12/11/2019 09:15	WG1394407
Tetrachloroethene	ND		1.00	1	12/11/2019 09:15	WG1394407
Toluene	25.9		1.00	1	12/11/2019 09:15	WG1394407
1,2,3-Trichlorobenzene	ND		1.00	1	12/11/2019 09:15	WG1394407
1,2,4-Trichlorobenzene	ND		1.00	1	12/11/2019 09:15	WG1394407
1,1,1-Trichloroethane	ND		1.00	1	12/11/2019 09:15	WG1394407
1,1,2-Trichloroethane	ND		1.00	1	12/11/2019 09:15	WG1394407
Trichloroethene	ND		1.00	1	12/11/2019 09:15	WG1394407
Trichlorofluoromethane	ND		5.00	1	12/11/2019 09:15	WG1394407
1,2,3-Trichloropropane	ND		2.50	1	12/11/2019 09:15	WG1394407
1,2,4-Trimethylbenzene	89.0		50.0	50	12/13/2019 17:18	WG1396048
1,2,3-Trimethylbenzene	49.1	Z1	16.0	50	12/13/2019 17:18	WG1396048
1,3,5-Trimethylbenzene	197	J0	1.00	1	12/11/2019 09:15	WG1394407
Vinyl chloride	ND		1.00	1	12/11/2019 09:15	WG1394407
Xylenes, Total	149	Z1	53.0	50	12/13/2019 17:18	WG1396048
(S) Toluene-d8	*89.9*		*80.0-120*		*12/11/2019 09:15*	WG1394407
(S) Toluene-d8	*103*		*80.0-120*		*12/13/2019 17:18*	WG1396048
(S) 4-Bromofluorobenzene	*86.1*		*77.0-126*		*12/11/2019 09:15*	WG1394407
(S) 4-Bromofluorobenzene	*96.0*		*77.0-126*		*12/13/2019 17:18*	WG1396048
(S) 1,2-Dichloroethane-d4	*115*		*70.0-130*		*12/11/2019 09:15*	WG1394407
(S) 1,2-Dichloroethane-d4	*91.5*		*70.0-130*		*12/13/2019 17:18*	WG1396048

Sample Narrative:

L1168236-06 WG1396048: Reporting Naphthalene, xylenes, 123TMB to the mdl.

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	1150		100	1	12/10/2019 02:48	WG1393598
Residual Range Organics (RRO)	ND		250	1	12/10/2019 02:48	WG1393598
(S) o-Terphenyl	*86.0*		*31.0-160*		*12/10/2019 02:48*	WG1393598

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	12/10/2019 21:09	WG1392762
Lead,Dissolved	ND		2.00	1	12/10/2019 16:21	WG1392754

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	1980		100	1	12/11/2019 04:09	WG1394214
(S) a,a,a-Trifluorotoluene(FID)	*100*		*78.0-120*		*12/11/2019 04:09*	WG1394214

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND	J4	50.0	1	12/11/2019 09:40	WG1394407
Acrolein	ND		50.0	1	12/11/2019 09:40	WG1394407
Acrylonitrile	ND		10.0	1	12/11/2019 09:40	WG1394407
Benzene	9.64		1.00	1	12/11/2019 09:40	WG1394407
Bromobenzene	ND	J0	1.00	1	12/11/2019 09:40	WG1394407
Bromodichloromethane	ND		1.00	1	12/11/2019 09:40	WG1394407
Bromoform	ND		1.00	1	12/11/2019 09:40	WG1394407
Bromomethane	ND		5.00	1	12/11/2019 09:40	WG1394407
n-Butylbenzene	3.54		1.00	1	12/11/2019 09:40	WG1394407
sec-Butylbenzene	1.93		1.00	1	12/11/2019 09:40	WG1394407
tert-Butylbenzene	ND		1.00	1	12/11/2019 09:40	WG1394407
Carbon tetrachloride	ND		1.00	1	12/11/2019 09:40	WG1394407
Chlorobenzene	ND		1.00	1	12/11/2019 09:40	WG1394407
Chlorodibromomethane	ND		1.00	1	12/11/2019 09:40	WG1394407
Chloroethane	ND		5.00	1	12/11/2019 09:40	WG1394407
Chloroform	ND		5.00	1	12/11/2019 09:40	WG1394407
Chloromethane	ND	J0	2.50	1	12/11/2019 09:40	WG1394407
2-Chlorotoluene	ND	J0	1.00	1	12/11/2019 09:40	WG1394407
4-Chlorotoluene	ND	J0	1.00	1	12/11/2019 09:40	WG1394407
1,2-Dibromo-3-Chloropropane	ND		5.00	1	12/11/2019 09:40	WG1394407
1,2-Dibromoethane	ND		1.00	1	12/11/2019 09:40	WG1394407
Dibromomethane	ND		1.00	1	12/11/2019 09:40	WG1394407
1,2-Dichlorobenzene	ND		1.00	1	12/11/2019 09:40	WG1394407
1,3-Dichlorobenzene	ND		1.00	1	12/11/2019 09:40	WG1394407
1,4-Dichlorobenzene	ND		1.00	1	12/11/2019 09:40	WG1394407
Dichlorodifluoromethane	ND	J0	5.00	1	12/11/2019 09:40	WG1394407
1,1-Dichloroethane	ND		1.00	1	12/11/2019 09:40	WG1394407
1,2-Dichloroethane	ND		1.00	1	12/11/2019 09:40	WG1394407
1,1-Dichloroethene	ND		1.00	1	12/11/2019 09:40	WG1394407
cis-1,2-Dichloroethene	ND		1.00	1	12/11/2019 09:40	WG1394407
trans-1,2-Dichloroethene	ND		1.00	1	12/11/2019 09:40	WG1394407
1,2-Dichloropropane	ND		1.00	1	12/11/2019 09:40	WG1394407
1,1-Dichloropropene	ND		1.00	1	12/11/2019 09:40	WG1394407
1,3-Dichloropropane	ND		1.00	1	12/11/2019 09:40	WG1394407
cis-1,3-Dichloropropene	ND		1.00	1	12/11/2019 09:40	WG1394407
trans-1,3-Dichloropropene	ND		1.00	1	12/11/2019 09:40	WG1394407
2,2-Dichloropropane	ND		1.00	1	12/11/2019 09:40	WG1394407
Di-isopropyl ether	ND		1.00	1	12/11/2019 09:40	WG1394407
Ethylbenzene	59.6		1.00	1	12/11/2019 09:40	WG1394407
Hexachloro-1,3-butadiene	ND		1.00	1	12/11/2019 09:40	WG1394407
Isopropylbenzene	10.4		1.00	1	12/11/2019 09:40	WG1394407
p-Isopropyltoluene	ND		1.00	1	12/11/2019 09:40	WG1394407
2-Butanone (MEK)	ND		10.0	1	12/11/2019 09:40	WG1394407

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	ND		5.00	1	12/11/2019 09:40	WG1394407
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/11/2019 09:40	WG1394407
Methyl tert-butyl ether	10.0		1.00	1	12/11/2019 09:40	WG1394407
Naphthalene	22.2		5.00	1	12/11/2019 09:40	WG1394407
n-Propylbenzene	24.7		1.00	1	12/11/2019 09:40	WG1394407
Styrene	ND		1.00	1	12/11/2019 09:40	WG1394407
1,1,1,2-Tetrachloroethane	ND		1.00	1	12/11/2019 09:40	WG1394407
1,1,2,2-Tetrachloroethane	ND		1.00	1	12/11/2019 09:40	WG1394407
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	12/11/2019 09:40	WG1394407
Tetrachloroethene	ND		1.00	1	12/11/2019 09:40	WG1394407
Toluene	2.32		1.00	1	12/11/2019 09:40	WG1394407
1,2,3-Trichlorobenzene	ND		1.00	1	12/11/2019 09:40	WG1394407
1,2,4-Trichlorobenzene	ND		1.00	1	12/11/2019 09:40	WG1394407
1,1,1-Trichloroethane	ND		1.00	1	12/11/2019 09:40	WG1394407
1,1,2-Trichloroethane	ND		1.00	1	12/11/2019 09:40	WG1394407
Trichloroethene	ND		1.00	1	12/11/2019 09:40	WG1394407
Trichlorofluoromethane	ND		5.00	1	12/11/2019 09:40	WG1394407
1,2,3-Trichloropropane	ND		2.50	1	12/11/2019 09:40	WG1394407
1,2,4-Trimethylbenzene	82.1		1.00	1	12/11/2019 09:40	WG1394407
1,2,3-Trimethylbenzene	28.5		1.00	1	12/11/2019 09:40	WG1394407
1,3,5-Trimethylbenzene	21.4	J0	1.00	1	12/11/2019 09:40	WG1394407
Vinyl chloride	ND		1.00	1	12/11/2019 09:40	WG1394407
Xylenes, Total	250		3.00	1	12/11/2019 09:40	WG1394407
(S) Toluene-d8	*94.6*		*80.0-120*		*12/11/2019 09:40*	WG1394407
(S) 4-Bromofluorobenzene	*102*		*77.0-126*		*12/11/2019 09:40*	WG1394407
(S) 1,2-Dichloroethane-d4	*123*		*70.0-130*		*12/11/2019 09:40*	WG1394407

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	145		100	1	12/10/2019 03:08	WG1393598
Residual Range Organics (RRO)	ND		250	1	12/10/2019 03:08	WG1393598
(S) o-Terphenyl	*86.0*		*31.0-160*		*12/10/2019 03:08*	WG1393598

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	95.0		2.00	1	12/10/2019 21:12	WG1392762
Lead,Dissolved	ND		2.00	1	12/10/2019 16:25	WG1392754

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	ND		100	1	12/12/2019 22:27	WG1394653
(S) a,a,a-Trifluorotoluene(FID)	*96.4*		*78.0-120*		*12/12/2019 22:27*	WG1394653

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND	J4	50.0	1	12/11/2019 09:58	WG1394407
Acrolein	ND		50.0	1	12/11/2019 09:58	WG1394407
Acrylonitrile	ND		10.0	1	12/11/2019 09:58	WG1394407
Benzene	ND		1.00	1	12/11/2019 09:58	WG1394407
Bromobenzene	ND	J0	1.00	1	12/11/2019 09:58	WG1394407
Bromodichloromethane	ND		1.00	1	12/11/2019 09:58	WG1394407
Bromoform	ND		1.00	1	12/11/2019 09:58	WG1394407
Bromomethane	ND		5.00	1	12/11/2019 09:58	WG1394407
n-Butylbenzene	ND		1.00	1	12/11/2019 09:58	WG1394407
sec-Butylbenzene	ND		1.00	1	12/11/2019 09:58	WG1394407
tert-Butylbenzene	ND		1.00	1	12/11/2019 09:58	WG1394407
Carbon tetrachloride	ND		1.00	1	12/11/2019 09:58	WG1394407
Chlorobenzene	ND		1.00	1	12/11/2019 09:58	WG1394407
Chlorodibromomethane	ND		1.00	1	12/11/2019 09:58	WG1394407
Chloroethane	ND		5.00	1	12/11/2019 09:58	WG1394407
Chloroform	ND		5.00	1	12/11/2019 09:58	WG1394407
Chloromethane	ND	J0	2.50	1	12/11/2019 09:58	WG1394407
2-Chlorotoluene	ND	J0	1.00	1	12/11/2019 09:58	WG1394407
4-Chlorotoluene	ND	J0	1.00	1	12/11/2019 09:58	WG1394407
1,2-Dibromo-3-Chloropropane	ND		5.00	1	12/11/2019 09:58	WG1394407
1,2-Dibromoethane	ND		1.00	1	12/11/2019 09:58	WG1394407
Dibromomethane	ND		1.00	1	12/11/2019 09:58	WG1394407
1,2-Dichlorobenzene	ND		1.00	1	12/11/2019 09:58	WG1394407
1,3-Dichlorobenzene	ND		1.00	1	12/11/2019 09:58	WG1394407
1,4-Dichlorobenzene	ND		1.00	1	12/11/2019 09:58	WG1394407
Dichlorodifluoromethane	ND	J0	5.00	1	12/11/2019 09:58	WG1394407
1,1-Dichloroethane	ND		1.00	1	12/11/2019 09:58	WG1394407
1,2-Dichloroethane	ND		1.00	1	12/11/2019 09:58	WG1394407
1,1-Dichloroethene	ND		1.00	1	12/11/2019 09:58	WG1394407
cis-1,2-Dichloroethene	ND		1.00	1	12/11/2019 09:58	WG1394407
trans-1,2-Dichloroethene	ND		1.00	1	12/11/2019 09:58	WG1394407
1,2-Dichloropropane	ND		1.00	1	12/11/2019 09:58	WG1394407
1,1-Dichloropropene	ND		1.00	1	12/11/2019 09:58	WG1394407
1,3-Dichloropropane	ND		1.00	1	12/11/2019 09:58	WG1394407
cis-1,3-Dichloropropene	ND		1.00	1	12/11/2019 09:58	WG1394407
trans-1,3-Dichloropropene	ND		1.00	1	12/11/2019 09:58	WG1394407
2,2-Dichloropropane	ND		1.00	1	12/11/2019 09:58	WG1394407
Di-isopropyl ether	ND		1.00	1	12/11/2019 09:58	WG1394407
Ethylbenzene	ND		1.00	1	12/11/2019 09:58	WG1394407
Hexachloro-1,3-butadiene	ND		1.00	1	12/11/2019 09:58	WG1394407
Isopropylbenzene	ND		1.00	1	12/11/2019 09:58	WG1394407
p-Isopropyltoluene	ND		1.00	1	12/11/2019 09:58	WG1394407
2-Butanone (MEK)	ND		10.0	1	12/11/2019 09:58	WG1394407

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	ND		5.00	1	12/11/2019 09:58	WG1394407
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/11/2019 09:58	WG1394407
Methyl tert-butyl ether	3.78		1.00	1	12/11/2019 09:58	WG1394407
Naphthalene	ND		5.00	1	12/11/2019 09:58	WG1394407
n-Propylbenzene	ND		1.00	1	12/11/2019 09:58	WG1394407
Styrene	ND		1.00	1	12/11/2019 09:58	WG1394407
1,1,1,2-Tetrachloroethane	ND		1.00	1	12/11/2019 09:58	WG1394407
1,1,2,2-Tetrachloroethane	ND		1.00	1	12/11/2019 09:58	WG1394407
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	12/11/2019 09:58	WG1394407
Tetrachloroethene	ND		1.00	1	12/11/2019 09:58	WG1394407
Toluene	ND		1.00	1	12/11/2019 09:58	WG1394407
1,2,3-Trichlorobenzene	ND		1.00	1	12/11/2019 09:58	WG1394407
1,2,4-Trichlorobenzene	ND		1.00	1	12/11/2019 09:58	WG1394407
1,1,1-Trichloroethane	ND		1.00	1	12/11/2019 09:58	WG1394407
1,1,2-Trichloroethane	ND		1.00	1	12/11/2019 09:58	WG1394407
Trichloroethene	ND		1.00	1	12/11/2019 09:58	WG1394407
Trichlorofluoromethane	ND		5.00	1	12/11/2019 09:58	WG1394407
1,2,3-Trichloropropane	ND		2.50	1	12/11/2019 09:58	WG1394407
1,2,4-Trimethylbenzene	ND		1.00	1	12/11/2019 09:58	WG1394407
1,2,3-Trimethylbenzene	ND		1.00	1	12/11/2019 09:58	WG1394407
1,3,5-Trimethylbenzene	ND	J0	1.00	1	12/11/2019 09:58	WG1394407
Vinyl chloride	ND		1.00	1	12/11/2019 09:58	WG1394407
Xylenes, Total	ND		3.00	1	12/11/2019 09:58	WG1394407
(S) Toluene-d8	*99.4*		*80.0-120*		*12/11/2019 09:58*	WG1394407
(S) 4-Bromofluorobenzene	*97.9*		*77.0-126*		*12/11/2019 09:58*	WG1394407
(S) 1,2-Dichloroethane-d4	*113*		*70.0-130*		*12/11/2019 09:58*	WG1394407

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	135		100	1	12/10/2019 07:05	WG1393598
Residual Range Organics (RRO)	ND		250	1	12/10/2019 07:05	WG1393598
(S) o-Terphenyl	*76.5*		*31.0-160*		*12/10/2019 07:05*	WG1393598

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	12/10/2019 21:16	WG1392762
Lead,Dissolved	ND		2.00	1	12/10/2019 16:29	WG1392754

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	16300		1000	10	12/12/2019 22:48	WG1394653
(S) a,a,a-Trifluorotoluene(FID)	*108*		*78.0-120*		*12/12/2019 22:48*	WG1394653

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND	J4	50.0	1	12/11/2019 10:18	WG1394407
Acrolein	ND		50.0	1	12/11/2019 10:18	WG1394407
Acrylonitrile	ND		10.0	1	12/11/2019 10:18	WG1394407
Benzene	40.4		1.00	1	12/11/2019 10:18	WG1394407
Bromobenzene	ND	J0	1.00	1	12/11/2019 10:18	WG1394407
Bromodichloromethane	ND		1.00	1	12/11/2019 10:18	WG1394407
Bromoform	ND		1.00	1	12/11/2019 10:18	WG1394407
Bromomethane	ND		5.00	1	12/11/2019 10:18	WG1394407
n-Butylbenzene	32.7		1.00	1	12/11/2019 10:18	WG1394407
sec-Butylbenzene	16.8		1.00	1	12/11/2019 10:18	WG1394407
tert-Butylbenzene	1.36		1.00	1	12/11/2019 10:18	WG1394407
Carbon tetrachloride	ND		1.00	1	12/11/2019 10:18	WG1394407
Chlorobenzene	ND		1.00	1	12/11/2019 10:18	WG1394407
Chlorodibromomethane	ND		1.00	1	12/11/2019 10:18	WG1394407
Chloroethane	ND		5.00	1	12/11/2019 10:18	WG1394407
Chloroform	ND		5.00	1	12/11/2019 10:18	WG1394407
Chloromethane	ND	J0	2.50	1	12/11/2019 10:18	WG1394407
2-Chlorotoluene	ND	J0	1.00	1	12/11/2019 10:18	WG1394407
4-Chlorotoluene	ND	J0	1.00	1	12/11/2019 10:18	WG1394407
1,2-Dibromo-3-Chloropropane	ND		5.00	1	12/11/2019 10:18	WG1394407
1,2-Dibromoethane	ND		1.00	1	12/11/2019 10:18	WG1394407
Dibromomethane	ND		1.00	1	12/11/2019 10:18	WG1394407
1,2-Dichlorobenzene	ND		1.00	1	12/11/2019 10:18	WG1394407
1,3-Dichlorobenzene	ND		1.00	1	12/11/2019 10:18	WG1394407
1,4-Dichlorobenzene	ND		1.00	1	12/11/2019 10:18	WG1394407
Dichlorodifluoromethane	ND	J0	5.00	1	12/11/2019 10:18	WG1394407
1,1-Dichloroethane	ND		1.00	1	12/11/2019 10:18	WG1394407
1,2-Dichloroethane	ND		1.00	1	12/11/2019 10:18	WG1394407
1,1-Dichloroethene	ND		1.00	1	12/11/2019 10:18	WG1394407
cis-1,2-Dichloroethene	ND		1.00	1	12/11/2019 10:18	WG1394407
trans-1,2-Dichloroethene	ND		1.00	1	12/11/2019 10:18	WG1394407
1,2-Dichloropropane	ND		1.00	1	12/11/2019 10:18	WG1394407
1,1-Dichloropropene	ND		1.00	1	12/11/2019 10:18	WG1394407
1,3-Dichloropropane	ND		1.00	1	12/11/2019 10:18	WG1394407
cis-1,3-Dichloropropene	ND		1.00	1	12/11/2019 10:18	WG1394407
trans-1,3-Dichloropropene	ND		1.00	1	12/11/2019 10:18	WG1394407
2,2-Dichloropropane	ND		1.00	1	12/11/2019 10:18	WG1394407
Di-isopropyl ether	ND		1.00	1	12/11/2019 10:18	WG1394407
Ethylbenzene	1510		50.0	50	12/13/2019 17:37	WG1396048
Hexachloro-1,3-butadiene	ND		1.00	1	12/11/2019 10:18	WG1394407
Isopropylbenzene	151		1.00	1	12/11/2019 10:18	WG1394407
p-Isopropyltoluene	2.20		1.00	1	12/11/2019 10:18	WG1394407
2-Butanone (MEK)	ND		10.0	1	12/11/2019 10:18	WG1394407

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	ND		5.00	1	12/11/2019 10:18	WG1394407
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/11/2019 10:18	WG1394407
Methyl tert-butyl ether	17.7		1.00	1	12/11/2019 10:18	WG1394407
Naphthalene	434		250	50	12/13/2019 17:37	WG1396048
n-Propylbenzene	450		50.0	50	12/13/2019 17:37	WG1396048
Styrene	ND		1.00	1	12/11/2019 10:18	WG1394407
1,1,1,2-Tetrachloroethane	ND		1.00	1	12/11/2019 10:18	WG1394407
1,1,2,2-Tetrachloroethane	ND		1.00	1	12/11/2019 10:18	WG1394407
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	12/11/2019 10:18	WG1394407
Tetrachloroethene	ND		1.00	1	12/11/2019 10:18	WG1394407
Toluene	2.68		1.00	1	12/11/2019 10:18	WG1394407
1,2,3-Trichlorobenzene	ND		1.00	1	12/11/2019 10:18	WG1394407
1,2,4-Trichlorobenzene	ND		1.00	1	12/11/2019 10:18	WG1394407
1,1,1-Trichloroethane	ND		1.00	1	12/11/2019 10:18	WG1394407
1,1,2-Trichloroethane	ND		1.00	1	12/11/2019 10:18	WG1394407
Trichloroethene	ND		1.00	1	12/11/2019 10:18	WG1394407
Trichlorofluoromethane	ND		5.00	1	12/11/2019 10:18	WG1394407
1,2,3-Trichloropropane	ND		2.50	1	12/11/2019 10:18	WG1394407
1,2,4-Trimethylbenzene	21.7		1.00	1	12/11/2019 10:18	WG1394407
1,2,3-Trimethylbenzene	353		50.0	50	12/13/2019 17:37	WG1396048
1,3,5-Trimethylbenzene	49.8	J0	1.00	1	12/11/2019 10:18	WG1394407
Vinyl chloride	ND		1.00	1	12/11/2019 10:18	WG1394407
Xylenes, Total	121		3.00	1	12/11/2019 10:18	WG1394407
(S) Toluene-d8	*99.2*		*80.0-120*		*12/11/2019 10:18*	WG1394407
(S) Toluene-d8	*102*		*80.0-120*		*12/13/2019 17:37*	WG1396048
(S) 4-Bromofluorobenzene	*101*		*77.0-126*		*12/11/2019 10:18*	WG1394407
(S) 4-Bromofluorobenzene	*96.1*		*77.0-126*		*12/13/2019 17:37*	WG1396048
(S) 1,2-Dichloroethane-d4	*135*	J1	*70.0-130*		*12/11/2019 10:18*	WG1394407
(S) 1,2-Dichloroethane-d4	*90.9*		*70.0-130*		*12/13/2019 17:37*	WG1396048

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	1530		100	1	12/10/2019 07:25	WG1393598
Residual Range Organics (RRO)	ND		250	1	12/10/2019 07:25	WG1393598
(S) o-Terphenyl	*80.5*		*31.0-160*		*12/10/2019 07:25*	WG1393598

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	12/10/2019 21:19	WG1392762
Lead,Dissolved	ND		2.00	1	12/11/2019 23:04	WG1394512

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	1200		100	1	12/11/2019 05:13	WG1394214
(S) a,a,a-Trifluorotoluene(FID)	*100*		*78.0-120*		*12/11/2019 05:13*	WG1394214

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/13/2019 15:35	WG1396153
Acrolein	ND	J0	50.0	1	12/13/2019 15:35	WG1396153
Acrylonitrile	ND		10.0	1	12/13/2019 15:35	WG1396153
Benzene	6.74		1.00	1	12/13/2019 15:35	WG1396153
Bromobenzene	ND		1.00	1	12/13/2019 15:35	WG1396153
Bromodichloromethane	ND		1.00	1	12/13/2019 15:35	WG1396153
Bromoform	ND		1.00	1	12/13/2019 15:35	WG1396153
Bromomethane	ND		5.00	1	12/13/2019 15:35	WG1396153
n-Butylbenzene	3.14		1.00	1	12/13/2019 15:35	WG1396153
sec-Butylbenzene	1.40		1.00	1	12/13/2019 15:35	WG1396153
tert-Butylbenzene	ND		1.00	1	12/13/2019 15:35	WG1396153
Carbon tetrachloride	ND		1.00	1	12/13/2019 15:35	WG1396153
Chlorobenzene	ND		1.00	1	12/13/2019 15:35	WG1396153
Chlorodibromomethane	ND		1.00	1	12/13/2019 15:35	WG1396153
Chloroethane	ND		5.00	1	12/13/2019 15:35	WG1396153
Chloroform	ND		5.00	1	12/13/2019 15:35	WG1396153
Chloromethane	ND		2.50	1	12/13/2019 15:35	WG1396153
2-Chlorotoluene	ND		1.00	1	12/13/2019 15:35	WG1396153
4-Chlorotoluene	ND		1.00	1	12/13/2019 15:35	WG1396153
1,2-Dibromo-3-Chloropropane	ND		5.00	1	12/13/2019 15:35	WG1396153
1,2-Dibromoethane	ND		1.00	1	12/13/2019 15:35	WG1396153
Dibromomethane	ND		1.00	1	12/13/2019 15:35	WG1396153
1,2-Dichlorobenzene	ND		1.00	1	12/13/2019 15:35	WG1396153
1,3-Dichlorobenzene	ND		1.00	1	12/13/2019 15:35	WG1396153
1,4-Dichlorobenzene	ND		1.00	1	12/13/2019 15:35	WG1396153
Dichlorodifluoromethane	ND		5.00	1	12/13/2019 15:35	WG1396153
1,1-Dichloroethane	ND		1.00	1	12/13/2019 15:35	WG1396153
1,2-Dichloroethane	ND		1.00	1	12/13/2019 15:35	WG1396153
1,1-Dichloroethene	ND		1.00	1	12/13/2019 15:35	WG1396153
cis-1,2-Dichloroethene	ND		1.00	1	12/13/2019 15:35	WG1396153
trans-1,2-Dichloroethene	ND		1.00	1	12/13/2019 15:35	WG1396153
1,2-Dichloropropane	ND		1.00	1	12/13/2019 15:35	WG1396153
1,1-Dichloropropene	ND		1.00	1	12/13/2019 15:35	WG1396153
1,3-Dichloropropane	ND		1.00	1	12/13/2019 15:35	WG1396153
cis-1,3-Dichloropropene	ND		1.00	1	12/13/2019 15:35	WG1396153
trans-1,3-Dichloropropene	ND		1.00	1	12/13/2019 15:35	WG1396153
2,2-Dichloropropane	ND		1.00	1	12/13/2019 15:35	WG1396153
Di-isopropyl ether	ND		1.00	1	12/13/2019 15:35	WG1396153
Ethylbenzene	2.31		1.00	1	12/13/2019 15:35	WG1396153
Hexachloro-1,3-butadiene	ND		1.00	1	12/13/2019 15:35	WG1396153
Isopropylbenzene	4.24		1.00	1	12/13/2019 15:35	WG1396153
p-Isopropyltoluene	ND		1.00	1	12/13/2019 15:35	WG1396153
2-Butanone (MEK)	ND		10.0	1	12/13/2019 15:35	WG1396153

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	ND		5.00	1	12/13/2019 15:35	WG1396153
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/13/2019 15:35	WG1396153
Methyl tert-butyl ether	157		1.00	1	12/13/2019 15:35	WG1396153
Naphthalene	ND		5.00	1	12/13/2019 15:35	WG1396153
n-Propylbenzene	10.6		1.00	1	12/13/2019 15:35	WG1396153
Styrene	ND		1.00	1	12/13/2019 15:35	WG1396153
1,1,1,2-Tetrachloroethane	ND		1.00	1	12/13/2019 15:35	WG1396153
1,1,2,2-Tetrachloroethane	ND		1.00	1	12/13/2019 15:35	WG1396153
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	12/13/2019 15:35	WG1396153
Tetrachloroethene	ND		1.00	1	12/13/2019 15:35	WG1396153
Toluene	1.48		1.00	1	12/13/2019 15:35	WG1396153
1,2,3-Trichlorobenzene	ND		1.00	1	12/13/2019 15:35	WG1396153
1,2,4-Trichlorobenzene	ND		1.00	1	12/13/2019 15:35	WG1396153
1,1,1-Trichloroethane	ND		1.00	1	12/13/2019 15:35	WG1396153
1,1,2-Trichloroethane	ND		1.00	1	12/13/2019 15:35	WG1396153
Trichloroethene	ND		1.00	1	12/13/2019 15:35	WG1396153
Trichlorofluoromethane	ND		5.00	1	12/13/2019 15:35	WG1396153
1,2,3-Trichloropropane	ND		2.50	1	12/13/2019 15:35	WG1396153
1,2,4-Trimethylbenzene	ND		1.00	1	12/13/2019 15:35	WG1396153
1,2,3-Trimethylbenzene	3.32		1.00	1	12/13/2019 15:35	WG1396153
1,3,5-Trimethylbenzene	ND		1.00	1	12/13/2019 15:35	WG1396153
Vinyl chloride	ND		1.00	1	12/13/2019 15:35	WG1396153
Xylenes, Total	ND		3.00	1	12/13/2019 15:35	WG1396153
(S) Toluene-d8	*105*		*80.0-120*		*12/13/2019 15:35*	WG1396153
(S) 4-Bromofluorobenzene	*102*		*77.0-126*		*12/13/2019 15:35*	WG1396153
(S) 1,2-Dichloroethane-d4	*101*		*70.0-130*		*12/13/2019 15:35*	WG1396153

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	300		100	1	12/10/2019 07:45	WG1393598
Residual Range Organics (RRO)	ND		250	1	12/10/2019 07:45	WG1393598
(S) o-Terphenyl	*87.0*		*31.0-160*		*12/10/2019 07:45*	WG1393598

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	12/10/2019 21:22	WG1392762
Lead,Dissolved	ND		2.00	1	12/11/2019 23:07	WG1394512

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	18300		1000	10	12/12/2019 23:08	WG1394653
(S) a,a,a-Trifluorotoluene(FID)	*107*		*78.0-120*		*12/12/2019 23:08*	WG1394653

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND	J4	50.0	1	12/11/2019 10:55	WG1394407
Acrolein	ND		50.0	1	12/11/2019 10:55	WG1394407
Acrylonitrile	ND		10.0	1	12/11/2019 10:55	WG1394407
Benzene	289		50.0	50	12/13/2019 17:55	WG1396048
Bromobenzene	ND	J0	1.00	1	12/11/2019 10:55	WG1394407
Bromodichloromethane	ND		1.00	1	12/11/2019 10:55	WG1394407
Bromoform	ND		1.00	1	12/11/2019 10:55	WG1394407
Bromomethane	ND		5.00	1	12/11/2019 10:55	WG1394407
n-Butylbenzene	46.5		1.00	1	12/11/2019 10:55	WG1394407
sec-Butylbenzene	22.5		1.00	1	12/11/2019 10:55	WG1394407
tert-Butylbenzene	1.08		1.00	1	12/11/2019 10:55	WG1394407
Carbon tetrachloride	ND		1.00	1	12/11/2019 10:55	WG1394407
Chlorobenzene	ND		1.00	1	12/11/2019 10:55	WG1394407
Chlorodibromomethane	ND		1.00	1	12/11/2019 10:55	WG1394407
Chloroethane	ND		5.00	1	12/11/2019 10:55	WG1394407
Chloroform	ND		5.00	1	12/11/2019 10:55	WG1394407
Chloromethane	ND	J0	2.50	1	12/11/2019 10:55	WG1394407
2-Chlorotoluene	ND	J0	1.00	1	12/11/2019 10:55	WG1394407
4-Chlorotoluene	ND	J0	1.00	1	12/11/2019 10:55	WG1394407
1,2-Dibromo-3-Chloropropane	ND		5.00	1	12/11/2019 10:55	WG1394407
1,2-Dibromoethane	ND		1.00	1	12/11/2019 10:55	WG1394407
Dibromomethane	ND		1.00	1	12/11/2019 10:55	WG1394407
1,2-Dichlorobenzene	ND		1.00	1	12/11/2019 10:55	WG1394407
1,3-Dichlorobenzene	ND		1.00	1	12/11/2019 10:55	WG1394407
1,4-Dichlorobenzene	ND		1.00	1	12/11/2019 10:55	WG1394407
Dichlorodifluoromethane	ND	J0	5.00	1	12/11/2019 10:55	WG1394407
1,1-Dichloroethane	ND		1.00	1	12/11/2019 10:55	WG1394407
1,2-Dichloroethane	ND		1.00	1	12/11/2019 10:55	WG1394407
1,1-Dichloroethene	ND		1.00	1	12/11/2019 10:55	WG1394407
cis-1,2-Dichloroethene	ND		1.00	1	12/11/2019 10:55	WG1394407
trans-1,2-Dichloroethene	ND		1.00	1	12/11/2019 10:55	WG1394407
1,2-Dichloropropane	ND		1.00	1	12/11/2019 10:55	WG1394407
1,1-Dichloropropene	ND		1.00	1	12/11/2019 10:55	WG1394407
1,3-Dichloropropane	ND		1.00	1	12/11/2019 10:55	WG1394407
cis-1,3-Dichloropropene	ND		1.00	1	12/11/2019 10:55	WG1394407
trans-1,3-Dichloropropene	ND		1.00	1	12/11/2019 10:55	WG1394407
2,2-Dichloropropane	ND		1.00	1	12/11/2019 10:55	WG1394407
Di-isopropyl ether	ND		1.00	1	12/11/2019 10:55	WG1394407
Ethylbenzene	2030		50.0	50	12/13/2019 17:55	WG1396048
Hexachloro-1,3-butadiene	ND		1.00	1	12/11/2019 10:55	WG1394407
Isopropylbenzene	132		1.00	1	12/11/2019 10:55	WG1394407
p-Isopropyltoluene	2.06		1.00	1	12/11/2019 10:55	WG1394407
2-Butanone (MEK)	ND		10.0	1	12/11/2019 10:55	WG1394407

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	ND		5.00	1	12/11/2019 10:55	WG1394407
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/11/2019 10:55	WG1394407
Methyl tert-butyl ether	14.7		1.00	1	12/11/2019 10:55	WG1394407
Naphthalene	573		250	50	12/13/2019 17:55	WG1396048
n-Propylbenzene	355		50.0	50	12/13/2019 17:55	WG1396048
Styrene	ND		1.00	1	12/11/2019 10:55	WG1394407
1,1,1,2-Tetrachloroethane	ND		1.00	1	12/11/2019 10:55	WG1394407
1,1,2,2-Tetrachloroethane	ND		1.00	1	12/11/2019 10:55	WG1394407
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	12/11/2019 10:55	WG1394407
Tetrachloroethene	ND		1.00	1	12/11/2019 10:55	WG1394407
Toluene	20.2		1.00	1	12/11/2019 10:55	WG1394407
1,2,3-Trichlorobenzene	ND		1.00	1	12/11/2019 10:55	WG1394407
1,2,4-Trichlorobenzene	ND		1.00	1	12/11/2019 10:55	WG1394407
1,1,1-Trichloroethane	ND		1.00	1	12/11/2019 10:55	WG1394407
1,1,2-Trichloroethane	ND		1.00	1	12/11/2019 10:55	WG1394407
Trichloroethene	ND		1.00	1	12/11/2019 10:55	WG1394407
Trichlorofluoromethane	ND		5.00	1	12/11/2019 10:55	WG1394407
1,2,3-Trichloropropane	ND		2.50	1	12/11/2019 10:55	WG1394407
1,2,4-Trimethylbenzene	176		1.00	1	12/11/2019 10:55	WG1394407
1,2,3-Trimethylbenzene	513		50.0	50	12/13/2019 17:55	WG1396048
1,3,5-Trimethylbenzene	43.4	J0	1.00	1	12/11/2019 10:55	WG1394407
Vinyl chloride	ND		1.00	1	12/11/2019 10:55	WG1394407
Xylenes, Total	274		3.00	1	12/11/2019 10:55	WG1394407
(S) Toluene-d8	*97.6*		*80.0-120*		*12/11/2019 10:55*	WG1394407
(S) Toluene-d8	*102*		*80.0-120*		*12/13/2019 17:55*	WG1396048
(S) 4-Bromofluorobenzene	*93.4*		*77.0-126*		*12/11/2019 10:55*	WG1394407
(S) 4-Bromofluorobenzene	*97.4*		*77.0-126*		*12/13/2019 17:55*	WG1396048
(S) 1,2-Dichloroethane-d4	*131*	J1	*70.0-130*		*12/11/2019 10:55*	WG1394407
(S) 1,2-Dichloroethane-d4	*92.4*		*70.0-130*		*12/13/2019 17:55*	WG1396048

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	1910		100	1	12/10/2019 08:05	WG1393598
Residual Range Organics (RRO)	ND		250	1	12/10/2019 08:05	WG1393598
(S) o-Terphenyl	*86.0*		*31.0-160*		*12/10/2019 08:05*	WG1393598

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	12/10/2019 21:26	WG1392762
Lead,Dissolved	ND		2.00	1	12/11/2019 23:11	WG1394512

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	21200		1000	10	12/11/2019 05:57	WG1394214
(S) a,a,a-Trifluorotoluene(FID)	*98.6*		*78.0-120*		*12/11/2019 05:57*	WG1394214

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND	J4	500	10	12/11/2019 11:14	WG1394407
Acrolein	ND		500	10	12/11/2019 11:14	WG1394407
Acrylonitrile	ND		100	10	12/11/2019 11:14	WG1394407
Benzene	3140		100	100	12/13/2019 18:14	WG1396048
Bromobenzene	ND	J0	10.0	10	12/11/2019 11:14	WG1394407
Bromodichloromethane	ND		10.0	10	12/11/2019 11:14	WG1394407
Bromoform	ND		10.0	10	12/11/2019 11:14	WG1394407
Bromomethane	ND		50.0	10	12/11/2019 11:14	WG1394407
n-Butylbenzene	21.7		10.0	10	12/11/2019 11:14	WG1394407
sec-Butylbenzene	11.3		10.0	10	12/11/2019 11:14	WG1394407
tert-Butylbenzene	ND		10.0	10	12/11/2019 11:14	WG1394407
Carbon tetrachloride	ND		10.0	10	12/11/2019 11:14	WG1394407
Chlorobenzene	ND		10.0	10	12/11/2019 11:14	WG1394407
Chlorodibromomethane	ND		10.0	10	12/11/2019 11:14	WG1394407
Chloroethane	ND		50.0	10	12/11/2019 11:14	WG1394407
Chloroform	ND		50.0	10	12/11/2019 11:14	WG1394407
Chloromethane	ND	J0	25.0	10	12/11/2019 11:14	WG1394407
2-Chlorotoluene	ND	J0	10.0	10	12/11/2019 11:14	WG1394407
4-Chlorotoluene	ND	J0	10.0	10	12/11/2019 11:14	WG1394407
1,2-Dibromo-3-Chloropropane	ND		50.0	10	12/11/2019 11:14	WG1394407
1,2-Dibromoethane	ND		10.0	10	12/11/2019 11:14	WG1394407
Dibromomethane	ND		10.0	10	12/11/2019 11:14	WG1394407
1,2-Dichlorobenzene	ND		10.0	10	12/11/2019 11:14	WG1394407
1,3-Dichlorobenzene	ND		10.0	10	12/11/2019 11:14	WG1394407
1,4-Dichlorobenzene	ND		10.0	10	12/11/2019 11:14	WG1394407
Dichlorodifluoromethane	ND	J0	50.0	10	12/11/2019 11:14	WG1394407
1,1-Dichloroethane	ND		10.0	10	12/11/2019 11:14	WG1394407
1,2-Dichloroethane	ND		10.0	10	12/11/2019 11:14	WG1394407
1,1-Dichloroethene	ND		10.0	10	12/11/2019 11:14	WG1394407
cis-1,2-Dichloroethene	ND		10.0	10	12/11/2019 11:14	WG1394407
trans-1,2-Dichloroethene	ND		10.0	10	12/11/2019 11:14	WG1394407
1,2-Dichloropropane	ND		10.0	10	12/11/2019 11:14	WG1394407
1,1-Dichloropropene	ND		10.0	10	12/11/2019 11:14	WG1394407
1,3-Dichloropropane	ND		10.0	10	12/11/2019 11:14	WG1394407
cis-1,3-Dichloropropene	ND		10.0	10	12/11/2019 11:14	WG1394407
trans-1,3-Dichloropropene	ND		10.0	10	12/11/2019 11:14	WG1394407
2,2-Dichloropropane	ND		10.0	10	12/11/2019 11:14	WG1394407
Di-isopropyl ether	ND		10.0	10	12/11/2019 11:14	WG1394407
Ethylbenzene	778		10.0	10	12/11/2019 11:14	WG1394407
Hexachloro-1,3-butadiene	ND		10.0	10	12/11/2019 11:14	WG1394407
Isopropylbenzene	100		10.0	10	12/11/2019 11:14	WG1394407
p-Isopropyltoluene	ND		10.0	10	12/11/2019 11:14	WG1394407
2-Butanone (MEK)	ND		100	10	12/11/2019 11:14	WG1394407

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	ND		50.0	10	12/11/2019 11:14	WG1394407
4-Methyl-2-pentanone (MIBK)	ND		100	10	12/11/2019 11:14	WG1394407
Methyl tert-butyl ether	11.9		10.0	10	12/11/2019 11:14	WG1394407
Naphthalene	196		50.0	10	12/11/2019 11:14	WG1394407
n-Propylbenzene	291		10.0	10	12/11/2019 11:14	WG1394407
Styrene	ND		10.0	10	12/11/2019 11:14	WG1394407
1,1,1,2-Tetrachloroethane	ND		10.0	10	12/11/2019 11:14	WG1394407
1,1,2,2-Tetrachloroethane	ND		10.0	10	12/11/2019 11:14	WG1394407
1,1,2-Trichlorotrifluoroethane	ND		10.0	10	12/11/2019 11:14	WG1394407
Tetrachloroethene	ND		10.0	10	12/11/2019 11:14	WG1394407
Toluene	87.8		10.0	10	12/11/2019 11:14	WG1394407
1,2,3-Trichlorobenzene	ND		10.0	10	12/11/2019 11:14	WG1394407
1,2,4-Trichlorobenzene	ND		10.0	10	12/11/2019 11:14	WG1394407
1,1,1-Trichloroethane	ND		10.0	10	12/11/2019 11:14	WG1394407
1,1,2-Trichloroethane	ND		10.0	10	12/11/2019 11:14	WG1394407
Trichloroethene	ND		10.0	10	12/11/2019 11:14	WG1394407
Trichlorofluoromethane	ND		50.0	10	12/11/2019 11:14	WG1394407
1,2,3-Trichloropropane	ND		25.0	10	12/11/2019 11:14	WG1394407
1,2,4-Trimethylbenzene	316		10.0	10	12/11/2019 11:14	WG1394407
1,2,3-Trimethylbenzene	210		10.0	10	12/11/2019 11:14	WG1394407
1,3,5-Trimethylbenzene	115	J0	10.0	10	12/11/2019 11:14	WG1394407
Vinyl chloride	ND		10.0	10	12/11/2019 11:14	WG1394407
Xylenes, Total	936		30.0	10	12/11/2019 11:14	WG1394407
(S) Toluene-d8	*101*		*80.0-120*		*12/11/2019 11:14*	WG1394407
(S) Toluene-d8	*101*		*80.0-120*		*12/13/2019 18:14*	WG1396048
(S) 4-Bromofluorobenzene	*99.2*		*77.0-126*		*12/11/2019 11:14*	WG1394407
(S) 4-Bromofluorobenzene	*95.3*		*77.0-126*		*12/13/2019 18:14*	WG1396048
(S) 1,2-Dichloroethane-d4	*110*		*70.0-130*		*12/11/2019 11:14*	WG1394407
(S) 1,2-Dichloroethane-d4	*90.9*		*70.0-130*		*12/13/2019 18:14*	WG1396048

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	996		100	1	12/10/2019 08:25	WG1393598
Residual Range Organics (RRO)	ND		250	1	12/10/2019 08:25	WG1393598
(S) o-Terphenyl	*81.5*		*31.0-160*		*12/10/2019 08:25*	WG1393598

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	33.2		2.00	1	12/10/2019 21:29	WG1392762
Lead,Dissolved	ND		2.00	1	12/11/2019 23:24	WG1394512

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	13100		1000	10	12/13/2019 00:10	WG1394653
(S) a,a,a-Trifluorotoluene(FID)	*105*		*78.0-120*		*12/13/2019 00:10*	WG1394653

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/11/2019 19:27	WG1394686
Acrolein	ND		50.0	1	12/11/2019 19:27	WG1394686
Acrylonitrile	ND		10.0	1	12/11/2019 19:27	WG1394686
Benzene	492		25.0	25	12/12/2019 18:45	WG1395726
Bromobenzene	ND		1.00	1	12/11/2019 19:27	WG1394686
Bromodichloromethane	ND		1.00	1	12/11/2019 19:27	WG1394686
Bromoform	ND		1.00	1	12/11/2019 19:27	WG1394686
Bromomethane	ND		5.00	1	12/11/2019 19:27	WG1394686
n-Butylbenzene	ND		1.00	1	12/11/2019 19:27	WG1394686
sec-Butylbenzene	20.0		1.00	1	12/11/2019 19:27	WG1394686
tert-Butylbenzene	1.21		1.00	1	12/11/2019 19:27	WG1394686
Carbon tetrachloride	ND		1.00	1	12/11/2019 19:27	WG1394686
Chlorobenzene	ND		1.00	1	12/11/2019 19:27	WG1394686
Chlorodibromomethane	ND		1.00	1	12/11/2019 19:27	WG1394686
Chloroethane	ND		5.00	1	12/11/2019 19:27	WG1394686
Chloroform	ND		5.00	1	12/11/2019 19:27	WG1394686
Chloromethane	ND		2.50	1	12/11/2019 19:27	WG1394686
2-Chlorotoluene	ND		1.00	1	12/11/2019 19:27	WG1394686
4-Chlorotoluene	ND		1.00	1	12/11/2019 19:27	WG1394686
1,2-Dibromo-3-Chloropropane	ND		5.00	1	12/11/2019 19:27	WG1394686
1,2-Dibromoethane	ND		1.00	1	12/11/2019 19:27	WG1394686
Dibromomethane	ND		1.00	1	12/11/2019 19:27	WG1394686
1,2-Dichlorobenzene	ND		1.00	1	12/11/2019 19:27	WG1394686
1,3-Dichlorobenzene	ND		1.00	1	12/11/2019 19:27	WG1394686
1,4-Dichlorobenzene	ND		1.00	1	12/11/2019 19:27	WG1394686
Dichlorodifluoromethane	ND		5.00	1	12/11/2019 19:27	WG1394686
1,1-Dichloroethane	ND		1.00	1	12/11/2019 19:27	WG1394686
1,2-Dichloroethane	ND		1.00	1	12/11/2019 19:27	WG1394686
1,1-Dichloroethene	ND		1.00	1	12/11/2019 19:27	WG1394686
cis-1,2-Dichloroethene	ND		1.00	1	12/11/2019 19:27	WG1394686
trans-1,2-Dichloroethene	ND		1.00	1	12/11/2019 19:27	WG1394686
1,2-Dichloropropane	ND		1.00	1	12/11/2019 19:27	WG1394686
1,1-Dichloropropene	ND		1.00	1	12/11/2019 19:27	WG1394686
1,3-Dichloropropane	ND		1.00	1	12/11/2019 19:27	WG1394686
cis-1,3-Dichloropropene	ND		1.00	1	12/11/2019 19:27	WG1394686
trans-1,3-Dichloropropene	ND		1.00	1	12/11/2019 19:27	WG1394686
2,2-Dichloropropane	ND		1.00	1	12/11/2019 19:27	WG1394686
Di-isopropyl ether	ND		1.00	1	12/11/2019 19:27	WG1394686
Ethylbenzene	239		25.0	25	12/12/2019 18:45	WG1395726
Hexachloro-1,3-butadiene	ND		1.00	1	12/11/2019 19:27	WG1394686
Isopropylbenzene	168		1.00	1	12/11/2019 19:27	WG1394686
p-Isopropyltoluene	7.22		1.00	1	12/11/2019 19:27	WG1394686
2-Butanone (MEK)	ND		10.0	1	12/11/2019 19:27	WG1394686

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	ND		5.00	1	12/11/2019 19:27	WG1394686
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/11/2019 19:27	WG1394686
Methyl tert-butyl ether	ND		1.00	1	12/11/2019 19:27	WG1394686
Naphthalene	46.4		5.00	1	12/11/2019 19:27	WG1394686
n-Propylbenzene	247		25.0	25	12/12/2019 18:45	WG1395726
Styrene	ND		1.00	1	12/11/2019 19:27	WG1394686
1,1,1,2-Tetrachloroethane	ND		1.00	1	12/11/2019 19:27	WG1394686
1,1,2,2-Tetrachloroethane	ND		1.00	1	12/11/2019 19:27	WG1394686
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	12/11/2019 19:27	WG1394686
Tetrachloroethene	ND		1.00	1	12/11/2019 19:27	WG1394686
Toluene	32.3		1.00	1	12/11/2019 19:27	WG1394686
1,2,3-Trichlorobenzene	ND		1.00	1	12/11/2019 19:27	WG1394686
1,2,4-Trichlorobenzene	ND		1.00	1	12/11/2019 19:27	WG1394686
1,1,1-Trichloroethane	ND		1.00	1	12/11/2019 19:27	WG1394686
1,1,2-Trichloroethane	ND		1.00	1	12/11/2019 19:27	WG1394686
Trichloroethene	ND		1.00	1	12/11/2019 19:27	WG1394686
Trichlorofluoromethane	ND		5.00	1	12/11/2019 19:27	WG1394686
1,2,3-Trichloropropane	ND		2.50	1	12/11/2019 19:27	WG1394686
1,2,4-Trimethylbenzene	167		1.00	1	12/11/2019 19:27	WG1394686
1,2,3-Trimethylbenzene	82.5		1.00	1	12/11/2019 19:27	WG1394686
1,3,5-Trimethylbenzene	62.3		1.00	1	12/11/2019 19:27	WG1394686
Vinyl chloride	ND		1.00	1	12/11/2019 19:27	WG1394686
Xylenes, Total	340		3.00	1	12/11/2019 19:27	WG1394686
(S) Toluene-d8	*91.8*		*80.0-120*		*12/11/2019 19:27*	WG1394686
(S) Toluene-d8	*104*		*80.0-120*		*12/12/2019 18:45*	WG1395726
(S) 4-Bromofluorobenzene	*85.1*		*77.0-126*		*12/11/2019 19:27*	WG1394686
(S) 4-Bromofluorobenzene	*100*		*77.0-126*		*12/12/2019 18:45*	WG1395726
(S) 1,2-Dichloroethane-d4	*107*		*70.0-130*		*12/11/2019 19:27*	WG1394686
(S) 1,2-Dichloroethane-d4	*92.3*		*70.0-130*		*12/12/2019 18:45*	WG1395726

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	1190		100	1	12/10/2019 08:46	WG1393598
Residual Range Organics (RRO)	ND		250	1	12/10/2019 08:46	WG1393598
(S) o-Terphenyl	*68.5*		*31.0-160*		*12/10/2019 08:46*	WG1393598

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	10.5		2.00	1	12/11/2019 23:27	WG1392762
Lead,Dissolved	ND		2.00	1	12/10/2019 21:39	WG1394512

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	2290		100	1	12/11/2019 06:40	WG1394214
(S) a,a,a-Trifluorotoluene(FID)	*102*		*78.0-120*		*12/11/2019 06:40*	WG1394214

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/11/2019 15:23	WG1394686
Acrolein	ND		50.0	1	12/11/2019 15:23	WG1394686
Acrylonitrile	ND		10.0	1	12/11/2019 15:23	WG1394686
Benzene	29.1		1.00	1	12/11/2019 15:23	WG1394686
Bromobenzene	ND		1.00	1	12/11/2019 15:23	WG1394686
Bromodichloromethane	ND		1.00	1	12/11/2019 15:23	WG1394686
Bromoform	ND		1.00	1	12/11/2019 15:23	WG1394686
Bromomethane	ND		5.00	1	12/11/2019 15:23	WG1394686
n-Butylbenzene	4.59		1.00	1	12/11/2019 15:23	WG1394686
sec-Butylbenzene	3.29		1.00	1	12/11/2019 15:23	WG1394686
tert-Butylbenzene	ND		1.00	1	12/11/2019 15:23	WG1394686
Carbon tetrachloride	ND		1.00	1	12/11/2019 15:23	WG1394686
Chlorobenzene	ND		1.00	1	12/11/2019 15:23	WG1394686
Chlorodibromomethane	ND		1.00	1	12/11/2019 15:23	WG1394686
Chloroethane	ND		5.00	1	12/11/2019 15:23	WG1394686
Chloroform	ND		5.00	1	12/11/2019 15:23	WG1394686
Chloromethane	ND		2.50	1	12/11/2019 15:23	WG1394686
2-Chlorotoluene	ND		1.00	1	12/11/2019 15:23	WG1394686
4-Chlorotoluene	ND		1.00	1	12/11/2019 15:23	WG1394686
1,2-Dibromo-3-Chloropropane	ND		5.00	1	12/11/2019 15:23	WG1394686
1,2-Dibromoethane	ND		1.00	1	12/11/2019 15:23	WG1394686
Dibromomethane	ND		1.00	1	12/11/2019 15:23	WG1394686
1,2-Dichlorobenzene	ND		1.00	1	12/11/2019 15:23	WG1394686
1,3-Dichlorobenzene	ND		1.00	1	12/11/2019 15:23	WG1394686
1,4-Dichlorobenzene	ND		1.00	1	12/11/2019 15:23	WG1394686
Dichlorodifluoromethane	ND		5.00	1	12/11/2019 15:23	WG1394686
1,1-Dichloroethane	ND		1.00	1	12/11/2019 15:23	WG1394686
1,2-Dichloroethane	ND		1.00	1	12/11/2019 15:23	WG1394686
1,1-Dichloroethene	ND		1.00	1	12/11/2019 15:23	WG1394686
cis-1,2-Dichloroethene	ND		1.00	1	12/11/2019 15:23	WG1394686
trans-1,2-Dichloroethene	ND		1.00	1	12/11/2019 15:23	WG1394686
1,2-Dichloropropane	ND		1.00	1	12/11/2019 15:23	WG1394686
1,1-Dichloropropene	ND		1.00	1	12/11/2019 15:23	WG1394686
1,3-Dichloropropane	ND		1.00	1	12/11/2019 15:23	WG1394686
cis-1,3-Dichloropropene	ND		1.00	1	12/11/2019 15:23	WG1394686
trans-1,3-Dichloropropene	ND		1.00	1	12/11/2019 15:23	WG1394686
2,2-Dichloropropane	ND		1.00	1	12/11/2019 15:23	WG1394686
Di-isopropyl ether	ND		1.00	1	12/11/2019 15:23	WG1394686
Ethylbenzene	45.4		1.00	1	12/11/2019 15:23	WG1394686
Hexachloro-1,3-butadiene	ND		1.00	1	12/11/2019 15:23	WG1394686
Isopropylbenzene	17.8		1.00	1	12/11/2019 15:23	WG1394686
p-Isopropyltoluene	ND		1.00	1	12/11/2019 15:23	WG1394686
2-Butanone (MEK)	ND		10.0	1	12/11/2019 15:23	WG1394686

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	ND		5.00	1	12/11/2019 15:23	WG1394686
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/11/2019 15:23	WG1394686
Methyl tert-butyl ether	ND		1.00	1	12/11/2019 15:23	WG1394686
Naphthalene	6.08		5.00	1	12/11/2019 15:23	WG1394686
n-Propylbenzene	40.3		1.00	1	12/11/2019 15:23	WG1394686
Styrene	ND		1.00	1	12/11/2019 15:23	WG1394686
1,1,1,2-Tetrachloroethane	ND		1.00	1	12/11/2019 15:23	WG1394686
1,1,2,2-Tetrachloroethane	ND		1.00	1	12/11/2019 15:23	WG1394686
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	12/11/2019 15:23	WG1394686
Tetrachloroethene	ND		1.00	1	12/11/2019 15:23	WG1394686
Toluene	2.54		1.00	1	12/11/2019 15:23	WG1394686
1,2,3-Trichlorobenzene	ND		1.00	1	12/11/2019 15:23	WG1394686
1,2,4-Trichlorobenzene	ND		1.00	1	12/11/2019 15:23	WG1394686
1,1,1-Trichloroethane	ND		1.00	1	12/11/2019 15:23	WG1394686
1,1,2-Trichloroethane	ND		1.00	1	12/11/2019 15:23	WG1394686
Trichloroethene	ND		1.00	1	12/11/2019 15:23	WG1394686
Trichlorofluoromethane	ND		5.00	1	12/11/2019 15:23	WG1394686
1,2,3-Trichloropropane	ND		2.50	1	12/11/2019 15:23	WG1394686
1,2,4-Trimethylbenzene	18.6		1.00	1	12/11/2019 15:23	WG1394686
1,2,3-Trimethylbenzene	12.0		1.00	1	12/11/2019 15:23	WG1394686
1,3,5-Trimethylbenzene	5.04		1.00	1	12/11/2019 15:23	WG1394686
Vinyl chloride	ND		1.00	1	12/11/2019 15:23	WG1394686
Xylenes, Total	17.2		3.00	1	12/11/2019 15:23	WG1394686
(S) Toluene-d8	*101*		*80.0-120*		*12/11/2019 15:23*	WG1394686
(S) 4-Bromofluorobenzene	*98.1*		*77.0-126*		*12/11/2019 15:23*	WG1394686
(S) 1,2-Dichloroethane-d4	*106*		*70.0-130*		*12/11/2019 15:23*	WG1394686

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	399		100	1	12/10/2019 09:06	WG1393598
Residual Range Organics (RRO)	ND		250	1	12/10/2019 09:06	WG1393598
(S) o-Terphenyl	*70.5*		*31.0-160*		*12/10/2019 09:06*	WG1393598

Method Blank (MB)

(MB) R3480983-1 12/10/19 14:36

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Lead,Dissolved	U		0.240	2.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3480983-2 12/10/19 14:39 • (LCSD) R3480983-3 12/10/19 14:43

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Lead,Dissolved	50.0	48.1	48.7	96.2	97.4	80.0-120			1.31	20

L1167653-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1167653-07 12/10/19 14:47 • (MS) R3480983-5 12/10/19 14:54 • (MSD) R3480983-6 12/10/19 14:58

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Lead,Dissolved	50.0	0.347	49.5	50.5	98.2	100	1	75.0-125			2.06	20

Method Blank (MB)

(MB) R3481036-1 12/10/19 20:18

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Lead	U		0.240	2.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3481036-2 12/10/19 20:22 • (LCSD) R3481036-3 12/10/19 20:25

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Lead	50.0	47.6	48.9	95.1	97.9	80.0-120			2.82	20

L1168236-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168236-01 12/10/19 20:28 • (MS) R3481036-5 12/10/19 20:35 • (MSD) R3481036-6 12/10/19 20:38

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Lead	50.0	ND	49.9	48.3	99.9	96.5	1	75.0-125			3.43	20

Method Blank (MB)

(MB) R3481511-1 12/11/19 22:41

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Lead,Dissolved	U		0.240	2.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3481511-2 12/11/19 22:45 • (LCSD) R3481511-3 12/11/19 22:48

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Lead,Dissolved	50.0	45.1	48.3	90.2	96.6	80.0-120			6.83	20

L1169158-19 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1169158-19 12/11/19 22:51 • (MS) R3481511-5 12/11/19 22:58 • (MSD) R3481511-6 12/11/19 23:01

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Lead,Dissolved	50.0	ND	51.2	52.8	101	104	1	75.0-125			3.22	20

Method Blank (MB)

(MB) R3481198-2 12/11/19 01:16

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	58.1	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*96.8*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3481198-1 12/11/19 00:33

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5640	103	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*103*	*78.0-120*	

Method Blank (MB)

(MB) R3482022-1 12/12/19 20:40

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	39.1	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*99.0*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3482022-2 12/12/19 23:29

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	4900	89.1	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*106*	*78.0-120*	

Method Blank (MB)

(MB) R3482020-2 12/11/19 04:52

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		10.0	50.0
Acrolein	U		8.87	50.0
Acrylonitrile	U		1.87	10.0
Benzene	U		0.331	1.00
Bromobenzene	U	J0	0.352	1.00
Bromodichloromethane	U		0.380	1.00
Bromoform	U		0.469	1.00
Bromomethane	U		0.866	5.00
n-Butylbenzene	U		0.361	1.00
sec-Butylbenzene	U		0.365	1.00
tert-Butylbenzene	U		0.399	1.00
Carbon tetrachloride	U		0.379	1.00
Chlorobenzene	U		0.348	1.00
Chlorodibromomethane	U		0.327	1.00
Chloroethane	U		0.453	5.00
Chloroform	U		0.324	5.00
Chloromethane	U	J0	0.276	2.50
2-Chlorotoluene	U	J0	0.375	1.00
4-Chlorotoluene	U	J0	0.351	1.00
1,2-Dibromo-3-Chloropropane	U		1.33	5.00
1,2-Dibromoethane	U		0.381	1.00
Dibromomethane	U		0.346	1.00
1,2-Dichlorobenzene	U		0.349	1.00
1,3-Dichlorobenzene	U		0.220	1.00
1,4-Dichlorobenzene	U		0.274	1.00
Dichlorodifluoromethane	U	J0	0.551	5.00
1,1-Dichloroethane	U		0.259	1.00
1,2-Dichloroethane	U		0.361	1.00
1,1-Dichloroethene	U		0.398	1.00
cis-1,2-Dichloroethene	U		0.260	1.00
trans-1,2-Dichloroethene	U		0.396	1.00
1,2-Dichloropropane	U		0.306	1.00
1,1-Dichloropropene	U		0.352	1.00
1,3-Dichloropropane	U		0.366	1.00
cis-1,3-Dichloropropene	U		0.418	1.00
trans-1,3-Dichloropropene	U		0.419	1.00
2,2-Dichloropropane	U		0.321	1.00
Di-isopropyl ether	U		0.320	1.00
Ethylbenzene	U		0.384	1.00
Hexachloro-1,3-butadiene	U		0.256	1.00

Method Blank (MB)

(MB) R3482020-2 12/11/19 04:52

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Isopropylbenzene	U		0.326	1.00
p-Isopropyltoluene	U		0.350	1.00
2-Butanone (MEK)	U		3.93	10.0
Methylene Chloride	U		1.00	5.00
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
n-Propylbenzene	U		0.349	1.00
Styrene	U		0.307	1.00
1,1,1,2-Tetrachloroethane	U		0.385	1.00
1,1,2,2-Tetrachloroethane	U		0.130	1.00
Tetrachloroethene	U		0.372	1.00
Toluene	U		0.412	1.00
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.355	1.00
1,1,1-Trichloroethane	U		0.319	1.00
1,1,2-Trichloroethane	U		0.383	1.00
Trichloroethene	U		0.398	1.00
Trichlorofluoromethane	U		1.20	5.00
1,2,3-Trichloropropane	U		0.807	2.50
1,2,3-Trimethylbenzene	U		0.321	1.00
1,2,4-Trimethylbenzene	U		0.373	1.00
1,3,5-Trimethylbenzene	U	J0	0.387	1.00
Vinyl chloride	U		0.259	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*100*			*80.0-120*
(S) 4-Bromofluorobenzene	*97.8*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*115*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3482020-1 12/11/19 04:15

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	25.0	53.9	216	19.0-160	J4
Acrolein	25.0	23.1	92.4	10.0-160	
Acrylonitrile	25.0	21.2	84.8	55.0-149	
Benzene	5.00	4.59	91.8	70.0-123	

Laboratory Control Sample (LCS)

(LCS) R3482020-1 12/11/19 04:15

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromobenzene	5.00	3.85	77.0	73.0-121	J0
Bromodichloromethane	5.00	4.93	98.6	75.0-120	
Bromoform	5.00	4.68	93.6	68.0-132	
Bromomethane	5.00	4.47	89.4	10.0-160	
n-Butylbenzene	5.00	5.94	119	73.0-125	
sec-Butylbenzene	5.00	4.89	97.8	75.0-125	
tert-Butylbenzene	5.00	4.18	83.6	76.0-124	
Carbon tetrachloride	5.00	4.92	98.4	68.0-126	
Chlorobenzene	5.00	4.52	90.4	80.0-121	
Chlorodibromomethane	5.00	4.49	89.8	77.0-125	
Chloroethane	5.00	4.41	88.2	47.0-150	
Chloroform	5.00	4.92	98.4	73.0-120	
Chloromethane	5.00	3.08	61.6	41.0-142	J0
2-Chlorotoluene	5.00	3.97	79.4	76.0-123	J0
4-Chlorotoluene	5.00	3.93	78.6	75.0-122	J0
1,2-Dibromo-3-Chloropropane	5.00	4.80	96.0	58.0-134	
1,2-Dibromoethane	5.00	4.93	98.6	80.0-122	
Dibromomethane	5.00	5.28	106	80.0-120	
1,2-Dichlorobenzene	5.00	4.80	96.0	79.0-121	
1,3-Dichlorobenzene	5.00	4.70	94.0	79.0-120	
1,4-Dichlorobenzene	5.00	4.88	97.6	79.0-120	
Dichlorodifluoromethane	5.00	3.09	61.8	51.0-149	J0
1,1-Dichloroethane	5.00	4.72	94.4	70.0-126	
1,2-Dichloroethane	5.00	5.47	109	70.0-128	
1,1-Dichloroethene	5.00	4.17	83.4	71.0-124	
cis-1,2-Dichloroethene	5.00	4.62	92.4	73.0-120	
trans-1,2-Dichloroethene	5.00	4.78	95.6	73.0-120	
1,2-Dichloropropane	5.00	4.59	91.8	77.0-125	
1,1-Dichloropropene	5.00	4.89	97.8	74.0-126	
1,3-Dichloropropane	5.00	4.89	97.8	80.0-120	
cis-1,3-Dichloropropene	5.00	4.65	93.0	80.0-123	
trans-1,3-Dichloropropene	5.00	4.54	90.8	78.0-124	
2,2-Dichloropropane	5.00	5.06	101	58.0-130	
Di-isopropyl ether	5.00	4.23	84.6	58.0-138	
Ethylbenzene	5.00	4.31	86.2	79.0-123	
Hexachloro-1,3-butadiene	5.00	5.17	103	54.0-138	
Isopropylbenzene	5.00	4.44	88.8	76.0-127	
p-Isopropyltoluene	5.00	4.75	95.0	76.0-125	
2-Butanone (MEK)	25.0	33.7	135	44.0-160	
Methylene Chloride	5.00	5.10	102	67.0-120	

Laboratory Control Sample (LCS)

(LCS) R3482020-1 12/11/19 04:15

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
4-Methyl-2-pentanone (MIBK)	25.0	24.8	99.2	68.0-142	
Methyl tert-butyl ether	5.00	4.98	99.6	68.0-125	
Naphthalene	5.00	4.80	96.0	54.0-135	
n-Propylbenzene	5.00	4.07	81.4	77.0-124	
Styrene	5.00	4.33	86.6	73.0-130	
1,1,1,2-Tetrachloroethane	5.00	4.41	88.2	75.0-125	
1,1,2,2-Tetrachloroethane	5.00	4.20	84.0	65.0-130	
Tetrachloroethene	5.00	4.31	86.2	72.0-132	
Toluene	5.00	4.30	86.0	79.0-120	
1,1,2-Trichlorotrifluoroethane	5.00	4.52	90.4	69.0-132	
1,2,3-Trichlorobenzene	5.00	4.95	99.0	50.0-138	
1,2,4-Trichlorobenzene	5.00	4.18	83.6	57.0-137	
1,1,1-Trichloroethane	5.00	4.98	99.6	73.0-124	
1,1,2-Trichloroethane	5.00	4.72	94.4	80.0-120	
Trichloroethene	5.00	4.29	85.8	78.0-124	
Trichlorofluoromethane	5.00	4.24	84.8	59.0-147	
1,2,3-Trichloropropane	5.00	4.37	87.4	73.0-130	
1,2,3-Trimethylbenzene	5.00	4.82	96.4	77.0-120	
1,2,4-Trimethylbenzene	5.00	4.04	80.8	76.0-121	
1,3,5-Trimethylbenzene	5.00	3.89	77.8	76.0-122	J0
Vinyl chloride	5.00	4.17	83.4	67.0-131	
Xylenes, Total	15.0	13.1	87.3	79.0-123	
(S) Toluene-d8			*96.6*	*80.0-120*	
(S) 4-Bromofluorobenzene			*96.2*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*118*	*70.0-130*	

Method Blank (MB)

(MB) R3481873-2 12/11/19 12:05

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		10.0	50.0
Acrolein	U		8.87	50.0
Acrylonitrile	U		1.87	10.0
Benzene	U		0.331	1.00
Bromobenzene	U		0.352	1.00
Bromodichloromethane	U		0.380	1.00
Bromoform	U		0.469	1.00
Bromomethane	U		0.866	5.00
n-Butylbenzene	U		0.361	1.00
sec-Butylbenzene	U		0.365	1.00
tert-Butylbenzene	U		0.399	1.00
Carbon tetrachloride	U		0.379	1.00
Chlorobenzene	U		0.348	1.00
Chlorodibromomethane	U		0.327	1.00
Chloroethane	U		0.453	5.00
Chloroform	U		0.324	5.00
Chloromethane	U		0.276	2.50
2-Chlorotoluene	U		0.375	1.00
4-Chlorotoluene	U		0.351	1.00
1,2-Dibromo-3-Chloropropane	U		1.33	5.00
1,2-Dibromoethane	U		0.381	1.00
Dibromomethane	U		0.346	1.00
1,2-Dichlorobenzene	U		0.349	1.00
1,3-Dichlorobenzene	U		0.220	1.00
1,4-Dichlorobenzene	U		0.274	1.00
Dichlorodifluoromethane	U		0.551	5.00
1,1-Dichloroethane	U		0.259	1.00
1,2-Dichloroethane	U		0.361	1.00
1,1-Dichloroethene	U		0.398	1.00
cis-1,2-Dichloroethene	U		0.260	1.00
trans-1,2-Dichloroethene	U		0.396	1.00
1,2-Dichloropropane	U		0.306	1.00
1,1-Dichloropropene	U		0.352	1.00
1,3-Dichloropropane	U		0.366	1.00
cis-1,3-Dichloropropene	U		0.418	1.00
trans-1,3-Dichloropropene	U		0.419	1.00
2,2-Dichloropropane	U		0.321	1.00
Di-isopropyl ether	U		0.320	1.00
Ethylbenzene	U		0.384	1.00
Hexachloro-1,3-butadiene	U		0.256	1.00

Method Blank (MB)

(MB) R3481873-2 12/11/19 12:05

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Isopropylbenzene	U		0.326	1.00
p-Isopropyltoluene	U		0.350	1.00
2-Butanone (MEK)	U		3.93	10.0
Methylene Chloride	U		1.00	5.00
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
n-Propylbenzene	U		0.349	1.00
Styrene	U		0.307	1.00
1,1,1,2-Tetrachloroethane	U		0.385	1.00
1,1,2,2-Tetrachloroethane	U		0.130	1.00
Tetrachloroethene	U		0.372	1.00
Toluene	U		0.412	1.00
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.355	1.00
1,1,1-Trichloroethane	U		0.319	1.00
1,1,2-Trichloroethane	U		0.383	1.00
Trichloroethene	U		0.398	1.00
Trichlorofluoromethane	U		1.20	5.00
1,2,3-Trichloropropane	U		0.807	2.50
1,2,3-Trimethylbenzene	U		0.321	1.00
1,2,4-Trimethylbenzene	U		0.373	1.00
1,3,5-Trimethylbenzene	U		0.387	1.00
Vinyl chloride	U		0.259	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*105*			*80.0-120*
(S) 4-Bromofluorobenzene	*105*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3481873-1 12/11/19 11:25

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	25.0	27.6	110	19.0-160	
Acrolein	25.0	28.6	114	10.0-160	
Acrylonitrile	25.0	26.7	107	55.0-149	
Benzene	5.00	5.28	106	70.0-123	

Laboratory Control Sample (LCS)

(LCS) R3481873-1 12/11/19 11:25

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromobenzene	5.00	5.00	100	73.0-121	
Bromodichloromethane	5.00	5.26	105	75.0-120	
Bromoform	5.00	5.51	110	68.0-132	
Bromomethane	5.00	5.64	113	10.0-160	
n-Butylbenzene	5.00	5.61	112	73.0-125	
sec-Butylbenzene	5.00	5.48	110	75.0-125	
tert-Butylbenzene	5.00	5.16	103	76.0-124	
Carbon tetrachloride	5.00	5.46	109	68.0-126	
Chlorobenzene	5.00	5.28	106	80.0-121	
Chlorodibromomethane	5.00	5.18	104	77.0-125	
Chloroethane	5.00	4.94	98.8	47.0-150	
Chloroform	5.00	5.50	110	73.0-120	
Chloromethane	5.00	5.54	111	41.0-142	
2-Chlorotoluene	5.00	5.20	104	76.0-123	
4-Chlorotoluene	5.00	5.16	103	75.0-122	
1,2-Dibromo-3-Chloropropane	5.00	4.98	99.6	58.0-134	
1,2-Dibromoethane	5.00	5.03	101	80.0-122	
Dibromomethane	5.00	5.01	100	80.0-120	
1,2-Dichlorobenzene	5.00	5.27	105	79.0-121	
1,3-Dichlorobenzene	5.00	5.23	105	79.0-120	
1,4-Dichlorobenzene	5.00	5.39	108	79.0-120	
Dichlorodifluoromethane	5.00	6.49	130	51.0-149	
1,1-Dichloroethane	5.00	5.35	107	70.0-126	
1,2-Dichloroethane	5.00	5.13	103	70.0-128	
1,1-Dichloroethene	5.00	5.68	114	71.0-124	
cis-1,2-Dichloroethene	5.00	5.51	110	73.0-120	
trans-1,2-Dichloroethene	5.00	5.74	115	73.0-120	
1,2-Dichloropropane	5.00	5.19	104	77.0-125	
1,1-Dichloropropene	5.00	5.43	109	74.0-126	
1,3-Dichloropropane	5.00	5.08	102	80.0-120	
cis-1,3-Dichloropropene	5.00	5.01	100	80.0-123	
trans-1,3-Dichloropropene	5.00	5.19	104	78.0-124	
2,2-Dichloropropane	5.00	6.38	128	58.0-130	
Di-isopropyl ether	5.00	5.10	102	58.0-138	
Ethylbenzene	5.00	5.37	107	79.0-123	
Hexachloro-1,3-butadiene	5.00	5.75	115	54.0-138	
Isopropylbenzene	5.00	5.67	113	76.0-127	
p-Isopropyltoluene	5.00	5.36	107	76.0-125	
2-Butanone (MEK)	25.0	25.1	100	44.0-160	
Methylene Chloride	5.00	5.56	111	67.0-120	

Laboratory Control Sample (LCS)

(LCS) R3481873-1 12/11/19 11:25

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
4-Methyl-2-pentanone (MIBK)	25.0	27.5	110	68.0-142	
Methyl tert-butyl ether	5.00	5.28	106	68.0-125	
Naphthalene	5.00	5.17	103	54.0-135	
n-Propylbenzene	5.00	5.25	105	77.0-124	
Styrene	5.00	5.31	106	73.0-130	
1,1,1,2-Tetrachloroethane	5.00	5.35	107	75.0-125	
1,1,2,2-Tetrachloroethane	5.00	5.14	103	65.0-130	
Tetrachloroethene	5.00	5.38	108	72.0-132	
Toluene	5.00	5.50	110	79.0-120	
1,1,2-Trichlorotrifluoroethane	5.00	5.54	111	69.0-132	
1,2,3-Trichlorobenzene	5.00	5.44	109	50.0-138	
1,2,4-Trichlorobenzene	5.00	5.37	107	57.0-137	
1,1,1-Trichloroethane	5.00	5.54	111	73.0-124	
1,1,2-Trichloroethane	5.00	5.34	107	80.0-120	
Trichloroethene	5.00	5.15	103	78.0-124	
Trichlorofluoromethane	5.00	5.54	111	59.0-147	
1,2,3-Trichloropropane	5.00	4.96	99.2	73.0-130	
1,2,3-Trimethylbenzene	5.00	5.22	104	77.0-120	
1,2,4-Trimethylbenzene	5.00	5.12	102	76.0-121	
1,3,5-Trimethylbenzene	5.00	5.18	104	76.0-122	
Vinyl chloride	5.00	5.08	102	67.0-131	
Xylenes, Total	15.0	16.2	108	79.0-123	
(S) Toluene-d8			*105*	*80.0-120*	
(S) 4-Bromofluorobenzene			*104*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*104*	*70.0-130*	

Method Blank (MB)

(MB) R3482625-3 12/12/19 17:34

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
n-Propylbenzene	U		0.349	1.00
(S) Toluene-d8	*103*			*80.0-120*
(S) 4-Bromofluorobenzene	*97.4*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*93.0*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3482625-1 12/12/19 16:38 • (LCSD) R3482625-2 12/12/19 16:57

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	5.00	4.74	4.71	94.8	94.2	70.0-123			0.635	20
Ethylbenzene	5.00	4.69	4.65	93.8	93.0	79.0-123			0.857	20
n-Propylbenzene	5.00	5.43	5.28	109	106	77.0-124			2.80	20
(S) Toluene-d8				*100*	*101*	*80.0-120*				
(S) 4-Bromofluorobenzene				*97.1*	*97.3*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*94.9*	*93.9*	*70.0-130*				

Method Blank (MB)

(MB) R3482328-2 12/13/19 15:02

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
Naphthalene	U		1.00	5.00
n-Propylbenzene	U		0.349	1.00
1,2,3-Trimethylbenzene	U		0.321	1.00
1,2,4-Trimethylbenzene	U		0.373	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*103*			*80.0-120*
(S) 4-Bromofluorobenzene	*96.4*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*89.8*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3482328-1 12/13/19 14:24

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	5.00	4.66	93.2	70.0-123	
Ethylbenzene	5.00	4.69	93.8	79.0-123	
Naphthalene	5.00	4.84	96.8	54.0-135	
n-Propylbenzene	5.00	5.32	106	77.0-124	
1,2,3-Trimethylbenzene	5.00	4.91	98.2	77.0-120	
1,2,4-Trimethylbenzene	5.00	5.12	102	76.0-121	
Xylenes, Total	15.0	14.6	97.3	79.0-123	
(S) Toluene-d8			*103*	*80.0-120*	
(S) 4-Bromofluorobenzene			*96.1*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*94.5*	*70.0-130*	

Method Blank (MB)

(MB) R3482440-2 12/13/19 11:14

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		10.0	50.0
Acrolein	U		8.87	50.0
Acrylonitrile	U		1.87	10.0
Benzene	U		0.331	1.00
Bromobenzene	U		0.352	1.00
Bromodichloromethane	U		0.380	1.00
Bromoform	U		0.469	1.00
Bromomethane	U		0.866	5.00
n-Butylbenzene	U		0.361	1.00
sec-Butylbenzene	U		0.365	1.00
tert-Butylbenzene	U		0.399	1.00
Carbon tetrachloride	U		0.379	1.00
Chlorobenzene	U		0.348	1.00
Chlorodibromomethane	U		0.327	1.00
Chloroethane	U		0.453	5.00
Chloroform	U		0.324	5.00
Chloromethane	U		0.276	2.50
2-Chlorotoluene	U		0.375	1.00
4-Chlorotoluene	U		0.351	1.00
1,2-Dibromo-3-Chloropropane	U		1.33	5.00
1,2-Dibromoethane	U		0.381	1.00
Dibromomethane	U		0.346	1.00
1,2-Dichlorobenzene	U		0.349	1.00
1,3-Dichlorobenzene	U		0.220	1.00
1,4-Dichlorobenzene	U		0.274	1.00
Dichlorodifluoromethane	U		0.551	5.00
1,1-Dichloroethane	U		0.259	1.00
1,2-Dichloroethane	U		0.361	1.00
1,1-Dichloroethene	U		0.398	1.00
cis-1,2-Dichloroethene	U		0.260	1.00
trans-1,2-Dichloroethene	U		0.396	1.00
1,2-Dichloropropane	U		0.306	1.00
1,1-Dichloropropene	U		0.352	1.00
1,3-Dichloropropane	U		0.366	1.00
cis-1,3-Dichloropropene	U		0.418	1.00
trans-1,3-Dichloropropene	U		0.419	1.00
2,2-Dichloropropane	U		0.321	1.00
Di-isopropyl ether	U		0.320	1.00
Ethylbenzene	U		0.384	1.00
Hexachloro-1,3-butadiene	U		0.256	1.00

Method Blank (MB)

(MB) R3482440-2 12/13/19 11:14

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Isopropylbenzene	U		0.326	1.00
p-Isopropyltoluene	U		0.350	1.00
2-Butanone (MEK)	U		3.93	10.0
Methylene Chloride	U		1.00	5.00
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
n-Propylbenzene	U		0.349	1.00
Styrene	U		0.307	1.00
1,1,1,2-Tetrachloroethane	U		0.385	1.00
1,1,2,2-Tetrachloroethane	U		0.130	1.00
Tetrachloroethene	U		0.372	1.00
Toluene	U		0.412	1.00
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.355	1.00
1,1,1-Trichloroethane	U		0.319	1.00
1,1,2-Trichloroethane	U		0.383	1.00
Trichloroethene	U		0.398	1.00
Trichlorofluoromethane	U		1.20	5.00
1,2,3-Trichloropropane	U		0.807	2.50
1,2,3-Trimethylbenzene	U		0.321	1.00
1,2,4-Trimethylbenzene	U		0.373	1.00
1,3,5-Trimethylbenzene	U		0.387	1.00
Vinyl chloride	U		0.259	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*107*			*80.0-120*
(S) 4-Bromofluorobenzene	*106*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3482440-1 12/13/19 10:33

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	25.0	27.1	108	19.0-160	
Acrolein	25.0	19.8	79.2	10.0-160	
Acrylonitrile	25.0	25.4	102	55.0-149	
Benzene	5.00	4.83	96.6	70.0-123	

Laboratory Control Sample (LCS)

(LCS) R3482440-1 12/13/19 10:33

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromobenzene	5.00	4.12	82.4	73.0-121	
Bromodichloromethane	5.00	4.78	95.6	75.0-120	
Bromoform	5.00	5.22	104	68.0-132	
Bromomethane	5.00	5.64	113	10.0-160	
n-Butylbenzene	5.00	5.17	103	73.0-125	
sec-Butylbenzene	5.00	4.59	91.8	75.0-125	
tert-Butylbenzene	5.00	4.18	83.6	76.0-124	
Carbon tetrachloride	5.00	4.94	98.8	68.0-126	
Chlorobenzene	5.00	4.98	99.6	80.0-121	
Chlorodibromomethane	5.00	4.92	98.4	77.0-125	
Chloroethane	5.00	4.49	89.8	47.0-150	
Chloroform	5.00	5.10	102	73.0-120	
Chloromethane	5.00	4.49	89.8	41.0-142	
2-Chlorotoluene	5.00	4.25	85.0	76.0-123	
4-Chlorotoluene	5.00	4.25	85.0	75.0-122	
1,2-Dibromo-3-Chloropropane	5.00	4.99	99.8	58.0-134	
1,2-Dibromoethane	5.00	4.97	99.4	80.0-122	
Dibromomethane	5.00	4.89	97.8	80.0-120	
1,2-Dichlorobenzene	5.00	5.11	102	79.0-121	
1,3-Dichlorobenzene	5.00	4.98	99.6	79.0-120	
1,4-Dichlorobenzene	5.00	5.11	102	79.0-120	
Dichlorodifluoromethane	5.00	5.11	102	51.0-149	
1,1-Dichloroethane	5.00	4.85	97.0	70.0-126	
1,2-Dichloroethane	5.00	4.94	98.8	70.0-128	
1,1-Dichloroethene	5.00	4.95	99.0	71.0-124	
cis-1,2-Dichloroethene	5.00	5.01	100	73.0-120	
trans-1,2-Dichloroethene	5.00	5.13	103	73.0-120	
1,2-Dichloropropane	5.00	4.84	96.8	77.0-125	
1,1-Dichloropropene	5.00	4.81	96.2	74.0-126	
1,3-Dichloropropane	5.00	4.84	96.8	80.0-120	
cis-1,3-Dichloropropene	5.00	4.71	94.2	80.0-123	
trans-1,3-Dichloropropene	5.00	4.84	96.8	78.0-124	
2,2-Dichloropropane	5.00	5.93	119	58.0-130	
Di-isopropyl ether	5.00	4.67	93.4	58.0-138	
Ethylbenzene	5.00	4.94	98.8	79.0-123	
Hexachloro-1,3-butadiene	5.00	5.21	104	54.0-138	
Isopropylbenzene	5.00	5.15	103	76.0-127	
p-Isopropyltoluene	5.00	4.68	93.6	76.0-125	
2-Butanone (MEK)	25.0	24.3	97.2	44.0-160	
Methylene Chloride	5.00	4.91	98.2	67.0-120	

Laboratory Control Sample (LCS)

(LCS) R3482440-1 12/13/19 10:33

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
4-Methyl-2-pentanone (MIBK)	25.0	25.8	103	68.0-142	
Methyl tert-butyl ether	5.00	5.17	103	68.0-125	
Naphthalene	5.00	5.10	102	54.0-135	
n-Propylbenzene	5.00	4.21	84.2	77.0-124	
Styrene	5.00	4.91	98.2	73.0-130	
1,1,1,2-Tetrachloroethane	5.00	5.02	100	75.0-125	
1,1,2,2-Tetrachloroethane	5.00	4.49	89.8	65.0-130	
Tetrachloroethene	5.00	5.31	106	72.0-132	
Toluene	5.00	5.02	100	79.0-120	
1,1,2-Trichlorotrifluoroethane	5.00	5.47	109	69.0-132	
1,2,3-Trichlorobenzene	5.00	5.27	105	50.0-138	
1,2,4-Trichlorobenzene	5.00	5.25	105	57.0-137	
1,1,1-Trichloroethane	5.00	5.14	103	73.0-124	
1,1,2-Trichloroethane	5.00	5.05	101	80.0-120	
Trichloroethene	5.00	4.65	93.0	78.0-124	
Trichlorofluoromethane	5.00	5.33	107	59.0-147	
1,2,3-Trichloropropane	5.00	4.47	89.4	73.0-130	
1,2,3-Trimethylbenzene	5.00	4.87	97.4	77.0-120	
1,2,4-Trimethylbenzene	5.00	4.28	85.6	76.0-121	
1,3,5-Trimethylbenzene	5.00	4.24	84.8	76.0-122	
Vinyl chloride	5.00	4.39	87.8	67.0-131	
Xylenes, Total	15.0	14.9	99.3	79.0-123	
(S) Toluene-d8			*105*	*80.0-120*	
(S) 4-Bromofluorobenzene			*102*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*103*	*70.0-130*	

Method Blank (MB)

(MB) R3480303-1 12/08/19 12:59

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Residual Range Organics (RRO)	U		83.3	250
Diesel Range Organics (DRO)	U		33.3	100
(S) o-Terphenyl	*67.0*			*31.0-160*

Laboratory Control Sample (LCS)

(LCS) R3480303-2 12/08/19 13:24

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	1500	1220	81.3	50.0-150	
(S) o-Terphenyl			*78.5*	*31.0-160*	

L1167399-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1167399-01 12/08/19 13:50 • (MS) R3480303-3 12/08/19 14:16 • (MSD) R3480303-4 12/08/19 14:41

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	ND	1320	1210	88.0	80.7	1	50.0-150			8.70	20
(S) o-Terphenyl					*82.0*	*69.5*		*31.0-160*				

Method Blank (MB)

(MB) R3481011-1 12/10/19 01:06

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Diesel Range Organics (DRO)	U		33.3	100
Residual Range Organics (RRO)	U		83.3	250
(S) o-Terphenyl	*74.0*			*31.0-160*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3481011-2 12/10/19 01:27 • (LCSD) R3481011-3 12/10/19 01:47

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Diesel Range Organics (DRO)	1500	1370	1280	91.3	85.3	50.0-150			6.79	20
(S) o-Terphenyl				*101*	*98.0*	*31.0-160*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J0	J0: The identification of the analyte is acceptable, but the reported concentration is an estimate. The calibration met method criteria.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J4	The associated batch QC was outside the established quality control range for accuracy.
Z1	The identification of the analyte is acceptable; the reported value is an estimate.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

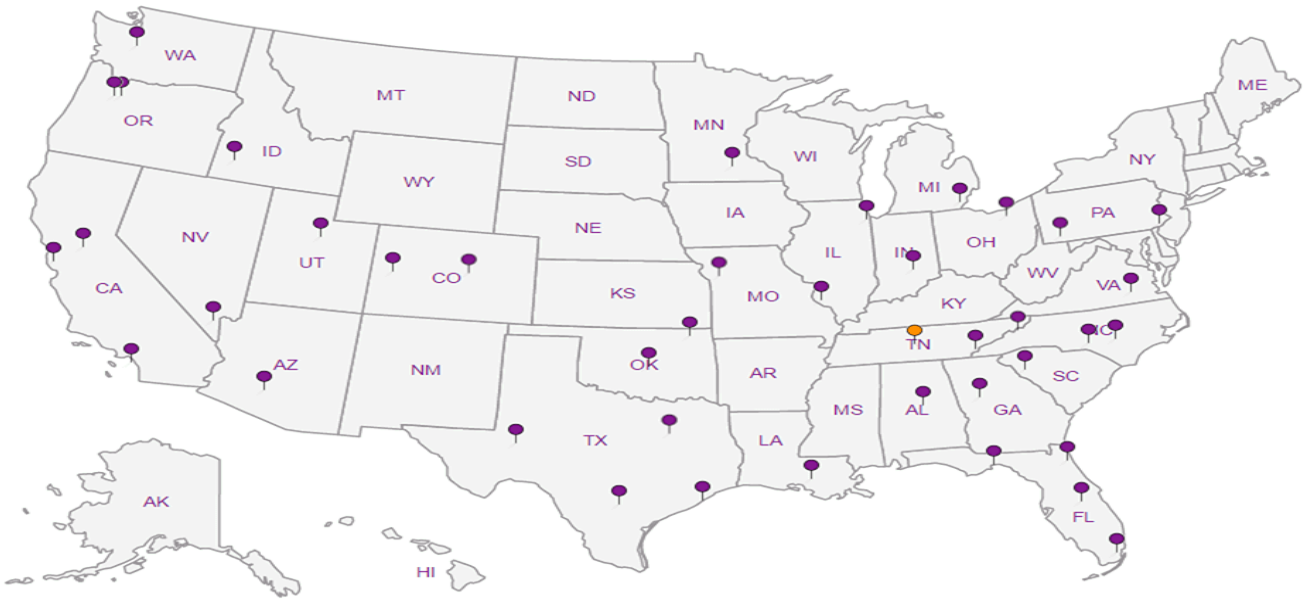
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Pres Chk

Report to: Kyle Haggart

Email To: khaggart@geodesigninc.com

Project Description:

City/State Collected: Astoria, OR

Please Circle: PT MT CT ET

Phone: 503-968-8787
Fax:

Client Project # Big Beams-1-01-07

Lab Project # GEODESPOR-HAGGART

Collected by (print): Kyle Haggart

Site/Facility ID #

P.O. #

Collected by (signature):

Quote #

Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	FF Diss RCRA8 6020 250mlHDPE HNO3	NWTPHDX NOSGT 100ml Amb-HCl	NWTPHGX 40mlAmb HCl	PAHs (PAHSIMLVID) 40mlAmb-NoPres-WT	Total RCRA8 6020 250mlHDPE-HNO3	VOCs 8260C 40mlAmb-HCl	Total Lead 6020	Dissolved Lead 6020 (FF)			Remarks	Sample # (lab only)
DP-3(120319)		GW		12.3.19	1540	12		X	X			X	X	X				-01
DP-4(120319)		GW			1620			X	X			X	X	X				02
DP-5(120319)		GW			1640			X	X			X	X	X				03
DP-6(120319)		GW			1710			X	X			X	X	X				04
DP-7(120319)		GW			1730			X	X			X	X	X				05
DP-8(120319)		GW			1520			X	X			X	X	X				06
DP-9(120319)		GW			1615			X	X			X	X	X				07
DP-10(120319)		GW			1630			X	X			X	X	X				08
DP-11(120419)		GW		12.4.19	1420			X	X			X	X	X				09
DP-12(120419)		GW			1435			X	X			X	X	X				10

Chain of Custody Page 1 of 2

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
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Fax: 615-758-5859

SDG # L1168236

Tab B178

Acctnum: GEODESPOR
Template: T159580
Prelogin: P742150
PM: 110 - Brian Ford
PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: Extract PAHs for potential follow-up

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 1Z 2337 6982

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		X N
Bottles arrive intact:		X N
Correct bottles used:		X N
Sufficient volume sent:		X N
If Applicable		
VOA Zero Headspace:		X N
Preservation Correct/Checked:		X N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by : (Signature)	Date: 12.5	Time: 1100	Received by: (Signature)	Trip Blank Received: Yes / No (HCl / MeoH) TBR 2	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: WM 4.2°C .8-.3=.5	Bottles Received: 168
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) W Loefer	Date: 12/6/19	Time: 0830

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Pres Chk

Report to: Kyle Haggart

Email To: khaggart@geodesigninc.com

Project Description:

City/State Collected: Astoria, OR

Please Circle: PT MT CT ET

Phone: 503-968-8787
Fax:

Client Project # BigBeams-1-01-07

Lab Project # GEODESPOR-HAGGART

Collected by (print): Kyle Haggart

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	FF Diss RCRA8 6020 250mlHDPE HNO3	NWTPHDX NOSGT 100ml Amb-HCl	NWTPHGX 40mlAmb HCl	PAHs (PAHSIMLVID) 40mlAmb-NoPres-WT	Total RCRA8 6020 250mlHDPE-HNO3	VOCs 8260C 40mlAmb-HCl	Total Lead 6020	Dissolved Lead 6020 (FF)	Remarks	Sample # (lab only)
DP-13 (12.4.19)		GW		12.4.19	1520	12		X	X			X	X	X		-11
DP-14 (12.4.19)		GW			1535			X	X			X	X	X		12
DP-15 (12.4.19)		GW			1610			X	X			X	X	X		13
DP-16 (12.4.19)		GW			1630			X	X			X	X	X		14
		GW														
		GW														
		GW														
		GW														
		GW														
		GW														

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1168236

Table #

Acctnum: GEODESPOR
Template: T159580
Prelogin: P742150
PM: 110 - Brian Ford
PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: Extract PAHs for potential follow-ups

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 1145 2237 6982

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	12.5	1100		2	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: Huy A2 °C .8-.3=.5 Bottles Received: 16	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 12/6/19 Time: 0830	Hold: Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 20, 2019

GeoDesign Inc. - Wilsonville, OR

Sample Delivery Group:	L1169151
Samples Received:	12/10/2019
Project Number:	BIGBEAMS-1-01-07
Description:	

Report To: Kyle Haggart
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Entire Report Reviewed By:

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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MW-6(120719) L1169151-01 GW

Collected by: Kyle Haggart | Collected date/time: 12/07/19 09:50 | Received date/time: 12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1394512	1	12/11/19 19:03	12/11/19 23:34	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394517	1	12/11/19 16:33	12/11/19 21:40	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394961	10	12/12/19 15:47	12/12/19 15:47	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1396446	10	12/13/19 23:30	12/13/19 23:30	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1398103	100	12/17/19 21:04	12/17/19 21:04	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1395474	1	12/12/19 16:10	12/13/19 00:59	SHG	Mt. Juliet, TN

MW-7(120719) L1169151-02 GW

Collected by: Kyle Haggart | Collected date/time: 12/07/19 11:00 | Received date/time: 12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1394512	1	12/11/19 19:03	12/11/19 23:37	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394517	1	12/11/19 16:33	12/11/19 21:44	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394961	1	12/12/19 16:30	12/12/19 16:30	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1396446	1	12/13/19 23:49	12/13/19 23:49	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1398103	10	12/17/19 21:24	12/17/19 21:24	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1395474	1	12/12/19 16:10	12/13/19 01:25	SHG	Mt. Juliet, TN

MW-8(120719) L1169151-03 GW

Collected by: Kyle Haggart | Collected date/time: 12/07/19 09:10 | Received date/time: 12/10/19 09:00

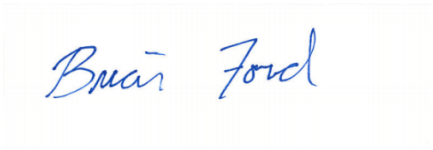
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICPMS) by Method 6020B	WG1394512	1	12/11/19 19:03	12/11/19 23:40	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394517	1	12/11/19 16:33	12/11/19 21:47	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1397183	5	12/16/19 13:38	12/16/19 13:38	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1396446	1	12/14/19 00:09	12/14/19 00:09	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1398103	20	12/17/19 21:44	12/17/19 21:44	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1395474	1	12/12/19 16:10	12/13/19 01:51	SHG	Mt. Juliet, TN

PAS-2(120719) L1169151-04 GW

Collected by: Kyle Haggart | Collected date/time: 12/07/19 12:10 | Received date/time: 12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Fe B-2011	WG1399728	50	12/19/19 16:08	12/19/19 16:08	JIC	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394512	1	12/11/19 19:03	12/11/19 23:43	LD	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394517	1	12/11/19 16:33	12/11/19 21:50	LD	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1394961	1	12/12/19 17:13	12/12/19 17:13	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1396446	1	12/14/19 00:28	12/14/19 00:28	ACG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1398103	10	12/17/19 22:04	12/17/19 22:04	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1395474	1	12/12/19 16:10	12/13/19 02:17	SHG	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford
Project Manager

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	2.37		2.00	1	12/11/2019 21:40	WG1394517
Lead,Dissolved	2.93		2.00	1	12/11/2019 23:34	WG1394512

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	23700		1000	10	12/12/2019 15:47	WG1394961
(S) a,a,a-Trifluorotoluene(FID)	*99.8*		*78.0-120*		*12/12/2019 15:47*	WG1394961

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		500	10	12/13/2019 23:30	WG1396446
Acrolein	ND	J4	500	10	12/13/2019 23:30	WG1396446
Acrylonitrile	ND		100	10	12/13/2019 23:30	WG1396446
Benzene	796		10.0	10	12/13/2019 23:30	WG1396446
Bromobenzene	ND		10.0	10	12/13/2019 23:30	WG1396446
Bromodichloromethane	ND		10.0	10	12/13/2019 23:30	WG1396446
Bromoform	ND		10.0	10	12/13/2019 23:30	WG1396446
Bromomethane	ND		50.0	10	12/13/2019 23:30	WG1396446
n-Butylbenzene	ND		10.0	10	12/13/2019 23:30	WG1396446
sec-Butylbenzene	ND		10.0	10	12/13/2019 23:30	WG1396446
tert-Butylbenzene	ND		10.0	10	12/13/2019 23:30	WG1396446
Carbon tetrachloride	ND		10.0	10	12/13/2019 23:30	WG1396446
Chlorobenzene	ND		10.0	10	12/13/2019 23:30	WG1396446
Chlorodibromomethane	ND		10.0	10	12/13/2019 23:30	WG1396446
Chloroethane	ND		50.0	10	12/13/2019 23:30	WG1396446
Chloroform	ND		50.0	10	12/13/2019 23:30	WG1396446
Chloromethane	ND		25.0	10	12/13/2019 23:30	WG1396446
2-Chlorotoluene	ND		10.0	10	12/13/2019 23:30	WG1396446
4-Chlorotoluene	ND		10.0	10	12/13/2019 23:30	WG1396446
1,2-Dibromo-3-Chloropropane	ND		50.0	10	12/13/2019 23:30	WG1396446
1,2-Dibromoethane	ND		10.0	10	12/13/2019 23:30	WG1396446
Dibromomethane	ND		10.0	10	12/13/2019 23:30	WG1396446
1,2-Dichlorobenzene	ND		10.0	10	12/13/2019 23:30	WG1396446
1,3-Dichlorobenzene	ND	J3 J4	10.0	10	12/13/2019 23:30	WG1396446
1,4-Dichlorobenzene	ND		10.0	10	12/13/2019 23:30	WG1396446
Dichlorodifluoromethane	ND		50.0	10	12/13/2019 23:30	WG1396446
1,1-Dichloroethane	ND		10.0	10	12/13/2019 23:30	WG1396446
1,2-Dichloroethane	ND		10.0	10	12/13/2019 23:30	WG1396446
1,1-Dichloroethene	ND		10.0	10	12/13/2019 23:30	WG1396446
cis-1,2-Dichloroethene	ND		10.0	10	12/13/2019 23:30	WG1396446
trans-1,2-Dichloroethene	ND		10.0	10	12/13/2019 23:30	WG1396446
1,2-Dichloropropane	ND		10.0	10	12/13/2019 23:30	WG1396446
1,1-Dichloropropene	ND		10.0	10	12/13/2019 23:30	WG1396446
1,3-Dichloropropane	ND		10.0	10	12/13/2019 23:30	WG1396446
cis-1,3-Dichloropropene	ND		10.0	10	12/13/2019 23:30	WG1396446
trans-1,3-Dichloropropene	ND		10.0	10	12/13/2019 23:30	WG1396446
2,2-Dichloropropane	ND		10.0	10	12/13/2019 23:30	WG1396446
Di-isopropyl ether	ND		10.0	10	12/13/2019 23:30	WG1396446
Ethylbenzene	1980		100	100	12/17/2019 21:04	WG1398103
Hexachloro-1,3-butadiene	ND		10.0	10	12/13/2019 23:30	WG1396446
Isopropylbenzene	129		10.0	10	12/13/2019 23:30	WG1396446
p-Isopropyltoluene	18.0		10.0	10	12/13/2019 23:30	WG1396446
2-Butanone (MEK)	ND		100	10	12/13/2019 23:30	WG1396446

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	ND		50.0	10	12/13/2019 23:30	WG1396446
4-Methyl-2-pentanone (MIBK)	ND		100	10	12/13/2019 23:30	WG1396446
Methyl tert-butyl ether	12.8		10.0	10	12/13/2019 23:30	WG1396446
Naphthalene	268		50.0	10	12/13/2019 23:30	WG1396446
n-Propylbenzene	345		10.0	10	12/13/2019 23:30	WG1396446
Styrene	ND		10.0	10	12/13/2019 23:30	WG1396446
1,1,1,2-Tetrachloroethane	ND		10.0	10	12/13/2019 23:30	WG1396446
1,1,2,2-Tetrachloroethane	ND		10.0	10	12/13/2019 23:30	WG1396446
1,1,2-Trichlorotrifluoroethane	ND		10.0	10	12/13/2019 23:30	WG1396446
Tetrachloroethene	ND		10.0	10	12/13/2019 23:30	WG1396446
Toluene	71.7		10.0	10	12/13/2019 23:30	WG1396446
1,2,3-Trichlorobenzene	ND		10.0	10	12/13/2019 23:30	WG1396446
1,2,4-Trichlorobenzene	ND		10.0	10	12/13/2019 23:30	WG1396446
1,1,1-Trichloroethane	ND		10.0	10	12/13/2019 23:30	WG1396446
1,1,2-Trichloroethane	ND		10.0	10	12/13/2019 23:30	WG1396446
Trichloroethene	ND		10.0	10	12/13/2019 23:30	WG1396446
Trichlorofluoromethane	ND		50.0	10	12/13/2019 23:30	WG1396446
1,2,3-Trichloropropane	ND		25.0	10	12/13/2019 23:30	WG1396446
1,2,4-Trimethylbenzene	926		10.0	10	12/13/2019 23:30	WG1396446
1,2,3-Trimethylbenzene	356		10.0	10	12/13/2019 23:30	WG1396446
1,3,5-Trimethylbenzene	273		10.0	10	12/13/2019 23:30	WG1396446
Vinyl chloride	ND	J0	10.0	10	12/13/2019 23:30	WG1396446
Xylenes, Total	2390		30.0	10	12/13/2019 23:30	WG1396446
(S) Toluene-d8	*111*		*80.0-120*		*12/13/2019 23:30*	WG1396446
(S) Toluene-d8	*107*		*80.0-120*		*12/17/2019 21:04*	WG1398103
(S) 4-Bromofluorobenzene	*107*		*77.0-126*		*12/13/2019 23:30*	WG1396446
(S) 4-Bromofluorobenzene	*103*		*77.0-126*		*12/17/2019 21:04*	WG1398103
(S) 1,2-Dichloroethane-d4	*96.5*		*70.0-130*		*12/13/2019 23:30*	WG1396446
(S) 1,2-Dichloroethane-d4	*104*		*70.0-130*		*12/17/2019 21:04*	WG1398103

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	1860		100	1	12/13/2019 00:59	WG1395474
Residual Range Organics (RRO)	ND		250	1	12/13/2019 00:59	WG1395474
(S) o-Terphenyl	*80.0*		*31.0-160*		*12/13/2019 00:59*	WG1395474

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	12/11/2019 21:44	WG1394517
Lead,Dissolved	ND		2.00	1	12/11/2019 23:37	WG1394512

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	5920		100	1	12/12/2019 16:30	WG1394961
(S) a,a,a-Trifluorotoluene(FID)	*108*		*78.0-120*		*12/12/2019 16:30*	WG1394961

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/13/2019 23:49	WG1396446
Acrolein	ND	J4	50.0	1	12/13/2019 23:49	WG1396446
Acrylonitrile	ND		10.0	1	12/13/2019 23:49	WG1396446
Benzene	115		1.00	1	12/13/2019 23:49	WG1396446
Bromobenzene	ND		1.00	1	12/13/2019 23:49	WG1396446
Bromodichloromethane	ND		1.00	1	12/13/2019 23:49	WG1396446
Bromoform	ND		1.00	1	12/13/2019 23:49	WG1396446
Bromomethane	ND		5.00	1	12/13/2019 23:49	WG1396446
n-Butylbenzene	ND		1.00	1	12/13/2019 23:49	WG1396446
sec-Butylbenzene	7.96		1.00	1	12/13/2019 23:49	WG1396446
tert-Butylbenzene	ND		1.00	1	12/13/2019 23:49	WG1396446
Carbon tetrachloride	ND		1.00	1	12/13/2019 23:49	WG1396446
Chlorobenzene	ND		1.00	1	12/13/2019 23:49	WG1396446
Chlorodibromomethane	ND		1.00	1	12/13/2019 23:49	WG1396446
Chloroethane	ND		5.00	1	12/13/2019 23:49	WG1396446
Chloroform	ND		5.00	1	12/13/2019 23:49	WG1396446
Chloromethane	ND		2.50	1	12/13/2019 23:49	WG1396446
2-Chlorotoluene	ND		1.00	1	12/13/2019 23:49	WG1396446
4-Chlorotoluene	ND		1.00	1	12/13/2019 23:49	WG1396446
1,2-Dibromo-3-Chloropropane	ND		5.00	1	12/13/2019 23:49	WG1396446
1,2-Dibromoethane	ND		1.00	1	12/13/2019 23:49	WG1396446
Dibromomethane	ND		1.00	1	12/13/2019 23:49	WG1396446
1,2-Dichlorobenzene	ND		1.00	1	12/13/2019 23:49	WG1396446
1,3-Dichlorobenzene	ND	J3 J4	1.00	1	12/13/2019 23:49	WG1396446
1,4-Dichlorobenzene	ND		1.00	1	12/13/2019 23:49	WG1396446
Dichlorodifluoromethane	ND		5.00	1	12/13/2019 23:49	WG1396446
1,1-Dichloroethane	ND		1.00	1	12/13/2019 23:49	WG1396446
1,2-Dichloroethane	ND		1.00	1	12/13/2019 23:49	WG1396446
1,1-Dichloroethene	ND		1.00	1	12/13/2019 23:49	WG1396446
cis-1,2-Dichloroethene	ND		1.00	1	12/13/2019 23:49	WG1396446
trans-1,2-Dichloroethene	ND		1.00	1	12/13/2019 23:49	WG1396446
1,2-Dichloropropane	ND		1.00	1	12/13/2019 23:49	WG1396446
1,1-Dichloropropene	ND		1.00	1	12/13/2019 23:49	WG1396446
1,3-Dichloropropane	ND		1.00	1	12/13/2019 23:49	WG1396446
cis-1,3-Dichloropropene	ND		1.00	1	12/13/2019 23:49	WG1396446
trans-1,3-Dichloropropene	ND		1.00	1	12/13/2019 23:49	WG1396446
2,2-Dichloropropane	ND		1.00	1	12/13/2019 23:49	WG1396446
Di-isopropyl ether	ND		1.00	1	12/13/2019 23:49	WG1396446
Ethylbenzene	216		10.0	10	12/17/2019 21:24	WG1398103
Hexachloro-1,3-butadiene	ND		1.00	1	12/13/2019 23:49	WG1396446
Isopropylbenzene	59.7		1.00	1	12/13/2019 23:49	WG1396446
p-Isopropyltoluene	5.34		1.00	1	12/13/2019 23:49	WG1396446
2-Butanone (MEK)	ND		10.0	1	12/13/2019 23:49	WG1396446

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	ND		5.00	1	12/13/2019 23:49	WG1396446
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/13/2019 23:49	WG1396446
Methyl tert-butyl ether	9.97		1.00	1	12/13/2019 23:49	WG1396446
Naphthalene	113		5.00	1	12/13/2019 23:49	WG1396446
n-Propylbenzene	168		1.00	1	12/13/2019 23:49	WG1396446
Styrene	ND		1.00	1	12/13/2019 23:49	WG1396446
1,1,1,2-Tetrachloroethane	ND		1.00	1	12/13/2019 23:49	WG1396446
1,1,2,2-Tetrachloroethane	ND		1.00	1	12/13/2019 23:49	WG1396446
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	12/13/2019 23:49	WG1396446
Tetrachloroethene	ND		1.00	1	12/13/2019 23:49	WG1396446
Toluene	12.6		1.00	1	12/13/2019 23:49	WG1396446
1,2,3-Trichlorobenzene	ND		1.00	1	12/13/2019 23:49	WG1396446
1,2,4-Trichlorobenzene	ND		1.00	1	12/13/2019 23:49	WG1396446
1,1,1-Trichloroethane	ND		1.00	1	12/13/2019 23:49	WG1396446
1,1,2-Trichloroethane	ND		1.00	1	12/13/2019 23:49	WG1396446
Trichloroethene	ND		1.00	1	12/13/2019 23:49	WG1396446
Trichlorofluoromethane	ND		5.00	1	12/13/2019 23:49	WG1396446
1,2,3-Trichloropropane	ND		2.50	1	12/13/2019 23:49	WG1396446
1,2,4-Trimethylbenzene	67.7		1.00	1	12/13/2019 23:49	WG1396446
1,2,3-Trimethylbenzene	173		1.00	1	12/13/2019 23:49	WG1396446
1,3,5-Trimethylbenzene	63.4		1.00	1	12/13/2019 23:49	WG1396446
Vinyl chloride	ND	J0	1.00	1	12/13/2019 23:49	WG1396446
Xylenes, Total	185		3.00	1	12/13/2019 23:49	WG1396446
(S) Toluene-d8	*99.7*		*80.0-120*		*12/13/2019 23:49*	WG1396446
(S) Toluene-d8	*107*		*80.0-120*		*12/17/2019 21:24*	WG1398103
(S) 4-Bromofluorobenzene	*101*		*77.0-126*		*12/13/2019 23:49*	WG1396446
(S) 4-Bromofluorobenzene	*104*		*77.0-126*		*12/17/2019 21:24*	WG1398103
(S) 1,2-Dichloroethane-d4	*104*		*70.0-130*		*12/13/2019 23:49*	WG1396446
(S) 1,2-Dichloroethane-d4	*102*		*70.0-130*		*12/17/2019 21:24*	WG1398103

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	888		100	1	12/13/2019 01:25	WG1395474
Residual Range Organics (RRO)	252		250	1	12/13/2019 01:25	WG1395474
(S) o-Terphenyl	*81.0*		*31.0-160*		*12/13/2019 01:25*	WG1395474

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	12/11/2019 21:47	WG1394517
Lead,Dissolved	ND		2.00	1	12/11/2019 23:40	WG1394512

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	8290		500	5	12/16/2019 13:38	WG1397183
(S) a,a,a-Trifluorotoluene(FID)	*92.5*		*78.0-120*		*12/16/2019 13:38*	WG1397183

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/14/2019 00:09	WG1396446
Acrolein	ND	J4	50.0	1	12/14/2019 00:09	WG1396446
Acrylonitrile	ND		10.0	1	12/14/2019 00:09	WG1396446
Benzene	1520		20.0	20	12/17/2019 21:44	WG1398103
Bromobenzene	ND		1.00	1	12/14/2019 00:09	WG1396446
Bromodichloromethane	ND		1.00	1	12/14/2019 00:09	WG1396446
Bromoform	ND		1.00	1	12/14/2019 00:09	WG1396446
Bromomethane	ND		5.00	1	12/14/2019 00:09	WG1396446
n-Butylbenzene	ND		1.00	1	12/14/2019 00:09	WG1396446
sec-Butylbenzene	8.68		1.00	1	12/14/2019 00:09	WG1396446
tert-Butylbenzene	ND		1.00	1	12/14/2019 00:09	WG1396446
Carbon tetrachloride	ND		1.00	1	12/14/2019 00:09	WG1396446
Chlorobenzene	ND		1.00	1	12/14/2019 00:09	WG1396446
Chlorodibromomethane	ND		1.00	1	12/14/2019 00:09	WG1396446
Chloroethane	ND		5.00	1	12/14/2019 00:09	WG1396446
Chloroform	ND		5.00	1	12/14/2019 00:09	WG1396446
Chloromethane	ND		2.50	1	12/14/2019 00:09	WG1396446
2-Chlorotoluene	ND		1.00	1	12/14/2019 00:09	WG1396446
4-Chlorotoluene	ND		1.00	1	12/14/2019 00:09	WG1396446
1,2-Dibromo-3-Chloropropane	ND		5.00	1	12/14/2019 00:09	WG1396446
1,2-Dibromoethane	ND		1.00	1	12/14/2019 00:09	WG1396446
Dibromomethane	ND		1.00	1	12/14/2019 00:09	WG1396446
1,2-Dichlorobenzene	ND		1.00	1	12/14/2019 00:09	WG1396446
1,3-Dichlorobenzene	ND	J3 J4	1.00	1	12/14/2019 00:09	WG1396446
1,4-Dichlorobenzene	ND		1.00	1	12/14/2019 00:09	WG1396446
Dichlorodifluoromethane	ND		5.00	1	12/14/2019 00:09	WG1396446
1,1-Dichloroethane	ND		1.00	1	12/14/2019 00:09	WG1396446
1,2-Dichloroethane	ND		1.00	1	12/14/2019 00:09	WG1396446
1,1-Dichloroethene	ND		1.00	1	12/14/2019 00:09	WG1396446
cis-1,2-Dichloroethene	ND		1.00	1	12/14/2019 00:09	WG1396446
trans-1,2-Dichloroethene	ND		1.00	1	12/14/2019 00:09	WG1396446
1,2-Dichloropropane	ND		1.00	1	12/14/2019 00:09	WG1396446
1,1-Dichloropropene	ND		1.00	1	12/14/2019 00:09	WG1396446
1,3-Dichloropropane	ND		1.00	1	12/14/2019 00:09	WG1396446
cis-1,3-Dichloropropene	ND		1.00	1	12/14/2019 00:09	WG1396446
trans-1,3-Dichloropropene	ND		1.00	1	12/14/2019 00:09	WG1396446
2,2-Dichloropropane	ND		1.00	1	12/14/2019 00:09	WG1396446
Di-isopropyl ether	ND		1.00	1	12/14/2019 00:09	WG1396446
Ethylbenzene	263		20.0	20	12/17/2019 21:44	WG1398103
Hexachloro-1,3-butadiene	ND		1.00	1	12/14/2019 00:09	WG1396446
Isopropylbenzene	80.6		1.00	1	12/14/2019 00:09	WG1396446
p-Isopropyltoluene	6.17		1.00	1	12/14/2019 00:09	WG1396446
2-Butanone (MEK)	ND		10.0	1	12/14/2019 00:09	WG1396446

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	ND		5.00	1	12/14/2019 00:09	WG1396446
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/14/2019 00:09	WG1396446
Methyl tert-butyl ether	8.35		1.00	1	12/14/2019 00:09	WG1396446
Naphthalene	95.5		5.00	1	12/14/2019 00:09	WG1396446
n-Propylbenzene	199		20.0	20	12/17/2019 21:44	WG1398103
Styrene	ND		1.00	1	12/14/2019 00:09	WG1396446
1,1,1,2-Tetrachloroethane	ND		1.00	1	12/14/2019 00:09	WG1396446
1,1,2,2-Tetrachloroethane	ND		1.00	1	12/14/2019 00:09	WG1396446
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	12/14/2019 00:09	WG1396446
Tetrachloroethene	ND		1.00	1	12/14/2019 00:09	WG1396446
Toluene	35.1		1.00	1	12/14/2019 00:09	WG1396446
1,2,3-Trichlorobenzene	ND		1.00	1	12/14/2019 00:09	WG1396446
1,2,4-Trichlorobenzene	ND		1.00	1	12/14/2019 00:09	WG1396446
1,1,1-Trichloroethane	ND		1.00	1	12/14/2019 00:09	WG1396446
1,1,2-Trichloroethane	ND		1.00	1	12/14/2019 00:09	WG1396446
Trichloroethene	ND		1.00	1	12/14/2019 00:09	WG1396446
Trichlorofluoromethane	ND		5.00	1	12/14/2019 00:09	WG1396446
1,2,3-Trichloropropane	ND		2.50	1	12/14/2019 00:09	WG1396446
1,2,4-Trimethylbenzene	249		20.0	20	12/17/2019 21:44	WG1398103
1,2,3-Trimethylbenzene	177		1.00	1	12/14/2019 00:09	WG1396446
1,3,5-Trimethylbenzene	86.8		1.00	1	12/14/2019 00:09	WG1396446
Vinyl chloride	ND	J0	1.00	1	12/14/2019 00:09	WG1396446
Xylenes, Total	530		60.0	20	12/17/2019 21:44	WG1398103
(S) Toluene-d8	*102*		*80.0-120*		*12/14/2019 00:09*	WG1396446
(S) Toluene-d8	*105*		*80.0-120*		*12/17/2019 21:44*	WG1398103
(S) 4-Bromofluorobenzene	*101*		*77.0-126*		*12/14/2019 00:09*	WG1396446
(S) 4-Bromofluorobenzene	*102*		*77.0-126*		*12/17/2019 21:44*	WG1398103
(S) 1,2-Dichloroethane-d4	*105*		*70.0-130*		*12/14/2019 00:09*	WG1396446
(S) 1,2-Dichloroethane-d4	*101*		*70.0-130*		*12/17/2019 21:44*	WG1398103

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	885		100	1	12/13/2019 01:51	WG1395474
Residual Range Organics (RRO)	ND		250	1	12/13/2019 01:51	WG1395474
(S) o-Terphenyl	*79.5*		*31.0-160*		*12/13/2019 01:51*	WG1395474

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Ferrous Iron	46700	T8	2500	50	12/19/2019 16:08	WG1399728

Metals (ICPMS) by Method 6020B

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	ND		2.00	1	12/11/2019 21:50	WG1394517
Lead,Dissolved	ND		2.00	1	12/11/2019 23:43	WG1394512

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Gasoline Range Organics-NWTPH	8160		100	1	12/12/2019 17:13	WG1394961
(S) a,a,a-Trifluorotoluene(FID)	*116*		*78.0-120*		*12/12/2019 17:13*	WG1394961

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	ND		50.0	1	12/14/2019 00:28	WG1396446
Acrolein	ND	J4	50.0	1	12/14/2019 00:28	WG1396446
Acrylonitrile	ND		10.0	1	12/14/2019 00:28	WG1396446
Benzene	102		1.00	1	12/14/2019 00:28	WG1396446
Bromobenzene	ND		1.00	1	12/14/2019 00:28	WG1396446
Bromodichloromethane	ND		1.00	1	12/14/2019 00:28	WG1396446
Bromoform	ND		1.00	1	12/14/2019 00:28	WG1396446
Bromomethane	ND		5.00	1	12/14/2019 00:28	WG1396446
n-Butylbenzene	124		1.00	1	12/14/2019 00:28	WG1396446
sec-Butylbenzene	7.07		1.00	1	12/14/2019 00:28	WG1396446
tert-Butylbenzene	1.22		1.00	1	12/14/2019 00:28	WG1396446
Carbon tetrachloride	ND		1.00	1	12/14/2019 00:28	WG1396446
Chlorobenzene	ND		1.00	1	12/14/2019 00:28	WG1396446
Chlorodibromomethane	ND		1.00	1	12/14/2019 00:28	WG1396446
Chloroethane	ND		5.00	1	12/14/2019 00:28	WG1396446
Chloroform	ND		5.00	1	12/14/2019 00:28	WG1396446
Chloromethane	ND		2.50	1	12/14/2019 00:28	WG1396446
2-Chlorotoluene	ND		1.00	1	12/14/2019 00:28	WG1396446
4-Chlorotoluene	ND		1.00	1	12/14/2019 00:28	WG1396446
1,2-Dibromo-3-Chloropropane	ND		5.00	1	12/14/2019 00:28	WG1396446
1,2-Dibromoethane	ND		1.00	1	12/14/2019 00:28	WG1396446
Dibromomethane	ND		1.00	1	12/14/2019 00:28	WG1396446
1,2-Dichlorobenzene	ND		1.00	1	12/14/2019 00:28	WG1396446
1,3-Dichlorobenzene	ND	J3 J4	1.00	1	12/14/2019 00:28	WG1396446
1,4-Dichlorobenzene	ND		1.00	1	12/14/2019 00:28	WG1396446
Dichlorodifluoromethane	ND		5.00	1	12/14/2019 00:28	WG1396446
1,1-Dichloroethane	ND		1.00	1	12/14/2019 00:28	WG1396446
1,2-Dichloroethane	ND		1.00	1	12/14/2019 00:28	WG1396446
1,1-Dichloroethene	ND		1.00	1	12/14/2019 00:28	WG1396446
cis-1,2-Dichloroethene	ND		1.00	1	12/14/2019 00:28	WG1396446
trans-1,2-Dichloroethene	ND		1.00	1	12/14/2019 00:28	WG1396446
1,2-Dichloropropane	ND		1.00	1	12/14/2019 00:28	WG1396446
1,1-Dichloropropene	ND		1.00	1	12/14/2019 00:28	WG1396446
1,3-Dichloropropane	ND		1.00	1	12/14/2019 00:28	WG1396446
cis-1,3-Dichloropropene	ND		1.00	1	12/14/2019 00:28	WG1396446
trans-1,3-Dichloropropene	ND		1.00	1	12/14/2019 00:28	WG1396446
2,2-Dichloropropane	ND		1.00	1	12/14/2019 00:28	WG1396446

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Di-isopropyl ether	ND		1.00	1	12/14/2019 00:28	WG1396446
Ethylbenzene	122		1.00	1	12/14/2019 00:28	WG1396446
Hexachloro-1,3-butadiene	ND		1.00	1	12/14/2019 00:28	WG1396446
Isopropylbenzene	109		1.00	1	12/14/2019 00:28	WG1396446
p-Isopropyltoluene	ND		1.00	1	12/14/2019 00:28	WG1396446
2-Butanone (MEK)	ND		10.0	1	12/14/2019 00:28	WG1396446
Methylene Chloride	ND		5.00	1	12/14/2019 00:28	WG1396446
4-Methyl-2-pentanone (MIBK)	ND		10.0	1	12/14/2019 00:28	WG1396446
Methyl tert-butyl ether	10.4		1.00	1	12/14/2019 00:28	WG1396446
Naphthalene	13.9		5.00	1	12/14/2019 00:28	WG1396446
n-Propylbenzene	163		10.0	10	12/17/2019 22:04	WG1398103
Styrene	ND		1.00	1	12/14/2019 00:28	WG1396446
1,1,1,2-Tetrachloroethane	ND		1.00	1	12/14/2019 00:28	WG1396446
1,1,2,2-Tetrachloroethane	ND		1.00	1	12/14/2019 00:28	WG1396446
1,1,2-Trichlorotrifluoroethane	ND		1.00	1	12/14/2019 00:28	WG1396446
Tetrachloroethene	ND		1.00	1	12/14/2019 00:28	WG1396446
Toluene	16.0		1.00	1	12/14/2019 00:28	WG1396446
1,2,3-Trichlorobenzene	ND		1.00	1	12/14/2019 00:28	WG1396446
1,2,4-Trichlorobenzene	ND		1.00	1	12/14/2019 00:28	WG1396446
1,1,1-Trichloroethane	ND		1.00	1	12/14/2019 00:28	WG1396446
1,1,2-Trichloroethane	ND		1.00	1	12/14/2019 00:28	WG1396446
Trichloroethene	ND		1.00	1	12/14/2019 00:28	WG1396446
Trichlorofluoromethane	ND		5.00	1	12/14/2019 00:28	WG1396446
1,2,3-Trichloropropane	ND		2.50	1	12/14/2019 00:28	WG1396446
1,2,4-Trimethylbenzene	ND		10.0	10	12/17/2019 22:04	WG1398103
1,2,3-Trimethylbenzene	64.1		1.00	1	12/14/2019 00:28	WG1396446
1,3,5-Trimethylbenzene	28.8		1.00	1	12/14/2019 00:28	WG1396446
Vinyl chloride	ND	J0	1.00	1	12/14/2019 00:28	WG1396446
Xylenes, Total	49.0		3.00	1	12/14/2019 00:28	WG1396446
(S) Toluene-d8	*94.8*		*80.0-120*		*12/14/2019 00:28*	WG1396446
(S) Toluene-d8	*108*		*80.0-120*		*12/17/2019 22:04*	WG1398103
(S) 4-Bromofluorobenzene	*96.5*		*77.0-126*		*12/14/2019 00:28*	WG1396446
(S) 4-Bromofluorobenzene	*102*		*77.0-126*		*12/17/2019 22:04*	WG1398103
(S) 1,2-Dichloroethane-d4	*103*		*70.0-130*		*12/14/2019 00:28*	WG1396446
(S) 1,2-Dichloroethane-d4	*97.8*		*70.0-130*		*12/17/2019 22:04*	WG1398103

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Diesel Range Organics (DRO)	863		100	1	12/13/2019 02:17	WG1395474
Residual Range Organics (RRO)	279		250	1	12/13/2019 02:17	WG1395474
(S) o-Terphenyl	*78.5*		*31.0-160*		*12/13/2019 02:17*	WG1395474

Method Blank (MB)

(MB) R3484251-1 12/19/19 16:00

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Ferrous Iron	U		15.0	50.0

L1169151-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1169151-04 12/19/19 16:08 • (DUP) R3484251-3 12/19/19 16:09

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Ferrous Iron	46700	46300	50	0.803		20

Laboratory Control Sample (LCS)

(LCS) R3484251-2 12/19/19 16:01

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Ferrous Iron	1000	1020	102	85.0-115	

Method Blank (MB)

(MB) R3481511-1 12/11/19 22:41

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Lead,Dissolved	U		0.240	2.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3481511-2 12/11/19 22:45 • (LCSD) R3481511-3 12/11/19 22:48

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Lead,Dissolved	50.0	45.1	48.3	90.2	96.6	80.0-120			6.83	20

L1169158-19 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1169158-19 12/11/19 22:51 • (MS) R3481511-5 12/11/19 22:58 • (MSD) R3481511-6 12/11/19 23:01

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Lead,Dissolved	50.0	ND	51.2	52.8	101	104	1	75.0-125			3.22	20

Method Blank (MB)

(MB) R3481505-1 12/11/19 20:47

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Lead	U		0.240	2.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3481505-2 12/11/19 20:50 • (LCSD) R3481505-3 12/11/19 20:54

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Lead	50.0	46.4	47.4	92.9	94.7	80.0-120			2.00	20

L1169159-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1169159-03 12/11/19 20:58 • (MS) R3481505-4 12/11/19 21:08 • (MSD) R3481505-5 12/11/19 21:11

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Lead	50.0	U	50.0	49.5	100	99.0	1	75.0-125			1.04	20

Method Blank (MB)

(MB) R3482582-2 12/12/19 10:35

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	43.8	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*96.9*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3482582-1 12/12/19 09:43

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5340	97.1	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*103*	*78.0-120*	

Method Blank (MB)

(MB) R3482950-2 12/16/19 11:58

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	49.5	J	31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*97.4*			*78.0-120*

Laboratory Control Sample (LCS)

(LCS) R3482950-1 12/16/19 11:15

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5500	5590	102	70.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*102*	*78.0-120*	

Method Blank (MB)

(MB) R3483244-3 12/13/19 21:44

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		10.0	50.0
Acrolein	U		8.87	50.0
Acrylonitrile	U		1.87	10.0
Benzene	U		0.331	1.00
Bromobenzene	U		0.352	1.00
Bromodichloromethane	U		0.380	1.00
Bromoform	U		0.469	1.00
Bromomethane	U		0.866	5.00
n-Butylbenzene	U		0.361	1.00
sec-Butylbenzene	U		0.365	1.00
tert-Butylbenzene	U		0.399	1.00
Carbon tetrachloride	U		0.379	1.00
Chlorobenzene	U		0.348	1.00
Chlorodibromomethane	U		0.327	1.00
Chloroethane	U		0.453	5.00
Chloroform	U		0.324	5.00
Chloromethane	U		0.276	2.50
2-Chlorotoluene	U		0.375	1.00
4-Chlorotoluene	U		0.351	1.00
1,2-Dibromo-3-Chloropropane	U		1.33	5.00
1,2-Dibromoethane	U		0.381	1.00
Dibromomethane	U		0.346	1.00
1,2-Dichlorobenzene	U		0.349	1.00
1,3-Dichlorobenzene	U		0.220	1.00
1,4-Dichlorobenzene	U		0.274	1.00
Dichlorodifluoromethane	U		0.551	5.00
1,1-Dichloroethane	U		0.259	1.00
1,2-Dichloroethane	U		0.361	1.00
1,1-Dichloroethene	U		0.398	1.00
cis-1,2-Dichloroethene	U		0.260	1.00
trans-1,2-Dichloroethene	U		0.396	1.00
1,2-Dichloropropane	U		0.306	1.00
1,1-Dichloropropene	U		0.352	1.00
1,3-Dichloropropane	U		0.366	1.00
cis-1,3-Dichloropropene	U		0.418	1.00
trans-1,3-Dichloropropene	U		0.419	1.00
2,2-Dichloropropane	U		0.321	1.00
Di-isopropyl ether	U		0.320	1.00
Ethylbenzene	U		0.384	1.00
Hexachloro-1,3-butadiene	U		0.256	1.00

Method Blank (MB)

(MB) R3483244-3 12/13/19 21:44

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Isopropylbenzene	U		0.326	1.00
p-Isopropyltoluene	U		0.350	1.00
2-Butanone (MEK)	U		3.93	10.0
Methylene Chloride	U		1.00	5.00
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0
Methyl tert-butyl ether	U		0.367	1.00
Naphthalene	U		1.00	5.00
n-Propylbenzene	U		0.349	1.00
Styrene	U		0.307	1.00
1,1,1,2-Tetrachloroethane	U		0.385	1.00
1,1,2,2-Tetrachloroethane	U		0.130	1.00
Tetrachloroethene	U		0.372	1.00
Toluene	U		0.412	1.00
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.355	1.00
1,1,1-Trichloroethane	U		0.319	1.00
1,1,2-Trichloroethane	U		0.383	1.00
Trichloroethene	U		0.398	1.00
Trichlorofluoromethane	U		1.20	5.00
1,2,3-Trichloropropane	U		0.807	2.50
1,2,3-Trimethylbenzene	U		0.321	1.00
1,2,4-Trimethylbenzene	U		0.373	1.00
1,3,5-Trimethylbenzene	U		0.387	1.00
Vinyl chloride	U		0.259	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*111*			*80.0-120*
(S) 4-Bromofluorobenzene	*100*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*98.9*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3483244-1 12/13/19 20:45 • (LCSD) R3483244-2 12/13/19 21:05

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	26.3	27.8	105	111	19.0-160			5.55	27
Acrolein	25.0	88.5	95.3	354	381	10.0-160	J4	J4	7.40	26
Acrylonitrile	25.0	25.9	25.2	104	101	55.0-149			2.74	20
Benzene	5.00	4.84	4.93	96.8	98.6	70.0-123			1.84	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3483244-1 12/13/19 20:45 • (LCSD) R3483244-2 12/13/19 21:05

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromobenzene	5.00	5.56	5.57	111	111	73.0-121			0.180	20
Bromodichloromethane	5.00	4.86	4.82	97.2	96.4	75.0-120			0.826	20
Bromoform	5.00	4.79	5.05	95.8	101	68.0-132			5.28	20
Bromomethane	5.00	4.95	4.85	99.0	97.0	10.0-160			2.04	25
n-Butylbenzene	5.00	4.53	5.05	90.6	101	73.0-125			10.9	20
sec-Butylbenzene	5.00	5.21	5.58	104	112	75.0-125			6.86	20
tert-Butylbenzene	5.00	5.36	5.83	107	117	76.0-124			8.40	20
Carbon tetrachloride	5.00	4.44	4.82	88.8	96.4	68.0-126			8.21	20
Chlorobenzene	5.00	5.32	5.68	106	114	80.0-121			6.55	20
Chlorodibromomethane	5.00	5.19	5.25	104	105	77.0-125			1.15	20
Chloroethane	5.00	4.19	4.68	83.8	93.6	47.0-150			11.0	20
Chloroform	5.00	4.79	4.79	95.8	95.8	73.0-120			0.000	20
Chloromethane	5.00	4.79	4.87	95.8	97.4	41.0-142			1.66	20
2-Chlorotoluene	5.00	5.26	5.99	105	120	76.0-123			13.0	20
4-Chlorotoluene	5.00	5.12	5.49	102	110	75.0-122			6.97	20
1,2-Dibromo-3-Chloropropane	5.00	5.08	5.33	102	107	58.0-134			4.80	20
1,2-Dibromoethane	5.00	4.75	4.80	95.0	96.0	80.0-122			1.05	20
Dibromomethane	5.00	5.01	4.89	100	97.8	80.0-120			2.42	20
1,2-Dichlorobenzene	5.00	4.89	5.31	97.8	106	79.0-121			8.24	20
1,3-Dichlorobenzene	5.00	4.84	6.08	96.8	122	79.0-120		J3 J4	22.7	20
1,4-Dichlorobenzene	5.00	5.38	4.88	108	97.6	79.0-120			9.75	20
Dichlorodifluoromethane	5.00	4.25	4.46	85.0	89.2	51.0-149			4.82	20
1,1-Dichloroethane	5.00	4.81	4.93	96.2	98.6	70.0-126			2.46	20
1,2-Dichloroethane	5.00	5.10	5.10	102	102	70.0-128			0.000	20
1,1-Dichloroethene	5.00	5.00	4.82	100	96.4	71.0-124			3.67	20
cis-1,2-Dichloroethene	5.00	4.66	4.69	93.2	93.8	73.0-120			0.642	20
trans-1,2-Dichloroethene	5.00	4.63	5.03	92.6	101	73.0-120			8.28	20
1,2-Dichloropropane	5.00	5.10	5.56	102	111	77.0-125			8.63	20
1,1-Dichloropropene	5.00	4.77	5.10	95.4	102	74.0-126			6.69	20
1,3-Dichloropropane	5.00	5.03	5.49	101	110	80.0-120			8.75	20
cis-1,3-Dichloropropene	5.00	4.97	4.79	99.4	95.8	80.0-123			3.69	20
trans-1,3-Dichloropropene	5.00	5.27	5.56	105	111	78.0-124			5.36	20
2,2-Dichloropropane	5.00	5.10	5.18	102	104	58.0-130			1.56	20
Di-isopropyl ether	5.00	4.73	4.81	94.6	96.2	58.0-138			1.68	20
Ethylbenzene	5.00	5.45	5.95	109	119	79.0-123			8.77	20
Hexachloro-1,3-butadiene	5.00	4.24	4.80	84.8	96.0	54.0-138			12.4	20
Isopropylbenzene	5.00	4.95	5.54	99.0	111	76.0-127			11.2	20
p-Isopropyltoluene	5.00	4.98	5.54	99.6	111	76.0-125			10.6	20
2-Butanone (MEK)	25.0	25.0	24.6	100	98.4	44.0-160			1.61	20
Methylene Chloride	5.00	4.81	5.07	96.2	101	67.0-120			5.26	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3483244-1 12/13/19 20:45 • (LCSD) R3483244-2 12/13/19 21:05

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	25.0	27.0	28.3	108	113	68.0-142			4.70	20
Methyl tert-butyl ether	5.00	4.61	4.97	92.2	99.4	68.0-125			7.52	20
Naphthalene	5.00	4.70	5.15	94.0	103	54.0-135			9.14	20
n-Propylbenzene	5.00	5.38	5.85	108	117	77.0-124			8.37	20
Styrene	5.00	5.07	5.30	101	106	73.0-130			4.44	20
1,1,1,2-Tetrachloroethane	5.00	4.97	5.00	99.4	100	75.0-125			0.602	20
1,1,2,2-Tetrachloroethane	5.00	5.71	5.77	114	115	65.0-130			1.05	20
Tetrachloroethene	5.00	4.88	5.43	97.6	109	72.0-132			10.7	20
Toluene	5.00	4.88	5.23	97.6	105	79.0-120			6.92	20
1,1,2-Trichlorotrifluoroethane	5.00	4.28	4.61	85.6	92.2	69.0-132			7.42	20
1,2,3-Trichlorobenzene	5.00	4.88	4.82	97.6	96.4	50.0-138			1.24	20
1,2,4-Trichlorobenzene	5.00	4.85	5.29	97.0	106	57.0-137			8.68	20
1,1,1-Trichloroethane	5.00	4.99	4.77	99.8	95.4	73.0-124			4.51	20
1,1,2-Trichloroethane	5.00	5.00	5.14	100	103	80.0-120			2.76	20
Trichloroethene	5.00	4.81	4.69	96.2	93.8	78.0-124			2.53	20
Trichlorofluoromethane	5.00	4.16	4.26	83.2	85.2	59.0-147			2.38	20
1,2,3-Trichloropropane	5.00	5.50	5.95	110	119	73.0-130			7.86	20
1,2,3-Trimethylbenzene	5.00	5.42	5.77	108	115	77.0-120			6.26	20
1,2,4-Trimethylbenzene	5.00	5.19	5.54	104	111	76.0-121			6.52	20
1,3,5-Trimethylbenzene	5.00	5.31	5.44	106	109	76.0-122			2.42	20
Vinyl chloride	5.00	3.88	4.14	77.6	82.8	67.0-131			6.48	20
Xylenes, Total	15.0	15.5	16.7	103	111	79.0-123			7.45	20
(S) Toluene-d8				*98.3*	*102*	*80.0-120*				
(S) 4-Bromofluorobenzene				*92.1*	*98.1*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*103*	*97.5*	*70.0-130*				

Method Blank (MB)

(MB) R3483473-3 12/17/19 17:20

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.331	1.00
Ethylbenzene	U		0.384	1.00
n-Propylbenzene	U		0.349	1.00
1,2,4-Trimethylbenzene	U		0.373	1.00
Xylenes, Total	U		1.06	3.00
(S) Toluene-d8	*97.6*			*80.0-120*
(S) 4-Bromofluorobenzene	*95.9*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3483473-1 12/17/19 16:19 • (LCSD) R3483473-2 12/17/19 16:39

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	5.00	4.95	5.19	99.0	104	70.0-123			4.73	20
Ethylbenzene	5.00	4.46	4.75	89.2	95.0	79.0-123			6.30	20
n-Propylbenzene	5.00	4.61	4.92	92.2	98.4	77.0-124			6.51	20
1,2,4-Trimethylbenzene	5.00	4.69	4.90	93.8	98.0	76.0-121			4.38	20
Xylenes, Total	15.0	14.4	14.7	96.0	98.0	79.0-123			2.06	20
(S) Toluene-d8				*105*	*106*	*80.0-120*				
(S) 4-Bromofluorobenzene				*101*	*105*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*105*	*103*	*70.0-130*				

Method Blank (MB)

(MB) R3482008-1 12/12/19 22:23

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Residual Range Organics (RRO)	U		83.3	250
Diesel Range Organics (DRO)	U		33.3	100
(S) o-Terphenyl	*71.5*			*31.0-160*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3482008-2 12/12/19 22:49 • (LCSD) R3482008-3 12/12/19 23:15

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	1500	1310	1250	87.3	83.3	50.0-150			4.69	20
(S) o-Terphenyl				*80.5*	*75.0*	*31.0-160*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J0	J0: The identification of the analyte is acceptable, but the reported concentration is an estimate. The calibration met method criteria.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
T8	Sample(s) received past/too close to holding time expiration.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

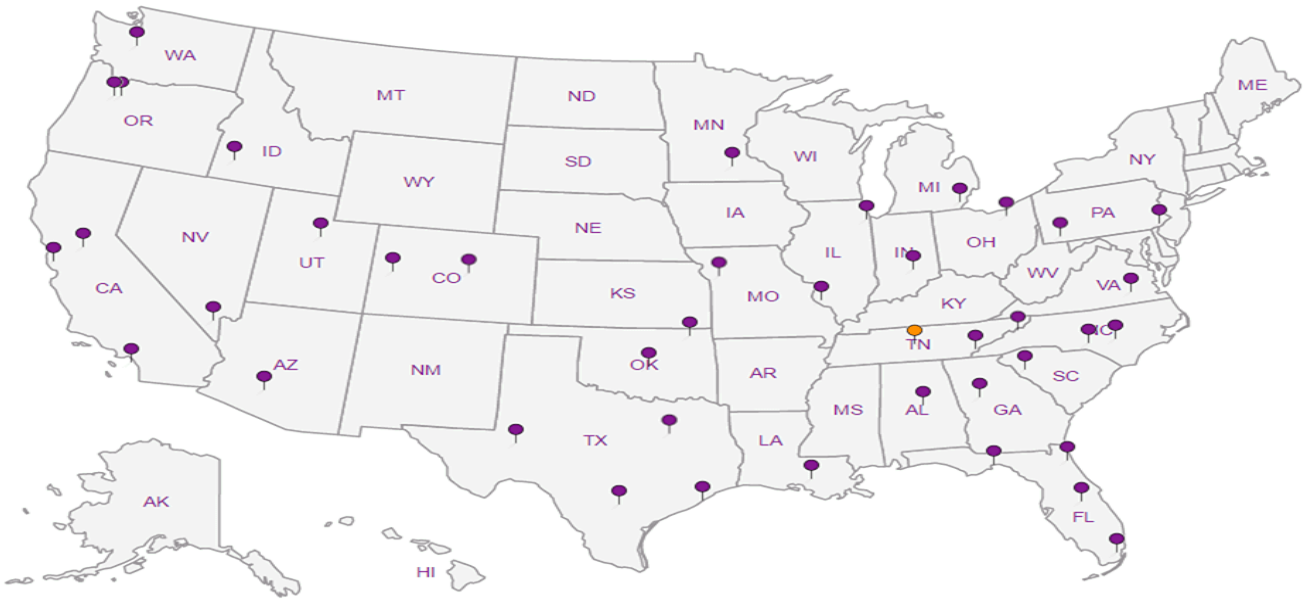
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Report to: Kyle Haggart

Email To: khaggart@geodesigninc.com

Project Description:

City/State Collected: Astoria, OR

Please Circle: PT MT CT ET

Phone: 503-968-8787
Fax:

Client Project # BigBens-1-01-01

Lab Project # GEODESPOR-HAGGART

Collected by (print): Kyle Haggart

Collected by (signature):

Site/Facility ID #

P.O. #

Quote #

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day
Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1169157

T: J086

Acctnum: GEODESPOR

Template: T159580

Prelogin: P742150

PM: 110 - Brian Ford

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Pres Chk	FF Diss RCRA8 6020 250mlHDPE HNO3	NWTPHDX NOSGT 100ml Amb-HCl	NWTPHGX 40mlAmb HCl	PAHs (PAHSIMLVID) 40mlAmb-NoPres-WT	Total RCRA8 6020 250mlHDPE-HNO3	VOCs 8260C 40mlAmb-HCl	Total Lead Gored	Dissolved Lead (Field Filtered) 6020			Remarks	Sample # (lab only)
MW-6 (120719)		GW		12.7.19	950	12			X	X			X	X	X				-01
MW-7 (120719)		GW			1100				X	X			X	X	X				-02
MW-8 (120719)		GW			910				X	X			X	X	X				-03
PAS-2 (120719)		GW			1210				X	X			X	X	X				-04
		GW																	

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: Extract PAHs for potential follow up

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 4798 8843 7767

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y	N
COC Signed/Accurate:		Y	N
Bottles arrive intact:		Y	N
Correct bottles used:		Y	N
Sufficient volume sent:		Y	N
If Applicable			
VOA Zero Headspace:		Y	N
Preservation Correct/Checked:		Y	N
RAD Screen <0.5 mR/hr:		Y	N

Relinquished by: (Signature)	Date: 12.9.19	Time: 1200	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR — 2
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: AG °C .2+0=.2 — Bottles Received: 48+2 1B — If preservation required by Login: Date/Time
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature) Bonnie Bowles	Date: 12/10/19 Time: 0900 — Hold: — Condition: NCF / OK

CAUTION: This email originated from outside Pace Analytical. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hello Brian,

Thanks for the heads up. As long as I have one day to pick the samples I should be fine. We are not going to run to many follow ups and will probably only run 3-5 samples for PAHs.

Can I add dissolved ferrous iron (Fe2+) to the following samples:

- MW-6(120719)
- MW-7(120719)
- MW-8(120719)
- PAS-2(120719)

Also if it is not out of hold/you have enough sample left, can I also run dissolved ferrous iron (Fe2+) on the samples from L1162531

- MW-1(111519)
- MW-2(111519)
- MW-3(111519)
- MW-4(111519)
- MW-5(111519)

Kyle Haggart, G.I.T.
Environmental Staff

503.726.3169 - Direct
503.577.8288 - Mobile
503.968.8787 - Main

<image001.png>

GeoDesign, Inc. An NV5 Company
9450 SW Commerce Circle, Suite 300
Wilsonville, OR 97070
geodesigninc.com

<image002.png>

<image003.png>

<image004.png>

<image005.png>

Portland OR I Vancouver, Longview, Tacoma, and Seattle WA I Anaheim CA
Electronic Communications Disclaimer

From: Brian Ford <BFord@pacenational.com>
Sent: Wednesday, December 11, 2019 2:05 PM
To: Kyle Haggart <khaggart@geodesigninc.com>
Subject: RE: BIGBEAMS-1-01-07 Holding Times

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 23, 2019

GeoDesign Inc. - Wilsonville, OR

Sample Delivery Group:	L1169162
Samples Received:	12/10/2019
Project Number:	BIGBEAMS-1-01-07
Description:	

Report To: Kyle Haggart
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Entire Report Reviewed By:

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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PAS-2(2-3) L1169162-01 Solid

Collected by: Kyle Haggart | Collected date/time: 12/06/19 17:05 | Received date/time: 12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1394729	1	12/11/19 17:42	12/11/19 18:03	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394659	5	12/11/19 13:16	12/12/19 01:11	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1396924	25	12/06/19 17:05	12/16/19 11:48	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1	12/06/19 17:05	12/12/19 14:03	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1394621	5	12/11/19 13:05	12/12/19 15:08	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1398871	1	12/18/19 16:22	12/18/19 22:37	AAT	Mt. Juliet, TN

PAS-2(6-7) L1169162-02 Solid

Collected by: Kyle Haggart | Collected date/time: 12/06/19 17:10 | Received date/time: 12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1394729	1	12/11/19 17:42	12/11/19 18:03	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394659	5	12/11/19 13:16	12/12/19 00:22	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1396924	25.8	12/06/19 17:10	12/16/19 12:08	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1.04	12/06/19 17:10	12/12/19 14:23	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1394621	1	12/11/19 13:05	12/12/19 12:51	TJD	Mt. Juliet, TN

PSVE-1(3-4) L1169162-03 Solid

Collected by: Kyle Haggart | Collected date/time: 12/05/19 08:20 | Received date/time: 12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395167	1	12/13/19 18:37	12/13/19 18:49	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394659	5	12/11/19 13:16	12/12/19 01:14	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1396924	25	12/05/19 08:20	12/16/19 12:29	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1.09	12/05/19 08:20	12/12/19 14:44	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1394621	1	12/11/19 13:05	12/12/19 13:04	TJD	Mt. Juliet, TN

OSVE-2(3-4) L1169162-04 Solid

Collected by: Kyle Haggart | Collected date/time: 12/05/19 10:45 | Received date/time: 12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395167	1	12/13/19 18:37	12/13/19 18:49	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394659	5	12/11/19 13:16	12/12/19 01:18	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1396924	26.3	12/05/19 10:45	12/16/19 12:50	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1.04	12/05/19 10:45	12/12/19 15:04	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1394621	1	12/11/19 13:05	12/12/19 13:17	TJD	Mt. Juliet, TN

OAS-2(2-3) L1169162-05 Solid

Collected by: Kyle Haggart | Collected date/time: 12/05/19 13:55 | Received date/time: 12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395167	1	12/13/19 18:37	12/13/19 18:49	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394659	5	12/11/19 13:16	12/12/19 01:21	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1396924	25.3	12/05/19 13:55	12/16/19 13:10	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1.03	12/05/19 13:55	12/12/19 15:25	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1394621	1	12/11/19 13:05	12/12/19 13:30	TJD	Mt. Juliet, TN

OAS-2(5-6) L1169162-06 Solid

Collected by: Kyle Haggart | Collected date/time: 12/05/19 14:00 | Received date/time: 12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395167	1	12/13/19 18:37	12/13/19 18:49	KDW	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394659	5	12/11/19 13:16	12/12/19 01:31	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1395610	25	12/05/19 14:00	12/13/19 14:43	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1	12/05/19 14:00	12/12/19 15:45	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1396111	20	12/05/19 14:00	12/13/19 15:38	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1394621	1	12/11/19 13:05	12/12/19 13:48	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1398871	1	12/18/19 16:22	12/19/19 23:36	AAT	Mt. Juliet, TN

OAS-4(2.5-3.5) L1169162-07 Solid

Collected by: Kyle Haggart | Collected date/time: 12/05/19 14:35 | Received date/time: 12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395168	1	12/12/19 22:44	12/12/19 22:47	KBC	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394659	5	12/11/19 13:16	12/12/19 01:34	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1395610	27.8	12/05/19 14:35	12/13/19 15:04	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1.45	12/05/19 14:35	12/12/19 16:06	BMB	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1396111	1.45	12/05/19 14:35	12/13/19 15:59	ADM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1394621	1	12/11/19 13:05	12/12/19 14:02	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1398871	1	12/18/19 16:22	12/19/19 23:58	AAT	Mt. Juliet, TN

OSVE-4(2-3) L1169162-08 Solid

Collected by: Kyle Haggart | Collected date/time: 12/05/19 15:20 | Received date/time: 12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395168	1	12/12/19 22:44	12/12/19 22:47	KBC	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394659	5	12/11/19 13:16	12/12/19 01:37	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1395610	27.3	12/05/19 15:20	12/13/19 15:24	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1.01	12/05/19 15:20	12/12/19 16:27	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1394621	1	12/11/19 13:05	12/12/19 14:15	TJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1398871	1	12/18/19 16:22	12/20/19 00:20	AAT	Mt. Juliet, TN

OAS-3(6-7) L1169162-09 Solid

Collected by: Kyle Haggart | Collected date/time: 12/05/19 10:10 | Received date/time: 12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395168	1	12/12/19 22:44	12/12/19 22:47	KBC	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394659	5	12/11/19 13:16	12/12/19 01:41	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1395610	25	12/05/19 10:10	12/13/19 15:45	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1.05	12/05/19 10:10	12/12/19 16:48	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1394621	1	12/11/19 13:05	12/12/19 14:28	TJD	Mt. Juliet, TN

OSVE-3(5-6) L1169162-10 Solid

Collected by: Kyle Haggart | Collected date/time: 12/06/19 09:10 | Received date/time: 12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395168	1	12/12/19 22:44	12/12/19 22:47	KBC	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394659	5	12/11/19 13:16	12/12/19 01:44	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1395610	26.3	12/06/19 09:10	12/13/19 16:05	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1.09	12/06/19 09:10	12/12/19 17:09	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1394621	1	12/11/19 13:05	12/12/19 14:41	TJD	Mt. Juliet, TN

OAS-1(7-8) L1169162-11 Solid

Collected by: Kyle Haggart
Collected date/time: 12/06/19 09:50
Received date/time: 12/10/19 09:00

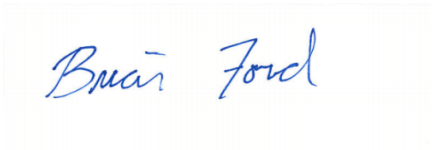
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395168	1	12/12/19 22:44	12/12/19 22:47	KBC	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394659	5	12/11/19 13:16	12/12/19 01:47	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1395610	26.3	12/06/19 09:50	12/13/19 16:26	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1395299	1	12/06/19 09:50	12/12/19 17:29	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1395066	1	12/12/19 06:58	12/13/19 10:25	JDG	Mt. Juliet, TN

OSVE-1(5-6) L1169162-12 Solid

Collected by: Kyle Haggart
Collected date/time: 12/06/19 09:30
Received date/time: 12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395168	1	12/12/19 22:44	12/12/19 22:47	KBC	Mt. Juliet, TN
Metals (ICPMS) by Method 6020B	WG1394659	5	12/11/19 13:16	12/12/19 10:59	TM	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1395610	25	12/06/19 09:30	12/13/19 16:46	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG1396637	1	12/06/19 09:30	12/14/19 17:10	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1394621	1	12/11/19 13:05	12/12/19 14:54	TJD	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford
Project Manager

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.0		1	12/11/2019 18:03	WG1394729

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	28.8		0.549	5	12/12/2019 01:11	WG1394659

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	3.92	B	2.75	25	12/16/2019 11:48	WG1396924
(S) a,a,a-Trifluorotoluene(FID)	*90.8*		*77.0-120*		*12/16/2019 11:48*	WG1396924

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0275	1	12/12/2019 14:03	WG1395299
Acrylonitrile	ND		0.0137	1	12/12/2019 14:03	WG1395299
Benzene	0.0120		0.00110	1	12/12/2019 14:03	WG1395299
Bromobenzene	ND		0.0137	1	12/12/2019 14:03	WG1395299
Bromodichloromethane	ND		0.00275	1	12/12/2019 14:03	WG1395299
Bromoform	ND		0.0275	1	12/12/2019 14:03	WG1395299
Bromomethane	ND	J0	0.0137	1	12/12/2019 14:03	WG1395299
n-Butylbenzene	ND		0.0137	1	12/12/2019 14:03	WG1395299
sec-Butylbenzene	ND		0.0137	1	12/12/2019 14:03	WG1395299
tert-Butylbenzene	ND		0.00549	1	12/12/2019 14:03	WG1395299
Carbon tetrachloride	ND		0.00549	1	12/12/2019 14:03	WG1395299
Chlorobenzene	ND		0.00275	1	12/12/2019 14:03	WG1395299
Chlorodibromomethane	ND		0.00275	1	12/12/2019 14:03	WG1395299
Chloroethane	ND	J0	0.00549	1	12/12/2019 14:03	WG1395299
Chloroform	ND		0.00275	1	12/12/2019 14:03	WG1395299
Chloromethane	ND		0.0137	1	12/12/2019 14:03	WG1395299
2-Chlorotoluene	ND		0.00275	1	12/12/2019 14:03	WG1395299
4-Chlorotoluene	ND		0.00549	1	12/12/2019 14:03	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0275	1	12/12/2019 14:03	WG1395299
1,2-Dibromoethane	ND		0.00275	1	12/12/2019 14:03	WG1395299
Dibromomethane	ND		0.00549	1	12/12/2019 14:03	WG1395299
1,2-Dichlorobenzene	ND		0.00549	1	12/12/2019 14:03	WG1395299
1,3-Dichlorobenzene	ND		0.00549	1	12/12/2019 14:03	WG1395299
1,4-Dichlorobenzene	ND		0.00549	1	12/12/2019 14:03	WG1395299
Dichlorodifluoromethane	ND		0.00275	1	12/12/2019 14:03	WG1395299
1,1-Dichloroethane	ND		0.00275	1	12/12/2019 14:03	WG1395299
1,2-Dichloroethane	ND		0.00275	1	12/12/2019 14:03	WG1395299
1,1-Dichloroethene	ND		0.00275	1	12/12/2019 14:03	WG1395299
cis-1,2-Dichloroethene	ND		0.00275	1	12/12/2019 14:03	WG1395299
trans-1,2-Dichloroethene	ND		0.00549	1	12/12/2019 14:03	WG1395299
1,2-Dichloropropane	ND		0.00549	1	12/12/2019 14:03	WG1395299
1,1-Dichloropropene	ND		0.00275	1	12/12/2019 14:03	WG1395299
1,3-Dichloropropane	ND		0.00549	1	12/12/2019 14:03	WG1395299
cis-1,3-Dichloropropene	ND		0.00275	1	12/12/2019 14:03	WG1395299
trans-1,3-Dichloropropene	ND		0.00549	1	12/12/2019 14:03	WG1395299
2,2-Dichloropropane	ND		0.00275	1	12/12/2019 14:03	WG1395299
Di-isopropyl ether	ND		0.00110	1	12/12/2019 14:03	WG1395299
Ethylbenzene	0.0477		0.00275	1	12/12/2019 14:03	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0275	1	12/12/2019 14:03	WG1395299
Isopropylbenzene	0.00392		0.00275	1	12/12/2019 14:03	WG1395299
p-Isopropyltoluene	ND		0.00549	1	12/12/2019 14:03	WG1395299
2-Butanone (MEK)	ND		0.0275	1	12/12/2019 14:03	WG1395299
Methylene Chloride	ND		0.0275	1	12/12/2019 14:03	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0275	1	12/12/2019 14:03	WG1395299
Methyl tert-butyl ether	ND		0.00110	1	12/12/2019 14:03	WG1395299
Naphthalene	0.0177		0.0137	1	12/12/2019 14:03	WG1395299
n-Propylbenzene	0.0176		0.00549	1	12/12/2019 14:03	WG1395299
Styrene	ND		0.0137	1	12/12/2019 14:03	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00275	1	12/12/2019 14:03	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00275	1	12/12/2019 14:03	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00275	1	12/12/2019 14:03	WG1395299
Tetrachloroethene	ND		0.00275	1	12/12/2019 14:03	WG1395299
Toluene	ND		0.00549	1	12/12/2019 14:03	WG1395299
1,2,3-Trichlorobenzene	ND		0.00275	1	12/12/2019 14:03	WG1395299
1,2,4-Trichlorobenzene	ND		0.0137	1	12/12/2019 14:03	WG1395299
1,1,1-Trichloroethane	ND		0.00275	1	12/12/2019 14:03	WG1395299
1,1,2-Trichloroethane	ND		0.00275	1	12/12/2019 14:03	WG1395299
Trichloroethene	ND		0.00110	1	12/12/2019 14:03	WG1395299
Trichlorofluoromethane	ND		0.00275	1	12/12/2019 14:03	WG1395299
1,2,3-Trichloropropane	ND		0.0137	1	12/12/2019 14:03	WG1395299
1,2,4-Trimethylbenzene	0.103		0.00549	1	12/12/2019 14:03	WG1395299
1,2,3-Trimethylbenzene	0.0356		0.00549	1	12/12/2019 14:03	WG1395299
1,3,5-Trimethylbenzene	0.0274		0.00549	1	12/12/2019 14:03	WG1395299
Vinyl chloride	ND		0.00275	1	12/12/2019 14:03	WG1395299
Xylenes, Total	0.0862		0.00714	1	12/12/2019 14:03	WG1395299
(S) Toluene-d8	*109*		*75.0-131*		*12/12/2019 14:03*	WG1395299
(S) 4-Bromofluorobenzene	*102*		*67.0-138*		*12/12/2019 14:03*	WG1395299
(S) 1,2-Dichloroethane-d4	*95.9*		*70.0-130*		*12/12/2019 14:03*	WG1395299

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	74.5	J3 J5 J6	22.0	5	12/12/2019 15:08	WG1394621
Residual Range Organics (RRO)	372		54.9	5	12/12/2019 15:08	WG1394621
(S) o-Terphenyl	*70.6*		*18.0-148*		*12/12/2019 15:08*	WG1394621

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00659	1	12/18/2019 22:37	WG1398871
Acenaphthene	ND		0.00659	1	12/18/2019 22:37	WG1398871
Acenaphthylene	ND		0.00659	1	12/18/2019 22:37	WG1398871
Benzo(a)anthracene	ND		0.00659	1	12/18/2019 22:37	WG1398871
Benzo(a)pyrene	ND		0.00659	1	12/18/2019 22:37	WG1398871
Benzo(b)fluoranthene	ND		0.00659	1	12/18/2019 22:37	WG1398871
Benzo(g,h,i)perylene	ND		0.00659	1	12/18/2019 22:37	WG1398871
Benzo(k)fluoranthene	ND		0.00659	1	12/18/2019 22:37	WG1398871
Chrysene	ND		0.00659	1	12/18/2019 22:37	WG1398871
Dibenz(a,h)anthracene	ND		0.00659	1	12/18/2019 22:37	WG1398871
Fluoranthene	ND		0.00659	1	12/18/2019 22:37	WG1398871
Fluorene	ND		0.00659	1	12/18/2019 22:37	WG1398871
Indeno(1,2,3-cd)pyrene	ND		0.00659	1	12/18/2019 22:37	WG1398871
Naphthalene	0.163		0.0220	1	12/18/2019 22:37	WG1398871

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Phenanthrene	ND		0.00659	1	12/18/2019 22:37	WG1398871
Pyrene	ND		0.00659	1	12/18/2019 22:37	WG1398871
1-Methylnaphthalene	ND		0.0220	1	12/18/2019 22:37	WG1398871
2-Methylnaphthalene	0.0308		0.0220	1	12/18/2019 22:37	WG1398871
2-Chloronaphthalene	ND		0.0220	1	12/18/2019 22:37	WG1398871
(S) Nitrobenzene-d5	*113*		*14.0-149*		*12/18/2019 22:37*	WG1398871
(S) 2-Fluorobiphenyl	*93.0*		*34.0-125*		*12/18/2019 22:37*	WG1398871
(S) p-Terphenyl-d14	*112*		*23.0-120*		*12/18/2019 22:37*	WG1398871

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.3		1	12/11/2019 18:03	WG1394729

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.68		0.536	5	12/12/2019 00:22	WG1394659

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	4.80	B	2.77	25.8	12/16/2019 12:08	WG1396924
(S) a,a,a-Trifluorotoluene(FID)	*100*		*77.0-120*		*12/16/2019 12:08*	WG1396924

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0279	1.04	12/12/2019 14:23	WG1395299
Acrylonitrile	ND		0.0139	1.04	12/12/2019 14:23	WG1395299
Benzene	0.0371		0.00111	1.04	12/12/2019 14:23	WG1395299
Bromobenzene	ND		0.0139	1.04	12/12/2019 14:23	WG1395299
Bromodichloromethane	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
Bromoform	ND		0.0279	1.04	12/12/2019 14:23	WG1395299
Bromomethane	ND	J0	0.0139	1.04	12/12/2019 14:23	WG1395299
n-Butylbenzene	ND		0.0139	1.04	12/12/2019 14:23	WG1395299
sec-Butylbenzene	ND		0.0139	1.04	12/12/2019 14:23	WG1395299
tert-Butylbenzene	ND		0.00557	1.04	12/12/2019 14:23	WG1395299
Carbon tetrachloride	ND		0.00557	1.04	12/12/2019 14:23	WG1395299
Chlorobenzene	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
Chlorodibromomethane	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
Chloroethane	ND	J0	0.00557	1.04	12/12/2019 14:23	WG1395299
Chloroform	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
Chloromethane	ND		0.0139	1.04	12/12/2019 14:23	WG1395299
2-Chlorotoluene	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
4-Chlorotoluene	ND		0.00557	1.04	12/12/2019 14:23	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0279	1.04	12/12/2019 14:23	WG1395299
1,2-Dibromoethane	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
Dibromomethane	ND		0.00557	1.04	12/12/2019 14:23	WG1395299
1,2-Dichlorobenzene	ND		0.00557	1.04	12/12/2019 14:23	WG1395299
1,3-Dichlorobenzene	ND		0.00557	1.04	12/12/2019 14:23	WG1395299
1,4-Dichlorobenzene	ND		0.00557	1.04	12/12/2019 14:23	WG1395299
Dichlorodifluoromethane	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
1,1-Dichloroethane	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
1,2-Dichloroethane	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
1,1-Dichloroethene	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
cis-1,2-Dichloroethene	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
trans-1,2-Dichloroethene	ND		0.00557	1.04	12/12/2019 14:23	WG1395299
1,2-Dichloropropane	ND		0.00557	1.04	12/12/2019 14:23	WG1395299
1,1-Dichloropropene	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
1,3-Dichloropropane	ND		0.00557	1.04	12/12/2019 14:23	WG1395299
cis-1,3-Dichloropropene	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
trans-1,3-Dichloropropene	ND		0.00557	1.04	12/12/2019 14:23	WG1395299
2,2-Dichloropropane	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
Di-isopropyl ether	ND		0.00111	1.04	12/12/2019 14:23	WG1395299
Ethylbenzene	0.102		0.00279	1.04	12/12/2019 14:23	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0279	1.04	12/12/2019 14:23	WG1395299
Isopropylbenzene	0.00767		0.00279	1.04	12/12/2019 14:23	WG1395299
p-Isopropyltoluene	ND		0.00557	1.04	12/12/2019 14:23	WG1395299
2-Butanone (MEK)	ND		0.0279	1.04	12/12/2019 14:23	WG1395299
Methylene Chloride	ND		0.0279	1.04	12/12/2019 14:23	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0279	1.04	12/12/2019 14:23	WG1395299
Methyl tert-butyl ether	ND		0.00111	1.04	12/12/2019 14:23	WG1395299
Naphthalene	0.0826		0.0139	1.04	12/12/2019 14:23	WG1395299
n-Propylbenzene	0.0387		0.00557	1.04	12/12/2019 14:23	WG1395299
Styrene	ND		0.0139	1.04	12/12/2019 14:23	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
Tetrachloroethene	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
Toluene	ND		0.00557	1.04	12/12/2019 14:23	WG1395299
1,2,3-Trichlorobenzene	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
1,2,4-Trichlorobenzene	ND		0.0139	1.04	12/12/2019 14:23	WG1395299
1,1,1-Trichloroethane	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
1,1,2-Trichloroethane	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
Trichloroethene	ND		0.00111	1.04	12/12/2019 14:23	WG1395299
Trichlorofluoromethane	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
1,2,3-Trichloropropane	ND		0.0139	1.04	12/12/2019 14:23	WG1395299
1,2,4-Trimethylbenzene	0.283		0.00557	1.04	12/12/2019 14:23	WG1395299
1,2,3-Trimethylbenzene	0.0886		0.00557	1.04	12/12/2019 14:23	WG1395299
1,3,5-Trimethylbenzene	0.0536		0.00557	1.04	12/12/2019 14:23	WG1395299
Vinyl chloride	ND		0.00279	1.04	12/12/2019 14:23	WG1395299
Xylenes, Total	0.143		0.00725	1.04	12/12/2019 14:23	WG1395299
(S) Toluene-d8	*107*		*75.0-131*		*12/12/2019 14:23*	WG1395299
(S) 4-Bromofluorobenzene	*101*		*67.0-138*		*12/12/2019 14:23*	WG1395299
(S) 1,2-Dichloroethane-d4	*93.3*		*70.0-130*		*12/12/2019 14:23*	WG1395299

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.29	1	12/12/2019 12:51	WG1394621
Residual Range Organics (RRO)	ND		10.7	1	12/12/2019 12:51	WG1394621
(S) o-Terphenyl	*50.2*		*18.0-148*		*12/12/2019 12:51*	WG1394621

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.0		1	12/13/2019 18:49	WG1395167

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.56		0.543	5	12/12/2019 01:14	WG1394659

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	3.38	B	2.72	25	12/16/2019 12:29	WG1396924
(S) a,a,a-Trifluorotoluene(FID)	*101*		*77.0-120*		*12/16/2019 12:29*	WG1396924

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0297	1.09	12/12/2019 14:44	WG1395299
Acrylonitrile	ND		0.0148	1.09	12/12/2019 14:44	WG1395299
Benzene	0.0140		0.00118	1.09	12/12/2019 14:44	WG1395299
Bromobenzene	ND		0.0148	1.09	12/12/2019 14:44	WG1395299
Bromodichloromethane	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
Bromoform	ND		0.0297	1.09	12/12/2019 14:44	WG1395299
Bromomethane	ND	J0	0.0148	1.09	12/12/2019 14:44	WG1395299
n-Butylbenzene	ND		0.0148	1.09	12/12/2019 14:44	WG1395299
sec-Butylbenzene	ND		0.0148	1.09	12/12/2019 14:44	WG1395299
tert-Butylbenzene	ND		0.00592	1.09	12/12/2019 14:44	WG1395299
Carbon tetrachloride	ND		0.00592	1.09	12/12/2019 14:44	WG1395299
Chlorobenzene	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
Chlorodibromomethane	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
Chloroethane	ND	J0	0.00592	1.09	12/12/2019 14:44	WG1395299
Chloroform	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
Chloromethane	ND		0.0148	1.09	12/12/2019 14:44	WG1395299
2-Chlorotoluene	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
4-Chlorotoluene	ND		0.00592	1.09	12/12/2019 14:44	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0297	1.09	12/12/2019 14:44	WG1395299
1,2-Dibromoethane	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
Dibromomethane	ND		0.00592	1.09	12/12/2019 14:44	WG1395299
1,2-Dichlorobenzene	ND		0.00592	1.09	12/12/2019 14:44	WG1395299
1,3-Dichlorobenzene	ND		0.00592	1.09	12/12/2019 14:44	WG1395299
1,4-Dichlorobenzene	ND		0.00592	1.09	12/12/2019 14:44	WG1395299
Dichlorodifluoromethane	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
1,1-Dichloroethane	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
1,2-Dichloroethane	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
1,1-Dichloroethene	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
cis-1,2-Dichloroethene	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
trans-1,2-Dichloroethene	ND		0.00592	1.09	12/12/2019 14:44	WG1395299
1,2-Dichloropropane	ND		0.00592	1.09	12/12/2019 14:44	WG1395299
1,1-Dichloropropene	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
1,3-Dichloropropane	ND		0.00592	1.09	12/12/2019 14:44	WG1395299
cis-1,3-Dichloropropene	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
trans-1,3-Dichloropropene	ND		0.00592	1.09	12/12/2019 14:44	WG1395299
2,2-Dichloropropane	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
Di-isopropyl ether	ND		0.00118	1.09	12/12/2019 14:44	WG1395299
Ethylbenzene	0.0305		0.00297	1.09	12/12/2019 14:44	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0297	1.09	12/12/2019 14:44	WG1395299
Isopropylbenzene	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
p-Isopropyltoluene	ND		0.00592	1.09	12/12/2019 14:44	WG1395299
2-Butanone (MEK)	ND		0.0297	1.09	12/12/2019 14:44	WG1395299
Methylene Chloride	ND		0.0297	1.09	12/12/2019 14:44	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0297	1.09	12/12/2019 14:44	WG1395299
Methyl tert-butyl ether	ND		0.00118	1.09	12/12/2019 14:44	WG1395299
Naphthalene	0.0351		0.0148	1.09	12/12/2019 14:44	WG1395299
n-Propylbenzene	0.0102		0.00592	1.09	12/12/2019 14:44	WG1395299
Styrene	ND		0.0148	1.09	12/12/2019 14:44	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
Tetrachloroethene	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
Toluene	ND		0.00592	1.09	12/12/2019 14:44	WG1395299
1,2,3-Trichlorobenzene	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
1,2,4-Trichlorobenzene	ND		0.0148	1.09	12/12/2019 14:44	WG1395299
1,1,1-Trichloroethane	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
1,1,2-Trichloroethane	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
Trichloroethene	ND		0.00118	1.09	12/12/2019 14:44	WG1395299
Trichlorofluoromethane	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
1,2,3-Trichloropropane	ND		0.0148	1.09	12/12/2019 14:44	WG1395299
1,2,4-Trimethylbenzene	0.0686		0.00592	1.09	12/12/2019 14:44	WG1395299
1,2,3-Trimethylbenzene	0.0222		0.00592	1.09	12/12/2019 14:44	WG1395299
1,3,5-Trimethylbenzene	0.0184		0.00592	1.09	12/12/2019 14:44	WG1395299
Vinyl chloride	ND		0.00297	1.09	12/12/2019 14:44	WG1395299
Xylenes, Total	0.0471		0.00770	1.09	12/12/2019 14:44	WG1395299
(S) Toluene-d8	*109*		*75.0-131*		*12/12/2019 14:44*	WG1395299
(S) 4-Bromofluorobenzene	*102*		*67.0-138*		*12/12/2019 14:44*	WG1395299
(S) 1,2-Dichloroethane-d4	*96.8*		*70.0-130*		*12/12/2019 14:44*	WG1395299

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.35	1	12/12/2019 13:04	WG1394621
Residual Range Organics (RRO)	ND		10.9	1	12/12/2019 13:04	WG1394621
(S) o-Terphenyl	*59.0*		*18.0-148*		*12/12/2019 13:04*	WG1394621

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.2		1	12/13/2019 18:49	WG1395167

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.52		0.520	5	12/12/2019 01:18	WG1394659

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	2.73	B	2.73	26.3	12/16/2019 12:50	WG1396924
(S) a,a,a-Trifluorotoluene(FID)	*99.6*		*77.0-120*		*12/16/2019 12:50*	WG1396924

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0270	1.04	12/12/2019 15:04	WG1395299
Acrylonitrile	ND		0.0135	1.04	12/12/2019 15:04	WG1395299
Benzene	0.0133		0.00108	1.04	12/12/2019 15:04	WG1395299
Bromobenzene	ND		0.0135	1.04	12/12/2019 15:04	WG1395299
Bromodichloromethane	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
Bromoform	ND		0.0270	1.04	12/12/2019 15:04	WG1395299
Bromomethane	ND	J0	0.0135	1.04	12/12/2019 15:04	WG1395299
n-Butylbenzene	ND		0.0135	1.04	12/12/2019 15:04	WG1395299
sec-Butylbenzene	ND		0.0135	1.04	12/12/2019 15:04	WG1395299
tert-Butylbenzene	ND		0.00540	1.04	12/12/2019 15:04	WG1395299
Carbon tetrachloride	ND		0.00540	1.04	12/12/2019 15:04	WG1395299
Chlorobenzene	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
Chlorodibromomethane	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
Chloroethane	ND	J0	0.00540	1.04	12/12/2019 15:04	WG1395299
Chloroform	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
Chloromethane	ND		0.0135	1.04	12/12/2019 15:04	WG1395299
2-Chlorotoluene	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
4-Chlorotoluene	ND		0.00540	1.04	12/12/2019 15:04	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0270	1.04	12/12/2019 15:04	WG1395299
1,2-Dibromoethane	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
Dibromomethane	ND		0.00540	1.04	12/12/2019 15:04	WG1395299
1,2-Dichlorobenzene	ND		0.00540	1.04	12/12/2019 15:04	WG1395299
1,3-Dichlorobenzene	ND		0.00540	1.04	12/12/2019 15:04	WG1395299
1,4-Dichlorobenzene	ND		0.00540	1.04	12/12/2019 15:04	WG1395299
Dichlorodifluoromethane	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
1,1-Dichloroethane	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
1,2-Dichloroethane	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
1,1-Dichloroethene	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
cis-1,2-Dichloroethene	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
trans-1,2-Dichloroethene	ND		0.00540	1.04	12/12/2019 15:04	WG1395299
1,2-Dichloropropane	ND		0.00540	1.04	12/12/2019 15:04	WG1395299
1,1-Dichloropropene	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
1,3-Dichloropropane	ND		0.00540	1.04	12/12/2019 15:04	WG1395299
cis-1,3-Dichloropropene	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
trans-1,3-Dichloropropene	ND		0.00540	1.04	12/12/2019 15:04	WG1395299
2,2-Dichloropropane	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
Di-isopropyl ether	ND		0.00108	1.04	12/12/2019 15:04	WG1395299
Ethylbenzene	0.0356		0.00270	1.04	12/12/2019 15:04	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0270	1.04	12/12/2019 15:04	WG1395299
Isopropylbenzene	0.00286		0.00270	1.04	12/12/2019 15:04	WG1395299
p-Isopropyltoluene	ND		0.00540	1.04	12/12/2019 15:04	WG1395299
2-Butanone (MEK)	ND		0.0270	1.04	12/12/2019 15:04	WG1395299
Methylene Chloride	ND		0.0270	1.04	12/12/2019 15:04	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0270	1.04	12/12/2019 15:04	WG1395299
Methyl tert-butyl ether	ND		0.00108	1.04	12/12/2019 15:04	WG1395299
Naphthalene	0.0187		0.0135	1.04	12/12/2019 15:04	WG1395299
n-Propylbenzene	0.0128		0.00540	1.04	12/12/2019 15:04	WG1395299
Styrene	ND		0.0135	1.04	12/12/2019 15:04	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
Tetrachloroethene	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
Toluene	ND		0.00540	1.04	12/12/2019 15:04	WG1395299
1,2,3-Trichlorobenzene	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
1,2,4-Trichlorobenzene	ND		0.0135	1.04	12/12/2019 15:04	WG1395299
1,1,1-Trichloroethane	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
1,1,2-Trichloroethane	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
Trichloroethene	ND		0.00108	1.04	12/12/2019 15:04	WG1395299
Trichlorofluoromethane	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
1,2,3-Trichloropropane	ND		0.0135	1.04	12/12/2019 15:04	WG1395299
1,2,4-Trimethylbenzene	0.0770		0.00540	1.04	12/12/2019 15:04	WG1395299
1,2,3-Trimethylbenzene	0.0266		0.00540	1.04	12/12/2019 15:04	WG1395299
1,3,5-Trimethylbenzene	0.0143		0.00540	1.04	12/12/2019 15:04	WG1395299
Vinyl chloride	ND		0.00270	1.04	12/12/2019 15:04	WG1395299
Xylenes, Total	0.0518		0.00703	1.04	12/12/2019 15:04	WG1395299
(S) Toluene-d8	*108*		*75.0-131*		*12/12/2019 15:04*	WG1395299
(S) 4-Bromofluorobenzene	*103*		*67.0-138*		*12/12/2019 15:04*	WG1395299
(S) 1,2-Dichloroethane-d4	*98.2*		*70.0-130*		*12/12/2019 15:04*	WG1395299

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.16	1	12/12/2019 13:17	WG1394621
Residual Range Organics (RRO)	ND		10.4	1	12/12/2019 13:17	WG1394621
(S) o-Terphenyl	*57.2*		*18.0-148*		*12/12/2019 13:17*	WG1394621

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.3		1	12/13/2019 18:49	WG1395167

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	33.5		0.542	5	12/12/2019 01:21	WG1394659

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	ND		2.74	25.3	12/16/2019 13:10	WG1396924
(S) a,a,a-Trifluorotoluene(FID)	*98.3*		*77.0-120*		*12/16/2019 13:10*	WG1396924

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0280	1.03	12/12/2019 15:25	WG1395299
Acrylonitrile	ND		0.0140	1.03	12/12/2019 15:25	WG1395299
Benzene	0.0287		0.00112	1.03	12/12/2019 15:25	WG1395299
Bromobenzene	ND		0.0140	1.03	12/12/2019 15:25	WG1395299
Bromodichloromethane	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
Bromoform	ND		0.0280	1.03	12/12/2019 15:25	WG1395299
Bromomethane	ND	J0	0.0140	1.03	12/12/2019 15:25	WG1395299
n-Butylbenzene	ND		0.0140	1.03	12/12/2019 15:25	WG1395299
sec-Butylbenzene	ND		0.0140	1.03	12/12/2019 15:25	WG1395299
tert-Butylbenzene	ND		0.00558	1.03	12/12/2019 15:25	WG1395299
Carbon tetrachloride	ND		0.00558	1.03	12/12/2019 15:25	WG1395299
Chlorobenzene	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
Chlorodibromomethane	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
Chloroethane	ND	J0	0.00558	1.03	12/12/2019 15:25	WG1395299
Chloroform	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
Chloromethane	ND		0.0140	1.03	12/12/2019 15:25	WG1395299
2-Chlorotoluene	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
4-Chlorotoluene	ND		0.00558	1.03	12/12/2019 15:25	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0280	1.03	12/12/2019 15:25	WG1395299
1,2-Dibromoethane	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
Dibromomethane	ND		0.00558	1.03	12/12/2019 15:25	WG1395299
1,2-Dichlorobenzene	ND		0.00558	1.03	12/12/2019 15:25	WG1395299
1,3-Dichlorobenzene	ND		0.00558	1.03	12/12/2019 15:25	WG1395299
1,4-Dichlorobenzene	ND		0.00558	1.03	12/12/2019 15:25	WG1395299
Dichlorodifluoromethane	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
1,1-Dichloroethane	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
1,2-Dichloroethane	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
1,1-Dichloroethene	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
cis-1,2-Dichloroethene	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
trans-1,2-Dichloroethene	ND		0.00558	1.03	12/12/2019 15:25	WG1395299
1,2-Dichloropropane	ND		0.00558	1.03	12/12/2019 15:25	WG1395299
1,1-Dichloropropene	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
1,3-Dichloropropane	ND		0.00558	1.03	12/12/2019 15:25	WG1395299
cis-1,3-Dichloropropene	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
trans-1,3-Dichloropropene	ND		0.00558	1.03	12/12/2019 15:25	WG1395299
2,2-Dichloropropane	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
Di-isopropyl ether	ND		0.00112	1.03	12/12/2019 15:25	WG1395299
Ethylbenzene	0.0512		0.00280	1.03	12/12/2019 15:25	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0280	1.03	12/12/2019 15:25	WG1395299
Isopropylbenzene	0.00291		0.00280	1.03	12/12/2019 15:25	WG1395299
p-Isopropyltoluene	ND		0.00558	1.03	12/12/2019 15:25	WG1395299
2-Butanone (MEK)	ND		0.0280	1.03	12/12/2019 15:25	WG1395299
Methylene Chloride	ND		0.0280	1.03	12/12/2019 15:25	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0280	1.03	12/12/2019 15:25	WG1395299
Methyl tert-butyl ether	ND		0.00112	1.03	12/12/2019 15:25	WG1395299
Naphthalene	0.0213		0.0140	1.03	12/12/2019 15:25	WG1395299
n-Propylbenzene	0.0129		0.00558	1.03	12/12/2019 15:25	WG1395299
Styrene	ND		0.0140	1.03	12/12/2019 15:25	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
Tetrachloroethene	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
Toluene	ND		0.00558	1.03	12/12/2019 15:25	WG1395299
1,2,3-Trichlorobenzene	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
1,2,4-Trichlorobenzene	ND		0.0140	1.03	12/12/2019 15:25	WG1395299
1,1,1-Trichloroethane	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
1,1,2-Trichloroethane	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
Trichloroethene	ND		0.00112	1.03	12/12/2019 15:25	WG1395299
Trichlorofluoromethane	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
1,2,3-Trichloropropane	ND		0.0140	1.03	12/12/2019 15:25	WG1395299
1,2,4-Trimethylbenzene	0.0742		0.00558	1.03	12/12/2019 15:25	WG1395299
1,2,3-Trimethylbenzene	0.0255		0.00558	1.03	12/12/2019 15:25	WG1395299
1,3,5-Trimethylbenzene	0.0148		0.00558	1.03	12/12/2019 15:25	WG1395299
Vinyl chloride	ND		0.00280	1.03	12/12/2019 15:25	WG1395299
Xylenes, Total	0.0784		0.00726	1.03	12/12/2019 15:25	WG1395299
(S) Toluene-d8	*110*		*75.0-131*		*12/12/2019 15:25*	WG1395299
(S) 4-Bromofluorobenzene	*106*		*67.0-138*		*12/12/2019 15:25*	WG1395299
(S) 1,2-Dichloroethane-d4	*98.7*		*70.0-130*		*12/12/2019 15:25*	WG1395299

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.33	1	12/12/2019 13:30	WG1394621
Residual Range Organics (RRO)	ND		10.8	1	12/12/2019 13:30	WG1394621
(S) o-Terphenyl	*59.1*		*18.0-148*		*12/12/2019 13:30*	WG1394621

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.5		1	12/13/2019 18:49	WG1395167

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.23		0.541	5	12/12/2019 01:31	WG1394659

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	38.9		2.70	25	12/13/2019 14:43	WG1395610
(S) a,a,a-Trifluorotoluene(FID)	*108*		*77.0-120*		*12/13/2019 14:43*	WG1395610

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0270	1	12/12/2019 15:45	WG1395299
Acrylonitrile	ND		0.0135	1	12/12/2019 15:45	WG1395299
Benzene	0.297		0.00108	1	12/12/2019 15:45	WG1395299
Bromobenzene	ND		0.0135	1	12/12/2019 15:45	WG1395299
Bromodichloromethane	ND		0.00270	1	12/12/2019 15:45	WG1395299
Bromoform	ND		0.0270	1	12/12/2019 15:45	WG1395299
Bromomethane	ND	J0	0.0135	1	12/12/2019 15:45	WG1395299
n-Butylbenzene	0.250		0.0135	1	12/12/2019 15:45	WG1395299
sec-Butylbenzene	0.0869		0.0135	1	12/12/2019 15:45	WG1395299
tert-Butylbenzene	ND		0.00541	1	12/12/2019 15:45	WG1395299
Carbon tetrachloride	ND		0.00541	1	12/12/2019 15:45	WG1395299
Chlorobenzene	ND		0.00270	1	12/12/2019 15:45	WG1395299
Chlorodibromomethane	ND		0.00270	1	12/12/2019 15:45	WG1395299
Chloroethane	ND	J0	0.00541	1	12/12/2019 15:45	WG1395299
Chloroform	ND		0.00270	1	12/12/2019 15:45	WG1395299
Chloromethane	ND		0.0135	1	12/12/2019 15:45	WG1395299
2-Chlorotoluene	ND		0.00270	1	12/12/2019 15:45	WG1395299
4-Chlorotoluene	ND		0.00541	1	12/12/2019 15:45	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0270	1	12/12/2019 15:45	WG1395299
1,2-Dibromoethane	ND		0.00270	1	12/12/2019 15:45	WG1395299
Dibromomethane	ND		0.00541	1	12/12/2019 15:45	WG1395299
1,2-Dichlorobenzene	ND		0.00541	1	12/12/2019 15:45	WG1395299
1,3-Dichlorobenzene	ND		0.00541	1	12/12/2019 15:45	WG1395299
1,4-Dichlorobenzene	ND		0.00541	1	12/12/2019 15:45	WG1395299
Dichlorodifluoromethane	ND		0.00270	1	12/12/2019 15:45	WG1395299
1,1-Dichloroethane	ND		0.00270	1	12/12/2019 15:45	WG1395299
1,2-Dichloroethane	ND		0.00270	1	12/12/2019 15:45	WG1395299
1,1-Dichloroethene	ND		0.00270	1	12/12/2019 15:45	WG1395299
cis-1,2-Dichloroethene	ND		0.00270	1	12/12/2019 15:45	WG1395299
trans-1,2-Dichloroethene	ND		0.00541	1	12/12/2019 15:45	WG1395299
1,2-Dichloropropane	ND		0.00541	1	12/12/2019 15:45	WG1395299
1,1-Dichloropropene	ND		0.00270	1	12/12/2019 15:45	WG1395299
1,3-Dichloropropane	ND		0.00541	1	12/12/2019 15:45	WG1395299
cis-1,3-Dichloropropene	ND		0.00270	1	12/12/2019 15:45	WG1395299
trans-1,3-Dichloropropene	ND		0.00541	1	12/12/2019 15:45	WG1395299
2,2-Dichloropropane	ND		0.00270	1	12/12/2019 15:45	WG1395299
Di-isopropyl ether	ND		0.00108	1	12/12/2019 15:45	WG1395299
Ethylbenzene	1.55		0.00270	1	12/12/2019 15:45	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0270	1	12/12/2019 15:45	WG1395299
Isopropylbenzene	0.161		0.00270	1	12/12/2019 15:45	WG1395299
p-Isopropyltoluene	0.0448		0.00541	1	12/12/2019 15:45	WG1395299
2-Butanone (MEK)	ND		0.0270	1	12/12/2019 15:45	WG1395299
Methylene Chloride	ND		0.0270	1	12/12/2019 15:45	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0270	1	12/12/2019 15:45	WG1395299
Methyl tert-butyl ether	ND		0.00108	1	12/12/2019 15:45	WG1395299
Naphthalene	0.764		0.0135	1	12/12/2019 15:45	WG1395299
n-Propylbenzene	0.787		0.00541	1	12/12/2019 15:45	WG1395299
Styrene	ND		0.0135	1	12/12/2019 15:45	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00270	1	12/12/2019 15:45	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00270	1	12/12/2019 15:45	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00270	1	12/12/2019 15:45	WG1395299
Tetrachloroethene	ND		0.00270	1	12/12/2019 15:45	WG1395299
Toluene	0.0195		0.00541	1	12/12/2019 15:45	WG1395299
1,2,3-Trichlorobenzene	ND		0.00270	1	12/12/2019 15:45	WG1395299
1,2,4-Trichlorobenzene	ND		0.0135	1	12/12/2019 15:45	WG1395299
1,1,1-Trichloroethane	ND		0.00270	1	12/12/2019 15:45	WG1395299
1,1,2-Trichloroethane	ND		0.00270	1	12/12/2019 15:45	WG1395299
Trichloroethene	ND		0.00108	1	12/12/2019 15:45	WG1395299
Trichlorofluoromethane	ND		0.00270	1	12/12/2019 15:45	WG1395299
1,2,3-Trichloropropane	ND		0.0135	1	12/12/2019 15:45	WG1395299
1,2,4-Trimethylbenzene	4.92		0.108	20	12/13/2019 15:38	WG1396111
1,2,3-Trimethylbenzene	1.49		0.00541	1	12/12/2019 15:45	WG1395299
1,3,5-Trimethylbenzene	0.555		0.00541	1	12/12/2019 15:45	WG1395299
Vinyl chloride	ND		0.00270	1	12/12/2019 15:45	WG1395299
Xylenes, Total	1.98		0.00703	1	12/12/2019 15:45	WG1395299
(S) Toluene-d8	*107*		*75.0-131*		*12/12/2019 15:45*	WG1395299
(S) Toluene-d8	*106*		*75.0-131*		*12/13/2019 15:38*	WG1396111
(S) 4-Bromofluorobenzene	*103*		*67.0-138*		*12/12/2019 15:45*	WG1395299
(S) 4-Bromofluorobenzene	*102*		*67.0-138*		*12/13/2019 15:38*	WG1396111
(S) 1,2-Dichloroethane-d4	*97.1*		*70.0-130*		*12/12/2019 15:45*	WG1395299
(S) 1,2-Dichloroethane-d4	*105*		*70.0-130*		*12/13/2019 15:38*	WG1396111

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.32	1	12/12/2019 13:48	WG1394621
Residual Range Organics (RRO)	ND		10.8	1	12/12/2019 13:48	WG1394621
(S) o-Terphenyl	*57.1*		*18.0-148*		*12/12/2019 13:48*	WG1394621

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00649	1	12/19/2019 23:36	WG1398871
Acenaphthene	ND		0.00649	1	12/19/2019 23:36	WG1398871
Acenaphthylene	ND		0.00649	1	12/19/2019 23:36	WG1398871
Benzo(a)anthracene	ND		0.00649	1	12/19/2019 23:36	WG1398871
Benzo(a)pyrene	ND		0.00649	1	12/19/2019 23:36	WG1398871
Benzo(b)fluoranthene	ND		0.00649	1	12/19/2019 23:36	WG1398871
Benzo(g,h,i)perylene	ND		0.00649	1	12/19/2019 23:36	WG1398871
Benzo(k)fluoranthene	ND		0.00649	1	12/19/2019 23:36	WG1398871
Chrysene	ND		0.00649	1	12/19/2019 23:36	WG1398871
Dibenz(a,h)anthracene	ND		0.00649	1	12/19/2019 23:36	WG1398871
Fluoranthene	ND		0.00649	1	12/19/2019 23:36	WG1398871

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Fluorene	ND		0.00649	1	12/19/2019 23:36	WG1398871
Indeno(1,2,3-cd)pyrene	ND		0.00649	1	12/19/2019 23:36	WG1398871
Naphthalene	0.617		0.0216	1	12/19/2019 23:36	WG1398871
Phenanthrene	ND		0.00649	1	12/19/2019 23:36	WG1398871
Pyrene	ND		0.00649	1	12/19/2019 23:36	WG1398871
1-Methylnaphthalene	0.0870		0.0216	1	12/19/2019 23:36	WG1398871
2-Methylnaphthalene	0.215		0.0216	1	12/19/2019 23:36	WG1398871
2-Chloronaphthalene	ND		0.0216	1	12/19/2019 23:36	WG1398871
(S) Nitrobenzene-d5	*109*		*14.0-149*		*12/19/2019 23:36*	WG1398871
(S) 2-Fluorobiphenyl	*91.2*		*34.0-125*		*12/19/2019 23:36*	WG1398871
(S) p-Terphenyl-d14	*110*		*23.0-120*		*12/19/2019 23:36*	WG1398871

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.4		1	12/12/2019 22:47	WG1395168

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.64		0.524	5	12/12/2019 01:34	WG1394659

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	3.63	B	2.91	27.8	12/13/2019 15:04	WG1395610
(S) a,a,a-Trifluorotoluene(FID)	*106*		*77.0-120*		*12/13/2019 15:04*	WG1395610

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0380	1.45	12/12/2019 16:06	WG1395299
Acrylonitrile	ND		0.0190	1.45	12/12/2019 16:06	WG1395299
Benzene	0.206		0.00152	1.45	12/12/2019 16:06	WG1395299
Bromobenzene	ND		0.0190	1.45	12/12/2019 16:06	WG1395299
Bromodichloromethane	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
Bromoform	ND		0.0380	1.45	12/12/2019 16:06	WG1395299
Bromomethane	ND	J0	0.0190	1.45	12/12/2019 16:06	WG1395299
n-Butylbenzene	ND		0.0190	1.45	12/12/2019 16:06	WG1395299
sec-Butylbenzene	ND		0.0190	1.45	12/12/2019 16:06	WG1395299
tert-Butylbenzene	ND		0.00760	1.45	12/12/2019 16:06	WG1395299
Carbon tetrachloride	ND		0.00760	1.45	12/12/2019 16:06	WG1395299
Chlorobenzene	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
Chlorodibromomethane	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
Chloroethane	ND	J0	0.00760	1.45	12/12/2019 16:06	WG1395299
Chloroform	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
Chloromethane	ND		0.0190	1.45	12/12/2019 16:06	WG1395299
2-Chlorotoluene	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
4-Chlorotoluene	ND		0.00760	1.45	12/12/2019 16:06	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0380	1.45	12/12/2019 16:06	WG1395299
1,2-Dibromoethane	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
Dibromomethane	ND		0.00760	1.45	12/12/2019 16:06	WG1395299
1,2-Dichlorobenzene	ND		0.00760	1.45	12/12/2019 16:06	WG1395299
1,3-Dichlorobenzene	ND		0.00760	1.45	12/12/2019 16:06	WG1395299
1,4-Dichlorobenzene	ND		0.00760	1.45	12/12/2019 16:06	WG1395299
Dichlorodifluoromethane	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
1,1-Dichloroethane	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
1,2-Dichloroethane	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
1,1-Dichloroethene	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
cis-1,2-Dichloroethene	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
trans-1,2-Dichloroethene	ND		0.00760	1.45	12/12/2019 16:06	WG1395299
1,2-Dichloropropane	ND		0.00760	1.45	12/12/2019 16:06	WG1395299
1,1-Dichloropropene	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
1,3-Dichloropropane	ND		0.00760	1.45	12/12/2019 16:06	WG1395299
cis-1,3-Dichloropropene	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
trans-1,3-Dichloropropene	ND		0.00760	1.45	12/12/2019 16:06	WG1395299
2,2-Dichloropropane	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
Di-isopropyl ether	ND		0.00152	1.45	12/12/2019 16:06	WG1395299
Ethylbenzene	0.167		0.00380	1.45	12/12/2019 16:06	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0380	1.45	12/12/2019 16:06	WG1395299
Isopropylbenzene	0.00778		0.00380	1.45	12/12/2019 16:06	WG1395299
p-Isopropyltoluene	ND		0.00760	1.45	12/12/2019 16:06	WG1395299
2-Butanone (MEK)	ND		0.0380	1.45	12/12/2019 16:06	WG1395299
Methylene Chloride	ND		0.0380	1.45	12/12/2019 16:06	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0380	1.45	12/12/2019 16:06	WG1395299
Methyl tert-butyl ether	ND		0.00152	1.45	12/12/2019 16:06	WG1395299
Naphthalene	0.284		0.0190	1.45	12/12/2019 16:06	WG1395299
n-Propylbenzene	0.0334		0.00760	1.45	12/12/2019 16:06	WG1395299
Styrene	ND		0.0190	1.45	12/12/2019 16:06	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
Tetrachloroethene	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
Toluene	0.0116		0.00760	1.45	12/12/2019 16:06	WG1395299
1,2,3-Trichlorobenzene	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
1,2,4-Trichlorobenzene	ND		0.0190	1.45	12/12/2019 16:06	WG1395299
1,1,1-Trichloroethane	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
1,1,2-Trichloroethane	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
Trichloroethene	ND		0.00152	1.45	12/12/2019 16:06	WG1395299
Trichlorofluoromethane	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
1,2,3-Trichloropropane	ND		0.0190	1.45	12/12/2019 16:06	WG1395299
1,2,4-Trimethylbenzene	0.0454		0.00760	1.45	12/13/2019 15:59	WG1396111
1,2,3-Trimethylbenzene	0.0532		0.00760	1.45	12/12/2019 16:06	WG1395299
1,3,5-Trimethylbenzene	0.0356		0.00760	1.45	12/12/2019 16:06	WG1395299
Vinyl chloride	ND		0.00380	1.45	12/12/2019 16:06	WG1395299
Xylenes, Total	0.244		0.00988	1.45	12/12/2019 16:06	WG1395299
(S) Toluene-d8	*109*		*75.0-131*		*12/12/2019 16:06*	WG1395299
(S) Toluene-d8	*108*		*75.0-131*		*12/13/2019 15:59*	WG1396111
(S) 4-Bromofluorobenzene	*104*		*67.0-138*		*12/12/2019 16:06*	WG1395299
(S) 4-Bromofluorobenzene	*105*		*67.0-138*		*12/13/2019 15:59*	WG1396111
(S) 1,2-Dichloroethane-d4	*100*		*70.0-130*		*12/12/2019 16:06*	WG1395299
(S) 1,2-Dichloroethane-d4	*101*		*70.0-130*		*12/13/2019 15:59*	WG1396111

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.19	1	12/12/2019 14:02	WG1394621
Residual Range Organics (RRO)	ND		10.5	1	12/12/2019 14:02	WG1394621
(S) o-Terphenyl	*50.6*		*18.0-148*		*12/12/2019 14:02*	WG1394621

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00629	1	12/19/2019 23:58	WG1398871
Acenaphthene	ND		0.00629	1	12/19/2019 23:58	WG1398871
Acenaphthylene	ND		0.00629	1	12/19/2019 23:58	WG1398871
Benzo(a)anthracene	ND		0.00629	1	12/19/2019 23:58	WG1398871
Benzo(a)pyrene	ND		0.00629	1	12/19/2019 23:58	WG1398871
Benzo(b)fluoranthene	ND		0.00629	1	12/19/2019 23:58	WG1398871
Benzo(g,h,i)perylene	ND		0.00629	1	12/19/2019 23:58	WG1398871
Benzo(k)fluoranthene	ND		0.00629	1	12/19/2019 23:58	WG1398871
Chrysene	ND		0.00629	1	12/19/2019 23:58	WG1398871
Dibenz(a,h)anthracene	ND		0.00629	1	12/19/2019 23:58	WG1398871
Fluoranthene	ND		0.00629	1	12/19/2019 23:58	WG1398871

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Fluorene	ND		0.00629	1	12/19/2019 23:58	WG1398871
Indeno(1,2,3-cd)pyrene	ND		0.00629	1	12/19/2019 23:58	WG1398871
Naphthalene	0.0215		0.0210	1	12/19/2019 23:58	WG1398871
Phenanthrene	ND		0.00629	1	12/19/2019 23:58	WG1398871
Pyrene	ND		0.00629	1	12/19/2019 23:58	WG1398871
1-Methylnaphthalene	ND		0.0210	1	12/19/2019 23:58	WG1398871
2-Methylnaphthalene	ND		0.0210	1	12/19/2019 23:58	WG1398871
2-Chloronaphthalene	ND		0.0210	1	12/19/2019 23:58	WG1398871
(S) Nitrobenzene-d5	*109*		*14.0-149*		*12/19/2019 23:58*	WG1398871
(S) 2-Fluorobiphenyl	*95.9*		*34.0-125*		*12/19/2019 23:58*	WG1398871
(S) p-Terphenyl-d14	*112*		*23.0-120*		*12/19/2019 23:58*	WG1398871

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.5		1	12/12/2019 22:47	WG1395168

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	3.03		0.529	5	12/12/2019 01:37	WG1394659

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	5.40	B	2.89	27.3	12/13/2019 15:24	WG1395610
(S) a,a,a-Trifluorotoluene(FID)	*108*		*77.0-120*		*12/13/2019 15:24*	WG1395610

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0268	1.01	12/12/2019 16:27	WG1395299
Acrylonitrile	ND		0.0133	1.01	12/12/2019 16:27	WG1395299
Benzene	0.0718		0.00107	1.01	12/12/2019 16:27	WG1395299
Bromobenzene	ND		0.0133	1.01	12/12/2019 16:27	WG1395299
Bromodichloromethane	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
Bromoform	ND		0.0268	1.01	12/12/2019 16:27	WG1395299
Bromomethane	ND	J0	0.0133	1.01	12/12/2019 16:27	WG1395299
n-Butylbenzene	ND		0.0133	1.01	12/12/2019 16:27	WG1395299
sec-Butylbenzene	ND		0.0133	1.01	12/12/2019 16:27	WG1395299
tert-Butylbenzene	ND		0.00535	1.01	12/12/2019 16:27	WG1395299
Carbon tetrachloride	ND		0.00535	1.01	12/12/2019 16:27	WG1395299
Chlorobenzene	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
Chlorodibromomethane	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
Chloroethane	ND	J0	0.00535	1.01	12/12/2019 16:27	WG1395299
Chloroform	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
Chloromethane	ND		0.0133	1.01	12/12/2019 16:27	WG1395299
2-Chlorotoluene	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
4-Chlorotoluene	ND		0.00535	1.01	12/12/2019 16:27	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0268	1.01	12/12/2019 16:27	WG1395299
1,2-Dibromoethane	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
Dibromomethane	ND		0.00535	1.01	12/12/2019 16:27	WG1395299
1,2-Dichlorobenzene	ND		0.00535	1.01	12/12/2019 16:27	WG1395299
1,3-Dichlorobenzene	ND		0.00535	1.01	12/12/2019 16:27	WG1395299
1,4-Dichlorobenzene	ND		0.00535	1.01	12/12/2019 16:27	WG1395299
Dichlorodifluoromethane	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
1,1-Dichloroethane	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
1,2-Dichloroethane	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
1,1-Dichloroethene	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
cis-1,2-Dichloroethene	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
trans-1,2-Dichloroethene	ND		0.00535	1.01	12/12/2019 16:27	WG1395299
1,2-Dichloropropane	ND		0.00535	1.01	12/12/2019 16:27	WG1395299
1,1-Dichloropropene	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
1,3-Dichloropropane	ND		0.00535	1.01	12/12/2019 16:27	WG1395299
cis-1,3-Dichloropropene	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
trans-1,3-Dichloropropene	ND		0.00535	1.01	12/12/2019 16:27	WG1395299
2,2-Dichloropropane	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
Di-isopropyl ether	ND		0.00107	1.01	12/12/2019 16:27	WG1395299
Ethylbenzene	0.115		0.00268	1.01	12/12/2019 16:27	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0268	1.01	12/12/2019 16:27	WG1395299
Isopropylbenzene	0.00802		0.00268	1.01	12/12/2019 16:27	WG1395299
p-Isopropyltoluene	ND		0.00535	1.01	12/12/2019 16:27	WG1395299
2-Butanone (MEK)	ND		0.0268	1.01	12/12/2019 16:27	WG1395299
Methylene Chloride	ND		0.0268	1.01	12/12/2019 16:27	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0268	1.01	12/12/2019 16:27	WG1395299
Methyl tert-butyl ether	ND		0.00107	1.01	12/12/2019 16:27	WG1395299
Naphthalene	0.0615		0.0133	1.01	12/12/2019 16:27	WG1395299
n-Propylbenzene	0.0336		0.00535	1.01	12/12/2019 16:27	WG1395299
Styrene	ND		0.0133	1.01	12/12/2019 16:27	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
Tetrachloroethene	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
Toluene	ND		0.00535	1.01	12/12/2019 16:27	WG1395299
1,2,3-Trichlorobenzene	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
1,2,4-Trichlorobenzene	ND		0.0133	1.01	12/12/2019 16:27	WG1395299
1,1,1-Trichloroethane	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
1,1,2-Trichloroethane	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
Trichloroethene	ND		0.00107	1.01	12/12/2019 16:27	WG1395299
Trichlorofluoromethane	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
1,2,3-Trichloropropane	ND		0.0133	1.01	12/12/2019 16:27	WG1395299
1,2,4-Trimethylbenzene	0.207		0.00535	1.01	12/12/2019 16:27	WG1395299
1,2,3-Trimethylbenzene	0.0643		0.00535	1.01	12/12/2019 16:27	WG1395299
1,3,5-Trimethylbenzene	0.0486		0.00535	1.01	12/12/2019 16:27	WG1395299
Vinyl chloride	ND		0.00268	1.01	12/12/2019 16:27	WG1395299
Xylenes, Total	0.204		0.00694	1.01	12/12/2019 16:27	WG1395299
(S) Toluene-d8	*109*		*75.0-131*		*12/12/2019 16:27*	WG1395299
(S) 4-Bromofluorobenzene	*104*		*67.0-138*		*12/12/2019 16:27*	WG1395299
(S) 1,2-Dichloroethane-d4	*98.3*		*70.0-130*		*12/12/2019 16:27*	WG1395299

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.23	1	12/12/2019 14:15	WG1394621
Residual Range Organics (RRO)	11.0		10.6	1	12/12/2019 14:15	WG1394621
(S) o-Terphenyl	*57.8*		*18.0-148*		*12/12/2019 14:15*	WG1394621

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	ND		0.00635	1	12/20/2019 00:20	WG1398871
Acenaphthene	ND		0.00635	1	12/20/2019 00:20	WG1398871
Acenaphthylene	ND		0.00635	1	12/20/2019 00:20	WG1398871
Benzo(a)anthracene	ND		0.00635	1	12/20/2019 00:20	WG1398871
Benzo(a)pyrene	ND		0.00635	1	12/20/2019 00:20	WG1398871
Benzo(b)fluoranthene	ND		0.00635	1	12/20/2019 00:20	WG1398871
Benzo(g,h,i)perylene	ND		0.00635	1	12/20/2019 00:20	WG1398871
Benzo(k)fluoranthene	ND		0.00635	1	12/20/2019 00:20	WG1398871
Chrysene	ND		0.00635	1	12/20/2019 00:20	WG1398871
Dibenz(a,h)anthracene	ND		0.00635	1	12/20/2019 00:20	WG1398871
Fluoranthene	ND		0.00635	1	12/20/2019 00:20	WG1398871
Fluorene	ND		0.00635	1	12/20/2019 00:20	WG1398871
Indeno(1,2,3-cd)pyrene	ND		0.00635	1	12/20/2019 00:20	WG1398871
Naphthalene	0.111		0.0212	1	12/20/2019 00:20	WG1398871

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Phenanthrene	ND		0.00635	1	12/20/2019 00:20	WG1398871
Pyrene	ND		0.00635	1	12/20/2019 00:20	WG1398871
1-Methylnaphthalene	ND		0.0212	1	12/20/2019 00:20	WG1398871
2-Methylnaphthalene	0.0285		0.0212	1	12/20/2019 00:20	WG1398871
2-Chloronaphthalene	ND		0.0212	1	12/20/2019 00:20	WG1398871
(S) Nitrobenzene-d5	*96.3*		*14.0-149*		*12/20/2019 00:20*	WG1398871
(S) 2-Fluorobiphenyl	*84.1*		*34.0-125*		*12/20/2019 00:20*	WG1398871
(S) p-Terphenyl-d14	*95.3*		*23.0-120*		*12/20/2019 00:20*	WG1398871

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.2		1	12/12/2019 22:47	WG1395168

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.44		0.531	5	12/12/2019 01:41	WG1394659

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	19.6		2.65	25	12/13/2019 15:45	WG1395610
(S) a,a,a-Trifluorotoluene(FID)	*106*		*77.0-120*		*12/13/2019 15:45*	WG1395610

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0279	1.05	12/12/2019 16:48	WG1395299
Acrylonitrile	ND		0.0139	1.05	12/12/2019 16:48	WG1395299
Benzene	0.0912		0.00111	1.05	12/12/2019 16:48	WG1395299
Bromobenzene	ND		0.0139	1.05	12/12/2019 16:48	WG1395299
Bromodichloromethane	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
Bromoform	ND		0.0279	1.05	12/12/2019 16:48	WG1395299
Bromomethane	ND	J0	0.0139	1.05	12/12/2019 16:48	WG1395299
n-Butylbenzene	0.0981		0.0139	1.05	12/12/2019 16:48	WG1395299
sec-Butylbenzene	0.0359		0.0139	1.05	12/12/2019 16:48	WG1395299
tert-Butylbenzene	ND		0.00557	1.05	12/12/2019 16:48	WG1395299
Carbon tetrachloride	ND		0.00557	1.05	12/12/2019 16:48	WG1395299
Chlorobenzene	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
Chlorodibromomethane	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
Chloroethane	ND	J0	0.00557	1.05	12/12/2019 16:48	WG1395299
Chloroform	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
Chloromethane	ND		0.0139	1.05	12/12/2019 16:48	WG1395299
2-Chlorotoluene	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
4-Chlorotoluene	ND		0.00557	1.05	12/12/2019 16:48	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0279	1.05	12/12/2019 16:48	WG1395299
1,2-Dibromoethane	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
Dibromomethane	ND		0.00557	1.05	12/12/2019 16:48	WG1395299
1,2-Dichlorobenzene	ND		0.00557	1.05	12/12/2019 16:48	WG1395299
1,3-Dichlorobenzene	ND		0.00557	1.05	12/12/2019 16:48	WG1395299
1,4-Dichlorobenzene	ND		0.00557	1.05	12/12/2019 16:48	WG1395299
Dichlorodifluoromethane	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
1,1-Dichloroethane	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
1,2-Dichloroethane	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
1,1-Dichloroethene	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
cis-1,2-Dichloroethene	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
trans-1,2-Dichloroethene	ND		0.00557	1.05	12/12/2019 16:48	WG1395299
1,2-Dichloropropane	ND		0.00557	1.05	12/12/2019 16:48	WG1395299
1,1-Dichloropropene	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
1,3-Dichloropropane	ND		0.00557	1.05	12/12/2019 16:48	WG1395299
cis-1,3-Dichloropropene	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
trans-1,3-Dichloropropene	ND		0.00557	1.05	12/12/2019 16:48	WG1395299
2,2-Dichloropropane	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
Di-isopropyl ether	ND		0.00111	1.05	12/12/2019 16:48	WG1395299
Ethylbenzene	0.725		0.00279	1.05	12/12/2019 16:48	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0279	1.05	12/12/2019 16:48	WG1395299
Isopropylbenzene	0.0720		0.00279	1.05	12/12/2019 16:48	WG1395299
p-Isopropyltoluene	0.0190		0.00557	1.05	12/12/2019 16:48	WG1395299
2-Butanone (MEK)	ND		0.0279	1.05	12/12/2019 16:48	WG1395299
Methylene Chloride	ND		0.0279	1.05	12/12/2019 16:48	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0279	1.05	12/12/2019 16:48	WG1395299
Methyl tert-butyl ether	ND		0.00111	1.05	12/12/2019 16:48	WG1395299
Naphthalene	0.244		0.0139	1.05	12/12/2019 16:48	WG1395299
n-Propylbenzene	0.323		0.00557	1.05	12/12/2019 16:48	WG1395299
Styrene	ND		0.0139	1.05	12/12/2019 16:48	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
Tetrachloroethene	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
Toluene	0.0115		0.00557	1.05	12/12/2019 16:48	WG1395299
1,2,3-Trichlorobenzene	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
1,2,4-Trichlorobenzene	ND		0.0139	1.05	12/12/2019 16:48	WG1395299
1,1,1-Trichloroethane	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
1,1,2-Trichloroethane	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
Trichloroethene	ND		0.00111	1.05	12/12/2019 16:48	WG1395299
Trichlorofluoromethane	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
1,2,3-Trichloropropane	ND		0.0139	1.05	12/12/2019 16:48	WG1395299
1,2,4-Trimethylbenzene	1.89		0.00557	1.05	12/12/2019 16:48	WG1395299
1,2,3-Trimethylbenzene	0.518		0.00557	1.05	12/12/2019 16:48	WG1395299
1,3,5-Trimethylbenzene	0.322		0.00557	1.05	12/12/2019 16:48	WG1395299
Vinyl chloride	ND		0.00279	1.05	12/12/2019 16:48	WG1395299
Xylenes, Total	0.981		0.00725	1.05	12/12/2019 16:48	WG1395299
(S) Toluene-d8	*109*		*75.0-131*		*12/12/2019 16:48*	WG1395299
(S) 4-Bromofluorobenzene	*106*		*67.0-138*		*12/12/2019 16:48*	WG1395299
(S) 1,2-Dichloroethane-d4	*96.7*		*70.0-130*		*12/12/2019 16:48*	WG1395299

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.25	1	12/12/2019 14:28	WG1394621
Residual Range Organics (RRO)	ND		10.6	1	12/12/2019 14:28	WG1394621
(S) o-Terphenyl	*54.0*		*18.0-148*		*12/12/2019 14:28*	WG1394621

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.1		1	12/12/2019 22:47	WG1395168

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	2.35		0.537	5	12/12/2019 01:44	WG1394659

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	9.00	B	2.82	26.3	12/13/2019 16:05	WG1395610
(S) a,a,a-Trifluorotoluene(FID)	*107*		*77.0-120*		*12/13/2019 16:05*	WG1395610

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0293	1.09	12/12/2019 17:09	WG1395299
Acrylonitrile	ND		0.0146	1.09	12/12/2019 17:09	WG1395299
Benzene	0.108		0.00117	1.09	12/12/2019 17:09	WG1395299
Bromobenzene	ND		0.0146	1.09	12/12/2019 17:09	WG1395299
Bromodichloromethane	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
Bromoform	ND		0.0293	1.09	12/12/2019 17:09	WG1395299
Bromomethane	ND	J0	0.0146	1.09	12/12/2019 17:09	WG1395299
n-Butylbenzene	0.0223		0.0146	1.09	12/12/2019 17:09	WG1395299
sec-Butylbenzene	ND		0.0146	1.09	12/12/2019 17:09	WG1395299
tert-Butylbenzene	ND		0.00585	1.09	12/12/2019 17:09	WG1395299
Carbon tetrachloride	ND		0.00585	1.09	12/12/2019 17:09	WG1395299
Chlorobenzene	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
Chlorodibromomethane	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
Chloroethane	ND	J0	0.00585	1.09	12/12/2019 17:09	WG1395299
Chloroform	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
Chloromethane	ND		0.0146	1.09	12/12/2019 17:09	WG1395299
2-Chlorotoluene	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
4-Chlorotoluene	ND		0.00585	1.09	12/12/2019 17:09	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0293	1.09	12/12/2019 17:09	WG1395299
1,2-Dibromoethane	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
Dibromomethane	ND		0.00585	1.09	12/12/2019 17:09	WG1395299
1,2-Dichlorobenzene	ND		0.00585	1.09	12/12/2019 17:09	WG1395299
1,3-Dichlorobenzene	ND		0.00585	1.09	12/12/2019 17:09	WG1395299
1,4-Dichlorobenzene	ND		0.00585	1.09	12/12/2019 17:09	WG1395299
Dichlorodifluoromethane	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
1,1-Dichloroethane	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
1,2-Dichloroethane	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
1,1-Dichloroethene	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
cis-1,2-Dichloroethene	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
trans-1,2-Dichloroethene	ND		0.00585	1.09	12/12/2019 17:09	WG1395299
1,2-Dichloropropane	ND		0.00585	1.09	12/12/2019 17:09	WG1395299
1,1-Dichloropropene	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
1,3-Dichloropropane	ND		0.00585	1.09	12/12/2019 17:09	WG1395299
cis-1,3-Dichloropropene	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
trans-1,3-Dichloropropene	ND		0.00585	1.09	12/12/2019 17:09	WG1395299
2,2-Dichloropropane	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
Di-isopropyl ether	ND		0.00117	1.09	12/12/2019 17:09	WG1395299
Ethylbenzene	0.185		0.00293	1.09	12/12/2019 17:09	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0293	1.09	12/12/2019 17:09	WG1395299
Isopropylbenzene	0.0127		0.00293	1.09	12/12/2019 17:09	WG1395299
p-Isopropyltoluene	ND		0.00585	1.09	12/12/2019 17:09	WG1395299
2-Butanone (MEK)	ND		0.0293	1.09	12/12/2019 17:09	WG1395299
Methylene Chloride	ND		0.0293	1.09	12/12/2019 17:09	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0293	1.09	12/12/2019 17:09	WG1395299
Methyl tert-butyl ether	ND		0.00117	1.09	12/12/2019 17:09	WG1395299
Naphthalene	0.131		0.0146	1.09	12/12/2019 17:09	WG1395299
n-Propylbenzene	0.0651		0.00585	1.09	12/12/2019 17:09	WG1395299
Styrene	ND		0.0146	1.09	12/12/2019 17:09	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
Tetrachloroethene	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
Toluene	0.00598		0.00585	1.09	12/12/2019 17:09	WG1395299
1,2,3-Trichlorobenzene	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
1,2,4-Trichlorobenzene	ND		0.0146	1.09	12/12/2019 17:09	WG1395299
1,1,1-Trichloroethane	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
1,1,2-Trichloroethane	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
Trichloroethene	ND		0.00117	1.09	12/12/2019 17:09	WG1395299
Trichlorofluoromethane	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
1,2,3-Trichloropropane	ND		0.0146	1.09	12/12/2019 17:09	WG1395299
1,2,4-Trimethylbenzene	0.468		0.00585	1.09	12/12/2019 17:09	WG1395299
1,2,3-Trimethylbenzene	0.147		0.00585	1.09	12/12/2019 17:09	WG1395299
1,3,5-Trimethylbenzene	0.0865		0.00585	1.09	12/12/2019 17:09	WG1395299
Vinyl chloride	ND		0.00293	1.09	12/12/2019 17:09	WG1395299
Xylenes, Total	0.256		0.00760	1.09	12/12/2019 17:09	WG1395299
(S) Toluene-d8	*109*		*75.0-131*		*12/12/2019 17:09*	WG1395299
(S) 4-Bromofluorobenzene	*103*		*67.0-138*		*12/12/2019 17:09*	WG1395299
(S) 1,2-Dichloroethane-d4	*99.6*		*70.0-130*		*12/12/2019 17:09*	WG1395299

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		4.29	1	12/12/2019 14:41	WG1394621
Residual Range Organics (RRO)	ND		10.7	1	12/12/2019 14:41	WG1394621
(S) o-Terphenyl	*52.2*		*18.0-148*		*12/12/2019 14:41*	WG1394621

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	74.1		1	12/12/2019 22:47	WG1395168

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	3.16		0.675	5	12/12/2019 01:47	WG1394659

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	20.2		3.55	26.3	12/13/2019 16:26	WG1395610
(S) a,a,a-Trifluorotoluene(FID)	*107*		*77.0-120*		*12/13/2019 16:26*	WG1395610

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.0337	1	12/12/2019 17:29	WG1395299
Acrylonitrile	ND		0.0169	1	12/12/2019 17:29	WG1395299
Benzene	0.130		0.00135	1	12/12/2019 17:29	WG1395299
Bromobenzene	ND		0.0169	1	12/12/2019 17:29	WG1395299
Bromodichloromethane	ND		0.00337	1	12/12/2019 17:29	WG1395299
Bromoform	ND		0.0337	1	12/12/2019 17:29	WG1395299
Bromomethane	ND	J0	0.0169	1	12/12/2019 17:29	WG1395299
n-Butylbenzene	0.0576		0.0169	1	12/12/2019 17:29	WG1395299
sec-Butylbenzene	0.0227		0.0169	1	12/12/2019 17:29	WG1395299
tert-Butylbenzene	ND		0.00675	1	12/12/2019 17:29	WG1395299
Carbon tetrachloride	ND		0.00675	1	12/12/2019 17:29	WG1395299
Chlorobenzene	ND		0.00337	1	12/12/2019 17:29	WG1395299
Chlorodibromomethane	ND		0.00337	1	12/12/2019 17:29	WG1395299
Chloroethane	ND	J0	0.00675	1	12/12/2019 17:29	WG1395299
Chloroform	ND		0.00337	1	12/12/2019 17:29	WG1395299
Chloromethane	ND		0.0169	1	12/12/2019 17:29	WG1395299
2-Chlorotoluene	ND		0.00337	1	12/12/2019 17:29	WG1395299
4-Chlorotoluene	ND		0.00675	1	12/12/2019 17:29	WG1395299
1,2-Dibromo-3-Chloropropane	ND		0.0337	1	12/12/2019 17:29	WG1395299
1,2-Dibromoethane	ND		0.00337	1	12/12/2019 17:29	WG1395299
Dibromomethane	ND		0.00675	1	12/12/2019 17:29	WG1395299
1,2-Dichlorobenzene	ND		0.00675	1	12/12/2019 17:29	WG1395299
1,3-Dichlorobenzene	ND		0.00675	1	12/12/2019 17:29	WG1395299
1,4-Dichlorobenzene	ND		0.00675	1	12/12/2019 17:29	WG1395299
Dichlorodifluoromethane	ND		0.00337	1	12/12/2019 17:29	WG1395299
1,1-Dichloroethane	ND		0.00337	1	12/12/2019 17:29	WG1395299
1,2-Dichloroethane	ND		0.00337	1	12/12/2019 17:29	WG1395299
1,1-Dichloroethene	ND		0.00337	1	12/12/2019 17:29	WG1395299
cis-1,2-Dichloroethene	ND		0.00337	1	12/12/2019 17:29	WG1395299
trans-1,2-Dichloroethene	ND		0.00675	1	12/12/2019 17:29	WG1395299
1,2-Dichloropropane	ND		0.00675	1	12/12/2019 17:29	WG1395299
1,1-Dichloropropene	ND		0.00337	1	12/12/2019 17:29	WG1395299
1,3-Dichloropropane	ND		0.00675	1	12/12/2019 17:29	WG1395299
cis-1,3-Dichloropropene	ND		0.00337	1	12/12/2019 17:29	WG1395299
trans-1,3-Dichloropropene	ND		0.00675	1	12/12/2019 17:29	WG1395299
2,2-Dichloropropane	ND		0.00337	1	12/12/2019 17:29	WG1395299
Di-isopropyl ether	ND		0.00135	1	12/12/2019 17:29	WG1395299
Ethylbenzene	0.483		0.00337	1	12/12/2019 17:29	WG1395299

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0337	1	12/12/2019 17:29	WG1395299
Isopropylbenzene	0.0400		0.00337	1	12/12/2019 17:29	WG1395299
p-Isopropyltoluene	0.0113		0.00675	1	12/12/2019 17:29	WG1395299
2-Butanone (MEK)	ND		0.0337	1	12/12/2019 17:29	WG1395299
Methylene Chloride	ND		0.0337	1	12/12/2019 17:29	WG1395299
4-Methyl-2-pentanone (MIBK)	ND		0.0337	1	12/12/2019 17:29	WG1395299
Methyl tert-butyl ether	ND		0.00135	1	12/12/2019 17:29	WG1395299
Naphthalene	0.270		0.0169	1	12/12/2019 17:29	WG1395299
n-Propylbenzene	0.192		0.00675	1	12/12/2019 17:29	WG1395299
Styrene	ND		0.0169	1	12/12/2019 17:29	WG1395299
1,1,1,2-Tetrachloroethane	ND		0.00337	1	12/12/2019 17:29	WG1395299
1,1,2,2-Tetrachloroethane	ND		0.00337	1	12/12/2019 17:29	WG1395299
1,1,2-Trichlorotrifluoroethane	ND		0.00337	1	12/12/2019 17:29	WG1395299
Tetrachloroethene	ND		0.00337	1	12/12/2019 17:29	WG1395299
Toluene	0.00819		0.00675	1	12/12/2019 17:29	WG1395299
1,2,3-Trichlorobenzene	ND		0.00337	1	12/12/2019 17:29	WG1395299
1,2,4-Trichlorobenzene	ND		0.0169	1	12/12/2019 17:29	WG1395299
1,1,1-Trichloroethane	ND		0.00337	1	12/12/2019 17:29	WG1395299
1,1,2-Trichloroethane	ND		0.00337	1	12/12/2019 17:29	WG1395299
Trichloroethene	ND		0.00135	1	12/12/2019 17:29	WG1395299
Trichlorofluoromethane	ND		0.00337	1	12/12/2019 17:29	WG1395299
1,2,3-Trichloropropane	ND		0.0169	1	12/12/2019 17:29	WG1395299
1,2,4-Trimethylbenzene	1.26		0.00675	1	12/12/2019 17:29	WG1395299
1,2,3-Trimethylbenzene	0.383		0.00675	1	12/12/2019 17:29	WG1395299
1,3,5-Trimethylbenzene	0.213		0.00675	1	12/12/2019 17:29	WG1395299
Vinyl chloride	ND		0.00337	1	12/12/2019 17:29	WG1395299
Xylenes, Total	0.606		0.00877	1	12/12/2019 17:29	WG1395299
(S) Toluene-d8	*107*		*75.0-131*		*12/12/2019 17:29*	WG1395299
(S) 4-Bromofluorobenzene	*104*		*67.0-138*		*12/12/2019 17:29*	WG1395299
(S) 1,2-Dichloroethane-d4	*96.5*		*70.0-130*		*12/12/2019 17:29*	WG1395299

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		5.40	1	12/13/2019 10:25	WG1395066
Residual Range Organics (RRO)	ND		13.5	1	12/13/2019 10:25	WG1395066
(S) o-Terphenyl	*70.9*		*18.0-148*		*12/13/2019 10:25*	WG1395066

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	77.8		1	12/12/2019 22:47	WG1395168

Metals (ICPMS) by Method 6020B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Lead	3.75		0.642	5	12/12/2019 10:59	WG1394659

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Gasoline Range Organics-NWTPH	6.53	B	3.21	25	12/13/2019 16:46	WG1395610
(S) a,a,a-Trifluorotoluene(FID)	*104*		*77.0-120*		*12/13/2019 16:46*	WG1395610

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	0.0803	J0 J4	0.0321	1	12/14/2019 17:10	WG1396637
Acrylonitrile	ND		0.0161	1	12/14/2019 17:10	WG1396637
Benzene	0.0266		0.00128	1	12/14/2019 17:10	WG1396637
Bromobenzene	ND		0.0161	1	12/14/2019 17:10	WG1396637
Bromodichloromethane	ND		0.00321	1	12/14/2019 17:10	WG1396637
Bromoform	ND		0.0321	1	12/14/2019 17:10	WG1396637
Bromomethane	ND		0.0161	1	12/14/2019 17:10	WG1396637
n-Butylbenzene	0.0370		0.0161	1	12/14/2019 17:10	WG1396637
sec-Butylbenzene	ND		0.0161	1	12/14/2019 17:10	WG1396637
tert-Butylbenzene	ND		0.00642	1	12/14/2019 17:10	WG1396637
Carbon tetrachloride	ND		0.00642	1	12/14/2019 17:10	WG1396637
Chlorobenzene	ND		0.00321	1	12/14/2019 17:10	WG1396637
Chlorodibromomethane	ND		0.00321	1	12/14/2019 17:10	WG1396637
Chloroethane	ND		0.00642	1	12/14/2019 17:10	WG1396637
Chloroform	ND		0.00321	1	12/14/2019 17:10	WG1396637
Chloromethane	ND		0.0161	1	12/14/2019 17:10	WG1396637
2-Chlorotoluene	ND		0.00321	1	12/14/2019 17:10	WG1396637
4-Chlorotoluene	ND		0.00642	1	12/14/2019 17:10	WG1396637
1,2-Dibromo-3-Chloropropane	ND		0.0321	1	12/14/2019 17:10	WG1396637
1,2-Dibromoethane	ND		0.00321	1	12/14/2019 17:10	WG1396637
Dibromomethane	ND		0.00642	1	12/14/2019 17:10	WG1396637
1,2-Dichlorobenzene	ND		0.00642	1	12/14/2019 17:10	WG1396637
1,3-Dichlorobenzene	ND		0.00642	1	12/14/2019 17:10	WG1396637
1,4-Dichlorobenzene	ND		0.00642	1	12/14/2019 17:10	WG1396637
Dichlorodifluoromethane	ND		0.00321	1	12/14/2019 17:10	WG1396637
1,1-Dichloroethane	ND		0.00321	1	12/14/2019 17:10	WG1396637
1,2-Dichloroethane	ND		0.00321	1	12/14/2019 17:10	WG1396637
1,1-Dichloroethene	ND		0.00321	1	12/14/2019 17:10	WG1396637
cis-1,2-Dichloroethene	ND		0.00321	1	12/14/2019 17:10	WG1396637
trans-1,2-Dichloroethene	ND		0.00642	1	12/14/2019 17:10	WG1396637
1,2-Dichloropropane	ND		0.00642	1	12/14/2019 17:10	WG1396637
1,1-Dichloropropene	ND		0.00321	1	12/14/2019 17:10	WG1396637
1,3-Dichloropropane	ND		0.00642	1	12/14/2019 17:10	WG1396637
cis-1,3-Dichloropropene	ND		0.00321	1	12/14/2019 17:10	WG1396637
trans-1,3-Dichloropropene	ND		0.00642	1	12/14/2019 17:10	WG1396637
2,2-Dichloropropane	ND		0.00321	1	12/14/2019 17:10	WG1396637
Di-isopropyl ether	ND		0.00128	1	12/14/2019 17:10	WG1396637
Ethylbenzene	0.808		0.00321	1	12/14/2019 17:10	WG1396637

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.0321	1	12/14/2019 17:10	WG1396637
Isopropylbenzene	0.0477		0.00321	1	12/14/2019 17:10	WG1396637
p-Isopropyltoluene	0.00746		0.00642	1	12/14/2019 17:10	WG1396637
2-Butanone (MEK)	ND		0.0321	1	12/14/2019 17:10	WG1396637
Methylene Chloride	ND		0.0321	1	12/14/2019 17:10	WG1396637
4-Methyl-2-pentanone (MIBK)	ND		0.0321	1	12/14/2019 17:10	WG1396637
Methyl tert-butyl ether	0.00260		0.00128	1	12/14/2019 17:10	WG1396637
Naphthalene	0.0797		0.0161	1	12/14/2019 17:10	WG1396637
n-Propylbenzene	0.153		0.00642	1	12/14/2019 17:10	WG1396637
Styrene	ND		0.0161	1	12/14/2019 17:10	WG1396637
1,1,1,2-Tetrachloroethane	ND		0.00321	1	12/14/2019 17:10	WG1396637
1,1,2,2-Tetrachloroethane	ND		0.00321	1	12/14/2019 17:10	WG1396637
1,1,2-Trichlorotrifluoroethane	ND		0.00321	1	12/14/2019 17:10	WG1396637
Tetrachloroethene	ND		0.00321	1	12/14/2019 17:10	WG1396637
Toluene	0.00825		0.00642	1	12/14/2019 17:10	WG1396637
1,2,3-Trichlorobenzene	ND		0.00321	1	12/14/2019 17:10	WG1396637
1,2,4-Trichlorobenzene	ND		0.0161	1	12/14/2019 17:10	WG1396637
1,1,1-Trichloroethane	ND		0.00321	1	12/14/2019 17:10	WG1396637
1,1,2-Trichloroethane	ND		0.00321	1	12/14/2019 17:10	WG1396637
Trichloroethene	ND		0.00128	1	12/14/2019 17:10	WG1396637
Trichlorofluoromethane	ND		0.00321	1	12/14/2019 17:10	WG1396637
1,2,3-Trichloropropane	ND		0.0161	1	12/14/2019 17:10	WG1396637
1,2,4-Trimethylbenzene	1.07		0.00642	1	12/14/2019 17:10	WG1396637
1,2,3-Trimethylbenzene	0.310		0.00642	1	12/14/2019 17:10	WG1396637
1,3,5-Trimethylbenzene	0.306		0.00642	1	12/14/2019 17:10	WG1396637
Vinyl chloride	ND		0.00321	1	12/14/2019 17:10	WG1396637
Xylenes, Total	1.43		0.00835	1	12/14/2019 17:10	WG1396637
(S) Toluene-d8	*110*		*75.0-131*		*12/14/2019 17:10*	WG1396637
(S) 4-Bromofluorobenzene	*103*		*67.0-138*		*12/14/2019 17:10*	WG1396637
(S) 1,2-Dichloroethane-d4	*91.7*		*70.0-130*		*12/14/2019 17:10*	WG1396637

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		5.14	1	12/12/2019 14:54	WG1394621
Residual Range Organics (RRO)	ND		12.8	1	12/12/2019 14:54	WG1394621
(S) o-Terphenyl	*58.4*		*18.0-148*		*12/12/2019 14:54*	WG1394621

Method Blank (MB)

(MB) R3481662-1 12/11/19 18:03

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1169118-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1169118-01 12/11/19 18:03 • (DUP) R3481662-3 12/11/19 18:03

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	87.6	87.7	1	0.139		10

Laboratory Control Sample (LCS)

(LCS) R3481662-2 12/11/19 18:03

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.1	100	85.0-115	

Method Blank (MB)

(MB) R3482304-1 12/13/19 18:49

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1169162-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1169162-03 12/13/19 18:49 • (DUP) R3482304-3 12/13/19 18:49

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	92.0	89.2	1	3.12		10

Laboratory Control Sample (LCS)

(LCS) R3482304-2 12/13/19 18:49

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3482110-1 12/12/19 22:47

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1169193-41 Original Sample (OS) • Duplicate (DUP)

(OS) L1169193-41 12/12/19 22:47 • (DUP) R3482110-3 12/12/19 22:47

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	95.0	95.4	1	0.420		10

Laboratory Control Sample (LCS)

(LCS) R3482110-2 12/12/19 22:47

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	49.9	99.9	85.0-115	

Method Blank (MB)

(MB) R3481653-1 12/12/19 00:12

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Lead	U		0.120	0.500

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3481653-2 12/12/19 00:15 • (LCSD) R3481653-3 12/12/19 00:18

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Lead	100	98.1	96.5	98.1	96.5	80.0-120			1.73	20

L1169162-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1169162-02 12/12/19 00:22 • (MS) R3481653-6 12/12/19 00:32 • (MSD) R3481653-7 12/12/19 00:35

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Lead	21.4	2.68	100	104	90.9	94.6	5	75.0-125			3.90	20

Method Blank (MB)

(MB) R3482855-3 12/13/19 08:46

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Gasoline Range Organics-NWTPH	0.0484	J	0.0339	0.100
(S) a,a,a-Trifluorotoluene(FID)	*104*			*77.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3482855-1 12/13/19 07:45 • (LCSD) R3482855-2 12/13/19 08:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	5.50	5.59	6.03	102	110	71.0-124			7.57	20
(S) a,a,a-Trifluorotoluene(FID)				*114*	*112*	*77.0-120*				

L1169162-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1169162-06 12/13/19 14:43 • (MS) R3482855-4 12/13/19 17:07 • (MSD) R3482855-5 12/13/19 17:27

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Gasoline Range Organics-NWTPH	135	38.9	139	162	74.4	91.2	25	10.0-149			15.1	27
(S) a,a,a-Trifluorotoluene(FID)					*112*	*115*		*77.0-120*				

Method Blank (MB)

(MB) R3482791-2 12/16/19 10:38

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Gasoline Range Organics-NWTPH	0.0357	J	0.0339	0.100
(S) a,a,a-Trifluorotoluene(FID)	*99.2*			*77.0-120*

Laboratory Control Sample (LCS)

(LCS) R3482791-1 12/16/19 09:56

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Gasoline Range Organics-NWTPH	5.50	5.32	96.7	71.0-124	
(S) a,a,a-Trifluorotoluene(FID)			*110*	*77.0-120*	

Method Blank (MB)

(MB) R3482055-2 12/12/19 08:50

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0137	0.0250
Acrylonitrile	U		0.00190	0.0125
Benzene	U		0.000400	0.00100
Bromobenzene	U		0.00105	0.0125
Bromodichloromethane	U		0.000788	0.00250
Bromoform	U		0.00598	0.0250
Bromomethane	U		0.00370	0.0125
n-Butylbenzene	U		0.00384	0.0125
sec-Butylbenzene	U		0.00253	0.0125
tert-Butylbenzene	U		0.00155	0.00500
Carbon tetrachloride	U		0.00108	0.00500
Chlorobenzene	U		0.000573	0.00250
Chlorodibromomethane	U		0.000450	0.00250
Chloroethane	U		0.00108	0.00500
Chloroform	U		0.000415	0.00250
Chloromethane	U		0.00139	0.0125
2-Chlorotoluene	U		0.000920	0.00250
4-Chlorotoluene	U		0.00113	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00510	0.0250
1,2-Dibromoethane	U		0.000525	0.00250
Dibromomethane	U		0.00100	0.00500
1,2-Dichlorobenzene	U		0.00145	0.00500
1,3-Dichlorobenzene	U		0.00170	0.00500
1,4-Dichlorobenzene	U		0.00197	0.00500
Dichlorodifluoromethane	U		0.000818	0.00250
1,1-Dichloroethane	U		0.000575	0.00250
1,2-Dichloroethane	U		0.000475	0.00250
1,1-Dichloroethene	U		0.000500	0.00250
cis-1,2-Dichloroethene	U		0.000690	0.00250
trans-1,2-Dichloroethene	U		0.00143	0.00500
1,2-Dichloropropane	U		0.00127	0.00500
1,1-Dichloropropene	U		0.000700	0.00250
1,3-Dichloropropane	U		0.00175	0.00500
cis-1,3-Dichloropropene	U		0.000678	0.00250
trans-1,3-Dichloropropene	U		0.00153	0.00500
2,2-Dichloropropane	U		0.000793	0.00250
Di-isopropyl ether	U		0.000350	0.00100
Ethylbenzene	U		0.000530	0.00250
Hexachloro-1,3-butadiene	U		0.0127	0.0250
Isopropylbenzene	U		0.000863	0.00250

Method Blank (MB)

(MB) R3482055-2 12/12/19 08:50

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.00233	0.00500
2-Butanone (MEK)	0.0584		0.0125	0.0250
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.0100	0.0250
Methyl tert-butyl ether	U		0.000295	0.00100
Naphthalene	U		0.00312	0.0125
n-Propylbenzene	U		0.00118	0.00500
Styrene	U		0.00273	0.0125
1,1,1,2-Tetrachloroethane	U		0.000500	0.00250
1,1,2,2-Tetrachloroethane	U		0.000390	0.00250
Tetrachloroethene	U		0.000700	0.00250
Toluene	U		0.00125	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000675	0.00250
1,2,3-Trichlorobenzene	U		0.000625	0.00250
1,2,4-Trichlorobenzene	U		0.00482	0.0125
1,1,1-Trichloroethane	U		0.000275	0.00250
1,1,2-Trichloroethane	U		0.000883	0.00250
Trichloroethene	U		0.000400	0.00100
Trichlorofluoromethane	U		0.000500	0.00250
1,2,3-Trichloropropane	U		0.00510	0.0125
1,2,3-Trimethylbenzene	U		0.00115	0.00500
1,2,4-Trimethylbenzene	U		0.00116	0.00500
1,3,5-Trimethylbenzene	U		0.00108	0.00500
Vinyl chloride	U		0.000683	0.00250
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*109*			*75.0-131*
(S) 4-Bromofluorobenzene	*107*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*98.7*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3482055-1 12/12/19 07:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.625	0.689	110	10.0-160	
Acrylonitrile	0.625	0.777	124	45.0-153	
Benzene	0.125	0.119	95.2	70.0-123	
Bromobenzene	0.125	0.119	95.2	73.0-121	
Bromodichloromethane	0.125	0.125	100	73.0-121	

Laboratory Control Sample (LCS)

(LCS) R3482055-1 12/12/19 07:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromoform	0.125	0.128	102	64.0-132	
Bromomethane	0.125	0.0834	66.7	56.0-147	
n-Butylbenzene	0.125	0.127	102	68.0-135	
sec-Butylbenzene	0.125	0.132	106	74.0-130	
tert-Butylbenzene	0.125	0.129	103	75.0-127	
Carbon tetrachloride	0.125	0.117	93.6	66.0-128	
Chlorobenzene	0.125	0.120	96.0	76.0-128	
Chlorodibromomethane	0.125	0.127	102	74.0-127	
Chloroethane	0.125	0.0871	69.7	61.0-134	
Chloroform	0.125	0.122	97.6	72.0-123	
Chloromethane	0.125	0.139	111	51.0-138	
2-Chlorotoluene	0.125	0.125	100	75.0-124	
4-Chlorotoluene	0.125	0.130	104	75.0-124	
1,2-Dibromo-3-Chloropropane	0.125	0.112	89.6	59.0-130	
1,2-Dibromoethane	0.125	0.129	103	74.0-128	
Dibromomethane	0.125	0.130	104	75.0-122	
1,2-Dichlorobenzene	0.125	0.133	106	76.0-124	
1,3-Dichlorobenzene	0.125	0.131	105	76.0-125	
1,4-Dichlorobenzene	0.125	0.130	104	77.0-121	
Dichlorodifluoromethane	0.125	0.152	122	43.0-156	
1,1-Dichloroethane	0.125	0.139	111	70.0-127	
1,2-Dichloroethane	0.125	0.126	101	65.0-131	
1,1-Dichloroethene	0.125	0.122	97.6	65.0-131	
cis-1,2-Dichloroethene	0.125	0.113	90.4	73.0-125	
trans-1,2-Dichloroethene	0.125	0.116	92.8	71.0-125	
1,2-Dichloropropane	0.125	0.137	110	74.0-125	
1,1-Dichloropropene	0.125	0.125	100	73.0-125	
1,3-Dichloropropane	0.125	0.133	106	80.0-125	
cis-1,3-Dichloropropene	0.125	0.126	101	76.0-127	
trans-1,3-Dichloropropene	0.125	0.128	102	73.0-127	
2,2-Dichloropropane	0.125	0.126	101	59.0-135	
Di-isopropyl ether	0.125	0.155	124	60.0-136	
Ethylbenzene	0.125	0.122	97.6	74.0-126	
Hexachloro-1,3-butadiene	0.125	0.144	115	57.0-150	
Isopropylbenzene	0.125	0.128	102	72.0-127	
p-Isopropyltoluene	0.125	0.134	107	72.0-133	
2-Butanone (MEK)	0.625	0.801	128	30.0-160	
Methylene Chloride	0.125	0.136	109	68.0-123	
4-Methyl-2-pentanone (MIBK)	0.625	0.737	118	56.0-143	
Methyl tert-butyl ether	0.125	0.146	117	66.0-132	

Laboratory Control Sample (LCS)

(LCS) R3482055-1 12/12/19 07:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Naphthalene	0.125	0.111	88.8	59.0-130	
n-Propylbenzene	0.125	0.126	101	74.0-126	
Styrene	0.125	0.125	100	72.0-127	
1,1,1,2-Tetrachloroethane	0.125	0.130	104	74.0-129	
1,1,2,2-Tetrachloroethane	0.125	0.136	109	68.0-128	
Tetrachloroethene	0.125	0.138	110	70.0-136	
Toluene	0.125	0.120	96.0	75.0-121	
1,1,2-Trichlorotrifluoroethane	0.125	0.126	101	61.0-139	
1,2,3-Trichlorobenzene	0.125	0.130	104	59.0-139	
1,2,4-Trichlorobenzene	0.125	0.143	114	62.0-137	
1,1,1-Trichloroethane	0.125	0.130	104	69.0-126	
1,1,2-Trichloroethane	0.125	0.131	105	78.0-123	
Trichloroethene	0.125	0.128	102	76.0-126	
Trichlorofluoromethane	0.125	0.118	94.4	61.0-142	
1,2,3-Trichloropropane	0.125	0.137	110	67.0-129	
1,2,3-Trimethylbenzene	0.125	0.127	102	74.0-124	
1,2,4-Trimethylbenzene	0.125	0.126	101	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.125	100	73.0-127	
Vinyl chloride	0.125	0.102	81.6	63.0-134	
Xylenes, Total	0.375	0.372	99.2	72.0-127	
(S) Toluene-d8			*108*	*75.0-131*	
(S) 4-Bromofluorobenzene			*106*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*102*	*70.0-130*	

Method Blank (MB)

(MB) R3482347-3 12/13/19 06:37

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
1,2,4-Trimethylbenzene	U		0.00116	0.00500
(S) Toluene-d8	*106*			*75.0-131*
(S) 4-Bromofluorobenzene	*104*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3482347-1 12/13/19 05:15 • (LCSD) R3482347-2 12/13/19 05:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,2,4-Trimethylbenzene	0.125	0.116	0.114	92.8	91.2	70.0-126			1.74	20
(S) Toluene-d8				*105*	*105*	*75.0-131*				
(S) 4-Bromofluorobenzene				*102*	*104*	*67.0-138*				
(S) 1,2-Dichloroethane-d4				*107*	*107*	*70.0-130*				

Method Blank (MB)

(MB) R3482739-2 12/14/19 12:13

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0137	0.0250
Acrylonitrile	U		0.00190	0.0125
Benzene	U		0.000400	0.00100
Bromobenzene	U		0.00105	0.0125
Bromodichloromethane	U		0.000788	0.00250
Bromoform	U		0.00598	0.0250
Bromomethane	U		0.00370	0.0125
n-Butylbenzene	U		0.00384	0.0125
sec-Butylbenzene	U		0.00253	0.0125
tert-Butylbenzene	U		0.00155	0.00500
Carbon tetrachloride	U		0.00108	0.00500
Chlorobenzene	U		0.000573	0.00250
Chlorodibromomethane	U		0.000450	0.00250
Chloroethane	U		0.00108	0.00500
Chloroform	U		0.000415	0.00250
Chloromethane	U		0.00139	0.0125
2-Chlorotoluene	U		0.000920	0.00250
4-Chlorotoluene	U		0.00113	0.00500
1,2-Dibromo-3-Chloropropane	U		0.00510	0.0250
1,2-Dibromoethane	U		0.000525	0.00250
Dibromomethane	U		0.00100	0.00500
1,2-Dichlorobenzene	U		0.00145	0.00500
1,3-Dichlorobenzene	U		0.00170	0.00500
1,4-Dichlorobenzene	U		0.00197	0.00500
Dichlorodifluoromethane	U		0.000818	0.00250
1,1-Dichloroethane	U		0.000575	0.00250
1,2-Dichloroethane	U		0.000475	0.00250
1,1-Dichloroethene	U		0.000500	0.00250
cis-1,2-Dichloroethene	U		0.000690	0.00250
trans-1,2-Dichloroethene	U		0.00143	0.00500
1,2-Dichloropropane	U		0.00127	0.00500
1,1-Dichloropropene	U		0.000700	0.00250
1,3-Dichloropropane	U		0.00175	0.00500
cis-1,3-Dichloropropene	U		0.000678	0.00250
trans-1,3-Dichloropropene	U		0.00153	0.00500
2,2-Dichloropropane	U		0.000793	0.00250
Di-isopropyl ether	U		0.000350	0.00100
Ethylbenzene	U		0.000530	0.00250
Hexachloro-1,3-butadiene	U		0.0127	0.0250
Isopropylbenzene	U		0.000863	0.00250

Method Blank (MB)

(MB) R3482739-2 12/14/19 12:13

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
p-Isopropyltoluene	U		0.00233	0.00500
2-Butanone (MEK)	U		0.0125	0.0250
Methylene Chloride	U		0.00664	0.0250
4-Methyl-2-pentanone (MIBK)	U		0.0100	0.0250
Methyl tert-butyl ether	U		0.000295	0.00100
Naphthalene	U		0.00312	0.0125
n-Propylbenzene	U		0.00118	0.00500
Styrene	U		0.00273	0.0125
1,1,1,2-Tetrachloroethane	U		0.000500	0.00250
1,1,2,2-Tetrachloroethane	U		0.000390	0.00250
Tetrachloroethene	U		0.000700	0.00250
Toluene	U		0.00125	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000675	0.00250
1,2,3-Trichlorobenzene	0.00218	J	0.000625	0.00250
1,2,4-Trichlorobenzene	U		0.00482	0.0125
1,1,1-Trichloroethane	U		0.000275	0.00250
1,1,2-Trichloroethane	U		0.000883	0.00250
Trichloroethene	U		0.000400	0.00100
Trichlorofluoromethane	U		0.000500	0.00250
1,2,3-Trichloropropane	U		0.00510	0.0125
1,2,3-Trimethylbenzene	U		0.00115	0.00500
1,2,4-Trimethylbenzene	U		0.00116	0.00500
1,3,5-Trimethylbenzene	U		0.00108	0.00500
Vinyl chloride	U		0.000683	0.00250
Xylenes, Total	U		0.00478	0.00650
(S) Toluene-d8	*110*			*75.0-131*
(S) 4-Bromofluorobenzene	*104*			*67.0-138*
(S) 1,2-Dichloroethane-d4	*95.0*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3482739-1 12/14/19 11:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	0.625	1.31	210	10.0-160	J4
Acrylonitrile	0.625	0.741	119	45.0-153	
Benzene	0.125	0.110	88.0	70.0-123	
Bromobenzene	0.125	0.126	101	73.0-121	
Bromodichloromethane	0.125	0.124	99.2	73.0-121	

Laboratory Control Sample (LCS)

(LCS) R3482739-1 12/14/19 11:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromoform	0.125	0.144	115	64.0-132	
Bromomethane	0.125	0.114	91.2	56.0-147	
n-Butylbenzene	0.125	0.128	102	68.0-135	
sec-Butylbenzene	0.125	0.122	97.6	74.0-130	
tert-Butylbenzene	0.125	0.117	93.6	75.0-127	
Carbon tetrachloride	0.125	0.132	106	66.0-128	
Chlorobenzene	0.125	0.123	98.4	76.0-128	
Chlorodibromomethane	0.125	0.134	107	74.0-127	
Chloroethane	0.125	0.110	88.0	61.0-134	
Chloroform	0.125	0.118	94.4	72.0-123	
Chloromethane	0.125	0.130	104	51.0-138	
2-Chlorotoluene	0.125	0.109	87.2	75.0-124	
4-Chlorotoluene	0.125	0.109	87.2	75.0-124	
1,2-Dibromo-3-Chloropropane	0.125	0.126	101	59.0-130	
1,2-Dibromoethane	0.125	0.126	101	74.0-128	
Dibromomethane	0.125	0.126	101	75.0-122	
1,2-Dichlorobenzene	0.125	0.120	96.0	76.0-124	
1,3-Dichlorobenzene	0.125	0.117	93.6	76.0-125	
1,4-Dichlorobenzene	0.125	0.124	99.2	77.0-121	
Dichlorodifluoromethane	0.125	0.167	134	43.0-156	
1,1-Dichloroethane	0.125	0.130	104	70.0-127	
1,2-Dichloroethane	0.125	0.101	80.8	65.0-131	
1,1-Dichloroethene	0.125	0.133	106	65.0-131	
cis-1,2-Dichloroethene	0.125	0.142	114	73.0-125	
trans-1,2-Dichloroethene	0.125	0.127	102	71.0-125	
1,2-Dichloropropane	0.125	0.120	96.0	74.0-125	
1,1-Dichloropropene	0.125	0.119	95.2	73.0-125	
1,3-Dichloropropane	0.125	0.117	93.6	80.0-125	
cis-1,3-Dichloropropene	0.125	0.119	95.2	76.0-127	
trans-1,3-Dichloropropene	0.125	0.105	84.0	73.0-127	
2,2-Dichloropropane	0.125	0.133	106	59.0-135	
Di-isopropyl ether	0.125	0.110	88.0	60.0-136	
Ethylbenzene	0.125	0.124	99.2	74.0-126	
Hexachloro-1,3-butadiene	0.125	0.125	100	57.0-150	
Isopropylbenzene	0.125	0.120	96.0	72.0-127	
p-Isopropyltoluene	0.125	0.123	98.4	72.0-133	
2-Butanone (MEK)	0.625	0.811	130	30.0-160	
Methylene Chloride	0.125	0.120	96.0	68.0-123	
4-Methyl-2-pentanone (MIBK)	0.625	0.661	106	56.0-143	
Methyl tert-butyl ether	0.125	0.116	92.8	66.0-132	

Laboratory Control Sample (LCS)

(LCS) R3482739-1 12/14/19 11:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Naphthalene	0.125	0.137	110	59.0-130	
n-Propylbenzene	0.125	0.112	89.6	74.0-126	
Styrene	0.125	0.121	96.8	72.0-127	
1,1,1,2-Tetrachloroethane	0.125	0.114	91.2	74.0-129	
1,1,2,2-Tetrachloroethane	0.125	0.112	89.6	68.0-128	
Tetrachloroethene	0.125	0.146	117	70.0-136	
Toluene	0.125	0.110	88.0	75.0-121	
1,1,2-Trichlorotrifluoroethane	0.125	0.138	110	61.0-139	
1,2,3-Trichlorobenzene	0.125	0.161	129	59.0-139	
1,2,4-Trichlorobenzene	0.125	0.127	102	62.0-137	
1,1,1-Trichloroethane	0.125	0.115	92.0	69.0-126	
1,1,2-Trichloroethane	0.125	0.123	98.4	78.0-123	
Trichloroethene	0.125	0.133	106	76.0-126	
Trichlorofluoromethane	0.125	0.128	102	61.0-142	
1,2,3-Trichloropropane	0.125	0.128	102	67.0-129	
1,2,3-Trimethylbenzene	0.125	0.113	90.4	74.0-124	
1,2,4-Trimethylbenzene	0.125	0.118	94.4	70.0-126	
1,3,5-Trimethylbenzene	0.125	0.108	86.4	73.0-127	
Vinyl chloride	0.125	0.102	81.6	63.0-134	
Xylenes, Total	0.375	0.362	96.5	72.0-127	
(S) Toluene-d8			*106*	*75.0-131*	
(S) 4-Bromofluorobenzene			*113*	*67.0-138*	
(S) 1,2-Dichloroethane-d4			*104*	*70.0-130*	

L1169710-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1169710-01 12/14/19 19:51 • (MS) R3482739-3 12/14/19 20:10 • (MSD) R3482739-4 12/14/19 20:31

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	13.6	128	168	131	301	26.5	20	10.0-160	V		24.9	40
Acrylonitrile	13.6	U	17.9	12.0	132	88.1	20	10.0-160			39.8	40
Benzene	2.71	1.54	2.35	3.07	29.8	56.4	20	10.0-149			26.7	37
Bromobenzene	2.71	U	1.49	2.06	55.1	76.0	20	10.0-156			31.9	38
Bromodichloromethane	2.71	U	1.71	2.43	63.1	89.8	20	10.0-143			34.9	37
Bromoform	2.71	U	2.02	2.21	74.7	81.8	20	10.0-146			9.09	36
Bromomethane	2.71	U	0.658	1.53	24.3	56.4	20	10.0-149		J3	79.6	38
n-Butylbenzene	2.71	17.5	21.2	21.8	138	160	20	10.0-160			2.80	40
sec-Butylbenzene	2.71	3.12	4.03	5.08	33.8	72.4	20	10.0-159			23.0	39
tert-Butylbenzene	2.71	U	0.657	1.72	24.3	63.6	20	10.0-156		J3	89.5	39

L1169710-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1169710-01 12/14/19 19:51 • (MS) R3482739-3 12/14/19 20:10 • (MSD) R3482739-4 12/14/19 20:31

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Carbon tetrachloride	2.71	U	0.326	1.49	12.0	55.1	20	10.0-145		J3	128	37
Chlorobenzene	2.71	U	1.73	2.42	64.0	89.3	20	10.0-152			33.0	39
Chlorodibromomethane	2.71	U	1.67	2.13	61.8	78.7	20	10.0-146			24.1	37
Chloroethane	2.71	U	0.431	1.38	15.9	51.1	20	10.0-146		J3	105	40
Chloroform	2.71	U	0.904	1.70	33.4	62.7	20	10.0-146		J3	61.0	37
Chloromethane	2.71	U	0.626	1.64	23.1	60.4	20	10.0-159		J3	89.4	37
2-Chlorotoluene	2.71	U	0.851	1.64	31.4	60.4	20	10.0-159		J3	63.2	38
4-Chlorotoluene	2.71	U	7.20	7.74	266	286	20	10.0-155	J5	J5	7.25	39
1,2-Dibromo-3-Chloropropane	2.71	U	2.44	2.38	90.2	88.0	20	10.0-151			2.49	39
1,2-Dibromoethane	2.71	U	1.97	2.25	72.9	83.1	20	10.0-148			13.1	34
Dibromomethane	2.71	U	2.21	2.36	81.8	87.1	20	10.0-147			6.32	35
1,2-Dichlorobenzene	2.71	U	1.47	2.06	54.2	76.0	20	10.0-155			33.4	37
1,3-Dichlorobenzene	2.71	U	1.15	1.79	42.3	66.2	20	10.0-153		J3	44.1	38
1,4-Dichlorobenzene	2.71	U	1.37	2.01	50.7	74.2	20	10.0-151			37.7	38
Dichlorodifluoromethane	2.71	U	0.0802	1.60	2.96	59.1	20	10.0-160	J6	J3	181	35
1,1-Dichloroethane	2.71	U	0.835	1.90	30.8	70.2	20	10.0-147		J3	77.9	37
1,2-Dichloroethane	2.71	U	1.49	1.79	55.1	66.2	20	10.0-148			18.3	35
1,1-Dichloroethene	2.71	U	0.442	1.52	16.3	56.0	20	10.0-155		J3	110	37
cis-1,2-Dichloroethene	2.71	U	1.12	2.07	41.2	76.4	20	10.0-149		J3	59.9	37
trans-1,2-Dichloroethene	2.71	U	0.613	1.65	22.6	60.9	20	10.0-150		J3	91.6	37
1,2-Dichloropropane	2.71	U	1.59	2.50	58.7	92.4	20	10.0-148		J3	44.7	37
1,1-Dichloropropene	2.71	U	0.377	1.54	13.9	56.9	20	10.0-153		J3	121	35
1,3-Dichloropropane	2.71	U	1.79	2.17	66.2	80.0	20	10.0-154			18.8	35
cis-1,3-Dichloropropene	2.71	U	1.28	1.95	47.1	72.0	20	10.0-151		J3	41.8	37
trans-1,3-Dichloropropene	2.71	U	1.43	1.88	52.9	69.3	20	10.0-148			26.9	37
2,2-Dichloropropane	2.71	U	0.524	1.37	19.3	50.7	20	10.0-138		J3	89.5	36
Di-isopropyl ether	2.71	U	1.35	1.81	49.8	66.7	20	10.0-147			29.0	36
Ethylbenzene	2.71	67.6	71.8	69.0	156	48.9	20	10.0-160	E	E	4.10	38
Hexachloro-1,3-butadiene	2.71	U	0.602	2.15	22.2	79.6	20	10.0-160		J3	113	40
Isopropylbenzene	2.71	10.5	11.7	12.0	47.1	57.3	20	10.0-155			2.33	38
p-Isopropyltoluene	2.71	2.05	2.95	4.10	33.3	76.0	20	10.0-160			32.8	40
2-Butanone (MEK)	13.6	33.9	53.9	50.1	147	119	20	10.0-160			7.41	40
Methylene Chloride	2.71	U	1.20	1.70	44.4	62.7	20	10.0-141			34.0	37
4-Methyl-2-pentanone (MIBK)	13.6	U	16.1	13.6	119	100	20	10.0-160			17.0	35
Methyl tert-butyl ether	2.71	U	1.83	1.88	67.6	69.3	20	11.0-147			2.60	35
Naphthalene	2.71	25.6	33.7	33.2	298	280	20	10.0-160	V	V	1.44	36
n-Propylbenzene	2.71	30.8	30.6	34.5	0.000	138	20	10.0-158	V		12.2	38
Styrene	2.71	U	1.17	1.94	43.3	71.6	20	10.0-160		J3	49.1	40
1,1,1,2-Tetrachloroethane	2.71	U	1.06	1.59	39.1	58.7	20	10.0-149		J3	40.1	39

L1169710-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1169710-01 12/14/19 19:51 • (MS) R3482739-3 12/14/19 20:10 • (MSD) R3482739-4 12/14/19 20:31

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
1,1,2,2-Tetrachloroethane	2.71	U	1.83	1.96	67.6	72.4	20	10.0-160			6.98	35
Tetrachloroethene	2.71	U	0.572	1.67	21.1	61.8	20	10.0-156		J3	98.1	39
Toluene	2.71	4.25	5.24	5.88	36.4	60.4	20	10.0-156			11.7	38
1,1,2-Trichlorotrifluoroethane	2.71	U	0.106	1.41	3.92	52.0	20	10.0-160	J6	J3	172	36
1,2,3-Trichlorobenzene	2.71	U	2.26	3.13	83.6	116	20	10.0-160			32.1	40
1,2,4-Trichlorobenzene	2.71	U	1.55	2.23	57.3	82.2	20	10.0-160			35.7	40
1,1,1-Trichloroethane	2.71	U	0.439	1.40	16.2	51.6	20	10.0-144		J3	104	35
1,1,2-Trichloroethane	2.71	U	2.14	1.53	79.1	56.4	20	10.0-160			33.4	35
Trichloroethene	2.71	U	0.728	1.83	26.9	67.6	20	10.0-156		J3	86.1	38
Trichlorofluoromethane	2.71	U	0.135	1.31	4.98	48.4	20	10.0-160	J6	J3	163	40
1,2,3-Trichloropropane	2.71	U	2.39	2.48	88.4	91.6	20	10.0-156			3.46	35
1,2,3-Trimethylbenzene	2.71	45.1	52.4	51.5	267	236	20	10.0-160	V	V	1.62	36
1,2,4-Trimethylbenzene	2.71	170	190	184	756	533	20	10.0-160	E V	E V	3.22	36
1,3,5-Trimethylbenzene	2.71	45.3	51.5	50.4	231	191	20	10.0-160	V	V	2.13	38
Vinyl chloride	2.71	U	0.261	1.23	9.64	45.3	20	10.0-160	J6	J3	130	37
Xylenes, Total	8.12	U	247	236	3040	2900	20	10.0-160	J5	J5	4.49	38
(S) Toluene-d8					*103*	*103*		*75.0-131*				
(S) 4-Bromofluorobenzene					*110*	*110*		*67.0-138*				
(S) 1,2-Dichloroethane-d4					*102*	*98.9*		*70.0-130*				

Method Blank (MB)

(MB) R3481962-1 12/12/19 12:16

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	*58.6*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3481962-2 12/12/19 12:31

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	40.9	81.8	50.0-150	
(S) o-Terphenyl			*65.9*	*18.0-148*	

L1169162-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1169162-01 12/12/19 15:08 • (MS) R3481962-3 12/12/19 15:21 • (MSD) R3481962-4 12/12/19 15:34

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	54.9	74.5	208	71.1	242	0.000	5	50.0-150	J5	J3 J6	98.0	20
(S) o-Terphenyl					*47.4*	*49.7*		*18.0-148*				

Method Blank (MB)

(MB) R3481942-1 12/12/19 16:01

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	*70.6*			*18.0-148*

Laboratory Control Sample (LCS)

(LCS) R3481942-2 12/12/19 16:13

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	38.4	76.8	50.0-150	
(S) o-Terphenyl			*61.0*	*18.0-148*	

L1168019-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1168019-21 12/12/19 16:52 • (MS) R3481942-3 12/12/19 17:11 • (MSD) R3481942-4 12/12/19 17:23

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	52.4	ND	46.1	2.73	81.5	0.000	1	50.0-150		J3 J6	178	20
(S) o-Terphenyl					*51.4*	*4.01*		*18.0-148*		J2		

Method Blank (MB)

(MB) R3484203-2 12/18/19 19:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.000600	0.00600
Acenaphthene	U		0.000600	0.00600
Acenaphthylene	U		0.000600	0.00600
Benzo(a)anthracene	U		0.000600	0.00600
Benzo(a)pyrene	U		0.000600	0.00600
Benzo(b)fluoranthene	U		0.000600	0.00600
Benzo(g,h,i)perylene	U		0.000600	0.00600
Benzo(k)fluoranthene	U		0.000600	0.00600
Chrysene	U		0.000600	0.00600
Dibenz(a,h)anthracene	U		0.000600	0.00600
Fluoranthene	U		0.000600	0.00600
Fluorene	U		0.000600	0.00600
Indeno(1,2,3-cd)pyrene	U		0.000600	0.00600
Naphthalene	U		0.00200	0.0200
Phenanthrene	U		0.000600	0.00600
Pyrene	U		0.000600	0.00600
1-Methylnaphthalene	U		0.00200	0.0200
2-Methylnaphthalene	U		0.00200	0.0200
2-Chloronaphthalene	U		0.00200	0.0200
(S) Nitrobenzene-d5	*116*			*14.0-149*
(S) 2-Fluorobiphenyl	*101*			*34.0-125*
(S) p-Terphenyl-d14	*120*			*23.0-120*

Laboratory Control Sample (LCS)

(LCS) R3484203-1 12/18/19 19:18

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0745	93.1	50.0-126	
Acenaphthene	0.0800	0.0749	93.6	50.0-120	
Acenaphthylene	0.0800	0.0752	94.0	50.0-120	
Benzo(a)anthracene	0.0800	0.0779	97.4	45.0-120	
Benzo(a)pyrene	0.0800	0.0668	83.5	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0769	96.1	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0645	80.6	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0767	95.9	49.0-125	
Chrysene	0.0800	0.0747	93.4	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0668	83.5	47.0-125	
Fluoranthene	0.0800	0.0746	93.3	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3484203-1 12/18/19 19:18

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0777	97.1	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0663	82.9	46.0-125	
Naphthalene	0.0800	0.0771	96.4	50.0-120	
Phenanthrene	0.0800	0.0727	90.9	47.0-120	
Pyrene	0.0800	0.0724	90.5	43.0-123	
1-Methylnaphthalene	0.0800	0.0783	97.9	51.0-121	
2-Methylnaphthalene	0.0800	0.0768	96.0	50.0-120	
2-Chloronaphthalene	0.0800	0.0710	88.8	50.0-120	
(S) Nitrobenzene-d5			*118*	*14.0-149*	
(S) 2-Fluorobiphenyl			*95.9*	*34.0-125*	
(S) p-Terphenyl-d14			*112*	*23.0-120*	

L1169162-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1169162-01 12/18/19 22:37 • (MS) R3484203-3 12/18/19 22:59 • (MSD) R3484203-4 12/18/19 23:21

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0879	ND	0.0764	0.0703	86.9	80.0	1	10.0-145			8.24	30
Acenaphthene	0.0879	ND	0.0768	0.0718	85.9	80.3	1	14.0-127			6.65	27
Acenaphthylene	0.0879	ND	0.0801	0.0718	91.1	81.8	1	21.0-124			10.8	25
Benzo(a)anthracene	0.0879	ND	0.0788	0.0699	87.6	77.5	1	10.0-139			12.0	30
Benzo(a)pyrene	0.0879	ND	0.0751	0.0671	84.5	75.3	1	10.0-141			11.3	31
Benzo(b)fluoranthene	0.0879	ND	0.0713	0.0657	79.5	73.2	1	10.0-140			8.18	36
Benzo(g,h,i)perylene	0.0879	ND	0.0680	0.0634	75.9	70.6	1	10.0-140			7.02	33
Benzo(k)fluoranthene	0.0879	ND	0.0760	0.0655	86.5	74.5	1	10.0-137			14.9	31
Chrysene	0.0879	ND	0.0767	0.0693	87.3	78.9	1	10.0-145			10.1	30
Dibenz(a,h)anthracene	0.0879	ND	0.0671	0.0639	76.4	72.8	1	10.0-132			4.86	31
Fluoranthene	0.0879	ND	0.0733	0.0558	80.5	60.7	1	10.0-153			27.1	33
Fluorene	0.0879	ND	0.0767	0.0711	87.3	80.9	1	11.0-130			7.58	29
Indeno(1,2,3-cd)pyrene	0.0879	ND	0.0668	0.0640	76.0	72.9	1	10.0-137			4.20	32
Naphthalene	0.0879	0.163	0.221	0.220	66.3	65.0	1	10.0-135			0.499	27
Phenanthrene	0.0879	ND	0.0738	0.0657	82.0	72.8	1	10.0-144			11.7	31
Pyrene	0.0879	ND	0.0754	0.0648	83.1	71.1	1	10.0-148			15.0	35
1-Methylnaphthalene	0.0879	ND	0.0903	0.0850	86.4	80.4	1	10.0-142			6.02	28
2-Methylnaphthalene	0.0879	0.0308	0.103	0.106	81.6	85.5	1	10.0-137			3.27	28
2-Chloronaphthalene	0.0879	ND	0.0737	0.0673	83.9	76.6	1	29.0-120			9.03	24
(S) Nitrobenzene-d5					*111*	*103*		*14.0-149*				
(S) 2-Fluorobiphenyl					*89.7*	*82.9*		*34.0-125*				
(S) p-Terphenyl-d14					*105*	*93.9*		*23.0-120*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J0	J0: The identification of the analyte is acceptable, but the reported concentration is an estimate. The calibration met method criteria.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.

Qualifier	Description
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

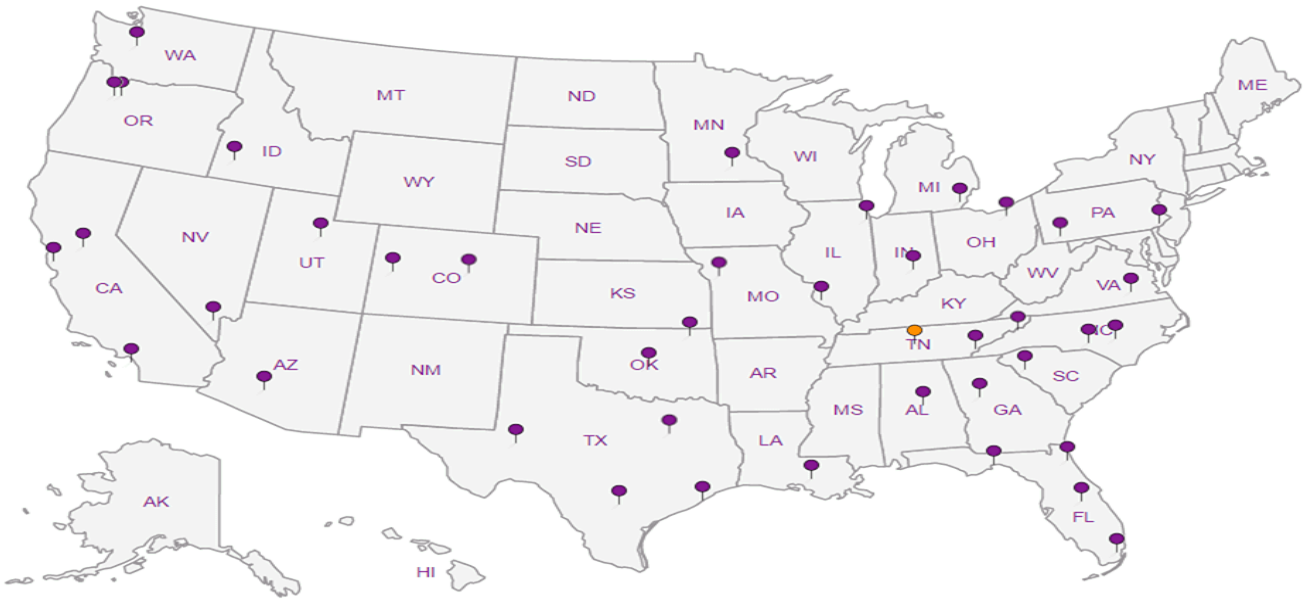
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Report to: Kyle Haggart

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Email To: khaggart@geodesigninc.com

Project Description:

City/State Collected: Astoria, OR

Please Circle: PT MT CT ET

Phone: 503-968-8787
Fax:

Client Project # BigBeams-1-01-07

Lab Project # GEODESPOR-HAGGART

Collected by (print): Kyle Haggart

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day
Date Results Needed

Quote #

Immediately Packed on Ice N ___ Y X

Analysis / Container / Preservative

Chain of Custody Page 1 of 3

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1169162

J083

Acctnum: GEODESPOR

Template: T159578

Prelogin: P742144

PM: 110 - Brian Ford

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPHDX NOSGT 8ozClr-NoPres	NWTPHGX 40mlAmb/MeOH5ml/Syr	PAHs (SV8270PAHSIMD) 8ozClr-NoPres	RCRA8 Metals 6020 8ozClr-NoPres	VOCs 8260C 40mlAmb/MeOH5rnl/Syr	dry weight 2ozClr-NoPres	Total Lead				Remarks	Sample # (lab only)
PAS-2(2-3)		SS		12.6.19	1705	4	X	X			X		X					-01
PAS-2(6-7)		SS		12.6.19	1710	1	X	X			X		X					-02
PSVE-1(3-4)		SS		12.5.19	820		X	X			X		X					-03
PSVE-1(6-7)		SS		12.5.19	825													
OSVE-2(3-4)		SS		12.5.19	1045		X	X			X		X					-04
OSVE-2(6-7)		SS		12.5.19	1050													
OAS-2(2-3)		SS		12.5.19	1355		X	X			X		X					-05
OAS-2(5-6)		SS		12.5.19	1400		X	X			X		X					-06
OAS-4(2.5-3.5)		SS		12.5.19	1435		X	X			X		X					-07
OAS-4(5-6)		SS		12.5.19	1445	Y												

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 4794 8843 7756

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

	Date:	Time:		
Relinquished by : (Signature)	12.9.19	1202	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Bonnie Baker	Date: 12/10/19 Time: 0900

2 TOTAL

42 TB TOTAL

If preservation required by Login: Date/Time

Hold: 12-034

Condition: NCF / OK

GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Email To: khaggart@geodesigninc.com

Report to: Kyle Haggart

Project Description:

City/State Collected: Astoria, OR

Please Circle: PT MT CT ET

Phone: 503-968-8787
Fax:

Client Project # Big Beams 4-0107

Lab Project # GEODESPOR-HAGGART

Collected by (print): Kyle Haggart

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Immediately Packed on Ice N ___ Y X

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1164162

Table # J083

Acctnum: GEODESPOR

Template: T159578

Prelogin: P742144

PM: 110 - Brian Ford

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPHDX NOSGT 8ozClr-NoPres	NWTPHGX 40mlAmb/MeOH5ml/Syr	PAHs (SV8270PAHSIMD) 8ozClr-NoPres	RCRA8 Metals 6020 8ozClr-NoPres	VOCs 8260C 40mlAmb/MeOH5ml/Syr	dry weight 2ozClr-NoPres	Total Lead	Remarks	Sample # (lab only)
OAS-4 (15-16)		SS		12.5.19	1450	4									
OSVE-4 (2-3)		SS			1520		X	X			X		X		-08
OSVE-4 (6.5-7.5)		SS			1525										
OAS-3 (3-4)		SS			1605										
OAS-3 (6-7)		SS			1610		X	X			X		X		-09
OSVE-3 (2-3)		SS		12.6.19	905										
OSVE-3 (5-6)		SS			910		X	X			X		X		-10
OAS-1 (2.5-3.5)		SS			945										
OAS-1 (7-8)		SS			950		X	X			X		X		-11
OSVE-1 (2-3)		SS			925										

CP

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y	N
COC Signed/Accurate:		Y	N
Bottles arrive intact:		Y	N
Correct bottles used:		Y	N
Sufficient volume sent:		Y	N
If Applicable			
VOA Zero Headspace:		Y	N
Preservation Correct/Checked:		Y	N
RAD Screen <0.5 mR/hr:		Y	N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No (HCl / MeoH) TBR
	12.9.19	1200		2 TOTAL
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
				06-1-0.5°C 8+4+2TB TOTAL
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
			Bonnie Bader	12/10/19 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Billing: Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Pres Chk

Report to: Kyle Haggart

Email To: khaggart@geodesigninc.com

Project Description:

City/State Collected: Astoria, OR

Please Circle: PT MT CT ET

Phone: 503-968-8787
Fax:

Client Project # BigBeams-1-01-07

Lab Project # GEODESPOR-HAGGART

Collected by (print): Kyle Haggart

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Immediately Packed on Ice N ___ Y X

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPHDX NOSGT 8ozClr-NoPres	NWTPHGX 40mlAmb/MeOH5ml/Syr	PAHs (SV8270PAHSIMD) 8ozClr-NoPres	RCRA8 Metals 6020 8ozClr-NoPres	VOCs 8260C 40mlAmb/MeOH5ml/Syr	dry weight 2ozClr-NoPres	Total Lead			Remarks	Sample # (lab only)
OSUE-1(5-6)		SS		12.6.19	930	4	X	X			X		X				-12
		SS															
		SS															
		SS															
		SS															
		SS															
		SS															
		SS															
		SS															
		SS															
		SS															

Analysis / Container / Preservative

Chain of Custody Page 3 of 3

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1164162

Table # 1083

Acctnum: GEODESPOR

Template: T159578

Prelogin: P742144

PM: 110 - Brian Ford

PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR
	12.9.19	1200		2 TOTAL
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
				CG-1-0.5°C 8+2TB TOTAL
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
			Bonnie Bmly	12/10/19 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF Y (OK)

Brian Ford

From: Brian Ford
Sent: Tuesday, December 17, 2019 12:12 PM
To: Kyle Haggart
Subject: RE: L1169162 BigBeams-1-01-07 Prelim Data

Kyle,

We will run for PAHs:

2 highest DX:
L1169162-01 (PAS-2(2-3))
L1169162-08 (OSVE-4(2-3))

2 highest naphthalene:
L1169162-06 (OAS-2(5-6))
L1169162-07 (OAS-4(2.5-3.5))

Thanks,

Brian Ford
Project Manager
Pace Analytical National Center for Testing & Innovation
12065 Lebanon Road | Mt. Juliet, TN 37122
direct 615.773.9772 | cell 615.881.4570
bford@pacenational.com | pacenational.com

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From: Kyle Haggart <khaggart@geodesigninc.com>
Sent: Tuesday, December 17, 2019 11:14 AM
To: Brian Ford <BFord@pacenational.com>
Subject: Re: L1169162 BigBeams-1-01-07 Prelim Data

CAUTION: This email originated from outside Pace Analytical. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Can we run the two highest hits of napthanele and diesel/oil for PAHs?

Thanks,

Kyle Haggart, G.I.T.
Environmental Staff
503.726.3169 - Direct
503.577.8288 - Mobile
503.968.8787 - Main
GeoDesign, Inc. An NV5 Company

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 18, 2019

GeoDesign Inc. - Wilsonville, OR

Sample Delivery Group:	L1170028
Samples Received:	11/19/2019
Project Number:	Bigbeams-1-01-07
Description:	

Report To:

Kyle Haggart
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Entire Report Reviewed By:

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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MW-1(111519) L1170028-01 GW

Collected by: Kyle Haggart | Collected date/time: 11/15/19 11:20 | Received date/time: 11/19/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Fe B-2011	WG1395822	25	12/14/19 19:07	12/14/19 19:07	JIC	Mt. Juliet, TN

MW-2(111519) L1170028-02 GW

Collected by: Kyle Haggart | Collected date/time: 11/15/19 12:35 | Received date/time: 11/19/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Fe B-2011	WG1395822	50	12/14/19 19:07	12/14/19 19:07	JIC	Mt. Juliet, TN

MW-3(111519) L1170028-03 GW

Collected by: Kyle Haggart | Collected date/time: 11/15/19 10:25 | Received date/time: 11/19/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Fe B-2011	WG1395822	10	12/14/19 19:08	12/14/19 19:08	JIC	Mt. Juliet, TN

MW-4(111519) L1170028-04 GW

Collected by: Kyle Haggart | Collected date/time: 11/15/19 14:45 | Received date/time: 11/19/19 08:45

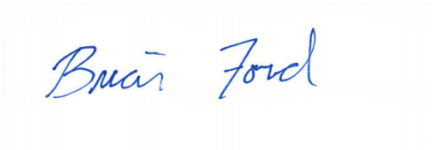
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Fe B-2011	WG1395822	50	12/14/19 19:17	12/14/19 19:17	JIC	Mt. Juliet, TN

MW-5(111519) L1170028-05 GW

Collected by: Kyle Haggart | Collected date/time: 11/15/19 13:40 | Received date/time: 11/19/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 3500Fe B-2011	WG1395822	10	12/14/19 19:20	12/14/19 19:20	JIC	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford
Project Manager

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Ferrous Iron	28800	T8	1250	25	12/14/2019 19:07	WG1395822

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Ferrous Iron	64600	T8	2500	50	12/14/2019 19:07	WG1395822

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Ferrous Iron	13100	T8	500	10	12/14/2019 19:08	WG1395822

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Ferrous Iron	53800	T8	2500	50	12/14/2019 19:17	WG1395822

Wet Chemistry by Method 3500Fe B-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Ferrous Iron	26900	T8	500	10	12/14/2019 19:20	WG1395822

Method Blank (MB)

(MB) R3482424-1 12/14/19 19:03

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Ferrous Iron	U		15.0	50.0

L1170117-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1170117-01 12/14/19 19:20 • (DUP) R3482424-3 12/14/19 19:21

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Ferrous Iron	U	0.000	1	0.000		20

L1170860-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1170860-02 12/14/19 19:37 • (DUP) R3482424-6 12/14/19 19:37

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	ug/l	ug/l		%		%
Ferrous Iron	U	16.0	1	200	J P1	20

Laboratory Control Sample (LCS)

(LCS) R3482424-2 12/14/19 19:05

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Ferrous Iron	1000	901	90.1	85.0-115	

L1170860-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1170860-01 12/14/19 19:36 • (MS) R3482424-4 12/14/19 19:36 • (MSD) R3482424-5 12/14/19 19:36

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Ferrous Iron	1000	2000	2940	2930	94.1	92.4	1	80.0-120			0.580	20

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

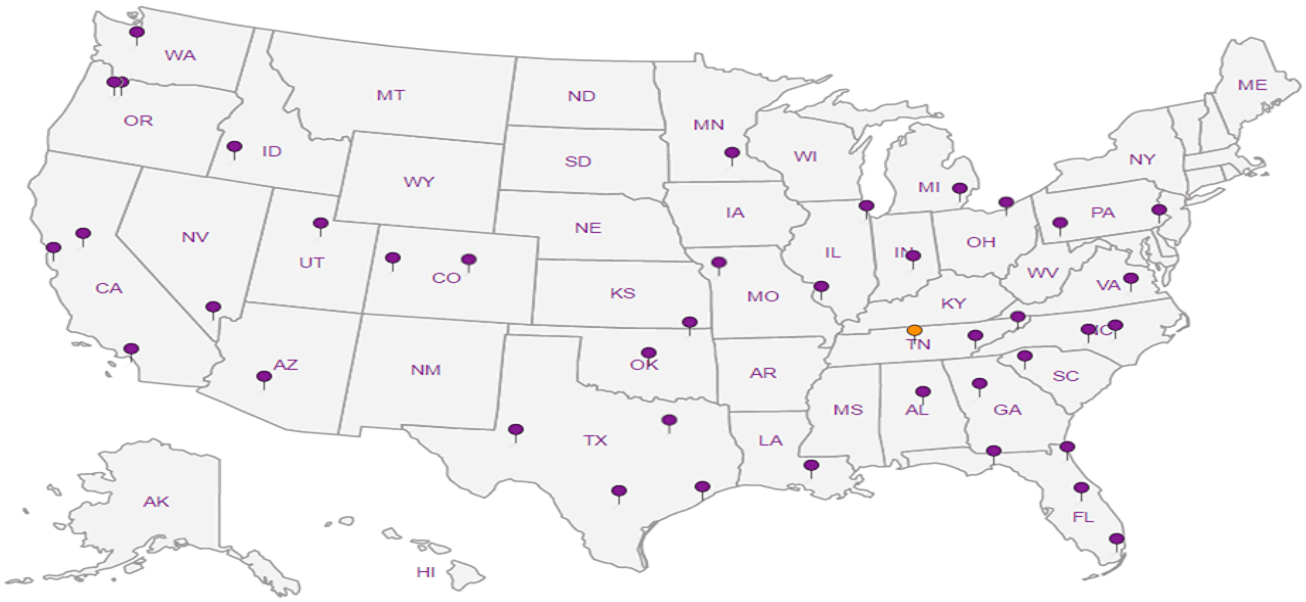
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Pres Chk

Report to: Kyle Haggart

Email To: khaggart@geodesigninc.com

Project Description:

City/State Collected: Astoria, OR

Please Circle: PT MT CT ET

Phone: 503-968-8787
Fax:

Client Project # Bigbeams-1-01-07

Lab Project # GEODESPOR-BIGB10107

Collected by (print): Kyle Haggart

Collected by (signature):

Site/Facility ID #

P.O. #

Quote #

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No of Cntrs	FF Diss RCRA8 6020 250mlHDPE HNO3	NWTPHDX NOSGT 100ml Amb-HCl	NWTPHGX 40mlAmb HCl	PAHs (PAHSIMLVID) 40mlAmb-NoPres-WT	Total RCRA8 6020 250mlHDPE-HNO3	VOCs 8260C 40mlAmb-HCl	Total lead - 6020	D.Schwel Lead - Field Filtered - 6020			Remarks	Sample # (lab only)
MW-1 (111519)		GW		11.15.19	1120	12		X	X			X	X	X				-01
MW-2 (111519)		GW		11.15.19	1235	12		X	X			X	X	X				-02
MW-3 (111519)		GW		11.15.19	1025	12		X	X			X	X	X				-03
MW-4 (111519)		GW		11.15.19	1445	12		X	X			X	X	X				-04
MW-5 (111519)		GW		11.15.19	1340	12		X	X			X	X	X				-05
		GW																

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 1275 8602 1051

Relinquished by : (Signature)

Date: 11.18.19 Time: 1430

Received by: (Signature)

Trip Blank Received: Yes / No
HCl / MeoH
TBR
2

Relinquished by : (Signature)

Date: Time:

Received by: (Signature)

Temp: 0.1 +2.3 °C Bottles Received: 60

If preservation required by Login: Date/Time

Relinquished by : (Signature)

Date: Time:

Received for lab by: (Signature)

Date: 11/19/19 Time: 845

Hold:

Condition: NCF / OK

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Chain of Custody Page ___ of ___

Pace Analytical
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1162531

Table 1215 / 1170028

Acctnum: GEODESPOR

Template: T158969

Prelogin: P740469

PM: 110 - Brian Ford

PB:

Shipped Via:

AV 12/12/19

Andy Vann

From: Brian Ford
Sent: Thursday, December 12, 2019 3:00 PM
To: Project Service; Sample Storage; Brian Ford
Subject: L1162531 *GEODESPOR* re-log

Please re-log L1162531-01 thru -05 for FERUSFE as R5 due 12/19. Log the remaining (1) 100ml Amb-HCl per sample.

Thanks,

Brian Ford
Project Manager
Pace Analytical National Center for Testing & Innovation
12065 Lebanon Road | Mt. Juliet, TN 37122
direct 615.773.9772 | cell 615.881.4570
bford@pacenational.com | pacenational.com

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Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 21, 2019

GeoDesign Inc. - Wilsonville, OR

Sample Delivery Group:	L1170639
Samples Received:	12/13/2019
Project Number:	BIGBEAMS-1-01-07
Description:	

Report To: Kyle Haggart
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Entire Report Reviewed By:

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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Cn: Case Narrative 4

Sr: Sample Results 5

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Gl: Glossary of Terms 20

Al: Accreditations & Locations 21

Sc: Sample Chain of Custody 22

PSVE-1(S) L1170639-01 Air

Collected by: Kyle Haggart
Collected date/time: 12/10/19 09:18
Received date/time: 12/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1399439	2000	12/19/19 17:50	12/19/19 17:50	MBF	Mt. Juliet, TN

PSVE-1(M) L1170639-02 Air

Collected by: Kyle Haggart
Collected date/time: 12/10/19 12:21
Received date/time: 12/13/19 08:45

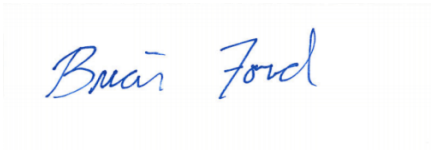
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1398630	80	12/18/19 12:07	12/18/19 12:07	CAW	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG1399439	1000	12/19/19 18:27	12/19/19 18:27	MBF	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG1400262	8000	12/20/19 12:36	12/20/19 12:36	MBF	Mt. Juliet, TN

PSVE-1(E) L1170639-03 Air

Collected by: Kyle Haggart
Collected date/time: 12/10/19 15:40
Received date/time: 12/13/19 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1398630	400	12/18/19 12:43	12/18/19 12:43	CAW	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG1399439	1000	12/19/19 19:04	12/19/19 19:04	MBF	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG1400262	8000	12/20/19 13:19	12/20/19 13:19	MBF	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford
Project Manager

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2500	5940	ND	ND		2000	WG1399439
Allyl chloride	107-05-1	76.53	400	1250	ND	ND		2000	WG1399439
Benzene	71-43-2	78.10	400	1280	46300	148000		2000	WG1399439
Benzyl Chloride	100-44-7	127	400	2080	ND	ND		2000	WG1399439
Bromodichloromethane	75-27-4	164	400	2680	ND	ND		2000	WG1399439
Bromoform	75-25-2	253	1200	12400	ND	ND		2000	WG1399439
Bromomethane	74-83-9	94.90	400	1550	ND	ND		2000	WG1399439
1,3-Butadiene	106-99-0	54.10	4000	8850	ND	ND		2000	WG1399439
Carbon disulfide	75-15-0	76.10	400	1240	ND	ND		2000	WG1399439
Carbon tetrachloride	56-23-5	154	400	2520	ND	ND		2000	WG1399439
Chlorobenzene	108-90-7	113	400	1850	ND	ND		2000	WG1399439
Chloroethane	75-00-3	64.50	400	1060	ND	ND		2000	WG1399439
Chloroform	67-66-3	119	400	1950	ND	ND		2000	WG1399439
Chloromethane	74-87-3	50.50	400	826	ND	ND		2000	WG1399439
2-Chlorotoluene	95-49-8	126	400	2060	ND	ND		2000	WG1399439
Cyclohexane	110-82-7	84.20	400	1380	ND	ND		2000	WG1399439
Dibromochloromethane	124-48-1	208	400	3400	ND	ND		2000	WG1399439
1,2-Dibromoethane	106-93-4	188	400	3080	ND	ND		2000	WG1399439
1,2-Dichlorobenzene	95-50-1	147	400	2400	ND	ND		2000	WG1399439
1,3-Dichlorobenzene	541-73-1	147	400	2400	ND	ND		2000	WG1399439
1,4-Dichlorobenzene	106-46-7	147	400	2400	ND	ND		2000	WG1399439
1,2-Dichloroethane	107-06-2	99	400	1620	ND	ND		2000	WG1399439
1,1-Dichloroethane	75-34-3	98	400	1600	ND	ND		2000	WG1399439
1,1-Dichloroethene	75-35-4	96.90	400	1590	ND	ND		2000	WG1399439
cis-1,2-Dichloroethene	156-59-2	96.90	400	1590	ND	ND		2000	WG1399439
trans-1,2-Dichloroethene	156-60-5	96.90	400	1590	ND	ND		2000	WG1399439
1,2-Dichloropropane	78-87-5	113	400	1850	ND	ND		2000	WG1399439
cis-1,3-Dichloropropene	10061-01-5	111	400	1820	ND	ND		2000	WG1399439
trans-1,3-Dichloropropene	10061-02-6	111	400	1820	ND	ND		2000	WG1399439
1,4-Dioxane	123-91-1	88.10	400	1440	ND	ND		2000	WG1399439
Ethanol	64-17-5	46.10	1260	2380	2040	3850		2000	WG1399439
Ethylbenzene	100-41-4	106	400	1730	9340	40500		2000	WG1399439
4-Ethyltoluene	622-96-8	120	400	1960	505	2480		2000	WG1399439
Trichlorofluoromethane	75-69-4	137.40	400	2250	ND	ND		2000	WG1399439
Dichlorodifluoromethane	75-71-8	120.92	400	1980	ND	ND		2000	WG1399439
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	400	3070	ND	ND		2000	WG1399439
1,2-Dichlorotetrafluoroethane	76-14-2	171	400	2800	ND	ND		2000	WG1399439
Heptane	142-82-5	100	400	1640	75600	309000		2000	WG1399439
Hexachloro-1,3-butadiene	87-68-3	261	1260	13500	ND	ND		2000	WG1399439
n-Hexane	110-54-3	86.20	400	1410	161000	568000		2000	WG1399439
Isopropylbenzene	98-82-8	120.20	400	1970	ND	ND		2000	WG1399439
Methylene Chloride	75-09-2	84.90	400	1390	ND	ND		2000	WG1399439
Methyl Butyl Ketone	591-78-6	100	2500	10200	ND	ND		2000	WG1399439
2-Butanone (MEK)	78-93-3	72.10	2500	7370	ND	ND		2000	WG1399439
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2500	10200	ND	ND		2000	WG1399439
Methyl methacrylate	80-62-6	100.12	400	1640	ND	ND		2000	WG1399439
MTBE	1634-04-4	88.10	400	1440	ND	ND		2000	WG1399439
Naphthalene	91-20-3	128	1260	6600	ND	ND		2000	WG1399439
2-Propanol	67-63-0	60.10	2500	6150	3820	9390		2000	WG1399439
Propene	115-07-1	42.10	800	1380	ND	ND		2000	WG1399439
Styrene	100-42-5	104	400	1700	ND	ND		2000	WG1399439
1,1,2,2-Tetrachloroethane	79-34-5	168	400	2750	ND	ND		2000	WG1399439
Tetrachloroethylene	127-18-4	166	400	2720	ND	ND		2000	WG1399439
Tetrahydrofuran	109-99-9	72.10	400	1180	ND	ND		2000	WG1399439
Toluene	108-88-3	92.10	400	1510	ND	ND		2000	WG1399439
1,2,4-Trichlorobenzene	120-82-1	181	1260	9330	ND	ND		2000	WG1399439

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	400	2180	ND	ND		2000	WG1399439
1,1,2-Trichloroethane	79-00-5	133	400	2180	ND	ND		2000	WG1399439
Trichloroethylene	79-01-6	131	400	2140	ND	ND		2000	WG1399439
1,2,4-Trimethylbenzene	95-63-6	120	400	1960	808	3970		2000	WG1399439
1,3,5-Trimethylbenzene	108-67-8	120	400	1960	ND	ND		2000	WG1399439
2,2,4-Trimethylpentane	540-84-1	114.22	400	1870	74100	346000		2000	WG1399439
Vinyl chloride	75-01-4	62.50	400	1020	ND	ND		2000	WG1399439
Vinyl Bromide	593-60-2	106.95	400	1750	ND	ND		2000	WG1399439
Vinyl acetate	108-05-4	86.10	400	1410	ND	ND		2000	WG1399439
m&p-Xylene	1330-20-7	106	800	3470	9040	39200		2000	WG1399439
o-Xylene	95-47-6	106	400	1730	ND	ND		2000	WG1399439
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	1610000	6650000		2000	WG1399439
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*99.7*				WG1399439

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	100	238	ND	ND		80	WG1398630
Allyl chloride	107-05-1	76.53	16.0	50.1	ND	ND		80	WG1398630
Benzene	71-43-2	78.10	200	639	21100	67400		1000	WG1399439
Benzyl Chloride	100-44-7	127	16.0	83.1	ND	ND		80	WG1398630
Bromodichloromethane	75-27-4	164	16.0	107	ND	ND		80	WG1398630
Bromoform	75-25-2	253	48.0	497	ND	ND		80	WG1398630
Bromomethane	74-83-9	94.90	16.0	62.1	ND	ND		80	WG1398630
1,3-Butadiene	106-99-0	54.10	160	354	ND	ND		80	WG1398630
Carbon disulfide	75-15-0	76.10	16.0	49.8	ND	ND		80	WG1398630
Carbon tetrachloride	56-23-5	154	16.0	101	ND	ND		80	WG1398630
Chlorobenzene	108-90-7	113	16.0	73.9	ND	ND		80	WG1398630
Chloroethane	75-00-3	64.50	16.0	42.2	ND	ND		80	WG1398630
Chloroform	67-66-3	119	16.0	77.9	ND	ND		80	WG1398630
Chloromethane	74-87-3	50.50	16.0	33.0	ND	ND		80	WG1398630
2-Chlorotoluene	95-49-8	126	16.0	82.5	ND	ND		80	WG1398630
Cyclohexane	110-82-7	84.20	200	689	62300	215000		1000	WG1399439
Dibromochloromethane	124-48-1	208	16.0	136	ND	ND		80	WG1398630
1,2-Dibromoethane	106-93-4	188	16.0	123	ND	ND		80	WG1398630
1,2-Dichlorobenzene	95-50-1	147	16.0	96.2	ND	ND		80	WG1398630
1,3-Dichlorobenzene	541-73-1	147	16.0	96.2	ND	ND		80	WG1398630
1,4-Dichlorobenzene	106-46-7	147	16.0	96.2	ND	ND		80	WG1398630
1,2-Dichloroethane	107-06-2	99	16.0	64.8	ND	ND		80	WG1398630
1,1-Dichloroethane	75-34-3	98	16.0	64.1	ND	ND		80	WG1398630
1,1-Dichloroethene	75-35-4	96.90	16.0	63.4	ND	ND		80	WG1398630
cis-1,2-Dichloroethene	156-59-2	96.90	16.0	63.4	ND	ND		80	WG1398630
trans-1,2-Dichloroethene	156-60-5	96.90	16.0	63.4	ND	ND		80	WG1398630
1,2-Dichloropropane	78-87-5	113	16.0	73.9	ND	ND		80	WG1398630
cis-1,3-Dichloropropene	10061-01-5	111	16.0	72.6	ND	ND		80	WG1398630
trans-1,3-Dichloropropene	10061-02-6	111	16.0	72.6	ND	ND		80	WG1398630
1,4-Dioxane	123-91-1	88.10	16.0	57.7	ND	ND		80	WG1398630
Ethanol	64-17-5	46.10	50.4	95.0	111	209		80	WG1398630
Ethylbenzene	100-41-4	106	16.0	69.4	220	954		80	WG1398630
4-Ethyltoluene	622-96-8	120	16.0	78.5	ND	ND		80	WG1398630
Trichlorofluoromethane	75-69-4	137.40	16.0	89.9	ND	ND		80	WG1398630
Dichlorodifluoromethane	75-71-8	120.92	16.0	79.1	ND	ND		80	WG1398630
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	16.0	123	ND	ND		80	WG1398630
1,2-Dichlorotetrafluoroethane	76-14-2	171	16.0	112	ND	ND		80	WG1398630
Heptane	142-82-5	100	200	818	25100	103000		1000	WG1399439
Hexachloro-1,3-butadiene	87-68-3	261	50.4	538	ND	ND		80	WG1398630
n-Hexane	110-54-3	86.20	1600	5640	239000	843000		8000	WG1400262
Isopropylbenzene	98-82-8	120.20	16.0	78.7	ND	ND		80	WG1398630
Methylene Chloride	75-09-2	84.90	16.0	55.6	ND	ND		80	WG1398630
Methyl Butyl Ketone	591-78-6	100	100	409	ND	ND		80	WG1398630
2-Butanone (MEK)	78-93-3	72.10	100	295	ND	ND		80	WG1398630
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	100	409	ND	ND		80	WG1398630
Methyl methacrylate	80-62-6	100.12	16.0	65.5	ND	ND		80	WG1398630
MTBE	1634-04-4	88.10	16.0	57.7	ND	ND		80	WG1398630
Naphthalene	91-20-3	128	50.4	264	ND	ND		80	WG1398630
2-Propanol	67-63-0	60.10	100	246	1680	4130		80	WG1398630
Propene	115-07-1	42.10	32.0	55.1	98.0	169		80	WG1398630
Styrene	100-42-5	104	16.0	68.1	ND	ND		80	WG1398630
1,1,2,2-Tetrachloroethane	79-34-5	168	16.0	110	ND	ND		80	WG1398630
Tetrachloroethylene	127-18-4	166	16.0	109	ND	ND		80	WG1398630
Tetrahydrofuran	109-99-9	72.10	16.0	47.2	ND	ND		80	WG1398630
Toluene	108-88-3	92.10	16.0	60.3	35.2	133		80	WG1398630
1,2,4-Trichlorobenzene	120-82-1	181	50.4	373	ND	ND		80	WG1398630

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	16.0	87.0	ND	ND		80	WG1398630
1,1,2-Trichloroethane	79-00-5	133	16.0	87.0	ND	ND		80	WG1398630
Trichloroethylene	79-01-6	131	16.0	85.7	ND	ND		80	WG1398630
1,2,4-Trimethylbenzene	95-63-6	120	16.0	78.5	27.8	136		80	WG1398630
1,3,5-Trimethylbenzene	108-67-8	120	16.0	78.5	ND	ND		80	WG1398630
2,2,4-Trimethylpentane	540-84-1	114.22	200	934	42800	200000		1000	WG1399439
Vinyl chloride	75-01-4	62.50	16.0	40.9	ND	ND		80	WG1398630
Vinyl Bromide	593-60-2	106.95	16.0	70.0	ND	ND		80	WG1398630
Vinyl acetate	108-05-4	86.10	16.0	56.3	ND	ND		80	WG1398630
m&p-Xylene	1330-20-7	106	32.0	139	194	841		80	WG1398630
o-Xylene	95-47-6	106	16.0	69.4	ND	ND		80	WG1398630
TPH (GC/MS) Low Fraction	8006-61-9	101	16000	66100	319000	1320000		80	WG1398630
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*102*				WG1398630
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*101*				WG1399439
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*93.1*				WG1400262

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	500	1190	ND	ND		400	WG1398630
Allyl chloride	107-05-1	76.53	80.0	250	ND	ND		400	WG1398630
Benzene	71-43-2	78.10	80.0	256	14600	46600		400	WG1398630
Benzyl Chloride	100-44-7	127	80.0	416	ND	ND		400	WG1398630
Bromodichloromethane	75-27-4	164	80.0	537	ND	ND		400	WG1398630
Bromoform	75-25-2	253	240	2480	ND	ND		400	WG1398630
Bromomethane	74-83-9	94.90	80.0	311	ND	ND		400	WG1398630
1,3-Butadiene	106-99-0	54.10	800	1770	ND	ND		400	WG1398630
Carbon disulfide	75-15-0	76.10	80.0	249	ND	ND		400	WG1398630
Carbon tetrachloride	56-23-5	154	80.0	504	ND	ND		400	WG1398630
Chlorobenzene	108-90-7	113	80.0	370	ND	ND		400	WG1398630
Chloroethane	75-00-3	64.50	80.0	211	ND	ND		400	WG1398630
Chloroform	67-66-3	119	80.0	389	ND	ND		400	WG1398630
Chloromethane	74-87-3	50.50	80.0	165	ND	ND		400	WG1398630
2-Chlorotoluene	95-49-8	126	80.0	412	ND	ND		400	WG1398630
Cyclohexane	110-82-7	84.20	200	689	50400	174000		1000	WG1399439
Dibromochloromethane	124-48-1	208	80.0	681	ND	ND		400	WG1398630
1,2-Dibromoethane	106-93-4	188	80.0	615	ND	ND		400	WG1398630
1,2-Dichlorobenzene	95-50-1	147	80.0	481	ND	ND		400	WG1398630
1,3-Dichlorobenzene	541-73-1	147	80.0	481	ND	ND		400	WG1398630
1,4-Dichlorobenzene	106-46-7	147	80.0	481	ND	ND		400	WG1398630
1,2-Dichloroethane	107-06-2	99	80.0	324	ND	ND		400	WG1398630
1,1-Dichloroethane	75-34-3	98	80.0	321	ND	ND		400	WG1398630
1,1-Dichloroethene	75-35-4	96.90	80.0	317	ND	ND		400	WG1398630
cis-1,2-Dichloroethene	156-59-2	96.90	80.0	317	ND	ND		400	WG1398630
trans-1,2-Dichloroethene	156-60-5	96.90	80.0	317	ND	ND		400	WG1398630
1,2-Dichloropropane	78-87-5	113	80.0	370	ND	ND		400	WG1398630
cis-1,3-Dichloropropene	10061-01-5	111	80.0	363	ND	ND		400	WG1398630
trans-1,3-Dichloropropene	10061-02-6	111	80.0	363	ND	ND		400	WG1398630
1,4-Dioxane	123-91-1	88.10	80.0	288	ND	ND		400	WG1398630
Ethanol	64-17-5	46.10	252	475	271	511		400	WG1398630
Ethylbenzene	100-41-4	106	80.0	347	332	1440		400	WG1398630
4-Ethyltoluene	622-96-8	120	80.0	393	ND	ND		400	WG1398630
Trichlorofluoromethane	75-69-4	137.40	80.0	450	ND	ND		400	WG1398630
Dichlorodifluoromethane	75-71-8	120.92	80.0	396	ND	ND		400	WG1398630
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	80.0	613	ND	ND		400	WG1398630
1,2-Dichlorotetrafluoroethane	76-14-2	171	80.0	560	ND	ND		400	WG1398630
Heptane	142-82-5	100	80.0	327	18400	75300		400	WG1398630
Hexachloro-1,3-butadiene	87-68-3	261	252	2690	ND	ND		400	WG1398630
n-Hexane	110-54-3	86.20	1600	5640	147000	518000		8000	WG1400262
Isopropylbenzene	98-82-8	120.20	80.0	393	ND	ND		400	WG1398630
Methylene Chloride	75-09-2	84.90	80.0	278	ND	ND		400	WG1398630
Methyl Butyl Ketone	591-78-6	100	500	2040	ND	ND		400	WG1398630
2-Butanone (MEK)	78-93-3	72.10	500	1470	ND	ND		400	WG1398630
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	500	2050	ND	ND		400	WG1398630
Methyl methacrylate	80-62-6	100.12	80.0	328	ND	ND		400	WG1398630
MTBE	1634-04-4	88.10	80.0	288	ND	ND		400	WG1398630
Naphthalene	91-20-3	128	252	1320	ND	ND		400	WG1398630
2-Propanol	67-63-0	60.10	500	1230	8200	20200		400	WG1398630
Propene	115-07-1	42.10	160	276	ND	ND		400	WG1398630
Styrene	100-42-5	104	80.0	340	ND	ND		400	WG1398630
1,1,2,2-Tetrachloroethane	79-34-5	168	80.0	550	ND	ND		400	WG1398630
Tetrachloroethylene	127-18-4	166	80.0	543	ND	ND		400	WG1398630
Tetrahydrofuran	109-99-9	72.10	80.0	236	ND	ND		400	WG1398630
Toluene	108-88-3	92.10	80.0	301	ND	ND		400	WG1398630
1,2,4-Trichlorobenzene	120-82-1	181	252	1870	ND	ND		400	WG1398630

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	80.0	435	ND	ND		400	WG1398630
1,1,2-Trichloroethane	79-00-5	133	80.0	435	ND	ND		400	WG1398630
Trichloroethylene	79-01-6	131	80.0	429	ND	ND		400	WG1398630
1,2,4-Trimethylbenzene	95-63-6	120	80.0	393	ND	ND		400	WG1398630
1,3,5-Trimethylbenzene	108-67-8	120	80.0	393	ND	ND		400	WG1398630
2,2,4-Trimethylpentane	540-84-1	114.22	80.0	374	30800	144000		400	WG1398630
Vinyl chloride	75-01-4	62.50	80.0	204	ND	ND		400	WG1398630
Vinyl Bromide	593-60-2	106.95	80.0	350	ND	ND		400	WG1398630
Vinyl acetate	108-05-4	86.10	80.0	282	ND	ND		400	WG1398630
m&p-Xylene	1330-20-7	106	160	694	285	1240		400	WG1398630
o-Xylene	95-47-6	106	80.0	347	ND	ND		400	WG1398630
TPH (GC/MS) Low Fraction	8006-61-9	101	80000	330000	427000	1760000		400	WG1398630
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*99.6*				WG1398630
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*99.4*				WG1399439
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*97.7*				WG1400262

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3484065-3 12/18/19 10:29

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.0569	1.25
Allyl Chloride	U		0.0546	0.200
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
1,3-Butadiene	U		0.0563	2.00
Carbon disulfide	U		0.0544	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
4-Ethyltoluene	U		0.0666	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Heptane	U		0.0626	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
Isopropylbenzene	U		0.0563	0.200
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25

Method Blank (MB)

(MB) R3484065-3 12/18/19 10:29

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
2-Propanol	U		0.0882	1.25
Propene	U		0.0932	0.400
Styrene	U		0.0465	0.200
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
2,2,4-Trimethylpentane	U		0.0456	0.200
Vinyl chloride	U		0.0457	0.200
Vinyl Bromide	U		0.0727	0.200
Vinyl acetate	U		0.0639	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
TPH (GC/MS) Low Fraction	U		6.91	200
(S) 1,4-Bromofluorobenzene	*87.5*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3484065-1 12/18/19 09:09 • (LCSD) R3484065-2 12/18/19 09:50

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.12	3.06	83.2	81.6	55.0-148			1.94	25
Propene	3.75	3.46	3.40	92.3	90.7	64.0-144			1.75	25
Dichlorodifluoromethane	3.75	3.78	3.71	101	98.9	64.0-139			1.87	25
1,2-Dichlorotetrafluoroethane	3.75	3.73	3.65	99.5	97.3	70.0-130			2.17	25
Chloromethane	3.75	3.49	3.40	93.1	90.7	70.0-130			2.61	25
Vinyl chloride	3.75	3.74	3.62	99.7	96.5	70.0-130			3.26	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3484065-1 12/18/19 09:09 • (LCSD) R3484065-2 12/18/19 09:50

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,3-Butadiene	3.75	3.71	3.74	98.9	99.7	70.0-130			0.805	25
Bromomethane	3.75	3.73	3.71	99.5	98.9	70.0-130			0.538	25
Chloroethane	3.75	3.67	3.65	97.9	97.3	70.0-130			0.546	25
Trichlorofluoromethane	3.75	3.86	3.78	103	101	70.0-130			2.09	25
1,1,2-Trichlorotrifluoroethane	3.75	3.75	3.69	100	98.4	70.0-130			1.61	25
1,1-Dichloroethene	3.75	3.72	3.73	99.2	99.5	70.0-130			0.268	25
1,1-Dichloroethane	3.75	3.69	3.63	98.4	96.8	70.0-130			1.64	25
Acetone	3.75	3.59	3.59	95.7	95.7	70.0-130			0.000	25
2-Propanol	3.75	3.61	3.54	96.3	94.4	70.0-139			1.96	25
Carbon disulfide	3.75	3.75	3.69	100	98.4	70.0-130			1.61	25
Methylene Chloride	3.75	3.61	3.61	96.3	96.3	70.0-130			0.000	25
MTBE	3.75	3.73	3.73	99.5	99.5	70.0-130			0.000	25
trans-1,2-Dichloroethene	3.75	3.69	3.64	98.4	97.1	70.0-130			1.36	25
Vinyl acetate	3.75	3.69	3.74	98.4	99.7	70.0-130			1.35	25
Methyl Ethyl Ketone	3.75	3.70	3.69	98.7	98.4	70.0-130			0.271	25
cis-1,2-Dichloroethene	3.75	3.74	3.70	99.7	98.7	70.0-130			1.08	25
Chloroform	3.75	3.78	3.69	101	98.4	70.0-130			2.41	25
1,1,1-Trichloroethane	3.75	3.77	3.73	101	99.5	70.0-130			1.07	25
Carbon tetrachloride	3.75	3.80	3.73	101	99.5	70.0-130			1.86	25
Benzene	3.75	3.76	3.72	100	99.2	70.0-130			1.07	25
1,2-Dichloroethane	3.75	3.85	3.83	103	102	70.0-130			0.521	25
Heptane	3.75	3.80	3.87	101	103	70.0-130			1.83	25
Trichloroethylene	3.75	3.70	3.69	98.7	98.4	70.0-130			0.271	25
1,2-Dichloropropane	3.75	3.75	3.66	100	97.6	70.0-130			2.43	25
1,4-Dioxane	3.75	3.63	3.74	96.8	99.7	70.0-140			2.99	25
Bromodichloromethane	3.75	3.82	3.76	102	100	70.0-130			1.58	25
cis-1,3-Dichloropropene	3.75	3.68	3.64	98.1	97.1	70.0-130			1.09	25
4-Methyl-2-pentanone (MIBK)	3.75	3.86	3.82	103	102	70.0-139			1.04	25
Toluene	3.75	3.85	3.79	103	101	70.0-130			1.57	25
trans-1,3-Dichloropropene	3.75	3.81	3.77	102	101	70.0-130			1.06	25
1,1,2-Trichloroethane	3.75	3.76	3.73	100	99.5	70.0-130			0.801	25
Tetrachloroethylene	3.75	3.93	3.90	105	104	70.0-130			0.766	25
Methyl Butyl Ketone	3.75	3.90	3.91	104	104	70.0-149			0.256	25
Dibromochloromethane	3.75	3.91	3.89	104	104	70.0-130			0.513	25
1,2-Dibromoethane	3.75	3.80	3.78	101	101	70.0-130			0.528	25
Chlorobenzene	3.75	3.83	3.81	102	102	70.0-130			0.524	25
Ethylbenzene	3.75	3.84	3.77	102	101	70.0-130			1.84	25
m&p-Xylene	7.50	7.83	7.65	104	102	70.0-130			2.33	25
o-Xylene	3.75	3.81	3.78	102	101	70.0-130			0.791	25
Styrene	3.75	4.04	3.91	108	104	70.0-130			3.27	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3484065-1 12/18/19 09:09 • (LCSD) R3484065-2 12/18/19 09:50

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromoform	3.75	3.90	3.78	104	101	70.0-130			3.13	25
1,1,2,2-Tetrachloroethane	3.75	3.69	3.64	98.4	97.1	70.0-130			1.36	25
4-Ethyltoluene	3.75	3.95	3.89	105	104	70.0-130			1.53	25
1,3,5-Trimethylbenzene	3.75	3.90	3.88	104	103	70.0-130			0.514	25
1,2,4-Trimethylbenzene	3.75	4.03	4.00	107	107	70.0-130			0.747	25
1,3-Dichlorobenzene	3.75	3.88	3.66	103	97.6	70.0-130			5.84	25
1,4-Dichlorobenzene	3.75	3.95	3.62	105	96.5	70.0-130			8.72	25
Benzyl Chloride	3.75	3.66	3.61	97.6	96.3	70.0-152			1.38	25
1,2-Dichlorobenzene	3.75	3.91	3.78	104	101	70.0-130			3.38	25
1,2,4-Trichlorobenzene	3.75	3.98	4.00	106	107	70.0-160			0.501	25
Hexachloro-1,3-butadiene	3.75	4.07	4.01	109	107	70.0-151			1.49	25
Naphthalene	3.75	4.22	4.25	113	113	70.0-159			0.708	25
TPH (GC/MS) Low Fraction	203	223	218	110	107	70.0-130			2.27	25
Allyl Chloride	3.75	3.73	3.73	99.5	99.5	70.0-130			0.000	25
2-Chlorotoluene	3.75	3.92	3.79	105	101	70.0-130			3.37	25
Methyl Methacrylate	3.75	3.83	3.81	102	102	70.0-130			0.524	25
Tetrahydrofuran	3.75	3.59	3.57	95.7	95.2	70.0-137			0.559	25
2,2,4-Trimethylpentane	3.75	3.68	3.70	98.1	98.7	70.0-130			0.542	25
Vinyl Bromide	3.75	3.78	3.71	101	98.9	70.0-130			1.87	25
Isopropylbenzene	3.75	3.99	3.91	106	104	70.0-130			2.03	25
(S) 1,4-Bromofluorobenzene				*96.2*	*97.0*	*60.0-140*				

Method Blank (MB)

(MB) R3484271-3 12/19/19 11:30

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	0.0941	J	0.0569	1.25
Allyl Chloride	U		0.0546	0.200
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
1,3-Butadiene	U		0.0563	2.00
Carbon disulfide	U		0.0544	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Cyclohexane	U		0.0534	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
4-Ethyltoluene	U		0.0666	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200
Heptane	U		0.0626	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200

Method Blank (MB)

(MB) R3484271-3 12/19/19 11:30

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	U		0.154	0.630
2-Propanol	U		0.0882	1.25
Propene	U		0.0932	0.400
Styrene	U		0.0465	0.200
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
2,2,4-Trimethylpentane	U		0.0456	0.200
Vinyl chloride	U		0.0457	0.200
Vinyl Bromide	U		0.0727	0.200
Vinyl acetate	U		0.0639	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
TPH (GC/MS) Low Fraction	10.9	J	6.91	200
(S) 1,4-Bromofluorobenzene	*100*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3484271-1 12/19/19 10:14 • (LCSD) R3484271-2 12/19/19 10:53

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.24	3.37	86.4	89.9	55.0-148			3.93	25
Propene	3.75	3.37	3.37	89.9	89.9	64.0-144			0.000	25
Dichlorodifluoromethane	3.75	3.92	3.93	105	105	64.0-139			0.255	25
1,2-Dichlorotetrafluoroethane	3.75	3.78	3.78	101	101	70.0-130			0.000	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3484271-1 12/19/19 10:14 • (LCSD) R3484271-2 12/19/19 10:53

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloromethane	3.75	3.31	3.18	88.3	84.8	70.0-130			4.01	25
Vinyl chloride	3.75	3.97	4.01	106	107	70.0-130			1.00	25
1,3-Butadiene	3.75	4.00	3.97	107	106	70.0-130			0.753	25
Bromomethane	3.75	4.26	4.28	114	114	70.0-130			0.468	25
Chloroethane	3.75	4.09	4.08	109	109	70.0-130			0.245	25
Trichlorofluoromethane	3.75	4.07	4.06	109	108	70.0-130			0.246	25
1,1,2-Trichlorotrifluoroethane	3.75	3.83	3.75	102	100	70.0-130			2.11	25
1,1-Dichloroethene	3.75	3.75	3.77	100	101	70.0-130			0.532	25
1,1-Dichloroethane	3.75	3.77	3.74	101	99.7	70.0-130			0.799	25
Acetone	3.75	3.51	3.49	93.6	93.1	70.0-130			0.571	25
2-Propanol	3.75	3.71	3.64	98.9	97.1	70.0-139			1.90	25
Carbon disulfide	3.75	3.78	3.77	101	101	70.0-130			0.265	25
Methylene Chloride	3.75	3.77	3.72	101	99.2	70.0-130			1.34	25
MTBE	3.75	3.81	3.73	102	99.5	70.0-130			2.12	25
trans-1,2-Dichloroethene	3.75	3.73	3.71	99.5	98.9	70.0-130			0.538	25
n-Hexane	3.75	3.68	3.62	98.1	96.5	70.0-130			1.64	25
Vinyl acetate	3.75	3.76	3.70	100	98.7	70.0-130			1.61	25
Methyl Ethyl Ketone	3.75	3.56	3.53	94.9	94.1	70.0-130			0.846	25
cis-1,2-Dichloroethene	3.75	3.74	3.70	99.7	98.7	70.0-130			1.08	25
Chloroform	3.75	3.84	3.78	102	101	70.0-130			1.57	25
Cyclohexane	3.75	3.69	3.65	98.4	97.3	70.0-130			1.09	25
1,1,1-Trichloroethane	3.75	3.84	3.82	102	102	70.0-130			0.522	25
Carbon tetrachloride	3.75	3.87	3.82	103	102	70.0-130			1.30	25
Benzene	3.75	3.64	3.65	97.1	97.3	70.0-130			0.274	25
1,2-Dichloroethane	3.75	3.89	3.87	104	103	70.0-130			0.515	25
Heptane	3.75	3.67	3.67	97.9	97.9	70.0-130			0.000	25
Trichloroethylene	3.75	3.68	3.72	98.1	99.2	70.0-130			1.08	25
1,2-Dichloropropane	3.75	3.58	3.62	95.5	96.5	70.0-130			1.11	25
1,4-Dioxane	3.75	3.68	3.70	98.1	98.7	70.0-140			0.542	25
Bromodichloromethane	3.75	3.75	3.77	100	101	70.0-130			0.532	25
cis-1,3-Dichloropropene	3.75	3.63	3.66	96.8	97.6	70.0-130			0.823	25
4-Methyl-2-pentanone (MIBK)	3.75	3.67	3.68	97.9	98.1	70.0-139			0.272	25
Toluene	3.75	3.65	3.67	97.3	97.9	70.0-130			0.546	25
trans-1,3-Dichloropropene	3.75	3.63	3.66	96.8	97.6	70.0-130			0.823	25
1,1,2-Trichloroethane	3.75	3.67	3.70	97.9	98.7	70.0-130			0.814	25
Tetrachloroethylene	3.75	3.68	3.74	98.1	99.7	70.0-130			1.62	25
Methyl Butyl Ketone	3.75	3.70	3.80	98.7	101	70.0-149			2.67	25
Dibromochloromethane	3.75	3.70	3.70	98.7	98.7	70.0-130			0.000	25
1,2-Dibromoethane	3.75	3.67	3.74	97.9	99.7	70.0-130			1.89	25
Chlorobenzene	3.75	3.67	3.73	97.9	99.5	70.0-130			1.62	25

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3484271-1 12/19/19 10:14 • (LCSD) R3484271-2 12/19/19 10:53

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylbenzene	3.75	3.80	3.84	101	102	70.0-130			1.05	25
m&p-Xylene	7.50	7.62	7.67	102	102	70.0-130			0.654	25
o-Xylene	3.75	3.75	3.77	100	101	70.0-130			0.532	25
Styrene	3.75	3.66	3.70	97.6	98.7	70.0-130			1.09	25
Bromoform	3.75	3.74	3.77	99.7	101	70.0-130			0.799	25
1,1,2,2-Tetrachloroethane	3.75	3.69	3.74	98.4	99.7	70.0-130			1.35	25
4-Ethyltoluene	3.75	3.72	3.80	99.2	101	70.0-130			2.13	25
1,3,5-Trimethylbenzene	3.75	3.73	3.78	99.5	101	70.0-130			1.33	25
1,2,4-Trimethylbenzene	3.75	3.74	3.79	99.7	101	70.0-130			1.33	25
1,3-Dichlorobenzene	3.75	3.77	3.81	101	102	70.0-130			1.06	25
1,4-Dichlorobenzene	3.75	3.87	3.89	103	104	70.0-130			0.515	25
Benzyl Chloride	3.75	3.71	3.73	98.9	99.5	70.0-152			0.538	25
1,2-Dichlorobenzene	3.75	3.72	3.79	99.2	101	70.0-130			1.86	25
1,2,4-Trichlorobenzene	3.75	3.79	3.91	101	104	70.0-160			3.12	25
Hexachloro-1,3-butadiene	3.75	3.73	3.78	99.5	101	70.0-151			1.33	25
Naphthalene	3.75	3.90	3.96	104	106	70.0-159			1.53	25
TPH (GC/MS) Low Fraction	203	225	221	111	109	70.0-130			1.79	25
Allyl Chloride	3.75	3.64	3.56	97.1	94.9	70.0-130			2.22	25
2-Chlorotoluene	3.75	3.77	3.77	101	101	70.0-130			0.000	25
Methyl Methacrylate	3.75	3.42	3.56	91.2	94.9	70.0-130			4.01	25
Tetrahydrofuran	3.75	3.74	3.64	99.7	97.1	70.0-137			2.71	25
2,2,4-Trimethylpentane	3.75	3.69	3.66	98.4	97.6	70.0-130			0.816	25
Vinyl Bromide	3.75	4.14	3.95	110	105	70.0-130			4.70	25
Isopropylbenzene	3.75	3.76	3.79	100	101	70.0-130			0.795	25
(S) 1,4-Bromofluorobenzene				*101*	*101*	*60.0-140*				

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3484633-3 12/20/19 10:56

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
n-Hexane	U		0.0457	0.200
(S) 1,4-Bromofluorobenzene	*93.1*			*60.0-140*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3484633-1 12/20/19 09:26 • (LCSD) R3484633-2 12/20/19 10:12

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
n-Hexane	3.75	4.15	4.19	111	112	70.0-130			0.959	25
(S) 1,4-Bromofluorobenzene				*97.6*	*97.4*	*60.0-140*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

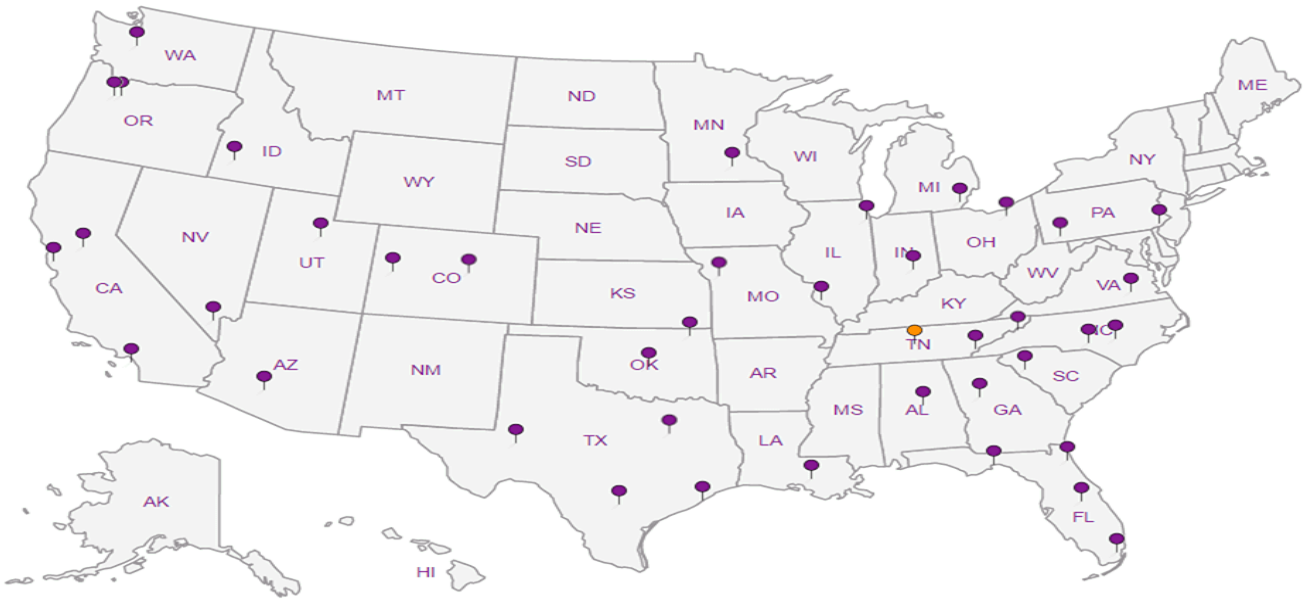
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Report to: Kyle Haggart

Email To: khaggart@geodesigninc.com

Project Description:

City/State Collected: Astoria OR

Please Circle: PT MT CT ET

Phone: 503-968-8787
Fax:

Client Project # Big Beams 1-d-A

Lab Project # GEODESPOR-HAGGART

Collected by (print): Kyle Haggart

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Pres Chk

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	VOCs TO-15 Summa	Remarks	Sample # (lab only)
PSVE-1(S)		Air		12.10.19	918	1	X		-01
PSVE-1(M)		Air		12.10.19	1224	1	X		02
PSVE-1(E)		Air		12.10.19	1540	1	X		03
		Air							
		Air							

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1170639

Table #

Acctnum: GEODESPOR

Template: T159576

Prelogin: P742137

PM: 110 - Brian Ford

PB: CSC 11/21/19

Shipped Via: FedEX Saver

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx ✓ Courier _____

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

	Date:	Time:		
Relinquished by : (Signature)	12.12.19	1000	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: AWD °C Bottles Received: 3+1
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 12/13/19 Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 20, 2019

GeoDesign Inc. - Wilsonville, OR

Sample Delivery Group:	L1171180
Samples Received:	12/06/2019
Project Number:	BIGBEAMS-1-01-07
Description:	

Report To: Kyle Haggart
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Entire Report Reviewed By:

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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DP-1(7-8) L1171180-01 Solid

Collected by: Kyle Haggart | Collected date/time: 12/02/19 11:10 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392815	1	12/09/19 10:58	12/09/19 11:10	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1397551	1	12/16/19 21:51	12/17/19 02:47	AAT	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1397551	20	12/16/19 21:51	12/18/19 04:52	AAT	Mt. Juliet, TN

DP-2(2-3) L1171180-02 Solid

Collected by: Kyle Haggart | Collected date/time: 12/02/19 11:25 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392815	1	12/09/19 10:58	12/09/19 11:10	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1397551	1	12/16/19 21:49	12/17/19 02:26	AAT	Mt. Juliet, TN

MW-6(6-7) L1171180-03 Solid

Collected by: Kyle Haggart | Collected date/time: 12/02/19 14:10 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392815	1	12/09/19 10:58	12/09/19 11:10	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1397551	1	12/16/19 21:49	12/17/19 01:45	AAT	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1397551	20	12/16/19 21:49	12/18/19 04:31	AAT	Mt. Juliet, TN

DP-7(5-6) L1171180-04 Solid

Collected by: Kyle Haggart | Collected date/time: 12/03/19 10:20 | Received date/time: 12/06/19 08:30

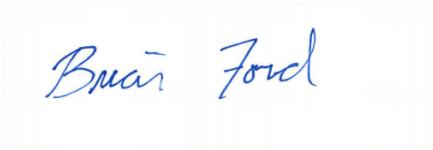
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1392817	1	12/09/19 10:47	12/09/19 10:55	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1397551	1	12/16/19 21:50	12/17/19 03:48	AAT	Mt. Juliet, TN

DP-13(1.5-2.5) L1171180-05 Solid

Collected by: Kyle Haggart | Collected date/time: 12/04/19 11:20 | Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1395160	1	12/12/19 07:50	12/12/19 08:05	JAV	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1397551	1	12/16/19 21:50	12/17/19 02:05	AAT	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford
Project Manager

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.2		1	12/09/2019 11:10	WG1392815

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Anthracene	0.302	J5	0.00651	1	12/17/2019 02:47	WG1397551
Acenaphthene	0.412	V	0.00651	1	12/17/2019 02:47	WG1397551
Acenaphthylene	ND	J5	0.00651	1	12/17/2019 02:47	WG1397551
Benzo(a)anthracene	0.0252		0.00651	1	12/17/2019 02:47	WG1397551
Benzo(a)pyrene	0.0229		0.00651	1	12/17/2019 02:47	WG1397551
Benzo(b)fluoranthene	0.0227		0.00651	1	12/17/2019 02:47	WG1397551
Benzo(g,h,i)perylene	0.0202		0.00651	1	12/17/2019 02:47	WG1397551
Benzo(k)fluoranthene	ND		0.00651	1	12/17/2019 02:47	WG1397551
Chrysene	0.0334	J5	0.00651	1	12/17/2019 02:47	WG1397551
Dibenz(a,h)anthracene	ND		0.00651	1	12/17/2019 02:47	WG1397551
Fluoranthene	0.0447		0.00651	1	12/17/2019 02:47	WG1397551
Fluorene	0.449	V	0.00651	1	12/17/2019 02:47	WG1397551
Indeno(1,2,3-cd)pyrene	ND		0.00651	1	12/17/2019 02:47	WG1397551
Naphthalene	5.57		0.434	20	12/18/2019 04:52	WG1397551
Phenanthrene	1.16	J3 V	0.00651	1	12/17/2019 02:47	WG1397551
Pyrene	0.138	J5	0.00651	1	12/17/2019 02:47	WG1397551
1-Methylnaphthalene	3.88		0.434	20	12/18/2019 04:52	WG1397551
2-Methylnaphthalene	7.16		0.434	20	12/18/2019 04:52	WG1397551
2-Chloronaphthalene	ND		0.0217	1	12/17/2019 02:47	WG1397551
(S) Nitrobenzene-d5	*115*		*14.0-149*		*12/17/2019 02:47*	WG1397551
(S) Nitrobenzene-d5	*108*	J7	*14.0-149*		*12/18/2019 04:52*	WG1397551
(S) 2-Fluorobiphenyl	*97.2*	J7	*34.0-125*		*12/18/2019 04:52*	WG1397551
(S) 2-Fluorobiphenyl	*72.1*		*34.0-125*		*12/17/2019 02:47*	WG1397551
(S) p-Terphenyl-d14	*90.0*		*23.0-120*		*12/17/2019 02:47*	WG1397551
(S) p-Terphenyl-d14	*92.2*	J7	*23.0-120*		*12/18/2019 04:52*	WG1397551

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.8		1	12/09/2019 11:10	WG1392815

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Anthracene	ND		0.00654	1	12/17/2019 02:26	WG1397551
Acenaphthene	ND		0.00654	1	12/17/2019 02:26	WG1397551
Acenaphthylene	ND		0.00654	1	12/17/2019 02:26	WG1397551
Benzo(a)anthracene	ND		0.00654	1	12/17/2019 02:26	WG1397551
Benzo(a)pyrene	ND		0.00654	1	12/17/2019 02:26	WG1397551
Benzo(b)fluoranthene	ND		0.00654	1	12/17/2019 02:26	WG1397551
Benzo(g,h,i)perylene	ND		0.00654	1	12/17/2019 02:26	WG1397551
Benzo(k)fluoranthene	ND		0.00654	1	12/17/2019 02:26	WG1397551
Chrysene	ND		0.00654	1	12/17/2019 02:26	WG1397551
Dibenz(a,h)anthracene	ND		0.00654	1	12/17/2019 02:26	WG1397551
Fluoranthene	ND		0.00654	1	12/17/2019 02:26	WG1397551
Fluorene	ND		0.00654	1	12/17/2019 02:26	WG1397551
Indeno(1,2,3-cd)pyrene	ND		0.00654	1	12/17/2019 02:26	WG1397551
Naphthalene	ND		0.0218	1	12/17/2019 02:26	WG1397551
Phenanthrene	ND		0.00654	1	12/17/2019 02:26	WG1397551
Pyrene	ND		0.00654	1	12/17/2019 02:26	WG1397551
1-Methylnaphthalene	ND		0.0218	1	12/17/2019 02:26	WG1397551
2-Methylnaphthalene	ND		0.0218	1	12/17/2019 02:26	WG1397551
2-Chloronaphthalene	ND		0.0218	1	12/17/2019 02:26	WG1397551
(S) Nitrobenzene-d5	*119*		*14.0-149*		*12/17/2019 02:26*	WG1397551
(S) 2-Fluorobiphenyl	*102*		*34.0-125*		*12/17/2019 02:26*	WG1397551
(S) p-Terphenyl-d14	*122*	J1	*23.0-120*		*12/17/2019 02:26*	WG1397551

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.1		1	12/09/2019 11:10	WG1392815

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Anthracene	0.175		0.00644	1	12/17/2019 01:45	WG1397551
Acenaphthene	0.314		0.00644	1	12/17/2019 01:45	WG1397551
Acenaphthylene	ND		0.00644	1	12/17/2019 01:45	WG1397551
Benzo(a)anthracene	0.0499		0.00644	1	12/17/2019 01:45	WG1397551
Benzo(a)pyrene	0.0223		0.00644	1	12/17/2019 01:45	WG1397551
Benzo(b)fluoranthene	0.0294		0.00644	1	12/17/2019 01:45	WG1397551
Benzo(g,h,i)perylene	0.0171		0.00644	1	12/17/2019 01:45	WG1397551
Benzo(k)fluoranthene	0.00807		0.00644	1	12/17/2019 01:45	WG1397551
Chrysene	0.0448		0.00644	1	12/17/2019 01:45	WG1397551
Dibenz(a,h)anthracene	ND		0.00644	1	12/17/2019 01:45	WG1397551
Fluoranthene	0.266		0.00644	1	12/17/2019 01:45	WG1397551
Fluorene	0.334		0.00644	1	12/17/2019 01:45	WG1397551
Indeno(1,2,3-cd)pyrene	0.00898		0.00644	1	12/17/2019 01:45	WG1397551
Naphthalene	19.9		0.430	20	12/18/2019 04:31	WG1397551
Phenanthrene	0.649		0.00644	1	12/17/2019 01:45	WG1397551
Pyrene	0.183		0.00644	1	12/17/2019 01:45	WG1397551
1-Methylnaphthalene	11.5		0.430	20	12/18/2019 04:31	WG1397551
2-Methylnaphthalene	23.8		0.430	20	12/18/2019 04:31	WG1397551
2-Chloronaphthalene	ND		0.0215	1	12/17/2019 01:45	WG1397551
(S) Nitrobenzene-d5	*231*	J7	*14.0-149*		*12/18/2019 04:31*	WG1397551
(S) Nitrobenzene-d5	*0.000*	J2	*14.0-149*		*12/17/2019 01:45*	WG1397551
(S) 2-Fluorobiphenyl	*96.9*		*34.0-125*		*12/17/2019 01:45*	WG1397551
(S) 2-Fluorobiphenyl	*97.4*	J7	*34.0-125*		*12/18/2019 04:31*	WG1397551
(S) p-Terphenyl-d14	*104*		*23.0-120*		*12/17/2019 01:45*	WG1397551
(S) p-Terphenyl-d14	*100*	J7	*23.0-120*		*12/18/2019 04:31*	WG1397551

Sample Narrative:

L1171180-03 WG1397551: Surrogate failure due to matrix interference

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.6		1	12/09/2019 10:55	WG1392817

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Anthracene	0.0224		0.00662	1	12/17/2019 03:48	WG1397551
Acenaphthene	ND		0.00662	1	12/17/2019 03:48	WG1397551
Acenaphthylene	0.0116		0.00662	1	12/17/2019 03:48	WG1397551
Benzo(a)anthracene	0.00797		0.00662	1	12/17/2019 03:48	WG1397551
Benzo(a)pyrene	ND		0.00662	1	12/17/2019 03:48	WG1397551
Benzo(b)fluoranthene	0.0181		0.00662	1	12/17/2019 03:48	WG1397551
Benzo(g,h,i)perylene	0.0146		0.00662	1	12/17/2019 03:48	WG1397551
Benzo(k)fluoranthene	ND		0.00662	1	12/17/2019 03:48	WG1397551
Chrysene	0.0106		0.00662	1	12/17/2019 03:48	WG1397551
Dibenz(a,h)anthracene	ND		0.00662	1	12/17/2019 03:48	WG1397551
Fluoranthene	0.00748		0.00662	1	12/17/2019 03:48	WG1397551
Fluorene	0.00814		0.00662	1	12/17/2019 03:48	WG1397551
Indeno(1,2,3-cd)pyrene	ND		0.00662	1	12/17/2019 03:48	WG1397551
Naphthalene	ND		0.0221	1	12/17/2019 03:48	WG1397551
Phenanthrene	0.0119		0.00662	1	12/17/2019 03:48	WG1397551
Pyrene	0.0118		0.00662	1	12/17/2019 03:48	WG1397551
1-Methylnaphthalene	ND		0.0221	1	12/17/2019 03:48	WG1397551
2-Methylnaphthalene	ND		0.0221	1	12/17/2019 03:48	WG1397551
2-Chloronaphthalene	ND		0.0221	1	12/17/2019 03:48	WG1397551
(S) Nitrobenzene-d5	*64.0*		*14.0-149*		*12/17/2019 03:48*	WG1397551
(S) 2-Fluorobiphenyl	*91.5*		*34.0-125*		*12/17/2019 03:48*	WG1397551
(S) p-Terphenyl-d14	*101*		*23.0-120*		*12/17/2019 03:48*	WG1397551

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.7		1	12/12/2019 08:05	WG1395160

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Anthracene	ND		0.00654	1	12/17/2019 02:05	WG1397551
Acenaphthene	0.0317		0.00654	1	12/17/2019 02:05	WG1397551
Acenaphthylene	ND		0.00654	1	12/17/2019 02:05	WG1397551
Benzo(a)anthracene	ND		0.00654	1	12/17/2019 02:05	WG1397551
Benzo(a)pyrene	ND		0.00654	1	12/17/2019 02:05	WG1397551
Benzo(b)fluoranthene	ND		0.00654	1	12/17/2019 02:05	WG1397551
Benzo(g,h,i)perylene	ND		0.00654	1	12/17/2019 02:05	WG1397551
Benzo(k)fluoranthene	ND		0.00654	1	12/17/2019 02:05	WG1397551
Chrysene	ND		0.00654	1	12/17/2019 02:05	WG1397551
Dibenz(a,h)anthracene	ND		0.00654	1	12/17/2019 02:05	WG1397551
Fluoranthene	ND		0.00654	1	12/17/2019 02:05	WG1397551
Fluorene	ND		0.00654	1	12/17/2019 02:05	WG1397551
Indeno(1,2,3-cd)pyrene	ND		0.00654	1	12/17/2019 02:05	WG1397551
Naphthalene	0.722		0.0218	1	12/17/2019 02:05	WG1397551
Phenanthrene	ND		0.00654	1	12/17/2019 02:05	WG1397551
Pyrene	ND		0.00654	1	12/17/2019 02:05	WG1397551
1-Methylnaphthalene	0.173		0.0218	1	12/17/2019 02:05	WG1397551
2-Methylnaphthalene	0.331		0.0218	1	12/17/2019 02:05	WG1397551
2-Chloronaphthalene	ND		0.0218	1	12/17/2019 02:05	WG1397551
(S) Nitrobenzene-d5	*88.4*		*14.0-149*		*12/17/2019 02:05*	WG1397551
(S) 2-Fluorobiphenyl	*73.4*		*34.0-125*		*12/17/2019 02:05*	WG1397551
(S) p-Terphenyl-d14	*94.8*		*23.0-120*		*12/17/2019 02:05*	WG1397551

Method Blank (MB)

(MB) R3480752-1 12/09/19 11:10

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1167913-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1167913-15 12/09/19 11:10 • (DUP) R3480752-3 12/09/19 11:10

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	78.6	78.5	1	0.0619		10

Laboratory Control Sample (LCS)

(LCS) R3480752-2 12/09/19 11:10

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3480748-1 12/09/19 10:55

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00200			

L1168019-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1168019-11 12/09/19 10:55 • (DUP) R3480748-3 12/09/19 10:55

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	90.6	91.1	1	0.552		10

Laboratory Control Sample (LCS)

(LCS) R3480748-2 12/09/19 10:55

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3481885-1 12/12/19 08:05

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.00100			

L1168019-25 Original Sample (OS) • Duplicate (DUP)

(OS) L1168019-25 12/12/19 08:05 • (DUP) R3481885-3 12/12/19 08:05

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	96.1	96.1	1	0.0843		10

Laboratory Control Sample (LCS)

(LCS) R3481885-2 12/12/19 08:05

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	49.9	99.8	85.0-115	

Method Blank (MB)

(MB) R3482997-2 12/17/19 00:43

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Anthracene	U		0.000600	0.00600
Acenaphthene	U		0.000600	0.00600
Acenaphthylene	U		0.000600	0.00600
Benzo(a)anthracene	U		0.000600	0.00600
Benzo(a)pyrene	U		0.000600	0.00600
Benzo(b)fluoranthene	U		0.000600	0.00600
Benzo(g,h,i)perylene	U		0.000600	0.00600
Benzo(k)fluoranthene	U		0.000600	0.00600
Chrysene	U		0.000600	0.00600
Dibenz(a,h)anthracene	U		0.000600	0.00600
Fluoranthene	U		0.000600	0.00600
Fluorene	U		0.000600	0.00600
Indeno(1,2,3-cd)pyrene	U		0.000600	0.00600
Naphthalene	U		0.00200	0.0200
Phenanthrene	U		0.000600	0.00600
Pyrene	U		0.000600	0.00600
1-Methylnaphthalene	U		0.00200	0.0200
2-Methylnaphthalene	U		0.00200	0.0200
2-Chloronaphthalene	U		0.00200	0.0200
(S) Nitrobenzene-d5	*77.9*			*14.0-149*
(S) 2-Fluorobiphenyl	*68.1*			*34.0-125*
(S) p-Terphenyl-d14	*79.4*			*23.0-120*

Laboratory Control Sample (LCS)

(LCS) R3482997-1 12/17/19 00:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Anthracene	0.0800	0.0685	85.6	50.0-126	
Acenaphthene	0.0800	0.0698	87.3	50.0-120	
Acenaphthylene	0.0800	0.0719	89.9	50.0-120	
Benzo(a)anthracene	0.0800	0.0673	84.1	45.0-120	
Benzo(a)pyrene	0.0800	0.0675	84.4	42.0-120	
Benzo(b)fluoranthene	0.0800	0.0626	78.3	42.0-121	
Benzo(g,h,i)perylene	0.0800	0.0642	80.3	45.0-125	
Benzo(k)fluoranthene	0.0800	0.0762	95.3	49.0-125	
Chrysene	0.0800	0.0678	84.8	49.0-122	
Dibenz(a,h)anthracene	0.0800	0.0590	73.8	47.0-125	
Fluoranthene	0.0800	0.0672	84.0	49.0-129	

Laboratory Control Sample (LCS)

(LCS) R3482997-1 12/17/19 00:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Fluorene	0.0800	0.0723	90.4	49.0-120	
Indeno(1,2,3-cd)pyrene	0.0800	0.0623	77.9	46.0-125	
Naphthalene	0.0800	0.0653	81.6	50.0-120	
Phenanthrene	0.0800	0.0637	79.6	47.0-120	
Pyrene	0.0800	0.0638	79.8	43.0-123	
1-Methylnaphthalene	0.0800	0.0712	89.0	51.0-121	
2-Methylnaphthalene	0.0800	0.0640	80.0	50.0-120	
2-Chloronaphthalene	0.0800	0.0668	83.5	50.0-120	
(S) Nitrobenzene-d5			*94.1*	*14.0-149*	
(S) 2-Fluorobiphenyl			*82.9*	*34.0-125*	
(S) p-Terphenyl-d14			*93.4*	*23.0-120*	

L1171180-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1171180-01 12/17/19 02:47 • (MS) R3482997-3 12/17/19 03:07 • (MSD) R3482997-4 12/17/19 03:28

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Anthracene	0.0868	0.302	0.388	0.524	100	256	1	10.0-145		J5	29.7	30
Acenaphthene	0.0868	0.412	0.456	0.547	50.0	155	1	14.0-127		V	18.2	27
Acenaphthylene	0.0868	ND	0.130	0.145	150	168	1	21.0-124	J5	J5	11.0	25
Benzo(a)anthracene	0.0868	0.0252	0.118	0.127	107	117	1	10.0-139			7.08	30
Benzo(a)pyrene	0.0868	0.0229	0.120	0.117	112	109	1	10.0-141			2.74	31
Benzo(b)fluoranthene	0.0868	0.0227	0.107	0.113	97.0	104	1	10.0-140			5.43	36
Benzo(g,h,i)perylene	0.0868	0.0202	0.103	0.100	95.8	92.0	1	10.0-140			3.20	33
Benzo(k)fluoranthene	0.0868	ND	0.0819	0.0806	92.0	90.5	1	10.0-137			1.60	31
Chrysene	0.0868	0.0334	0.165	0.178	152	167	1	10.0-145	J5	J5	7.59	30
Dibenz(a,h)anthracene	0.0868	ND	0.0754	0.0754	82.1	82.1	1	10.0-132			0.000	31
Fluoranthene	0.0868	0.0447	0.132	0.150	101	121	1	10.0-153			12.3	33
Fluorene	0.0868	0.449	0.496	0.619	53.7	196	1	11.0-130		V	22.2	29
Indeno(1,2,3-cd)pyrene	0.0868	ND	0.0798	0.0787	84.8	83.6	1	10.0-137			1.37	32
Naphthalene	0.0868	6.05	6.48	7.98	487	2230	1	10.0-135	E V	E V	20.9	27
Phenanthrene	0.0868	1.16	1.24	1.79	87.5	725	1	10.0-144		J3 V	36.6	31
Pyrene	0.0868	0.138	0.255	0.293	135	179	1	10.0-148		J5	13.9	35
1-Methylnaphthalene	0.0868	4.54	4.57	6.06	25.0	1750	1	10.0-142	E	E J3 V	28.2	28
2-Methylnaphthalene	0.0868	8.18	8.21	10.4	37.5	2510	1	10.0-137	E	E V	23.1	28
2-Chloronaphthalene	0.0868	ND	0.0636	0.0627	73.3	72.3	1	29.0-120			1.37	24
(S) Nitrobenzene-d5					*116*	*122*		*14.0-149*				
(S) 2-Fluorobiphenyl					*76.1*	*74.6*		*34.0-125*				
(S) p-Terphenyl-d14					*98.8*	*105*		*23.0-120*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

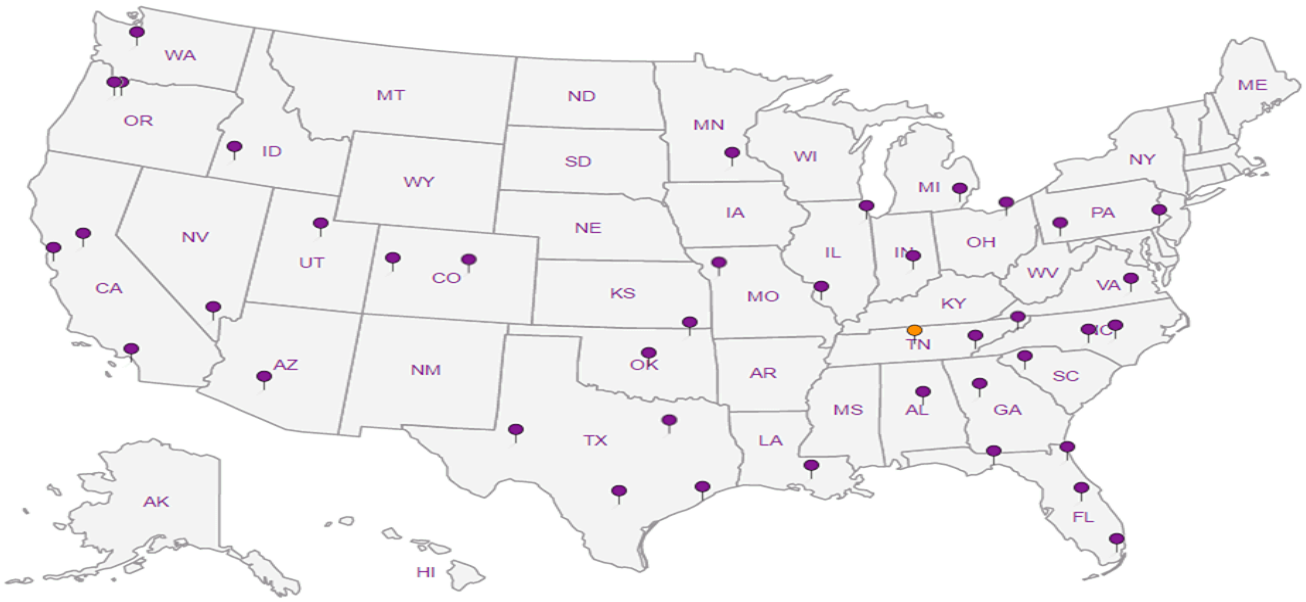
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Pres Chk

Report to: Kyle Haggart

Email To: khaggart@geodesigninc.com

Project Description:

City/State Collected: Astoria OR

Please Circle: (PT) MT CT ET

Phone: 503-968-8787
Fax:

Client Project # BigBeams-1-01-07

Lab Project # GEODESPOR-HAGGART

Collected by (print): Kyle Haggarb

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Immediately Packed on Ice N ___ Y X

Chain of Custody Page 1 of 5

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # H68014

Table # MCC2

Acctnum: GEODESPOR

Template: T159578

Prelogin: P742144

PM: 110 - Brian Ford

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPHDX-NOSGT 8ozClr-NoPres	NWTPHGX 40mlAmb/MeOH5ml/Syr	PAHs (SV8270PAHSIMD) 8ozClr-NoPres	RCRA8 Metals 6020 8ozClr-NoPres	VOCs 8260C 40mlAmb/MeOH5ml/Syr	dry weight 2ozClr-NoPres	Total Lead 6020			Remarks	Sample # (lab only)
DP-1(12)		SS		12.2	1100	4	X	X			X		X				04
DP-1 (7-8)		SS		12.2	1110		X	X			X		X				02 -01
DP-1 (12-13)		SS		12.2	1120												
DP-2 (2-3)		SS		12.2	1125		X	X	X	H	X		X				07 -02
DP-2 (7-8)		SS		12.2	1130		X	X	X	H	X		X				04
DP-2 (12-13)		SS		12.2	1135												
MW-6 (6-7)		SS		12.2	1410		X	X	X	H	X		X				05 -03
MW-6 (7-8)		SS		12.2	1415												
MW-7 (5-6)		SS		12.2	1205		X	X	X	H	X		X				06
MW-7 (6-7)		SS		12.2	1210												

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS X FedEx __ Courier _____

Tracking # 1145 2237 6593, 1275 8555 4516

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Relinquished by : (Signature)	12.5	1100		6	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.4-.3=1.1 °C	Bottles Received: 24
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 12/06/19	Time: 8:30

If preservation required by Login: Date/Time

12-016

Condition: NCF / OK

12/6

GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Report to: Kyle Haggart

Project Description:

Phone: 503-968-8787
Fax:

Collected by (print): Kyle Haggart

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Email To: khaggart@geodesigninc.com

City/State Collected: Astoria, OR

Please Circle: PT MT CT ET

Client Project #: BigBeams-1-01-07

Site/Facility ID #:

Lab Project #: GEODESPOR-HAGGART

P.O. #:

Quote #:

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 2 of 5

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 1168019

Table #

Acctnum: GEODESPOR

Template: T159578

Prelogin: P742144

PM: 110 - Brian Ford

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPHDX NOSGT 8ozClr-NoPres	NWTPHGX 40mlAmb/MeOH5ml/Syr	PAHs (SV8270PAHSIMD) 8ozClr-NoPres	RCRA8 Metals 6020 8ozClr-NoPres	VOCs 8260C 40mlAmb/MeOH5ml/Syr	dry weight 2ozClr-NoPres	Total Lead 6020	Remarks	Sample # (lab only)
DP-3 (2.5-3.5)		SS		12.3.19	805	4									
DP-3 (5-5.5)		SS		12.3.19	810	4	X	X			X		X		-07
DP-3 (6-7)		SS		12.3.19	815	4									
DP-4 (5-6)		SS		12.3.19	845	4	X	X			X		X		-08
DP-4 (10-11)		SS		12.3.19	850	4									
DP-5 (6-7)		SS		12.3.19	920	4	X	X			X		X		-09
DP-6 (6-7)		SS		12.3.19	945	4	X	X			X		X		-10
DP-7 (5-6)		SS		12.3.19	1020	4	X	X			X		X		-11
DP-7 (7-8)		SS		12.3.19	1025	4									
DP-8 (1-2)		SS		12.3.19	1100	4	X	X			X		X		-12

-04

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	If preservation required by Login: Date/Time
Relinquished by : (Signature)	12.5	1100		6	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.4 -1.3 = 1.1 °C Bottles Received: 24	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 12/4/19 Time: 8:30	Hold: Condition: NCF / OK

GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Pres Chk

Report to: Kyle Haggart

Email To: khaggart@geodesigninc.com

Project Description:

City/State Collected: Astoria, OR

Please Circle: PT MT CT ET

Phone: 503-968-8787
Fax:

Client Project # BigBeams-1-01-07

Lab Project # GEODESPOR-HAGGART

Collected by (print): Kyle Haggart

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPHDX NOSGT 8ozClr-NoPres	NWTPHGX 40mlAmb/MeOH5ml/Syr	PAHs (SV8270PAHSIMD) 8ozClr-NoPres	RCRA8 Metals 6020 8ozClr-NoPres	VOCs 8260C 40mlAmb/MeOH5ml/Syr	dry weight 2ozClr-NoPres	Total Lead (6020)	Remarks	Sample # (lab only)
MW-8 (8-9)		SS		12/4/19	845	4									
DP-11 (7-8)		SS			1000		X	X			X	X			20
DP-11 (8-9)		SS			1005										
DP-12 (5-6)		SS			1050		X	X			X	X			21
DP-12 (6-7)		SS			1055										
DP-13 (1.5-2.5)		SS			1120		X	X			X	X			26
DP-13 (6-7)		SS			1125		X	X			X	X			27
DP-14 (6-7)		SS			1210		X	X			X	X			24/22
DP-14 (7.5-8.5)		SS			1215										
DP-15 (2.5-3.5)		SS			1230		X	X			X	X			25

Chain of Custody Page 4 of 5

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # 116619

Table #

Acctnum: GEODESPOR

Template: T159578

Prelogin: P742144

PM: 110 - Brian Ford

PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

	Date:	Time:		
Relinquished by: (Signature)	12.5	1100	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeOH TBR
Relinquished by: (Signature)			Received by: (Signature)	Temp: 1.4-.3=1.1°C Bottles Received: 2 cf4
Relinquished by: (Signature)			Received for lab by: (Signature)	Date: 12/6/19 Time: 8:30

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Andy Vann

From: Brian Ford
Sent: Monday, December 16, 2019 10:59 AM
To: Project Service; Sample Storage; Extractions; Brian Ford
Subject: L1168019 *GEODESPOR* re-log ***short hold***

Importance: High

Please re-log the following as R5 due 12/23 for SV8270PAHSIMD, TS. Transfer TS. **Some samples go out of hold today.**

L1168019-02 (DP-1(7-8)) **goes out of hold today 1.5x**
L1168019-03 (DP-2(2-3)) **goes out of hold today 1.5x**
L1168019-05 (MW-6(6-7)) **goes out of hold today 1.5x**
L1168019-11 (DP-7(5-6)) **goes out of hold tomorrow 1.5x**
L1168019-22 (DP-13(1.5-2.5))

Thanks,

Brian Ford
Project Manager
Pace Analytical National Center for Testing & Innovation
12065 Lebanon Road | Mt. Juliet, TN 37122
direct 615.773.9772 | cell 615.881.4570
bford@pacenational.com | pacenational.com

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Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 24, 2019

GeoDesign Inc. - Wilsonville, OR

Sample Delivery Group:	L1173018
Samples Received:	12/10/2019
Project Number:	BIGBEAMS-1-01-07
Description:	

Report To: Kyle Haggart
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Entire Report Reviewed By:

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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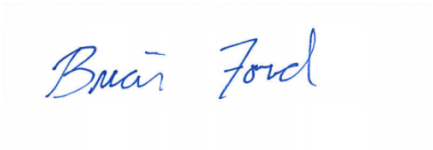
Sc: Sample Chain of Custody 10

MW-6(120719) L1173018-01 GW

Collected by: Kyle Haggart
Collected date/time: 12/07/19 09:50
Received date/time: 12/10/19 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1394447	1	12/11/19 09:36	12/11/19 23:01	AAT	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1394447	20	12/11/19 09:36	12/21/19 08:11	DMM	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford
Project Manager

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	1.69	J3	0.0500	1	12/11/2019 23:01	WG1394447
Acenaphthene	68.8	J3	1.00	20	12/21/2019 08:11	WG1394447
Acenaphthylene	ND	J3	0.0500	1	12/11/2019 23:01	WG1394447
Benzo(a)anthracene	ND	J3	0.0500	1	12/11/2019 23:01	WG1394447
Benzo(a)pyrene	ND		0.0500	1	12/11/2019 23:01	WG1394447
Benzo(b)fluoranthene	ND		0.0500	1	12/11/2019 23:01	WG1394447
Benzo(g,h,i)perylene	ND		0.0500	1	12/11/2019 23:01	WG1394447
Benzo(k)fluoranthene	ND		0.0500	1	12/11/2019 23:01	WG1394447
Chrysene	ND	J3	0.0500	1	12/11/2019 23:01	WG1394447
Dibenz(a,h)anthracene	ND		0.0500	1	12/11/2019 23:01	WG1394447
Fluoranthene	0.868	J3	0.0500	1	12/11/2019 23:01	WG1394447
Fluorene	25.5	J3	0.0500	1	12/11/2019 23:01	WG1394447
Indeno(1,2,3-cd)pyrene	ND		0.0500	1	12/11/2019 23:01	WG1394447
Naphthalene	380	J3	5.00	20	12/21/2019 08:11	WG1394447
Phenanthrene	18.0	J3	0.0500	1	12/11/2019 23:01	WG1394447
Pyrene	0.432	J3	0.0500	1	12/11/2019 23:01	WG1394447
1-Methylnaphthalene	70.7	J3	0.250	1	12/11/2019 23:01	WG1394447
2-Methylnaphthalene	67.4	J3	0.250	1	12/11/2019 23:01	WG1394447
2-Chloronaphthalene	ND	J3	0.250	1	12/11/2019 23:01	WG1394447
(S) Nitrobenzene-d5	*79.0*	J7	*31.0-160*		*12/21/2019 08:11*	WG1394447
(S) Nitrobenzene-d5	*82.0*		*31.0-160*		*12/11/2019 23:01*	WG1394447
(S) 2-Fluorobiphenyl	*87.5*		*48.0-148*		*12/11/2019 23:01*	WG1394447
(S) 2-Fluorobiphenyl	*117*	J7	*48.0-148*		*12/21/2019 08:11*	WG1394447
(S) p-Terphenyl-d14	*106*	J7	*37.0-146*		*12/21/2019 08:11*	WG1394447
(S) p-Terphenyl-d14	*109*		*37.0-146*		*12/11/2019 23:01*	WG1394447

Method Blank (MB)

(MB) R3481634-3 12/11/19 18:05

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Anthracene	U		0.0140	0.0500
Acenaphthene	U		0.0100	0.0500
Acenaphthylene	U		0.0120	0.0500
Benzo(a)anthracene	U		0.00410	0.0500
Benzo(a)pyrene	U		0.0116	0.0500
Benzo(b)fluoranthene	U		0.00212	0.0500
Benzo(g,h,i)perylene	U		0.00227	0.0500
Benzo(k)fluoranthene	U		0.0136	0.0500
Chrysene	U		0.0108	0.0500
Dibenz(a,h)anthracene	U		0.00396	0.0500
Fluoranthene	U		0.0157	0.0500
Fluorene	U		0.00850	0.0500
Indeno(1,2,3-cd)pyrene	U		0.0148	0.0500
Naphthalene	U		0.0198	0.250
Phenanthrene	U		0.00820	0.0500
Pyrene	U		0.0117	0.0500
1-Methylnaphthalene	U		0.00821	0.250
2-Methylnaphthalene	U		0.00902	0.250
2-Chloronaphthalene	U		0.00647	0.250
(S) Nitrobenzene-d5	*83.0*			*31.0-160*
(S) 2-Fluorobiphenyl	*93.0*			*48.0-148*
(S) p-Terphenyl-d14	*113*			*37.0-146*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3481634-1 12/11/19 16:23 • (LCSD) R3481634-2 12/11/19 17:43

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	2.00	2.68	2.11	134	105	67.0-150		J3	23.8	20
Acenaphthene	2.00	2.50	1.97	125	98.5	65.0-138		J3	23.7	20
Acenaphthylene	2.00	2.71	2.13	135	106	66.0-140		J3	24.0	20
Benzo(a)anthracene	2.00	2.64	2.08	132	104	61.0-140		J3	23.7	20
Benzo(a)pyrene	2.00	2.36	1.95	118	97.5	60.0-143			19.0	20
Benzo(b)fluoranthene	2.00	2.34	1.93	117	96.5	58.0-141			19.2	20
Benzo(g,h,i)perylene	2.00	2.44	2.04	122	102	52.0-153			17.9	20
Benzo(k)fluoranthene	2.00	2.68	2.27	134	114	58.0-148			16.6	20
Chrysene	2.00	2.61	2.06	131	103	64.0-144		J3	23.6	20
Dibenz(a,h)anthracene	2.00	2.76	2.31	138	115	52.0-155			17.8	20
Fluoranthene	2.00	2.69	2.13	135	106	69.0-153		J3	23.2	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3481634-1 12/11/19 16:23 • (LCSD) R3481634-2 12/11/19 17:43

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Fluorene	2.00	2.64	2.04	132	102	64.0-136		J3	25.6	20
Indeno(1,2,3-cd)pyrene	2.00	2.57	2.17	129	108	54.0-153			16.9	20
Naphthalene	2.00	2.53	2.00	126	100	61.0-137		J3	23.4	20
Phenanthrene	2.00	2.64	2.06	132	103	62.0-137		J3	24.7	20
Pyrene	2.00	2.61	1.99	131	99.5	60.0-142		J3	27.0	20
1-Methylnaphthalene	2.00	2.49	1.95	124	97.5	66.0-142		J3	24.3	20
2-Methylnaphthalene	2.00	2.36	1.87	118	93.5	62.0-136		J3	23.2	20
2-Chloronaphthalene	2.00	2.58	2.05	129	102	64.0-140		J3	22.9	20
(S) Nitrobenzene-d5				*103*	*83.0*	*31.0-160*				
(S) 2-Fluorobiphenyl				*111*	*89.0*	*48.0-148*				
(S) p-Terphenyl-d14				*133*	*106*	*37.0-146*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J3	The associated batch QC was outside the established quality control range for precision.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

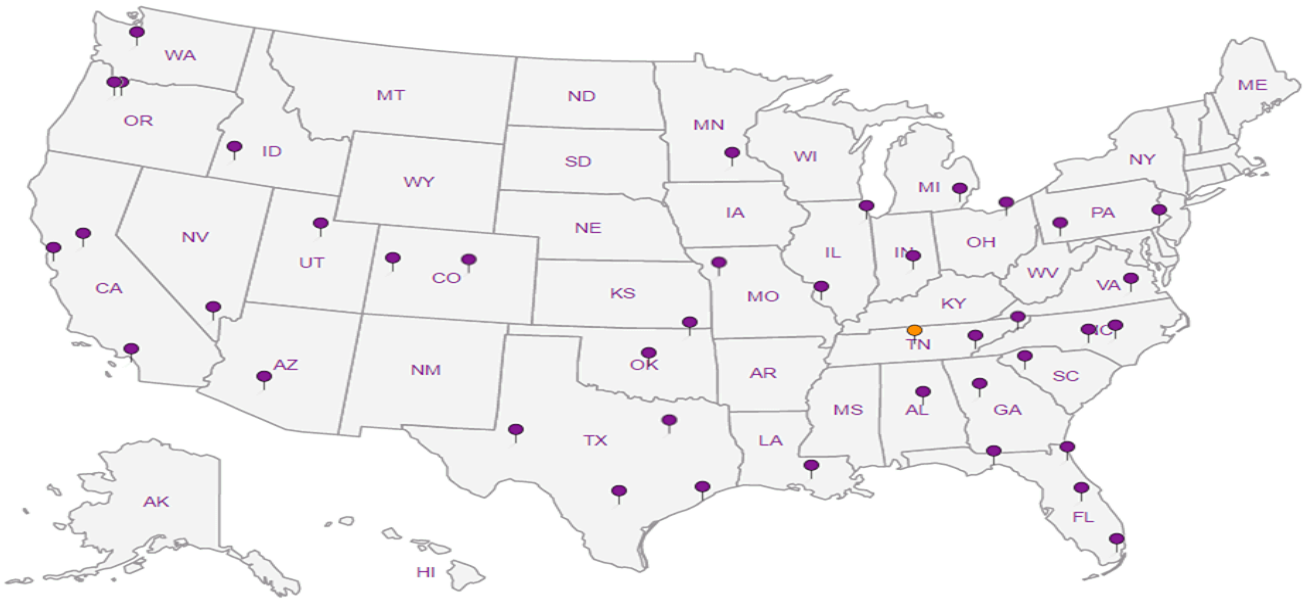
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Email To: khaggart@geodesigninc.com

Report to: Kyle Haggart

Project Description:

City/State Collected: Astoria, OR

Please Circle: PT MT CT ET

Phone: 503-968-8787
Fax:

Client Project # BigBears-1-01-19

Lab Project # GEODESPOR-HAGGART

Collected by (print): Kyle Haggart

Collected by (signature):

Site/Facility ID #

P.O. #

Quote #

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Analysis / Container / Preservative

Pres Chk

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	FF Diss RCRA8 6020 250mlHDPE HNO3	NWTPHDX NOSGT 100ml Amb-HCl	NWTPHGX 40mlAmb HCl	PAHs (PAHSIMLVID) 40mlAmb-NoPres-WT	Total RCRA8 6020 250mlHDPE-HNO3	VOCs 8260C 40mlAmb-HCl	Total Lead Cored	Dissolved Lead (Field Filtered) 6020			Remarks	Sample # (lab only)
MW-6 (120719)		GW		12.7.19	950	12		X	X			X	X	X				61
MW-7 (120719)		GW			1100			X	X			X	X	X				62
MW-8 (120719)		GW			910			X	X			X	X	X				63
PAS-2 (120719)		GW			1210			X	X			X	X	X				64
		GW																

Chain of Custody Page ___ of ___

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1173018

J086 L1173018

Acctnum: GEODESPOR

Template: T159580

Prelogin: P742150

PM: 110 - Brian Ford

PB:

Shipped Via:

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: Extract PAHs for potential follow up

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __UPS __FedEx __Courier _____

Tracking # 4798 8843 7767

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

	Date:	Time:		
Relinquished by : (Signature)	12.9.19	1200	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR — 2
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.2 +0.2 °C Bottles Received: 4B+2VB — If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Bonnie Bordes	Date: 12/10/19 Time: 0900 — Hold: — Condition: NCF / OK

Andy Vann

From: Brian Ford
Sent: Friday, December 20, 2019 2:16 PM
To: Project Service; Due SVOC; Brian Ford
Subject: L1169151 *GEODESPOR* re-log

Please re-log the following for PAHSIMLVID as R5 due 12/30 @ $35. Place in OP:DONE:WG1394447. Previously EXTRACT-HOLD.

L1169151-01 (MW-6(120719))

Thanks,

Brian Ford
Project Manager
Pace Analytical National Center for Testing & Innovation
12065 Lebanon Road | Mt. Juliet, TN 37122
direct 615.773.9772 | cell 615.881.4570
bford@pacenational.com | pacenational.com

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Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

December 23, 2019

GeoDesign Inc. - Wilsonville, OR

Sample Delivery Group:	L1173021
Samples Received:	12/06/2019
Project Number:	BIG BEAMS-1-01-07
Description:	

Report To: Kyle Haggart
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Entire Report Reviewed By:

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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DP-11(120419) L1173021-01 GW

Collected by: Kyle Haggart
Collected date/time: 12/04/19 14:20
Received date/time: 12/06/19 08:30

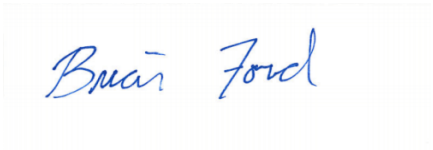
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1393222	1	12/09/19 19:28	12/10/19 13:12	AAT	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1393222	20	12/09/19 19:28	12/21/19 07:30	DMM	Mt. Juliet, TN

DP-13(120419) L1173021-02 GW

Collected by: Kyle Haggart
Collected date/time: 12/04/19 15:20
Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1393222	1	12/09/19 19:28	12/10/19 14:39	AAT	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1393222	20	12/09/19 19:28	12/21/19 07:51	DMM	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford
Project Manager

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Anthracene	0.113		0.0500	1	12/10/2019 13:12	WG1393222
Acenaphthene	2.05		0.0500	1	12/10/2019 13:12	WG1393222
Acenaphthylene	ND		0.0500	1	12/10/2019 13:12	WG1393222
Benzo(a)anthracene	ND		0.0500	1	12/10/2019 13:12	WG1393222
Benzo(a)pyrene	ND		0.0500	1	12/10/2019 13:12	WG1393222
Benzo(b)fluoranthene	ND		0.0500	1	12/10/2019 13:12	WG1393222
Benzo(g,h,i)perylene	ND		0.0500	1	12/10/2019 13:12	WG1393222
Benzo(k)fluoranthene	ND		0.0500	1	12/10/2019 13:12	WG1393222
Chrysene	ND		0.0500	1	12/10/2019 13:12	WG1393222
Dibenz(a,h)anthracene	ND		0.0500	1	12/10/2019 13:12	WG1393222
Fluoranthene	0.0798		0.0500	1	12/10/2019 13:12	WG1393222
Fluorene	1.04		0.0500	1	12/10/2019 13:12	WG1393222
Indeno(1,2,3-cd)pyrene	ND		0.0500	1	12/10/2019 13:12	WG1393222
Naphthalene	506		5.00	20	12/21/2019 07:30	WG1393222
Phenanthrene	0.634		0.0500	1	12/10/2019 13:12	WG1393222
Pyrene	0.0614		0.0500	1	12/10/2019 13:12	WG1393222
1-Methylnaphthalene	156		5.00	20	12/21/2019 07:30	WG1393222
2-Methylnaphthalene	206		5.00	20	12/21/2019 07:30	WG1393222
2-Chloronaphthalene	ND		0.250	1	12/10/2019 13:12	WG1393222
(S) Nitrobenzene-d5	*88.0*	J7	*31.0-160*		*12/21/2019 07:30*	WG1393222
(S) Nitrobenzene-d5	*88.5*		*31.0-160*		*12/10/2019 13:12*	WG1393222
(S) 2-Fluorobiphenyl	*97.0*		*48.0-148*		*12/10/2019 13:12*	WG1393222
(S) 2-Fluorobiphenyl	*109*	J7	*48.0-148*		*12/21/2019 07:30*	WG1393222
(S) p-Terphenyl-d14	*98.5*		*37.0-146*		*12/10/2019 13:12*	WG1393222
(S) p-Terphenyl-d14	*91.5*	J7	*37.0-146*		*12/21/2019 07:30*	WG1393222

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Anthracene	0.171		0.0500	1	12/10/2019 14:39	WG1393222
Acenaphthene	6.02		0.0500	1	12/10/2019 14:39	WG1393222
Acenaphthylene	ND		0.0500	1	12/10/2019 14:39	WG1393222
Benzo(a)anthracene	ND		0.0500	1	12/10/2019 14:39	WG1393222
Benzo(a)pyrene	ND		0.0500	1	12/10/2019 14:39	WG1393222
Benzo(b)fluoranthene	ND		0.0500	1	12/10/2019 14:39	WG1393222
Benzo(g,h,i)perylene	ND		0.0500	1	12/10/2019 14:39	WG1393222
Benzo(k)fluoranthene	ND		0.0500	1	12/10/2019 14:39	WG1393222
Chrysene	ND		0.0500	1	12/10/2019 14:39	WG1393222
Dibenz(a,h)anthracene	ND		0.0500	1	12/10/2019 14:39	WG1393222
Fluoranthene	0.112		0.0500	1	12/10/2019 14:39	WG1393222
Fluorene	1.71		0.0500	1	12/10/2019 14:39	WG1393222
Indeno(1,2,3-cd)pyrene	ND		0.0500	1	12/10/2019 14:39	WG1393222
Naphthalene	573		5.00	20	12/21/2019 07:51	WG1393222
Phenanthrene	1.16		0.0500	1	12/10/2019 14:39	WG1393222
Pyrene	0.0684		0.0500	1	12/10/2019 14:39	WG1393222
1-Methylnaphthalene	148		5.00	20	12/21/2019 07:51	WG1393222
2-Methylnaphthalene	238		5.00	20	12/21/2019 07:51	WG1393222
2-Chloronaphthalene	ND		0.250	1	12/10/2019 14:39	WG1393222
(S) Nitrobenzene-d5	*78.0*		*31.0-160*		*12/10/2019 14:39*	WG1393222
(S) Nitrobenzene-d5	*73.0*	J7	*31.0-160*		*12/21/2019 07:51*	WG1393222
(S) 2-Fluorobiphenyl	*105*	J7	*48.0-148*		*12/21/2019 07:51*	WG1393222
(S) 2-Fluorobiphenyl	*100*		*48.0-148*		*12/10/2019 14:39*	WG1393222
(S) p-Terphenyl-d14	*83.0*	J7	*37.0-146*		*12/21/2019 07:51*	WG1393222
(S) p-Terphenyl-d14	*92.5*		*37.0-146*		*12/10/2019 14:39*	WG1393222

Method Blank (MB)

(MB) R3481083-3 12/10/19 12:50

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Anthracene	U		0.0140	0.0500
Acenaphthene	U		0.0100	0.0500
Acenaphthylene	U		0.0120	0.0500
Benzo(a)anthracene	U		0.00410	0.0500
Benzo(a)pyrene	U		0.0116	0.0500
Benzo(b)fluoranthene	U		0.00212	0.0500
Benzo(g,h,i)perylene	U		0.00227	0.0500
Benzo(k)fluoranthene	U		0.0136	0.0500
Chrysene	U		0.0108	0.0500
Dibenz(a,h)anthracene	U		0.00396	0.0500
Fluoranthene	U		0.0157	0.0500
Fluorene	U		0.00850	0.0500
Indeno(1,2,3-cd)pyrene	U		0.0148	0.0500
Naphthalene	U		0.0198	0.250
Phenanthrene	U		0.00820	0.0500
Pyrene	U		0.0117	0.0500
1-Methylnaphthalene	U		0.00821	0.250
2-Methylnaphthalene	U		0.00902	0.250
2-Chloronaphthalene	U		0.00647	0.250
(S) Nitrobenzene-d5	*82.5*			*31.0-160*
(S) 2-Fluorobiphenyl	*99.0*			*48.0-148*
(S) p-Terphenyl-d14	*102*			*37.0-146*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3481083-1 12/10/19 12:07 • (LCSD) R3481083-2 12/10/19 12:28

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Anthracene	2.00	1.98	1.89	99.0	94.5	67.0-150			4.65	20
Acenaphthene	2.00	1.95	1.86	97.5	93.0	65.0-138			4.72	20
Acenaphthylene	2.00	1.90	1.89	95.0	94.5	66.0-140			0.528	20
Benzo(a)anthracene	2.00	1.87	1.83	93.5	91.5	61.0-140			2.16	20
Benzo(a)pyrene	2.00	1.77	1.72	88.5	86.0	60.0-143			2.87	20
Benzo(b)fluoranthene	2.00	1.65	1.74	82.5	87.0	58.0-141			5.31	20
Benzo(g,h,i)perylene	2.00	1.54	1.49	77.0	74.5	52.0-153			3.30	20
Benzo(k)fluoranthene	2.00	1.88	1.69	94.0	84.5	58.0-148			10.6	20
Chrysene	2.00	1.97	1.93	98.5	96.5	64.0-144			2.05	20
Dibenz(a,h)anthracene	2.00	1.66	1.62	83.0	81.0	52.0-155			2.44	20
Fluoranthene	2.00	2.15	2.09	108	105	69.0-153			2.83	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3481083-1 12/10/19 12:07 • (LCSD) R3481083-2 12/10/19 12:28

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Fluorene	2.00	2.05	1.97	102	98.5	64.0-136			3.98	20
Indeno(1,2,3-cd)pyrene	2.00	1.64	1.59	82.0	79.5	54.0-153			3.10	20
Naphthalene	2.00	1.91	1.87	95.5	93.5	61.0-137			2.12	20
Phenanthrene	2.00	1.92	1.84	96.0	92.0	62.0-137			4.26	20
Pyrene	2.00	1.67	1.62	83.5	81.0	60.0-142			3.04	20
1-Methylnaphthalene	2.00	1.94	1.93	97.0	96.5	66.0-142			0.517	20
2-Methylnaphthalene	2.00	1.89	1.81	94.5	90.5	62.0-136			4.32	20
2-Chloronaphthalene	2.00	1.99	1.89	99.5	94.5	64.0-140			5.15	20
(S) Nitrobenzene-d5				*86.5*	*78.5*	*31.0-160*				
(S) 2-Fluorobiphenyl				*101*	*97.5*	*48.0-148*				
(S) p-Terphenyl-d14				*103*	*99.5*	*37.0-146*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

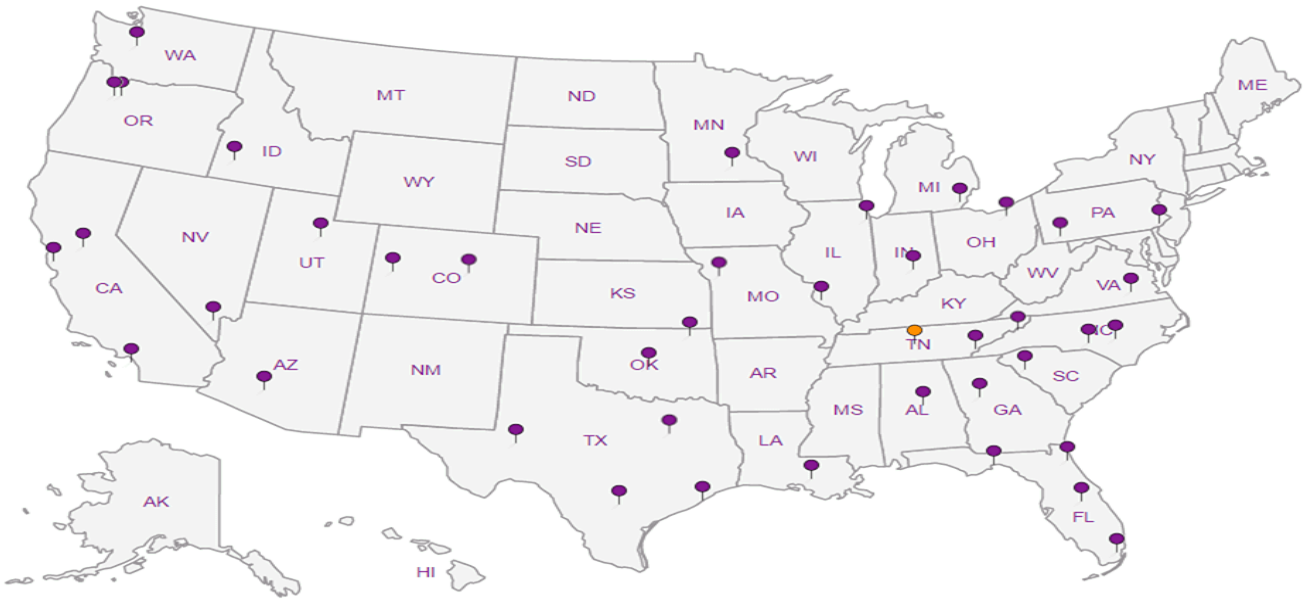
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Report to: Kyle Haggart

Project Description:

Phone: 503-968-8787
Fax:

Collected by (print): Kyle Haggart

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Email To: khaggart@geodesigninc.com

City/State Collected: Astoria, OR

Please Circle: PT MT CT ET

Client Project # BigBeams-1-01-07

Site/Facility ID #

Lab Project # GEODESPOR-HAGGART

P.O. #

Quote #

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	FF Diss RCRA8 6020 250mlHDPE HNO3	NWTPHDX NOSGT 100ml Amb-HCl	NWTPHGX 40mlAmb HCl	PAHs (PAHSIMLVID) 40mlAmb-NoPres-WT	Total RCRA8 6020 250mlHDPE-HNO3	VOCs 8260C 40mlAmb-HCl	Total Lead 6020	Dissolved Lead 6020 (FF)				
DP-3(120319)		GW		12.3.19	1540	12		X	X			X	X	X				~~01~~
DP-4(120319)		GW			1620			X	X			X	X	X				~~02~~
DP-5(120319)		GW			1640			X	X			X	X	X				~~03~~
DP-6(120319)		GW			1710			X	X			X	X	X				~~04~~
DP-7(120319)		GW			1730			X	X			X	X	X				~~05~~
DP-8(120319)		GW			1520			X	X			X	X	X				~~06~~
DP-9(120319)		GW			1615			X	X			X	X	X				~~07~~
DP-10(120319)		GW			1230			X	X			X	X	X				~~08~~
DP-11(120419)		GW		12.4.19	1420			X	X			X	X	X				~~09~~ -01
DP-12(120419)		GW			1435			X	X			X	X	X				~~10~~

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: Extract PAHs for potential follow-up

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 1Z 2237 6982

	Date:	Time:		
Relinquished by: (Signature)	12.5	1100	Received by: (Signature)	
Relinquished by: (Signature)			Received by: (Signature)	
Relinquished by: (Signature)			Received for lab by: (Signature) W Kafer	Date: 12/6/19 Time: 0830

Trip Blank Received: Yes / No
HCl / MeoH
TBR
2

Temp: 4.4°C .8-.3=.5 Bottles Received: 16 8

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Chain of Custody Page 1 of 2

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1168234

Tab B178 L1173021

Acctnum: GEODESPOR
Template: T159580
Prelogin: P742150
PM: 110 - Brian Ford
PB:
Shipped Via:

Remarks | Sample # (lab only)

NV rph/PA

Chain of Custody Page 2 of 2

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Report to: Kyle Haggart

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Email To: khaggart@geodesigninc.com

Project Description:

City/State Collected: Astoria, OR

Please Circle: PT MT CT ET

Phone: 503-968-8787
Fax:

Client Project # BcBeams-1-01-07

Lab Project # GEODESPOR-HAGGART

Collected by (print): Kyle Haggart

Site/Facility ID #

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

SDG # L1168236

Table # L1173021

Acctnum: GEODESPOR

Template: T159580

Prelogin: P742150

PM: 110 - Brian Ford

PB:

Shipped Via:

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Pres Chk	FF Diss RCRA8 6020 250mlHDPE HNO3	NWTPHDX NOSGT 100ml Amb-HCl	NWTPHGX 40mlAmb HCl	PAHs (PAHSIMLVID) 40mlAmb-NoPres-WT	Total RCRA8 6020 250mlHDPE-HNO3	VOCs 8260C 40mlAmb-HCl	Total Lead 6020	Dissolved Lead 6020 (FF)	Remarks	Sample # (lab only)
DP-13 (12.04.19)		GW		12.4.19	1520	12			X	X			X	X	X		-01
DP-14 (12.04.19)		GW			1535				X	X			X	X	X		-02
DP-15 (12.04.19)		GW			1610				X	X			X	X	X		-03
DP-16 (12.04.19)		GW			1630				X	X			X	X	X		-04
		GW															
		GW															
		GW															
		GW															
		GW															
		GW															

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: Extract PAHs for potential follow-ups

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 1145 2237 6952

Trip Blank Received: Yes / (No) HCL / MeoH TBR

Temp: Huy A2 °C .8-.3=.5

Bottles Received: 168

Date: 12/6/19 Time: 0830

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

	Date:	Time:	
Relinquished by : (Signature)	12.5	1100	Received by: (Signature)
Relinquished by : (Signature)			Received by: (Signature)
Relinquished by : (Signature)			Received for lab by: (Signature) W Parker

Andy Vann

From: Brian Ford
Sent: Friday, December 20, 2019 2:20 PM
To: Project Service; Due SVOC; Brian Ford
Subject: L1168236 *GEODESPOR* re-log

Please re-log the following as R5 due 12/30 for PAHSIMLVID @ $35. Place in OP:DONE:WG1393222. Previous EXTRACT-HOLD.

L1168236-09 (DP-11(120419))
L1168236-11 (DP-13(120419))

Thanks,

Brian Ford
Project Manager
Pace Analytical National Center for Testing & Innovation
12065 Lebanon Road | Mt. Juliet, TN 37122
direct 615.773.9772 | cell 615.881.4570
bford@pacenational.com | pacenational.com

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Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

January 13, 2020

GeoDesign Inc. - Wilsonville, OR

Sample Delivery Group:	L1177209
Samples Received:	12/06/2019
Project Number:	BIGBEAMS-1-01-07
Description:	

Report To: Kyle Haggart
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Entire Report Reviewed By:

Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



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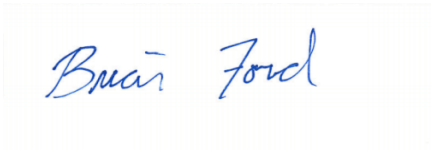
Sc: Sample Chain of Custody 9

DP-1(7-8) L1177209-01 Waste

Collected by: Kyle Haggart
Collected date/time: 12/02/19 11:10
Received date/time: 12/06/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG1408380	1	01/09/20 12:02	01/09/20 12:02	CGD	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1409034	1	01/11/20 12:29	01/12/20 15:47	CCE	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford
Project Manager

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		1/9/2020 12:02:38 PM	WG1408380
Fluid	1		1/9/2020 12:02:38 PM	WG1408380
Initial pH	6.61		1/9/2020 12:02:38 PM	WG1408380
Final pH	4.93		1/9/2020 12:02:38 PM	WG1408380

Metals (ICP) by Method 6010D

Analyte	Result mg/l	Qualifier	RDL mg/l	Limit mg/l	Dilution	Analysis date / time	Batch
Lead	0.218		0.100	5	1	01/12/2020 15:47	WG1409034

Method Blank (MB)

(MB) R3490028-1 01/12/20 15:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Lead	U		0.0333	0.100

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3490028-2 01/12/20 15:02 • (LCSD) R3490028-3 01/12/20 15:05

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Lead	10.0	9.80	9.80	98.0	98.0	80.0-120			0.00270	20

L1176194-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1176194-01 01/12/20 15:07 • (MS) R3490028-5 01/12/20 15:12 • (MSD) R3490028-6 01/12/20 15:15

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Lead	10.0	ND	8.81	8.88	88.1	88.8	1	75.0-125			0.790	20

L1178016-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1178016-01 01/12/20 15:17 • (MS) R3490028-7 01/12/20 15:20 • (MSD) R3490028-8 01/12/20 15:22

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Lead	10.0	0.333	10.2	10.2	98.7	98.8	1	75.0-125			0.153	20

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

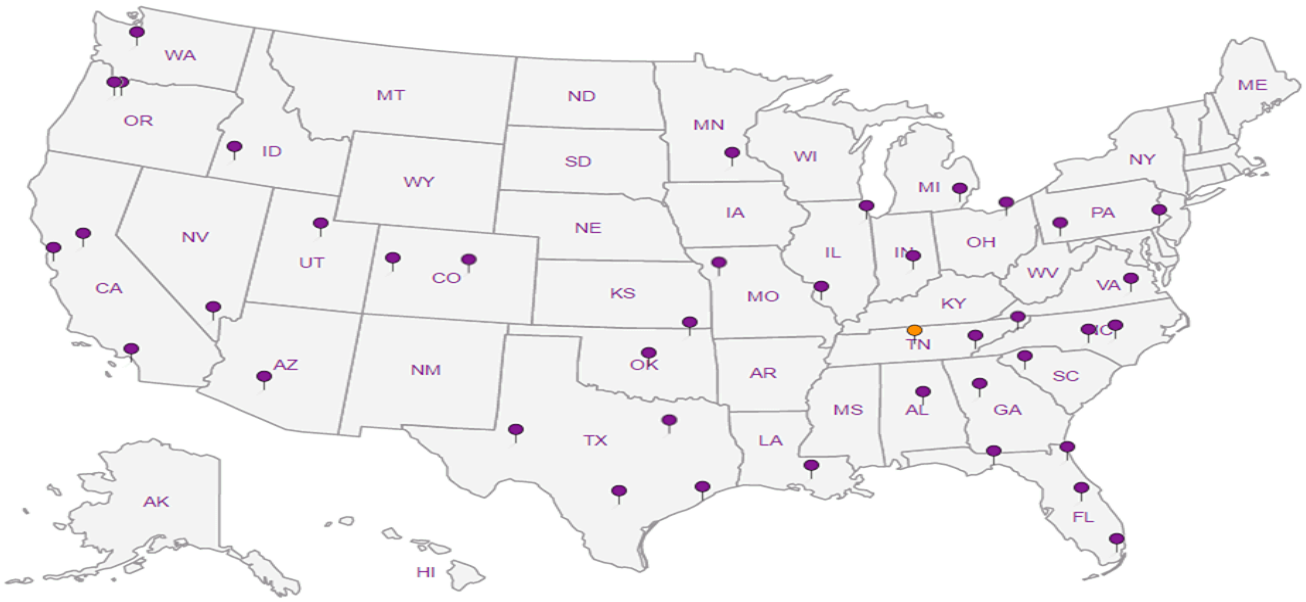
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



GeoDesign Inc. - Wilsonville, OR

9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Report to: Kyle Haggart

Billing Information:
Accounts Payable
9450 SW Commerce Circle
Ste. 300
Wilsonville, OR 97070

Email To: khaggart@geodesigninc.com

Project Description:

City/State Collected: Astoria OR

Please Circle: (PT) MT CT ET

Phone: 503-968-8787
Fax:

Client Project # BigBeams-1-01-07

Lab Project # GEODESPOR-HAGGART

Collected by (print): Kyle Haggart

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Immediately Packed on Ice N ___ Y X

Analysis / Container / Preservative

Chain of Custody Page 1 of 5

Pace Analytical® National Center for Testing & Innovation

L1177209

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # H68614 AN 1/3/20

Table # MCC2

Acctnum: GEODESPOR

Template: T159578

Prelogin: P742144

PM: 110 - Brian Ford

PB:

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPHDX NOSGT 8ozClr-NoPres	NWTPHGX 40mlAmb/MeOH5ml/Syr	PAHs (SV8270PAHSIMD) 8ozClr-NoPres	RCRA8 Metals 6020 8ozClr-NoPres	VOCs 8260C 40mlAmb/MeOH5ml/Syr	dry weight 2ozClr-NoPres	Total Lead 6020	Remarks	Sample # (lab only)
DP-1 (1-2)		SS		~~12.22~~ 12.2	1100	4	X	X			X		X		~~01~~
DP-1 (7-8)		SS		12.2	1110		X	X			X		X		~~02~~ -01
DP-1 (12-13)		SS		12.2	1120										
DP-2 (2-3)		SS		12.2	1125		X	X	~~X~~	~~X~~	X		X		~~03~~ -02
DP-2 (7-8)		SS		12.2	1130		X	X	~~X~~	~~X~~	X		X		~~04~~
DP-2 (12-13)		SS		12.2	1135										
MW-6 (6-7)		SS		12.2	1410		X	X	~~X~~	~~X~~	X		X		~~05~~ -03
MW-6 (7-8)		SS		12.2	145										
MW-7 (5-6)		SS		12.2	1205		X	X	~~X~~	~~X~~	X		X		~~06~~
MW-7 (6-7)		SS		12.2	1210										

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: _UPS _FedEx __Courier _____

Tracking # 1145 2237 6993, 1275 8556 4516 1275 5562

Sample Receipt Checklist

COC Seal Present/Intact:	Y	N
COC Signed/Accurate:	Y	N
Bottles arrive intact:	Y	N
Correct bottles used:	Y	N
Sufficient volume sent:	Y	N
If Applicable		
VOA Zero Headspace:	Y	N
Preservation Correct/Checked:	Y	N
RAD Screen <0.5 mR/hr:	Y	N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	12.5	1100	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / No HCl / MeOH TBR

Temp: 1.4, .3 = 1.1 °C Bottles Received: ~~40~~ 204

Date: 12/06/19 Time: 8:30

If preservation required by Login: Date/Time

12-016

Condition: NCF / OK

12b

Andy Vann

From: Brian Ford
Sent: Wednesday, January 8, 2020 3:07 PM
To: Project Service; Sample Storage; Brian Ford
Subject: L1171180 *GEODESPOR* re-log

Please re-log L1171180-01 (L1168019-02, DP-1(7-8)) for TCLP PBICP as R5 due 01/15.

Thanks,

Brian Ford
Project Manager
Pace Analytical National Center for Testing & Innovation
12065 Lebanon Road | Mt. Juliet, TN 37122
direct 615.773.9772 | cell 615.881.4570
bford@pacenational.com | pacenational.com

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APPENDIX D

APPENDIX D

SVE PILOT TESTING ANALYSIS AND DOCUMENTATION

TABLE D-1
SVE Pilot Testing Data - System Operational Data
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Date	Time	Blower Vacuum (iow)	Extraction Point PSVE-2 (2-Inch Diameter				Carbon Vessel Exhaust Stack (4-Inch Diameter)				Note/Comment
			Extraction Point Vacuum (iow)	Extraction Point Velocity (ft/min)	Extracted Flow Rate (cfm)	Extraction Point PID (ppm)	Stack Velocity (ft/min)	Estimated Stack Flow Rate (cfm)	PID (ppm)	Temperature (F)	
Extraction from PSVE-1 (Pilot Extraction Well Sreened 3 to 8 Feet BGS)											
12/10/19	9:00	13	10	1,600	35	--	--	--	--	--	Begin Step 1
12/10/19	9:09	13	10	2,400	53	--	--	--	--	--	
12/10/19	9:17	13	10	--	--	441	--	--	--	--	
12/10/19	9:20	13	--	--	--	--	540	47.0	0	66.2	
12/10/19	9:25	13	10	1,800	40	500	--	--	--	--	
12/10/19	9:52	13	10	1,800	40	530	--	--	--	--	
12/10/19	10:10	31	--	--	--	--	--	--	--	--	Begin Step 2
12/10/19	10:23	31	20	2,400	53	See Notes	--	--	--	--	
12/10/19	10:41	31	20	2,800	62	See Notes	--	--	--	--	
12/10/19	10:53	31	20	4,600	101	See Notes	--	--	--	--	
12/10/19	10:55	31	--	--	--	--	5,050	439.4	0.0	69.5	
12/10/19	11:19	31	20	3,930	86	See Notes	--	--	--	--	
12/10/19	11:50	31	--	--	--	--	2,500	217.5	0.8	68.2	
12/10/19	11:55	31	20	5,500	121	See Notes	--	--	--	--	
12/10/19	12:15	57	--	--	--	--	--	--	--	--	Begin Step 3
12/10/19	12:17	57	30	4,800	106	See Notes	--	--	--	--	
12/10/19	12:43	57	30	5,200	114	See Notes	--	--	--	--	
12/10/19	13:05	57	30	5,100	112	See Notes	2,200	191.4	0.2	81.5	
12/10/19	13:27	57	30	4,800	106	See Notes	--	--	--	--	
12/10/19	13:42	57	--	--	--	--	2,800	243.6	0.0	82.1	
12/10/19	14:00	63	40	5,100	112	See Notes	--	--	--	--	Begin Step 4
12/10/19	14:24	63	40.0	5,100	112	See Notes	--	--	--	--	
12/10/19	14:39	63	40.0	5,200	114	See Notes	--	--	--	--	
12/10/19	14:54	63	40.0	5,200	114	See Notes	--	--	--	--	
12/10/19	15:01	63	--	--	--	--	2,200	191.4	0.1	84.7	
12/10/19	15:14	63	40.0	5,500	121	See Notes	--	--	--	--	
12/10/19	15:50	63	40.0	5,400	119	See Notes	--	--	--	--	End SVE pilot test

Notes:
Upon initiating Step 2 of the SVE pilot test, the PID pump was unable to overcome the applied wellhead vacuum. Refer to SVE extraction test sampling results using Summa canisters (Table D-5).

TABLE D-2
SVE Pilot Testing Response Data
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Extraction from PSVE-2 (Pilot Extraction Well Screened 3 to 8 Feet BGS) December 10, 2019

OSVE-1 (Exposed Interval: 2 to 8 Feet BGS)
(5 Feet from Pilot Extraction Well)

Time	Induced Vacuum (iow)	PID (ppm)	Note
8:40	0.00	98	Baseline
9:52	1.51	2.0	End of Step 1
11:56	3.13	0.2	End of Step 2
13:28	4.20	0.1	End of Step 3
15:44	5.16	0.2	End of Step 4

OSVE-2 (Exposed Interval: 2 to 8 Feet BGS)
(10 Feet from Pilot Extraction Well)

Time	Induced Vacuum (iow)	PID (ppm)	Note
8:42	0.00	409	Baseline
9:53	1.18	23	End of Step 1
11:56	2.30	0.5	End of Step 2
13:24	3.23	0.1	End of Step 3
15:45	3.46	0.1	End of Step 4

OSVE-3 (Exposed Interval: 2 to 8 Feet BGS)
(15 Feet from Pilot Extraction Well)

Time	Induced Vacuum (iow)	PID (ppm)	Note
8:32	0.01	414	Baseline
9:54	0.97	350	End of Step 1
11:57	2.02	13	End of Step 2
13:30	2.73	109	End of Step 3
15:46	3.38	47	End of Step 4

OSVE-4 (Exposed Interval: 2 to 8 Feet BGS)
(20 Feet from Pilot Extraction Well)

Time	Induced Vacuum (iow)	PID (ppm)	Note
--	--	--	Baseline not recorded
9:55	0.56	12	End of Step 1
11:58	1.20	0.7	End of Step 2
13:30	1.63	0.5	End of Step 3
15:47	2.03	0.3	End of Step 4

OAS-1 (Exposed interval: 9 to 20 Feet BGS)
(7 Feet from Pilot Extraction Well)

Time	Induced Vacuum (iow)	PID (ppm)	Note
8:38	-0.01	575	Baseline
9:57	1.59	110	End of Step 1 (DTW 12.36)
11:23	3.24	20	End of Step 2 (DTW 12.30)
13:33	4.33	9.0	End of Step 3 (DTW 12.05)
15:20	5.32	5.0	End of Step 4 (DTW 12.09)

OAS-2 (Exposed interval: 9 to 20 Feet BGS)
(12 Feet from Pilot Extraction Well)

Time	Induced Vacuum (iow)	PID (ppm)	Note
8:43	0.01	310	Baseline
9:58	1.28	50	End of Step 1 (DTW 12.30)
11:24	2.63	44	End of Step 2 (DTW 12.28)
13:33	3.53	16.0	End of Step 3 (DTW 11.45)
15:20	4.34	9.0	End of Step 4 (DTW 12.00)

OAS-3 (Exposed interval: 9 to 20 Feet BGS)
(20 Feet from Pilot Extraction Well)

Time	Induced Vacuum (iow)	PID (ppm)	Note
8:40	-0.02	345	Baseline
10:00	0.84	55	End of Step 1 (DTW 12.44)
11:24	1.78	18	End of Step 2 (DTW 12.34)
13:34	2.41	8.0	End of Step 3 (DTW 12.14)
15:21	3.00	5.0	End of Step 4 (DTW 12.15)

OAS-4 (Exposed interval: 9 to 20 Feet BGS)
(30 Feet from Pilot Extraction Well)

Time	Induced Vacuum (iow)	PID (ppm)	Note
--	--	--	Baseline not recorded
10:01	0.58	1	End of Step 1 (DTW 12.44)
11:25	1.21	2	End of Step 2 (DTW 12.37)
13:35	1.67	0.4	End of Step 3 (DTW 12.14)
15:22	2.10	0.6	End of Step 4 (DTW 12.20)

VP-3 (Exposed interval: Sub-Slab Aggregate)
(24 Feet from Pilot Extraction Well)

Time	Induced Vacuum (iow)	PID (ppm)	Note
8:55	0.00	80	Baseline
10:01	0.70	150	End of Step 1
11:55	1.40	130	End of Step 2
13:32	1.92	123	End of Step 3
15:48	2.90	15	End of Step 4

MW-1 (Exposed interval: 3 to 19 Feet BGS)
(54 Feet from Pilot Extraction Well)

Time	Induced Vacuum (iow)	PID (ppm)	Note
8:45	0.00	53	Baseline
10:02	0.09	8.0	End of Step 1
11:27	0.15	50	End of Step 2
13:36	0.21	35	End of Step 3
15:50	0.28	16	End of Step 4

MW-2 (Exposed interval: 3 to 19 Feet BGS)
(48 Feet from Pilot Extraction Well)

Time	Induced Vacuum (iow)	PID (ppm)	Note
8:47	0.00	400	Baseline
9:55	0.25	1.0	End of Step 1
11:59	0.55	0.2	End of Step 2
13:31	0.79	0.3	End of Step 3
15:47	1.02	0.3	End of Step 4

MW-3 (Exposed Interval: 3 to 19 Feet BGS)
(138 Feet from Pilot Extraction Well)

Time	Induced Vacuum (iow)	PID (ppm)	Note
--	--	--	Baseline not recorded
--	--	--	Step 1 not measured
--	--	--	Step 2 not measured
13:38	0.00	0.2	End of Step 3
15:51	0.00	0.2	End of Step 4

MW-6 (Exposed interval: 4 to 25 Feet BGS)
(55 Feet from Pilot Extraction Well)

Time	Induced Vacuum (iow)	PID (ppm)	Note
8:48	0.00	84	Baseline
10:07	0.01	23	End of Step 1
11:28	0.02	13	End of Step 2
13:41	0.04	2.0	End of Step 3
15:57	0.06	0.8	End of Step 4

MW-7 (Exposed interval: 4 to 25 Feet BGS)
(53 Feet from Pilot Extraction Well)

Time	Induced Vacuum (iow)	PID (ppm)	Note
--	--	--	Baseline not recorded
10:05	0.03	16	End of Step 1
11:27	0.08	1.0	End of Step 2
13:40	0.09	0.3	End of Step 3
15:55	0.11	0.2	End of Step 4

TABLE D-3
Summary of SVE Data and Estimated Zones of Influence
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Test	Applied Vacuum (iow)	Extracted Flow Rate (cfm)	Zone of Influence (feet)		Remarks
			Shallow/Intermediate Soil (2 to 8 feet)	Deep/Capillary Soil (9 to 11 feet)	
Step 1	10.0	40	44	68	VFD at approximately 25 percent
Step 2	20.0	121	53	85	VFD at approximately 50 percent
Step 3	30.0	106	58	95	VFD at approximately 75 percent
Step 4	40.0	119	63	103	VFD at 100 percent

Notes:
ZOI: zone of influence (away from extraction line)
Effective ZOI for soil treatment assumed to be 0.1 iow.
ZOI distance presented reflects intersection of best-fit regression line of observation point data.

TABLE D-4
Calculation of Potential System Losses - Proposed SVE System
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

SVE Pipe Run	Blower #	Moisture Knockout and Vapor Treatment Losses (iow)	Total Run Length (feet)	Screen Length (feet)	Pipe Diameter (inches)	Flow Rate (cfm)	Pipe Velocity (ft/s)	Reynolds No.	Friction Factor	Fittings			Fitting Equivalent Length (feet)	Pipe and Valve Losses (iow)	Total Losses (iow)
										90s	Tees	Valves			
Trench #1	1	15	600	190	4	275	53	1.00E+05	0.016	5	1	1	150	22	37
Trench #2	2	25	515	135	4	275	53	1.00E+05	0.016	4	1	1	131	19	61
Trench #3			450	135	4	275	53	1.00E+05	0.016	4	1	1	131	17	
Trench #4	3	25	390	150	4	275	53	1.00E+05	0.016	4	1	1	131	15	54
Trench #5			330	150	4	275	53	1.00E+05	0.016	4	1	1	131	14	

Notes and Assumptions:

Dynamic viscosity of air:	1.21E-05	$lb_m/ft\text{-}s$
Air density (50° at 25 iow):	0.07	lb_m/ft^3
Kinematic viscosity of air:	1.73E-04	ft^2/s
Hydraulic radius:	0.33	foot

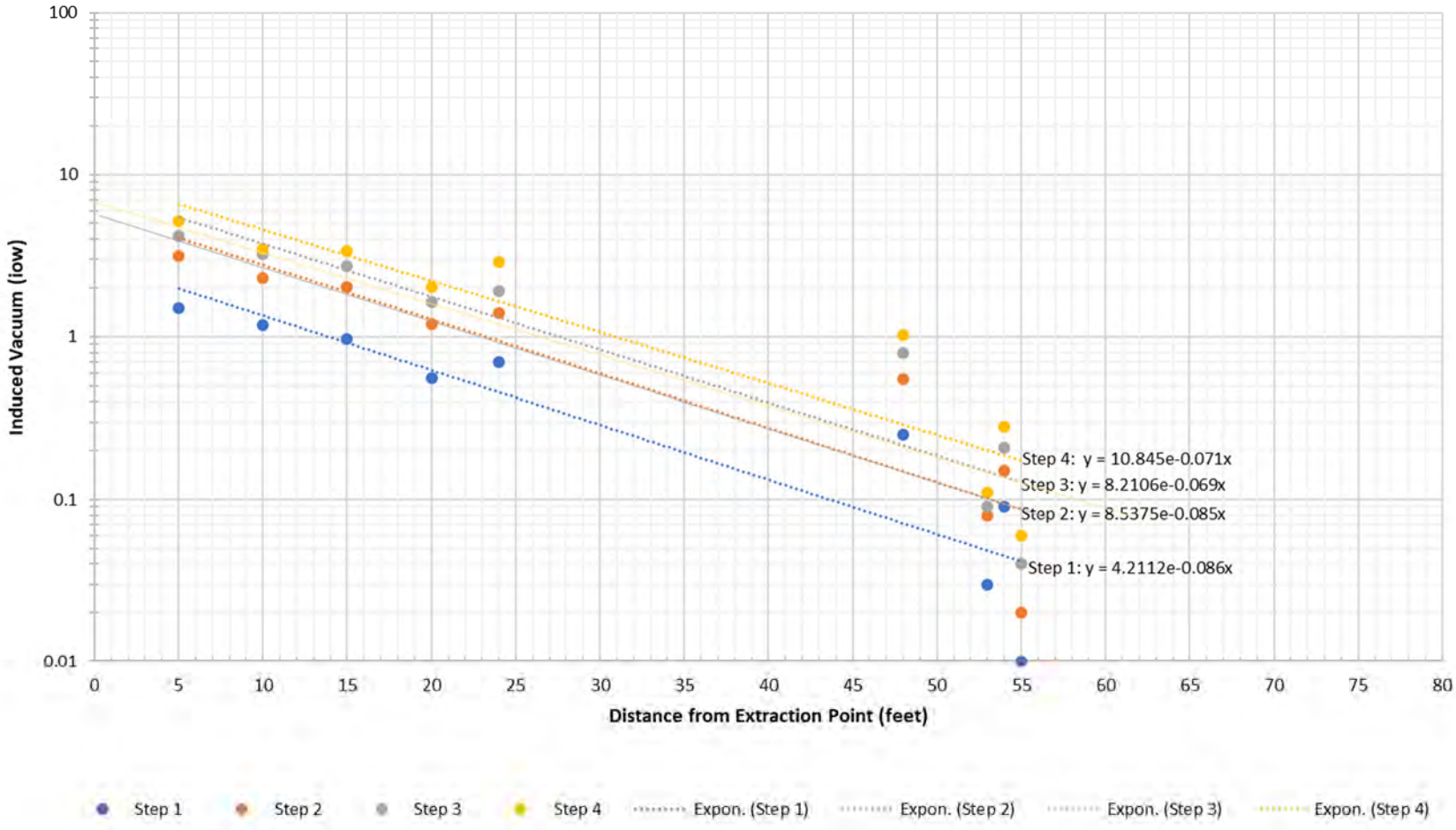
Assume flows are turbulent
Assume smooth pipe for 4-inch-diameter PVC
Friction factors from Moody diagram

TABLE D-5
Summary of Soil Gas Sample Chemical Analytical Results
Gasoline-Range Hydrocarbons and VOCs
Former Astoria Warehousing Site
70 West Marine Drive
Astoria, Oregon

Sample I.D.	Sample Date	Gasoline-Range Hydrocarbons (µg/m³)	VOCs[1] EPA Method TO-15 (µg/m³)												
			Benzene	Cyclohexane	Ethanol	Ethylbenzene	4-Ethyltoluene	Heptane	n-Hexane	2-Propanol	Propene	Toluene	1,2,4-TMB	2,2,4-Trimethylpentane	m,p-Xylenes	o-Xylenes
PSVE-1(S)	12/10/19	**6,650,000**	**148,000**	1,380 U	**3,850**	**40,500**	**2,480**	**309,000**	**568,000**	**9,390**	1,380 U	1,510 U	**3,970**	**346,000**	**39,200**	1,730 U
PSVE-1(M)	12/10/19	**1,320,000**	**67,400**	**215,000**	**209**	**954**	78.5 U	**103,000**	**843,000**	**4,130**	**169**	**133**	**136**	**200,000**	**841**	69.4 U
PSVE-1(E)	12/10/19	**1,760,000**	**46,600**	**174,000**	**511**	**1,440**	393	**75,300**	**518,000**	**20,200**	276	301 U	393 U	**144,000**	**1,240**	347 U
DEQ Generic RBCs[2]																
Vapor Intrusion into Buildings																
Occupational		1,700,000	1,600	NE	NE	4,900	NE	NE	NE	NE	NE	21,900,000	260,000	NE	440,000	

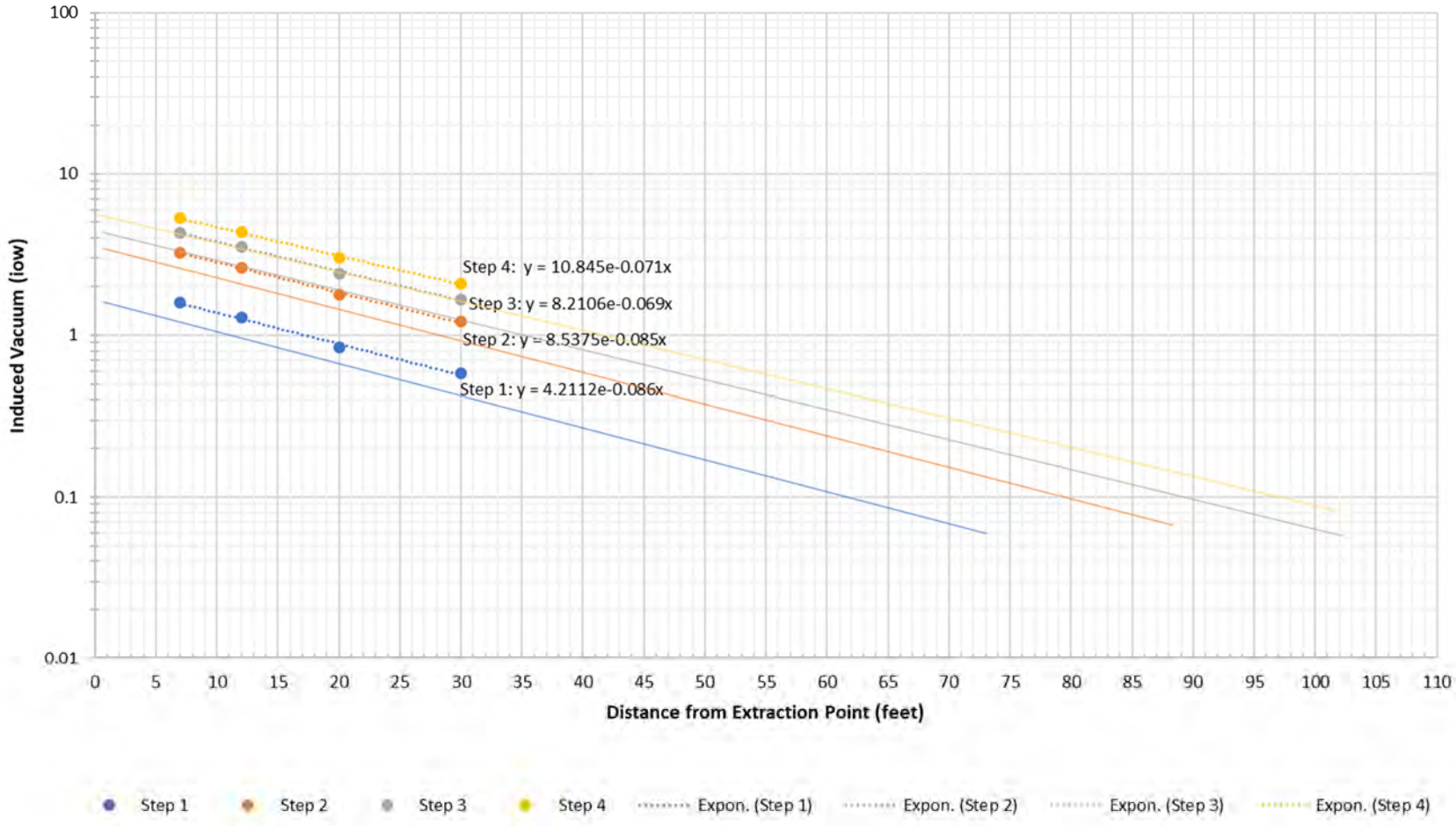
Notes:
1. Only VOCs detected with regulatory screening values are listed.
2. DEQ Generic RBCs dated May 2018
U: Not detected. Reporting or detection limit shown.
Bolding indicates analyte detection.

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GEODESIGN INC AN NV5 COMPANY	BIGBEAMS-1-01-07	SVE PILOT TEST RESPONSE DATA – SHALLOW/INTERMEDIATE ZONE	
	MARCH 2020	FORMER ASTORIA WAREHOUSING SITE ASTORIA, OR	FIGURE D-1

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GEODESIGN INC AN NV5 COMPANY	BIGBEAMS-1-01-07	SVE PILOT TEST RESPONSE DATA – DEEP/CAPILLARY ZONE	
	MARCH 2020	FORMER ASTORIA WAREHOUSING SITE ASTORIA, OR	FIGURE D-2