January 30, 2019

ADDITIONAL SUBSURFACE INVESTIGATION

Property Identification:
900 North Thunderbird Way
Portland, Oregon 97227

AEI Project No. 399148

Prepared for:
Ms. Kendra Marshall
Rabin Worldwide
21 Locust Avenue, Suite 2A
Mill Valley, California 94941-2805

Prepared by:
AEI Consultants
3880 S. Bascom Avenue, Suite 109
San Jose, California 95124

AEI Consultants

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Ms. Kendra Marshall
Rabin Worldwide
21 Locust Avenue, Suite 2A
Mill Valley, California 94941-2805

Subject: **Limited Phase II Subsurface Investigation**
900 North Thunderbird Way
Portland, Oregon 97227
AEI Project No. 399148

Dear Ms. Marshall:

This report presents the results of the Limited Phase II Subsurface Investigation performed by AEI Consultants (AEI) at the above-referenced subject property (the "Site"). The investigation was conducted in accordance with the authorized scope of services outlined in AEI's proposal dated December 11, 2018, which was subsequently authorized by Rabin Worldwide on December 14, 2018. The location of the subject property is shown on Figure 1.

The purpose of this investigation was to assess the presence/absence of impacted subsurface conditions (i.e., soil and groundwater) relative to historical operations at the Site. Information regarding the Site description, background, investigation efforts, findings, conclusions, and recommendations are provided in the following sections of this report.

1.0 SITE DESCRIPTION

The Site is located along the east bank of the Willamette River, west of the Portland (North) Steel Bridge along North Thunderbird Way in Portland, Oregon. It covers approximately 3.18 acres of land and is located within an area of commercial and industrial land uses. The Site is currently vacant and not in use. Features at the Site include a maintenance shop, grain silos, grain conveyor belts, a grain elevator building, multiple railroad spurs and ties, a rail car tipper shed, two (2) above-ground storage tanks, and scattered areas of associated equipment and materials.

2.0 BACKGROUND

A *Phase I Environmental Site Assessment (ESA)* was performed by AEI, which was documented in a draft report dated January 18, 2019 (AEI Project Number 399148). Based upon the findings presented in the *Phase I ESA*, recognized environmental conditions (RECs) and an environmental consideration were identified.

According to the Oregon Department of Environmental Quality (ODEQ), the Site is listed in the Environmental Cleanup Site Investigation (ECSI) database. In 1992, a subsurface investigation was performed around a former vehicle maintenance area. Residual petroleum hydrocarbons

were detected in soils at concentrations below ODEQ screening levels, and twenty-five (25) cubic yards of impacted soils were removed. In 1997, the Site was placed on the confirmed list since ODEQ determined that the areal extent of contamination was not known. The Site was assigned as low priority and has been on the confirmed list since 1997.

A historical REC (HREC) also was identified during the *Phase I ESA*. According to the ODEQ, the Site had been placed on the Leaking Underground Storage Tank (LUST) Investigation list. Based upon AEI's review of a No Further Action (NFA) letter, three (3) underground storage tanks (USTs) were removed from the Site in 1991. Analytical data for soils during the UST removal did not show the presence of petroleum hydrocarbon contamination. No groundwater was encountered during the UST removal.

In addition to the RECs, mentioned above, the Site had been used for industrial purposes since 1889. The property has been developed with grain bins, conveyor belts, railroad tracks, and grain storage equipment, as well as a dock adjacent to the Willamette River. The facility historically received agricultural products materials from ships and trains. The current buildings developed at the subject property reportedly were constructed in 1914. The current owner of the property, Louis Dreyfus Corporation, a global agricultural merchant firm, began occupying the site in approximately 1969. To date, the site is currently vacant; no grain storage operations have taken place since November 2018. Petroleum use and storage has been documented, with two (2) releases reported (the former USTs, described above, and an oil pit area). Based on the above information, as well as the lack of documented solvent usage, the historical use of the Site represented an environmental consideration (OEC).

Furthermore, according to the Portland Fire Bureau (PFB), a 600-gallon diesel UST was removed in January 1990. The location of the former 600-gallon diesel UST was not documented in PFB regulatory records. However, a review of the figures associated with ECSI File #1394 indicates that the 600-gallon diesel UST may have been located along the northern exterior wall of the former vehicle maintenance shop at the Site.

During AEI's review of the United States Geological Survey (USGS) map database for the *Phase I ESA*, it was noted that the area within the Site vicinity is underlain by Tertiary- and Quaternary-aged sediments, which consist of unconsolidated sands, silts, and gravels of various origins, as well as outburst flood deposits associated with the Missoula and Bonneville floods. During the *Phase I ESA*, the estimated depth to groundwater was noted to be approximately 37 feet below ground surface (bgs). Regional topography suggests that the direction of groundwater flow beneath the Site is to the southwest.

3.0 INVESTIGATION EFFORTS

This investigation focused on assessing the presence/absence of impacted subsurface conditions (i.e., soil and groundwater) relative to historical operations at the Site. This investigation included the advancement of five (5) exploratory borings (B-1 through B-5) for the collection and analyses of soil and grab-groundwater samples (Boring B-2 only). One (1) of the borings (B-3) also was advanced along the northern exterior wall of the former vehicle maintenance shop at the Site.

3.1 Health and Safety Plan

A Site-specific health and safety plan was prepared, reviewed by onsite personnel, and kept onsite for the duration of the fieldwork.

3.2 Permitting and Utility Clearance

A drilling permit was not required for this investigation.

Prior to drilling activities, proposed boring locations were marked on the ground surface with white paint. Upon marking, Oregon Utility Notification Center was contacted, who, in turn, notified subscribing utility companies of the planned investigation work in order for their utility locations to be marked on the ground surface along property boundaries and around proposed boring locations, as appropriate.

Private utility locating was conducted by Ground Penetrating Radar Systems (GPRS) of Portland, Oregon to identify underground utilities on the subject property and to shift boring locations, as appropriate.

3.3 Exploratory Borings

The drilling program for Borings B-1 through B-5 was conducted on January 10, 2019. The locations of the borings are shown on Figure 2. The borings were advanced to depths between 12 and 22 feet below ground surface (bgs) using a track-mounted drilling equipped with direct push technology (Geoprobe Model No. 7822DT). The borings were drilled by a State of Oregon-licensed company, Cascade Drilling of Clackamas, Oregon under subcontract to AEI. Drilling operations were supervised by an environmental professional under the oversight of an AEI State of Oregon-licensed Certified Engineering Geologist (CEG).

3.3.1 Soil Sampling

The borings were continuously sampled throughout their entire depths for the purposes of lithologic logging, headspace testing, and sample collection for laboratory analyses. Soil samples were obtained using a coring system approximately 2.25 inches and 5 feet in length containing plastic liners. The coring system was connected to 1-inch diameter, flush-jointed drill rod that was hydraulically driven (pushed) by the rig to each target sample depth. Upon retrieval from each sample depth interval, the coring system was opened, and the liners were removed and cut for preparing samples for laboratory analyses, as well as for visual inspection of potentially-impacted soils. Recovered soils were described on detailed boring logs in general conformance with the United Soil Classification System (USCS). The boring logs are presented in Appendix A.

One (1) soil sample was obtained from each soil boring at 10-foot depth with the exception of the sample at Boring B-4, which was collected at 15-foot depth. The samples were sealed, labeled, and entered onto chain-of-custody documentation for transportation to a State of Oregon-certified analytical laboratory. The samples were collected using disposable Terracore® samplers, which were placed into 40-milliter (ml) amber glass vials. Samples also were placed into laboratory-supplied 4-ounce glass jars. Chain-of-custody documentation was completed and accompanied the soil samples to the analytical laboratory.

3.3.2 Headspace Testing

Headspace testing was performed with a photo-ionization detector (PID) equipped with an electrodeless 10.6 eV ultraviolet lamp or equivalent for the qualitative measurement(s) of total volatile organic compounds (VOCs) in the recovered soil samples obtained from the vadose (unsaturated) zone. To initiate the headspace testing procedure, soil samples were removed from the sample liners, placed into labeled, plastic bags, and sealed for conducting the tests. After sufficient time had elapsed for vapor build-up inside the bags, each bag was opened (or punctured) with the probe tip of the PID to allow for measurement of the headspace. Measurements of the headspace were obtained in the parts per million (ppmv) per volume range for total VOCs. The results of the headspace tests (PID readings) were recorded on the boring logs, presented in Appendix A.

3.3.3 Grab-Groundwater Sampling

Grab-groundwater sampling was performed during the drilling program at Boring B-2 because of groundwater encountered at a shallower depth than had been anticipated prior to the investigation. No groundwater was encountered during the drilling of the other borings. Prior to sample collection at Boring B-2, a temporary well consisting of 0.75-inch diameter, slotted, polyvinyl chloride (PVC) casing was inserted into the boring to facilitate sample collection from the water-bearing zone. A grab-groundwater sample was collected using a peristaltic pump that was attached to clean polyethylene tubing positioned just above the bottom of the well casing. Upon collection, the sample was transferred into appropriate, laboratory-supplied, sample container (i.e., 40-ml amber glass vials). The containers were sealed such that no headspace or air bubbles were visible within the container upon filling.

After collection, the sample bottles were labeled with the project name, project number, boring number, and sampling date/time of sampling. After labelling, the sample was placed into a chilled ice chest containing crushed ice for transport to the analytical laboratory. Chain-of-custody documentation was prepared and accompanied the groundwater sample bottles to the analytical laboratory.

3.4 Boring Destruction

Upon completion of drilling and removal of the temporary well casing, the borings were backfilled with bentonite chips to existing grade in accordance with ODEQ regulations.

3.5 Equipment Decontamination and Investigation-Derived Wastes

Drilling and sampling equipment were cleaned prior to and/or after drilling each boring. The equipment was cleaned using a triple-rinse method, which consisted of an initial rinse containing an Alconox and water solution, followed by two (2) tap water rinses (second and third, final rinses).

Investigation-derived wastes (i.e., soil cuttings and rinse water) were left onsite in two (2) labeled, 55-gallon waste drums. One (1) drum of soil and one (1) drum of rinse water were generated during for this investigation. Waste profiling and removal of the wastes to an appropriate disposal facility was not part of the scope of work for this investigation. However, if warranted, transport and disposal of the waste can be arranged and implemented upon client approval.

4.0 LABORATORY ANALYSES

The soil and groundwater samples were transferred under appropriate chain-of-custody documentation to Pace Analytical Laboratories of Mount Juliet, Tennessee. Laboratory analytical documentation is provided in Appendix B. The soil and groundwater samples were analyzed for the following:

- Total petroleum hydrocarbons quantified as gasoline (TPH-g) by Northwest Method Total Petroleum Hydrocarbons-Gx (NWTPH-Gx)
- TPH quantified as diesel and motor oil (TPH-d and TPH-mo, respectively) by Northwest Method Total Petroleum Hydrocarbons Dx Method (NWTPH-Dx)
- VOCs by United States Environmental Protection Agency (EPA) Method 8260B
- Semi-volatile organic compounds (SVOCs) by EPA Method 8270D-SIM, and
- Total Metals by EPA Method 6010B (only for the groundwater sample at Boring B-2).

5.0 FINDINGS

5.1 Subsurface Conditions

The results from the drilling program show that the Site is predominately underlain by coarse-grained soils consisting of sands and gravels with occasional, interbedded sandy and gravelly silts to the depths explored. These soils were noted to become denser and more resistant with depth, which resulted in drilling refusal at the bottom of each boring. No groundwater was encountered during drilling activities except for Boring B-2, where groundwater was first-encountered at the 15.90-foot depth. Upon completion of drilling Boring B-2, the depth to groundwater was measured at approximately 16.0 feet bgs. No visual or olfactory evidence (i.e., soil discoloration, odor) of potentially-impacted soils was observed during drilling activities. PID readings measured during headspace testing showed total VOC concentrations no greater than 0.4 ppmv.

5.2 Analytical Results

For purposes of providing context to the data obtained during this investigation, analytical results were compared to applicable ODEQ Risk-Based Concentrations (RBCs) for Individual Chemicals ODEQ, May 2018). The ODEQ has the responsibility for overseeing soil and groundwater investigations and cleanup within the State of Oregon, which are managed under a variety of different programs.

For this investigation, it is assumed that the Site will continue to operate under a commercial/industrial land use scenario (occupational receptor scenario). Soil analytical results generated during this investigation were compared to the ODEQ RBCs assuming soil ingestion, dermal contact, and inhalation (RBCss) under occupational (o), construction worker (cw), and excavation worker (ew) receptor scenarios. Groundwater analytical results generated during this investigation were compared to the ODEQ RBCs assuming ingestion and inhalation from tapwater exposure (RBC_{tw}) and vapor intrusion into buildings (RBCwi) exposure pathways under

occupational (o) receptor scenarios, as well as groundwater in excavation (we) for construction and excavation workers.

5.2.1 Soil

Soil analytical results are presented on Table 1. Chain-of-custody documentation and the certified analytical report are provided in Appendix B. A summary of the soil analytical results is as follows:

- TPH-d was only detected at the 10-foot depth in Boring B-5 at a concentration of 320 milligrams per kilogram (mg/kg). TPH-mo was only detected at the 10-foot depth in Borings B-2 and B-5 at concentrations of 535J mg/kg and 97.3J mg/kg, respectively. (Note: J is a data qualifier which indicates that the identification of the analyte is acceptable; the reported value is an estimate). No TPH-g was detected in any soil samples analyzed at concentrations at or above the laboratory reporting limits.

- Low concentrations of VOCs, including benzene, toluene, and acetone, were detected in in some of the soil samples collected from Borings B1 through B-4. No VOCs were detected in the soil sample analyzed from Boring B-5 at concentrations at or above the laboratory reporting limits.

- Low concentrations of various SVOCs were detected in some of the soil samples collected from Borings B1 through B-4. No SVOCs were detected in the soil sample analyzed from Boring B-5 at concentrations at or above the laboratory reporting limits.

In summary, none of the detected TPHs, VOCs, and SVOCs in the soil samples analyzed were found to exceed their applicable ODEQ RBCs.

5.5.2 Groundwater Analytical Results

Groundwater analytical results are presented on Table 2. Chain-of-custody documentation and the certified analytical report are provided in Appendix B. A summary of the groundwater analytical results is as follows:

- TPH-d and TPH-mo were detected in Boring B-2 at concentrations of 62.6J and 89J micrograms per liter (µg/L), respectively. No TPH-g was detected in Boring B-2 at a concentration at or above the laboratory reporting limit.

- For VOCs, only naphthalene was detected at a concentration of 0.0390 J µg/L. No other VOCs were detected at concentrations at or above the laboratory reporting limits. For SVOCs, only 1-methtylnaphthalene and 2-methtylnaphthalene were detected at low concentrations.

- Metals were detected at variable concentrations in Boring B-2. For these metals, lead was detected at a concentration of 2,080 µg/L.

In summary, none of the detected TPHs, VOCs, SVOCs, and metals in the soil samples analyzed were found to exceed their applicable ODEQ RBCs except for lead, which was found to exceed its ODEQ RBC for an ingestion and inhalation from tapwater exposure pathway.

6.0 SUMMARY AND CONCLUSIONS

AEI has completed a Limited Phase II subsurface investigation at the Site. The investigation was conducted to assess the presence/absence of impacted soil and groundwater relative to historical operations at the Site. During the investigation, five (5) exploratory borings were advanced to depths between 12 and 22 feet bgs. Soil and grab-groundwater samples were obtained from the borings and submitted to an analytical laboratory for the analyses of TPHs, VOCs, SVOCs, and metals (groundwater only).

Drilling program results showed that the Site is predominately underlain by coarse-grained soils, which became resistant with depth, resulting in refusal conditions at each boring. Groundwater was only encountered in one (1) boring (B-2) at the approximate 16-foot depth. No visual or olfactory evidence (i.e., soil discoloration, odor) of potentially-impacted soils was observed during drilling activities. PID readings measured during headspace testing showed total VOC concentrations that were no greater than 0.4 ppmv.

Analytical results for this investigation showed low concentrations of TPHs, VOCs, and SVOCs in soil and groundwater. For these chemical groups, none of the detected constituents were found to exceed their applicable ODEQ RBCs. For the metals detected in groundwater, only lead was found to exceed its applicable ODEQ RBC.

TPHs, VOCs, and SVOCs detected in soils and groundwater beneath the Site indicate that there have been minor impacts in association with the historical Site operations. Contaminant sources are likely attributed to the various onsite features noted during this investigation. The source(s) for the elevated concentration of lead in groundwater is not known at this time; however, it may have originated from onsite fill materials or possibly be associated with background water quality associated with the adjacent Williamette River. Its presence in groundwater also may be attributed to the volume of sediment present in the groundwater sample, as it was not filtered prior to laboratory analysis, thereby representing a total lead concentration rather than a dissolved lead concentration. Total metals analyses generally yields higher concentrations than dissolved (filtered) metals analyses.

Based upon the analytical results generated during this investigation, described above, no further investigation or remedial action is recommended at this time.

7.0 REFERENCES

AEI Consultants, 2019, *Draft Phase I Environmental Site Assessment, 900 North Thunderbird Way, Portland, Oregon 97227*, technical report prepared for Rabin Worldwide, dated January 18, 2019.

Oregon Department of Environmental Quality (ODEQ), 2015, *Risk-Based Concentrations for Individual Chemicals,* dated May 2018.

8.0 REPORT LIMITATIONS AND RELIANCE

This report presents a summary of work completed by AEI Consultants. The completed work includes observations and descriptions of site conditions encountered. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and

location of samples are chosen to provide the requested information, subject to scope of work for which AEI was retained and limitations inherent in this type of work, but it cannot be assumed that they are representative of areas not sampled. This report should not be regarded as a guarantee that no further contamination beyond that which could have been detected within the scope of this investigation is present beneath the subject property. Undocumented, unauthorized releases of hazardous material, the remains of which are not readily identifiable by visual inspection and are of different chemical constituents, are difficult and often impossible to detect within the scope of a chemical specific investigation.

Any conclusions and/or recommendations are based on these analyses and observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document. These services were performed in accordance with generally accepted practices, in the environmental engineering and construction field, which existed at the time and location of the work. No other warranty, either expressed or implied, has been made.

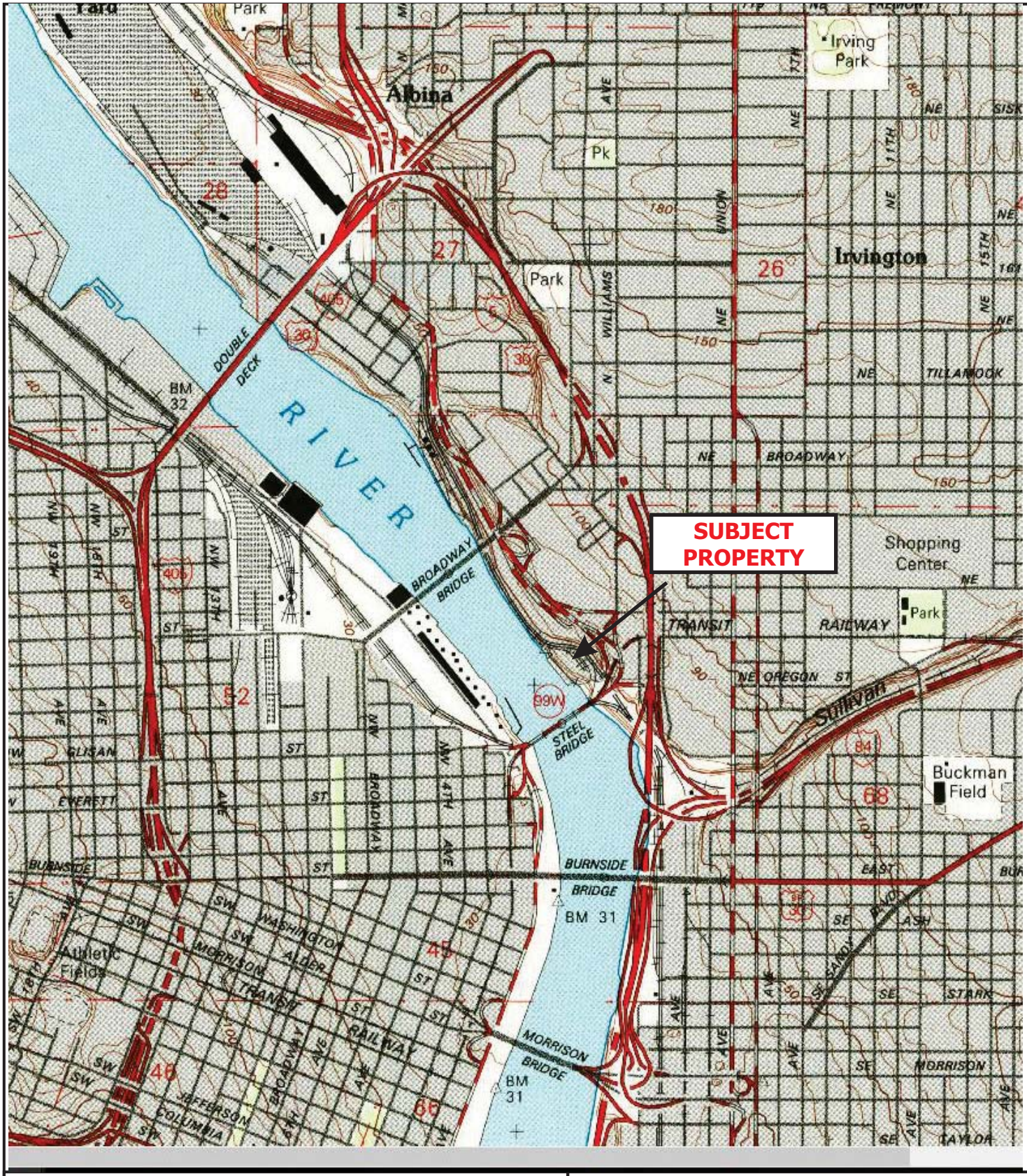
This investigation was prepared for the sole use and benefit of Rabin Worldwide. All reports, both verbal and written, whether in draft or final, are for the benefit of Rabin Worldwide. This report has no other purpose and may not be relied upon by any other person or entity without the written consent of AEI. Either verbally or in writing, third parties may come into possession of this report or all or part of the information generated as a result of this work. In the absence of a written agreement with AEI granting such rights, no third parties shall have rights of recourse or recovery whatsoever under any course of action against AEI, its officers, employees, vendors, successors or assigns. Reliance is provided in accordance with AEI's Proposal and Standard Terms & Conditions executed by Rabin Worldwide. The limitation of liability defined in the Terms and Conditions is the aggregate limit of AEI's liability to the client and all relying parties.

If there are any questions regarding our investigation, please do not hesitate to contact me at (408) 559-7600.

Sincerely,
AEI Consultants

Timothy G. Bodkin, State of Oregon RG (G1294), CEG (E1294)
Senior Geologist – Site Mitigation

FIGURES



LEGEND

0 1,000 2,000
SCALE: 1" = 2,000'

N

Map: Portland, OR-WA Quadrangle
Date: 1990
Source: USGS

AEI Consultants
2207 West 190th Street,Torrance, California 90504

SITE LOCATION MAP

900 North Thunderbird Way
Portland, Oregon97227

FIGURE 1
Project No. 399148

Legend

Estimated Groundwater Flow Direction

Approximate Property Boundary

Soil Boring Location B-1

N

Figure 2a: SITE MAP

900 North Thunderbird Way, Portland, Oregon 97227

Project Number: 399148

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Legend

Out of Use Hydraulic Railcar Tipping Shed

Approximate Property Boundary

Approximate Former UST Location

Septic Tank/Sewer Lift (City Owned)

Railroad Spur

Soil Boring Location B-4

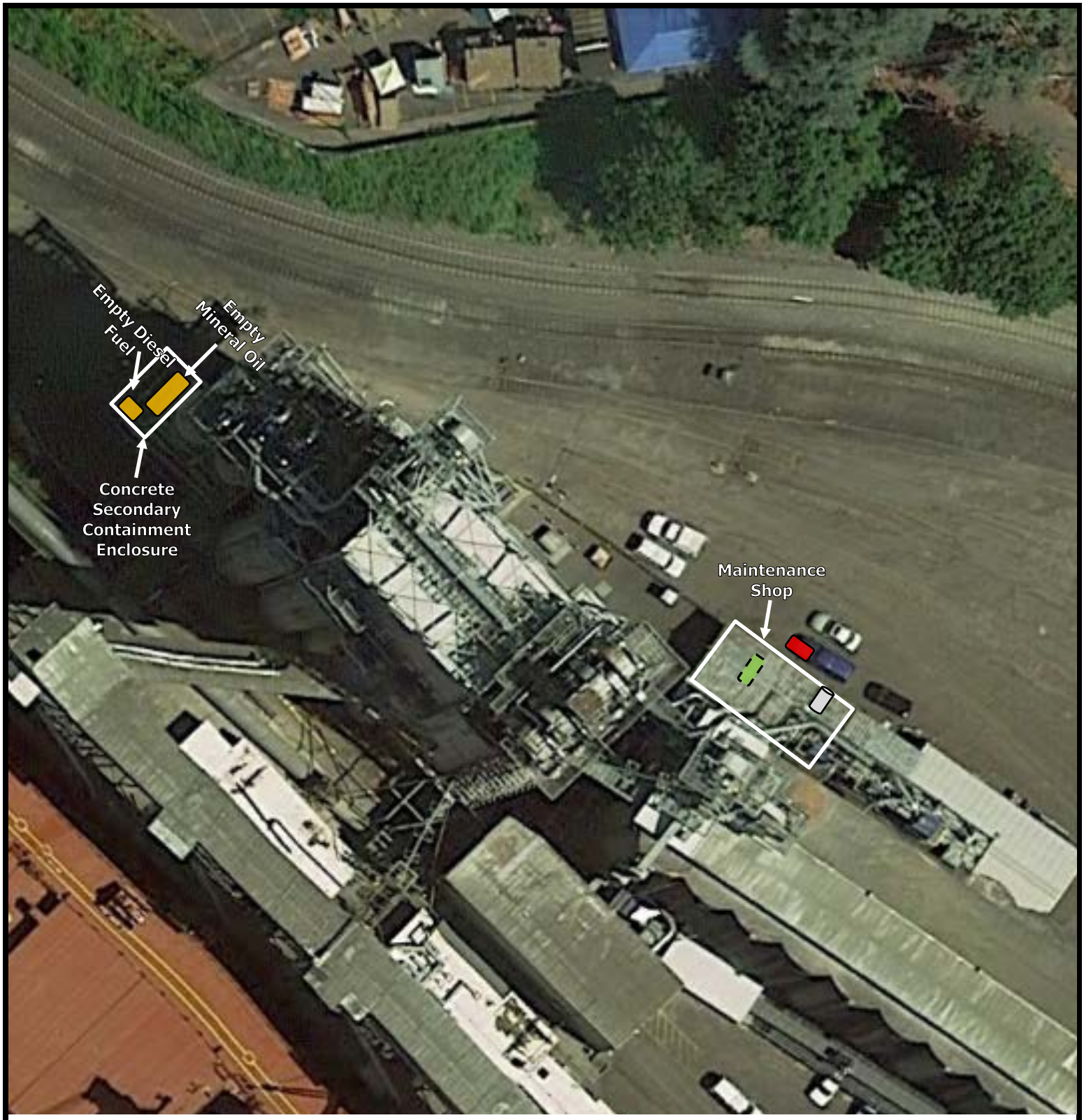
N

Figure 2b: SITE MAP

900 North Thunderbird Way, Portland, Oregon 97227

Project Number: 399148

AEI Consultants



Legend

AST | Concrete Filled Former Oil Pit | Waste Oil Drum Storage Area | Approximate Former UST Location

N

Figure 2c: SITE MAP

900 North Thunderbird Way, Portland, Oregon 97227

Project Number: 399148

AEI Consultants

TABLES

TABLE 1
SOIL SAMPLE DATA SUMMARY
900 N. Thunderbird Way
Portland, Oregon 97227

Location ID	Date	Depth (feet bgs)	TPH-d (mg/kg)	TPH-mo (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Acetone (mg/kg)	Remaining VOCs (mg/kg)	Anthracene (mg/kg)	Benzo(a)anthracene (mg/kg)
B-1-10.0	1/10/2019	10	<4.62	<11.6	<0.00151	0.00548 J	0.0483	<RDL	<0.00694	<0.00694
B-2-10.0	1/10/2019	10	<443	535 J	0.000886 J	<0.00576	<0.0288	<RDL	0.00717	0.0155 J
B-3-10.0	1/10/2019	10	<4.18	<10.5	0.000462 J	<0.00523	<0.0261	<RDL	<0.00628	<0.00628
B-4-15.0	1/10/2019	15	<5.47	<13.7	0.000608 J	0.00583 J	0.128	<RDL	<0.00821	0.00250 J
B-5-10.0	1/10/2019	10	320	97.3 J	<0.00109	<0.00546	<0.0273	<RDL	<0.00655	<0.00655
Comparison Values:										
ODEQ RBCss (o)			14,000	36,000	37	88,000	--	N/A	350,000	21
ODEQ RBCss (cw)			4,600	11,000	380	28,000	--	N/A	110,000	170
ODEQ RBCss (ew)			>Max	>Max	11,000	770,000	--	N/A	--	4,800

Notes:

--	comparison value not established
<0.0213	not detected at or above the reported detection limit
mg/kg	miligrams per kilogram
bgs	below ground surface
VOCs	volatile organic compounds
SVOCs	semi-volatile organic compounds
TPH-d	total petroleum hydrocarbons as diesel (diesel range organics)
TPH-mo	total petroleum hydrocarbons as motor oil (residual range organics)
J	the identification of the analyte is acceptable; the reported value is an estimate
<Csat	this soil RBC exceeds the limit of three phase equilibrium partitioning
>Max	the constituent RBC for this pathway is calculated as 1,000,000 mg/kg or 1,000,000 milligrams per liter (mg/L); therefore this substance is deemed to not pose risks in this scenario.
N/A	not applicable

Comparison Values:

ODEQ RBCss	Oregon Department of Environmental Quality Risk-Based Concentrations assuming soil ingestion, dermal contact, and inhalation (RBCss) under an occupational (o), contruction worker (cw), and excavation worker (ew) receptor scenario (ODEQ, May 2018)

AEI Proj. No. 399148

TABLE 1
SOIL SAMPLE DATA SUMMARY
900 N. Thunderbird Way
Portland, Oregon 97227

Location ID	Date	Depth (feet bgs)	Benzo(a) pyrene (mg/kg)	Benzo(b) fluoranthene (mg/kg)	Benzo(g,h,i) perylene (mg/kg)	Benzo(k) fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenz(a,h) anthracene (mg/kg)	Fluoranthene (mg/kg)
B-1-10.0	1/10/2019	10	<0.00694	<0.00694	<0.00694	<0.00694	<0.00694	<0.00694	<0.00694
B-2-10.0	1/10/2019	10	0.0358	0.0312 J	0.0900	0.00902 J	0.0258 J	0.00978 J	0.0378
B-3-10.0	1/10/2019	10	<0.00628	<0.00628	<0.00628	<0.00628	<0.00628	<0.00628	<0.00628
B-4-15.0	1/10/2019	15	0.00423 J	0.00709 J	0.0127	0.00171 J	0.00248	<0.00821	<0.00821
B-5-10.0	1/10/2019	10	<0.00655	<0.00655	<0.00655	<0.00655	<0.00655	<0.00655	<0.00655
Comparison Values:									
ODEQ RBCss (o)			2.1	21	--	210	2,100	21	30,000
ODEQ RBCss (cw)			17	170	--	1,700	17,000	17	10,000
ODEQ RBCss (ew)			490	4,900	--	49,000	490,000	490	280,000

Notes:

--	comparison value not established
<0.0213	not detected at or above the reported detection limit
mg/kg	miligrams per kilogram
bgs	below ground surface
VOCs	volatile organic compounds
SVOCs	semi-volatile organic compounds
TPH-d	total petroleum hydrocarbons as diesel (diesel range organics)
TPH-mo	total petroleum hydrocarbons as motor oil (residual range organics)
J	the identification of the analyte is acceptable; the reported value is an estimate
<Csat	this soil RBC exceeds the limit of three phase equilibrium partitioning
>Max	the constituent RBC for this pathway is calculated as 1,000,000 mg/kg or 1,000,000 milligrams per liter (mg/L); therefore this substance is deemed to not pose risks in this scenario.
N/A	not applicable

Comparison Values:

ODEQ RBCss	Oregon Department of Environmental Quality Risk-Based Concentrations assuming soil ingestion, dermal contact, and inhalation (RBCss) under an occupational (o), contruction worker (cw), and excavation worker (ew) receptor scenario (ODEQ, May 2018)

TABLE 1
SOIL SAMPLE DATA SUMMARY
900 N. Thunderbird Way
Portland, Oregon 97227

Location ID	Date	Depth (feet bgs)	Indeno (1,2,3-cd)pyrene (mg/kg)	Naphthalene (mg/kg)	Phenanthrene (mg/kg)	Pyrene (mg/kg)	1-Methylnaphthalene (mg/kg)	Remaining SVOCs (mg/kg)
B-1-10.0	1/10/2019	10	<0.00694	<0.0231	<0.00694	<0.00694	<0.0231	<RDL
B-2-10.0	1/10/2019	10	0.0199 J	0.0111 J	0.0293 J	0.0471	<0.111	<RDL
B-3-10.0	1/10/2019	10	<0.00628	<0.0209	<0.00628	<0.00628	<0.0209	<RDL
B-4-15.0	1/10/2019	15	0.00869	0.00729 J	<0.00821	<0.00821	0.00638 J	<RDL
B-5-10.0	1/10/2019	10	<0.00655	<0.0218	<0.00655	<0.00655	<0.0218	<RDL
Comparison Values:								
ODEQ RBCss (o)			21	23	--	23,000	--	N/A
ODEQ RBCss (cw)			170	580	--	7,500	--	N/A
ODEQ RBCss (ew)			4,900	16,000	--	210,000	--	N/A

Notes:

--	comparison value not established
<0.0213	not detected at or above the reported detection limit
mg/kg	miligrams per kilogram
bgs	below ground surface
VOCs	volatile organic compounds
SVOCs	semi-volatile organic compounds
TPH-d	total petroleum hydrocarbons as diesel (diesel range organics)
TPH-mo	total petroleum hydrocarbons as motor oil (residual range organics)
J	the identification of the analyte is acceptable; the reported value is an estimate
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>Max	the constituent RBC for this pathway is calculated as 1,000,000 mg/kg or 1,000,000 milligrams per liter (mg/L); therefore this substance is deemed to not pose risks in this scenario.
N/A	not applicable

Comparison Values:

ODEQ RBCss — Oregon Department of Environmental Quality Risk-Based Concentrations assuming soil ingestion, dermal contact, and inhalation (RBCss) under an occupational (o), contruction worker (cw), and excavation worker (ew) receptor scenario (ODEQ, May 2018)

TABLE 2
GROUNDWATER SAMPLE DATA SUMMARY
900 N. Thunderbird Way
Portland, Oregon 97227

Location ID	Date	TPH-d (µg/L)	TPH-mo (µg/L)	Napthalene (µg/L)	1-Methylnaphthalene (µg/L)	2-Methylnaphthalene (µg/L)	Lead (µg/L)	Remaining VOCs (µg/L)
B-2-W	1/10/2019	62.6 J	89 J	0.0390 J	0.0103 J	0.0145 J	**2,080**	<RDL
Comparison Values:								
ODEQ RBC tw (o)		430	1,300	0.72	--	--	**15**	N/A
ODEQ RBC wi (o)		>S	>S	11,000	--	--	--	N/A
ODEQ RBC we		>S	>S	500	--	--	--	N/A

Notes:

--	comparison value not established
µg/L	micrograms per liter
BOLD	detected concentration exceeds the applicable comparison value
VOCs	volatile organic compounds
TPH-d	total petroleum hydrocarbons as diesel (diesel range organics)
TPH-mo	total petroleum hydrocarbons as motor oil (residual range organics)
J	the identification of the analyte is acceptable; the reported value is an estimate
>S	the groundwater RBC exceeds the solubility limit
N/A	not applicable

Comparison Values:

ODEQ RBC Oregon Department of Environmental Quality Risk-Based Concentration assuming ingestion and inhalation from tapwater (tw) and vapor intrusion into building (wi) under occupational (o) scenarios, as well as groundwater in excavation (we) for construction and excavation workers (ODEQ, May 2018)

APPENDIX A

BORING LOGS

AEI CONSULTANTS
3880 Sout Bascom Avenue
San Jose, California 95214
Telephone: 310-798-4255

BORING NUMBER B-1

CLIENT Rabin Worldwide
PROJECT NAME North Thunderbird Way
PROJECT NUMBER 399148
PROJECT LOCATION 900 North Thunderbird Way, Portland, OR 97227
DATE STARTED 1/10/19 **COMPLETED** 1/10/19
GROUND ELEVATION _____ **HOLE SIZE** 2.25 inches
DRILLING CONTRACTOR Cascade Drilling, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Direct-Push
AT TIME OF DRILLING --- NA
LOGGED BY M. Zaunius **CHECKED BY** T. Bodkin
AT END OF DRILLING --- NA
NOTES Adjacent to above-ground tanks
AFTER DRILLING --- NA

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	COMPLETION
0					0.2 ASPHALT - 2 inches thick 0.5 FILL - Brown (10YR; 4/3), dry, fill material, silty to coarse sand	
	B-1-2		0.1		Sandy GRAVEL (GP). Dark brown (10YR; 3/3), moderately dense, dry, poorly graded, sub-angular gravel with fine sand and trace silt	
					3.0	
					Clayey SAND (SC). Brown (10YR; 4/3), moderately dense, moist, fine sand, some low plasticity clay	
5	B-1-5		0.3		@ 5 feet bgs - Same as 3 feet	
					6.0	
			0.1		Silty SAND (SM). Dark yellowish brown (10YR; 4/4), dense, dry, poorly graded, fine grained sand with some silt	
10	B-1-10		0.1		Silty SAND (SM). Dark yellowish brown (10YR; 4/4), dense, dry, poorly graded, fine grained sand with some silt	
			0			
15	B-1-15		0.2		@ 15 feet bgs - Same as 10 feet	
					16.5	
			0.1		Sandy GRAVEL (GP). Dark yellowish brown (10YR; 4/4), dense, dry, poorly graded, fine sub-angular gravel, fine sand with trace silt	
20			0.1			
	B-1-21.5		0.2		@ 21.5 feet bgs - Same as 16.5 feet	
					22.0	

Refusal at 22.0 feet.
Bottom of borehole at 22.0 feet.

AEI CONSULTANTS
3880 Sout Bascom Avenue
San Jose, California 95214
Telephone: 310-798-4255

BORING NUMBER B-2

CLIENT Rabin Worldwide
PROJECT NAME North Thunderbird Way
PROJECT NUMBER 399148
PROJECT LOCATION 900 North Thunderbird Way, Portland, OR 97227
DATE STARTED 1/10/19 **COMPLETED** 1/10/19
GROUND ELEVATION _____ **HOLE SIZE** 2.25 inches
DRILLING CONTRACTOR Cascade Drilling, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Direct-Push
AT TIME OF DRILLING 15.90 ft
LOGGED BY M. Zaunius **CHECKED BY** T. Bodkin
AT END OF DRILLING 16.00 ft
NOTES Adjacent to tipper shed
AFTER DRILLING --- NA

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	COMPLETION
0					0.2 ASPHALT - 2 inches thick No recovery	
5	B-2-5		0.2 0.1		5.0 Clayey GRAVEL (GC). Dark grayish brown (10YR; 4/2), dense, moist, poorly graded, coarse, sub-rounded gravel, some clay, trace coarse sand	
10	B-2-10		0.3 0.1		Clayey GRAVEL (GC). Dark grayish brown (10YR; 4/2), dense, moist, poorly graded, coarse, sub-rounded gravel, some clay, trace coarse sand @ 12 feet bgs - Poor recovery through 16 feet	
15					@ 16 feet bgs - Saturated	
					18.0 Refusal at 18.0 feet. Bottom of borehole at 18.0 feet.	

AEI CONSULTANTS
3880 Sout Bascom Avenue
San Jose, California 95214
Telephone: 310-798-4255

BORING NUMBER B-3

CLIENT Rabin Worldwide
PROJECT NAME North Thunderbird Way
PROJECT NUMBER 399148
PROJECT LOCATION 900 North Thunderbird Way, Portland, OR 97227
DATE STARTED 1/10/19 **COMPLETED** 1/10/19
GROUND ELEVATION _____ **HOLE SIZE** 2.25 inches
DRILLING CONTRACTOR Cascade Drilling, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Direct-Push
AT TIME OF DRILLING --- NA
LOGGED BY M. Zaunius **CHECKED BY** T. Bodkin
AT END OF DRILLING --- NA
NOTES Adjacent to former oil pit
AFTER DRILLING --- NA

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	COMPLETION
0.0					0.2 ASPHALT - 2 inches thick	
					0.5 FILL - Brown (10YR; 4/3), dry, fill material, silty to coarse sand	
2.5			0		Silty GRAVEL (GM) - Dark yellowish brown silt/sand (10YR; 4/4), dark grayish brown gravel (10YR; 4/2), coarse, sub-angular, poorly graded gravel, dry, moderately dense, fine sand	
5.0	B-3-5		0.1		@ 5 feet bgs - Same as 0.5 feet	
					5.0 Gravelly SILT (ML) - Dark yellowish brown silt/sand (10YR; 4/4) with dark gray gravel (10YR; 3/1), poorly graded coarse sub-angular gravel, some dense, coarse sand	
7.5			0.1			
10.0	B-3-10		0.4		@ 10 feet bgs - Same as 5 feet	
					10.0 Silty GRAVEL (GM). Dark yellowish brown silt/sand (10YR; 4/4) and dark grayish brown gravel (10YR; 4/2), poorly graded coarse, sub-angular gravel, dry, very dense, fine sand	
					11.0	

Refusal at 11.0 feet.
Bottom of borehole at 11.0 feet.

AEI CONSULTANTS
3880 Sout Bascom Avenue
San Jose, California 95214
Telephone: 310-798-4255

BORING NUMBER B-4

CLIENT Rabin Worldwide
PROJECT NAME North Thunderbird Way
PROJECT NUMBER 399148
PROJECT LOCATION 900 North Thunderbird Way, Portland, OR 97227
DATE STARTED 1/10/19 **COMPLETED** 1/10/19
GROUND ELEVATION _____ **HOLE SIZE** 2.25 inches
DRILLING CONTRACTOR Cascade Drilling, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Direct-Push
AT TIME OF DRILLING --- NA
LOGGED BY M. Zaunius **CHECKED BY** T. Bodkin
AT END OF DRILLING --- NA
NOTES Adjacent to former USTs
AFTER DRILLING --- NA

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	COMPLETION
0					0.2 ASPHALT - 2 inches thick	
					0.5 FILL - Brown (10YR; 4/3), dry, fill material, silty to coarse sand	
			0		Silty SAND (SM) - Very dark grayish brown (10YR; 3/2), moderately dense, moist, fine grained, poorly graded	
					2.0 GRAVEL (GP) with silt and sand - Dark brown (10YR; 3/3), dry, fine, poorly graded sub-angular gravel, moderately dense, fine sand, some silt	
5	B-4-5		0.2		@ 5 feet bgs - Same as 2 feet	
			0.1			
10	B-4-10		0.1		GRAVEL (GP) with silt and sand - Dark brown (10YR; 3/3), dry, fine, poorly graded sub-angular gravel, moderately dense, fine sand, some silt	
					@ 11 feet bgs - Gravel becomes coarse grained	
			0		@ 12.5 feet bgs - Poor recovery and slightly increased moisture	
15	B-4-15		0.2		@ 15 feet bgs - Same as 12.5 feet	
					15.5 Refusal at 15.5 feet. Bottom of borehole at 15.5 feet.	

AEI CONSULTANTS
3880 Sout Bascom Avenue
San Jose, California 95214
Telephone: 310-798-4255

BORING NUMBER B-5

CLIENT Rabin Worldwide
PROJECT NAME North Thunderbird Way
PROJECT NUMBER 399148
PROJECT LOCATION 900 North Thunderbird Way, Portland, OR 97227
DATE STARTED 1/10/19 **COMPLETED** 1/10/19
GROUND ELEVATION _____ **HOLE SIZE** 2.25 inches
DRILLING CONTRACTOR Cascade Drilling, Inc.
GROUND WATER LEVELS:
DRILLING METHOD Direct-Push
AT TIME OF DRILLING --- NA
LOGGED BY M. Zaunius **CHECKED BY** T. Bodkin
AT END OF DRILLING --- NA
NOTES Adjacent to newhouse tanks
AFTER DRILLING --- NA

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS	PID DATA (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	COMPLETION
0			0		0.2 ASPHALT - 2 inches thick 0.5 FILL - Brown (10YR; 4/3), dry, fill material, silty to coarse sand Clayey GRAVEL with sand (GC) - Very dark grayish brown (10YR; 3/2), moderately dense, moist, poorly graded, coarse sub-rounded gravel, low plasticity clay, fine sand	
5	B-5-5		0.1		5.0 @ 5 feet bgs - Same as 0.5 feet Silty GRAVEL (GM). Dark yellowish brown (10YR; 4/2), dense, dry, poorly graded, coarse gravel with silt, trace coarse sand	
10	B-5-10		0.1 0.2		10.0 @ 10 feet bgs - Same as 5 feet No recovery	
15					15.0 Clayey GRAVEL (GC). Dark yellowish brown (10YR; 4/4), dense, saturated, poorly graded, coarse gray gravel clasts, sub-rounded, some silty clay 17.0	

Refusal at 17.0 feet.
Bottom of borehole at 17.0 feet.

APPENDIX B

LABORATORY ANALYTICAL REPORT

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

January 21, 2019

AEI Consultants - CA

Sample Delivery Group:	L1060773
Samples Received:	01/12/2019
Project Number:	399148
Description:	900 N. Thunderbird Way

Report To: Mallory Zaunius
2500 Camino Diablo
Walnut Creek, CA 94597

Entire Report Reviewed By: Brian Ford

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 National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

TABLE OF CONTENTS

B-1-10.0 L1060773-01 Solid

Collected by: M. Zaunius | Collected date/time: 01/10/19 09:10 | Received date/time: 01/12/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1223817	1	01/16/19 09:22	01/16/19 09:31	KDW
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1224522	32.5	01/10/19 09:10	01/16/19 18:05	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1225703	1.31	01/10/19 09:10	01/18/19 20:39	DWR
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1223964	1	01/15/19 22:25	01/16/19 09:59	KME
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1224012	1	01/16/19 07:31	01/16/19 15:06	CJR

B-2-10.0 L1060773-02 Solid

Collected by: M. Zaunius | Collected date/time: 01/10/19 10:05 | Received date/time: 01/12/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1223817	1	01/16/19 09:22	01/16/19 09:31	KDW
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1224522	25.5	01/10/19 10:05	01/16/19 18:29	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1225703	1.04	01/10/19 10:05	01/18/19 20:59	DWR
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1223964	100	01/15/19 22:25	01/16/19 19:55	TJD
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1224012	5	01/16/19 07:31	01/17/19 09:43	CJR

B-3-10.0 L1060773-03 Solid

Collected by: M. Zaunius | Collected date/time: 01/10/19 12:05 | Received date/time: 01/12/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1223817	1	01/16/19 09:22	01/16/19 09:31	KDW
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1224522	25	01/10/19 12:05	01/16/19 18:53	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1225703	1	01/10/19 12:05	01/18/19 21:19	DWR
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1223964	1	01/15/19 22:25	01/16/19 10:40	KME
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1224012	1	01/16/19 07:31	01/16/19 15:27	DMG

B-4-15.0 L1060773-04 Solid

Collected by: M. Zaunius | Collected date/time: 01/10/19 15:40 | Received date/time: 01/12/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1223817	1	01/16/19 09:22	01/16/19 09:31	KDW
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1224522	25.25	01/10/19 15:40	01/16/19 19:19	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1225703	1.01	01/10/19 15:40	01/18/19 22:03	DWR
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1223964	1	01/15/19 22:25	01/16/19 10:53	KME
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1224012	1	01/16/19 07:31	01/16/19 15:48	CJR

B-5-10.0 L1060773-05 Solid

Collected by: M. Zaunius | Collected date/time: 01/10/19 13:55 | Received date/time: 01/12/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1223817	1	01/16/19 09:22	01/16/19 09:31	KDW
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1224522	25	01/10/19 13:55	01/16/19 19:43	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1225703	1	01/10/19 13:55	01/18/19 22:24	DWR
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1223964	10	01/15/19 22:25	01/16/19 13:50	KME
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1224012	1	01/16/19 07:31	01/16/19 16:09	CJR

B-2-W L1060773-06 GW

Collected by	Collected date/time	Received date/time
M. Zaunius	01/10/19 11:15	01/12/19 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Metals (ICP) by Method 6010B	WG1223291	5	01/14/19 18:41	01/15/19 12:47	TRB
Volatile Organic Compounds (GC) by Method NWTPHGX	WG1223412	1	01/15/19 21:47	01/15/19 21:47	BMB
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1223338	1	01/15/19 03:43	01/15/19 03:43	JHH
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1223279	1.06	01/15/19 15:16	01/16/19 03:19	SHG
Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM	WG1223802	1	01/15/19 22:08	01/16/19 07:35	CJR

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	86.5		1	01/16/2019 09:31	WG1223817

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	U		1.27	3.76	32.5	01/16/2019 18:05	WG1224522
(S) a,a,a-Trifluorotoluene(FID)	*95.4*			*77.0-120*		*01/16/2019 18:05*	WG1224522

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	0.0483		0.0207	0.0379	1.31	01/18/2019 20:39	WG1225703
Acrylonitrile	U		0.00288	0.0189	1.31	01/18/2019 20:39	WG1225703
Benzene	U		0.000606	0.00151	1.31	01/18/2019 20:39	WG1225703
Bromobenzene	U		0.00160	0.0189	1.31	01/18/2019 20:39	WG1225703
Bromodichloromethane	U	J4	0.00119	0.00379	1.31	01/18/2019 20:39	WG1225703
Bromoform	U		0.00905	0.0379	1.31	01/18/2019 20:39	WG1225703
Bromomethane	U		0.00561	0.0189	1.31	01/18/2019 20:39	WG1225703
n-Butylbenzene	U		0.00582	0.0189	1.31	01/18/2019 20:39	WG1225703
sec-Butylbenzene	U		0.00383	0.0189	1.31	01/18/2019 20:39	WG1225703
tert-Butylbenzene	U		0.00235	0.00757	1.31	01/18/2019 20:39	WG1225703
Carbon tetrachloride	U		0.00163	0.00757	1.31	01/18/2019 20:39	WG1225703
Chlorobenzene	U		0.000868	0.00379	1.31	01/18/2019 20:39	WG1225703
Chlorodibromomethane	U		0.000682	0.00379	1.31	01/18/2019 20:39	WG1225703
Chloroethane	U		0.00163	0.00757	1.31	01/18/2019 20:39	WG1225703
Chloroform	U		0.000629	0.00379	1.31	01/18/2019 20:39	WG1225703
Chloromethane	U		0.00210	0.0189	1.31	01/18/2019 20:39	WG1225703
2-Chlorotoluene	U		0.00139	0.00379	1.31	01/18/2019 20:39	WG1225703
4-Chlorotoluene	U		0.00171	0.00757	1.31	01/18/2019 20:39	WG1225703
1,2-Dibromo-3-Chloropropane	U		0.00772	0.0379	1.31	01/18/2019 20:39	WG1225703
1,2-Dibromoethane	U		0.000795	0.00379	1.31	01/18/2019 20:39	WG1225703
Dibromomethane	U		0.00151	0.00757	1.31	01/18/2019 20:39	WG1225703
1,2-Dichlorobenzene	U		0.00220	0.00757	1.31	01/18/2019 20:39	WG1225703
1,3-Dichlorobenzene	U		0.00258	0.00757	1.31	01/18/2019 20:39	WG1225703
1,4-Dichlorobenzene	U		0.00298	0.00757	1.31	01/18/2019 20:39	WG1225703
Dichlorodifluoromethane	U		0.00124	0.00379	1.31	01/18/2019 20:39	WG1225703
1,1-Dichloroethane	U		0.000871	0.00379	1.31	01/18/2019 20:39	WG1225703
1,2-Dichloroethane	U		0.000719	0.00379	1.31	01/18/2019 20:39	WG1225703
1,1-Dichloroethene	U		0.000757	0.00379	1.31	01/18/2019 20:39	WG1225703
cis-1,2-Dichloroethene	U		0.00105	0.00379	1.31	01/18/2019 20:39	WG1225703
trans-1,2-Dichloroethene	U		0.00216	0.00757	1.31	01/18/2019 20:39	WG1225703
1,2-Dichloropropane	U		0.00192	0.00757	1.31	01/18/2019 20:39	WG1225703
1,1-Dichloropropene	U		0.00106	0.00379	1.31	01/18/2019 20:39	WG1225703
1,3-Dichloropropane	U		0.00265	0.00757	1.31	01/18/2019 20:39	WG1225703
cis-1,3-Dichloropropene	U		0.00103	0.00379	1.31	01/18/2019 20:39	WG1225703
trans-1,3-Dichloropropene	U		0.00231	0.00757	1.31	01/18/2019 20:39	WG1225703
2,2-Dichloropropane	U	J4	0.00120	0.00379	1.31	01/18/2019 20:39	WG1225703
Di-isopropyl ether	U		0.000529	0.00151	1.31	01/18/2019 20:39	WG1225703
Ethylbenzene	U		0.000802	0.00379	1.31	01/18/2019 20:39	WG1225703
Hexachloro-1,3-butadiene	U		0.0192	0.0379	1.31	01/18/2019 20:39	WG1225703
Isopropylbenzene	U		0.00131	0.00379	1.31	01/18/2019 20:39	WG1225703
p-Isopropyltoluene	U		0.00353	0.00757	1.31	01/18/2019 20:39	WG1225703
2-Butanone (MEK)	U		0.0190	0.0379	1.31	01/18/2019 20:39	WG1225703
Methylene Chloride	U		0.0101	0.0379	1.31	01/18/2019 20:39	WG1225703
4-Methyl-2-pentanone (MIBK)	U		0.0151	0.0379	1.31	01/18/2019 20:39	WG1225703

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Methyl tert-butyl ether	U		0.000446	0.00151	1.31	01/18/2019 20:39	WG1225703
Naphthalene	U		0.00473	0.0189	1.31	01/18/2019 20:39	WG1225703
n-Propylbenzene	U		0.00178	0.00757	1.31	01/18/2019 20:39	WG1225703
Styrene	U		0.00414	0.0189	1.31	01/18/2019 20:39	WG1225703
1,1,1,2-Tetrachloroethane	U		0.000757	0.00379	1.31	01/18/2019 20:39	WG1225703
1,1,2,2-Tetrachloroethane	U		0.000591	0.00379	1.31	01/18/2019 20:39	WG1225703
1,1,2-Trichlorotrifluoroethane	U		0.00102	0.00379	1.31	01/18/2019 20:39	WG1225703
Tetrachloroethene	U		0.00106	0.00379	1.31	01/18/2019 20:39	WG1225703
Toluene	0.00548	J	0.00190	0.00757	1.31	01/18/2019 20:39	WG1225703
1,2,3-Trichlorobenzene	U		0.000947	0.00379	1.31	01/18/2019 20:39	WG1225703
1,2,4-Trichlorobenzene	U		0.00729	0.0189	1.31	01/18/2019 20:39	WG1225703
1,1,1-Trichloroethane	U	J4	0.000416	0.00379	1.31	01/18/2019 20:39	WG1225703
1,1,2-Trichloroethane	U		0.00134	0.00379	1.31	01/18/2019 20:39	WG1225703
Trichloroethene	U	J4	0.000606	0.00151	1.31	01/18/2019 20:39	WG1225703
Trichlorofluoromethane	U		0.000757	0.00379	1.31	01/18/2019 20:39	WG1225703
1,2,3-Trichloropropane	U		0.00772	0.0189	1.31	01/18/2019 20:39	WG1225703
1,2,4-Trimethylbenzene	U		0.00176	0.00757	1.31	01/18/2019 20:39	WG1225703
1,2,3-Trimethylbenzene	U		0.00175	0.00757	1.31	01/18/2019 20:39	WG1225703
1,3,5-Trimethylbenzene	U		0.00163	0.00757	1.31	01/18/2019 20:39	WG1225703
Vinyl chloride	U		0.00103	0.00379	1.31	01/18/2019 20:39	WG1225703
Xylenes, Total	U		0.00724	0.00984	1.31	01/18/2019 20:39	WG1225703
(S) Toluene-d8	*114*			*75.0-131*		*01/18/2019 20:39*	WG1225703
(S) Dibromofluoromethane	*90.8*			*65.0-129*		*01/18/2019 20:39*	WG1225703
(S) 4-Bromofluorobenzene	*93.8*			*67.0-138*		*01/18/2019 20:39*	WG1225703

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		1.54	4.62	1	01/16/2019 09:59	WG1223964
Residual Range Organics (RRO)	U		3.85	11.6	1	01/16/2019 09:59	WG1223964
(S) o-Terphenyl	*79.4*			*18.0-148*		*01/16/2019 09:59*	WG1223964

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.000694	0.00694	1	01/16/2019 15:06	WG1224012
Acenaphthene	U		0.000694	0.00694	1	01/16/2019 15:06	WG1224012
Acenaphthylene	U		0.000694	0.00694	1	01/16/2019 15:06	WG1224012
Benzo(a)anthracene	U		0.000694	0.00694	1	01/16/2019 15:06	WG1224012
Benzo(a)pyrene	U		0.000694	0.00694	1	01/16/2019 15:06	WG1224012
Benzo(b)fluoranthene	U		0.000694	0.00694	1	01/16/2019 15:06	WG1224012
Benzo(g,h,i)perylene	U		0.000694	0.00694	1	01/16/2019 15:06	WG1224012
Benzo(k)fluoranthene	U		0.000694	0.00694	1	01/16/2019 15:06	WG1224012
Chrysene	U		0.000694	0.00694	1	01/16/2019 15:06	WG1224012
Dibenz(a,h)anthracene	U		0.000694	0.00694	1	01/16/2019 15:06	WG1224012
Fluoranthene	U		0.000694	0.00694	1	01/16/2019 15:06	WG1224012
Fluorene	U		0.000694	0.00694	1	01/16/2019 15:06	WG1224012
Indeno(1,2,3-cd)pyrene	U		0.000694	0.00694	1	01/16/2019 15:06	WG1224012
Naphthalene	U		0.00231	0.0231	1	01/16/2019 15:06	WG1224012
Phenanthrene	U		0.000694	0.00694	1	01/16/2019 15:06	WG1224012
Pyrene	U		0.000694	0.00694	1	01/16/2019 15:06	WG1224012
1-Methylnaphthalene	U		0.00231	0.0231	1	01/16/2019 15:06	WG1224012
2-Methylnaphthalene	U		0.00231	0.0231	1	01/16/2019 15:06	WG1224012
2-Chloronaphthalene	U		0.00231	0.0231	1	01/16/2019 15:06	WG1224012
(S) Nitrobenzene-d5	*64.3*			*14.0-149*		*01/16/2019 15:06*	WG1224012

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
(S) 2-Fluorobiphenyl	*58.0*			*34.0-125*		*01/16/2019 15:06*	WG1224012
(S) p-Terphenyl-d14	*57.9*			*23.0-120*		*01/16/2019 15:06*	WG1224012

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.3		1	01/16/2019 09:31	WG1223817

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	U		0.957	2.82	25.5	01/16/2019 18:29	WG1224522
(S) a,a,a-Trifluorotoluene(FID)	*94.6*			*77.0-120*		*01/16/2019 18:29*	WG1224522

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0157	0.0288	1.04	01/18/2019 20:59	WG1225703
Acrylonitrile	U		0.00219	0.0144	1.04	01/18/2019 20:59	WG1225703
Benzene	0.000886	J	0.000461	0.00115	1.04	01/18/2019 20:59	WG1225703
Bromobenzene	U		0.00121	0.0144	1.04	01/18/2019 20:59	WG1225703
Bromodichloromethane	U	J4	0.000908	0.00288	1.04	01/18/2019 20:59	WG1225703
Bromoform	U		0.00689	0.0288	1.04	01/18/2019 20:59	WG1225703
Bromomethane	U		0.00426	0.0144	1.04	01/18/2019 20:59	WG1225703
n-Butylbenzene	U		0.00442	0.0144	1.04	01/18/2019 20:59	WG1225703
sec-Butylbenzene	U		0.00291	0.0144	1.04	01/18/2019 20:59	WG1225703
tert-Butylbenzene	U		0.00178	0.00576	1.04	01/18/2019 20:59	WG1225703
Carbon tetrachloride	U		0.00124	0.00576	1.04	01/18/2019 20:59	WG1225703
Chlorobenzene	U		0.000660	0.00288	1.04	01/18/2019 20:59	WG1225703
Chlorodibromomethane	U		0.000518	0.00288	1.04	01/18/2019 20:59	WG1225703
Chloroethane	U		0.00124	0.00576	1.04	01/18/2019 20:59	WG1225703
Chloroform	U		0.000478	0.00288	1.04	01/18/2019 20:59	WG1225703
Chloromethane	U		0.00159	0.0144	1.04	01/18/2019 20:59	WG1225703
2-Chlorotoluene	U		0.00106	0.00288	1.04	01/18/2019 20:59	WG1225703
4-Chlorotoluene	U		0.00131	0.00576	1.04	01/18/2019 20:59	WG1225703
1,2-Dibromo-3-Chloropropane	U		0.00587	0.0288	1.04	01/18/2019 20:59	WG1225703
1,2-Dibromoethane	U		0.000605	0.00288	1.04	01/18/2019 20:59	WG1225703
Dibromomethane	U		0.00115	0.00576	1.04	01/18/2019 20:59	WG1225703
1,2-Dichlorobenzene	U		0.00167	0.00576	1.04	01/18/2019 20:59	WG1225703
1,3-Dichlorobenzene	U		0.00196	0.00576	1.04	01/18/2019 20:59	WG1225703
1,4-Dichlorobenzene	U		0.00227	0.00576	1.04	01/18/2019 20:59	WG1225703
Dichlorodifluoromethane	U		0.000942	0.00288	1.04	01/18/2019 20:59	WG1225703
1,1-Dichloroethane	U		0.000662	0.00288	1.04	01/18/2019 20:59	WG1225703
1,2-Dichloroethane	U		0.000547	0.00288	1.04	01/18/2019 20:59	WG1225703
1,1-Dichloroethene	U		0.000576	0.00288	1.04	01/18/2019 20:59	WG1225703
cis-1,2-Dichloroethene	U		0.000795	0.00288	1.04	01/18/2019 20:59	WG1225703
trans-1,2-Dichloroethene	U		0.00165	0.00576	1.04	01/18/2019 20:59	WG1225703
1,2-Dichloropropane	U		0.00146	0.00576	1.04	01/18/2019 20:59	WG1225703
1,1-Dichloropropene	U		0.000806	0.00288	1.04	01/18/2019 20:59	WG1225703
1,3-Dichloropropane	U		0.00202	0.00576	1.04	01/18/2019 20:59	WG1225703
cis-1,3-Dichloropropene	U		0.000781	0.00288	1.04	01/18/2019 20:59	WG1225703
trans-1,3-Dichloropropene	U		0.00176	0.00576	1.04	01/18/2019 20:59	WG1225703
2,2-Dichloropropane	U	J4	0.000913	0.00288	1.04	01/18/2019 20:59	WG1225703
Di-isopropyl ether	U		0.000403	0.00115	1.04	01/18/2019 20:59	WG1225703
Ethylbenzene	U		0.000610	0.00288	1.04	01/18/2019 20:59	WG1225703
Hexachloro-1,3-butadiene	U		0.0146	0.0288	1.04	01/18/2019 20:59	WG1225703
Isopropylbenzene	U		0.000994	0.00288	1.04	01/18/2019 20:59	WG1225703
p-Isopropyltoluene	U		0.00268	0.00576	1.04	01/18/2019 20:59	WG1225703
2-Butanone (MEK)	U		0.0144	0.0288	1.04	01/18/2019 20:59	WG1225703
Methylene Chloride	U		0.00764	0.0288	1.04	01/18/2019 20:59	WG1225703
4-Methyl-2-pentanone (MIBK)	U		0.0115	0.0288	1.04	01/18/2019 20:59	WG1225703

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Methyl tert-butyl ether	U		0.000340	0.00115	1.04	01/18/2019 20:59	WG1225703
Naphthalene	U		0.00359	0.0144	1.04	01/18/2019 20:59	WG1225703
n-Propylbenzene	U		0.00136	0.00576	1.04	01/18/2019 20:59	WG1225703
Styrene	U		0.00314	0.0144	1.04	01/18/2019 20:59	WG1225703
1,1,1,2-Tetrachloroethane	U		0.000576	0.00288	1.04	01/18/2019 20:59	WG1225703
1,1,2,2-Tetrachloroethane	U		0.000450	0.00288	1.04	01/18/2019 20:59	WG1225703
1,1,2-Trichlorotrifluoroethane	U		0.000777	0.00288	1.04	01/18/2019 20:59	WG1225703
Tetrachloroethene	U		0.000806	0.00288	1.04	01/18/2019 20:59	WG1225703
Toluene	U		0.00144	0.00576	1.04	01/18/2019 20:59	WG1225703
1,2,3-Trichlorobenzene	U		0.000720	0.00288	1.04	01/18/2019 20:59	WG1225703
1,2,4-Trichlorobenzene	U		0.00555	0.0144	1.04	01/18/2019 20:59	WG1225703
1,1,1-Trichloroethane	U	J4	0.000317	0.00288	1.04	01/18/2019 20:59	WG1225703
1,1,2-Trichloroethane	U		0.00102	0.00288	1.04	01/18/2019 20:59	WG1225703
Trichloroethene	U	J4	0.000461	0.00115	1.04	01/18/2019 20:59	WG1225703
Trichlorofluoromethane	U		0.000576	0.00288	1.04	01/18/2019 20:59	WG1225703
1,2,3-Trichloropropane	U		0.00587	0.0144	1.04	01/18/2019 20:59	WG1225703
1,2,4-Trimethylbenzene	U		0.00134	0.00576	1.04	01/18/2019 20:59	WG1225703
1,2,3-Trimethylbenzene	U		0.00133	0.00576	1.04	01/18/2019 20:59	WG1225703
1,3,5-Trimethylbenzene	U		0.00124	0.00576	1.04	01/18/2019 20:59	WG1225703
Vinyl chloride	U		0.000786	0.00288	1.04	01/18/2019 20:59	WG1225703
Xylenes, Total	U		0.00550	0.00748	1.04	01/18/2019 20:59	WG1225703
(S) Toluene-d8	*111*			*75.0-131*		*01/18/2019 20:59*	WG1225703
(S) Dibromofluoromethane	*88.3*			*65.0-129*		*01/18/2019 20:59*	WG1225703
(S) 4-Bromofluorobenzene	*92.2*			*67.0-138*		*01/18/2019 20:59*	WG1225703

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		147	443	100	01/16/2019 19:55	WG1223964
Residual Range Organics (RRO)	535	J	369	1110	100	01/16/2019 19:55	WG1223964
(S) o-Terphenyl	*0.000*	J7		*18.0-148*		*01/16/2019 19:55*	WG1223964

Sample Narrative:

L1060773-02 WG1223964: Cannot run at lower dilution due to viscosity of extract

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	0.00717	J	0.00332	0.0332	5	01/17/2019 09:43	WG1224012
Acenaphthene	U		0.00332	0.0332	5	01/17/2019 09:43	WG1224012
Acenaphthylene	U		0.00332	0.0332	5	01/17/2019 09:43	WG1224012
Benzo(a)anthracene	0.0155	J	0.00332	0.0332	5	01/17/2019 09:43	WG1224012
Benzo(a)pyrene	0.0358		0.00332	0.0332	5	01/17/2019 09:43	WG1224012
Benzo(b)fluoranthene	0.0312	J	0.00332	0.0332	5	01/17/2019 09:43	WG1224012
Benzo(g,h,i)perylene	0.0900		0.00332	0.0332	5	01/17/2019 09:43	WG1224012
Benzo(k)fluoranthene	0.00902	J	0.00332	0.0332	5	01/17/2019 09:43	WG1224012
Chrysene	0.0258	J	0.00332	0.0332	5	01/17/2019 09:43	WG1224012
Dibenz(a,h)anthracene	0.00978	J	0.00332	0.0332	5	01/17/2019 09:43	WG1224012
Fluoranthene	0.0378		0.00332	0.0332	5	01/17/2019 09:43	WG1224012
Fluorene	U		0.00332	0.0332	5	01/17/2019 09:43	WG1224012
Indeno(1,2,3-cd)pyrene	0.0199	J	0.00332	0.0332	5	01/17/2019 09:43	WG1224012
Naphthalene	0.0111	J	0.0111	0.111	5	01/17/2019 09:43	WG1224012
Phenanthrene	0.0293	J	0.00332	0.0332	5	01/17/2019 09:43	WG1224012
Pyrene	0.0471		0.00332	0.0332	5	01/17/2019 09:43	WG1224012
1-Methylnaphthalene	U		0.0111	0.111	5	01/17/2019 09:43	WG1224012

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
2-Methylnaphthalene	U		0.0111	0.111	5	01/17/2019 09:43	WG1224012
2-Chloronaphthalene	U		0.0111	0.111	5	01/17/2019 09:43	WG1224012
(S) Nitrobenzene-d5	*68.3*			*14.0-149*		*01/17/2019 09:43*	WG1224012
(S) 2-Fluorobiphenyl	*62.1*			*34.0-125*		*01/17/2019 09:43*	WG1224012
(S) p-Terphenyl-d14	*58.5*			*23.0-120*		*01/17/2019 09:43*	WG1224012

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.6		1	01/16/2019 09:31	WG1223817

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	U		0.887	2.61	25	01/16/2019 18:53	WG1224522
(S) a,a,a-Trifluorotoluene(FID)	*95.0*			*77.0-120*		*01/16/2019 18:53*	WG1224522

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0143	0.0261	1	01/18/2019 21:19	WG1225703
Acrylonitrile	U		0.00199	0.0131	1	01/18/2019 21:19	WG1225703
Benzene	0.000462	J	0.000418	0.00105	1	01/18/2019 21:19	WG1225703
Bromobenzene	U		0.00110	0.0131	1	01/18/2019 21:19	WG1225703
Bromodichloromethane	U	J4	0.000824	0.00261	1	01/18/2019 21:19	WG1225703
Bromoform	U		0.00625	0.0261	1	01/18/2019 21:19	WG1225703
Bromomethane	U		0.00387	0.0131	1	01/18/2019 21:19	WG1225703
n-Butylbenzene	U		0.00402	0.0131	1	01/18/2019 21:19	WG1225703
sec-Butylbenzene	U		0.00265	0.0131	1	01/18/2019 21:19	WG1225703
tert-Butylbenzene	U		0.00162	0.00523	1	01/18/2019 21:19	WG1225703
Carbon tetrachloride	U		0.00113	0.00523	1	01/18/2019 21:19	WG1225703
Chlorobenzene	U		0.000599	0.00261	1	01/18/2019 21:19	WG1225703
Chlorodibromomethane	U		0.000471	0.00261	1	01/18/2019 21:19	WG1225703
Chloroethane	U		0.00113	0.00523	1	01/18/2019 21:19	WG1225703
Chloroform	U		0.000434	0.00261	1	01/18/2019 21:19	WG1225703
Chloromethane	U		0.00145	0.0131	1	01/18/2019 21:19	WG1225703
2-Chlorotoluene	U		0.000962	0.00261	1	01/18/2019 21:19	WG1225703
4-Chlorotoluene	U		0.00118	0.00523	1	01/18/2019 21:19	WG1225703
1,2-Dibromo-3-Chloropropane	U		0.00533	0.0261	1	01/18/2019 21:19	WG1225703
1,2-Dibromoethane	U		0.000549	0.00261	1	01/18/2019 21:19	WG1225703
Dibromomethane	U		0.00105	0.00523	1	01/18/2019 21:19	WG1225703
1,2-Dichlorobenzene	U		0.00152	0.00523	1	01/18/2019 21:19	WG1225703
1,3-Dichlorobenzene	U		0.00178	0.00523	1	01/18/2019 21:19	WG1225703
1,4-Dichlorobenzene	U		0.00206	0.00523	1	01/18/2019 21:19	WG1225703
Dichlorodifluoromethane	U		0.000856	0.00261	1	01/18/2019 21:19	WG1225703
1,1-Dichloroethane	U		0.000601	0.00261	1	01/18/2019 21:19	WG1225703
1,2-Dichloroethane	U		0.000497	0.00261	1	01/18/2019 21:19	WG1225703
1,1-Dichloroethene	U		0.000523	0.00261	1	01/18/2019 21:19	WG1225703
cis-1,2-Dichloroethene	U		0.000722	0.00261	1	01/18/2019 21:19	WG1225703
trans-1,2-Dichloroethene	U		0.00150	0.00523	1	01/18/2019 21:19	WG1225703
1,2-Dichloropropane	U		0.00133	0.00523	1	01/18/2019 21:19	WG1225703
1,1-Dichloropropene	U		0.000732	0.00261	1	01/18/2019 21:19	WG1225703
1,3-Dichloropropane	U		0.00183	0.00523	1	01/18/2019 21:19	WG1225703
cis-1,3-Dichloropropene	U		0.000709	0.00261	1	01/18/2019 21:19	WG1225703
trans-1,3-Dichloropropene	U		0.00160	0.00523	1	01/18/2019 21:19	WG1225703
2,2-Dichloropropane	U	J4	0.000829	0.00261	1	01/18/2019 21:19	WG1225703
Di-isopropyl ether	U		0.000366	0.00105	1	01/18/2019 21:19	WG1225703
Ethylbenzene	U		0.000554	0.00261	1	01/18/2019 21:19	WG1225703
Hexachloro-1,3-butadiene	U		0.0133	0.0261	1	01/18/2019 21:19	WG1225703
Isopropylbenzene	U		0.000903	0.00261	1	01/18/2019 21:19	WG1225703
p-Isopropyltoluene	U		0.00244	0.00523	1	01/18/2019 21:19	WG1225703
2-Butanone (MEK)	U		0.0131	0.0261	1	01/18/2019 21:19	WG1225703
Methylene Chloride	U		0.00695	0.0261	1	01/18/2019 21:19	WG1225703
4-Methyl-2-pentanone (MIBK)	U		0.0105	0.0261	1	01/18/2019 21:19	WG1225703

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Methyl tert-butyl ether	U		0.000309	0.00105	1	01/18/2019 21:19	WG1225703
Naphthalene	U		0.00326	0.0131	1	01/18/2019 21:19	WG1225703
n-Propylbenzene	U		0.00123	0.00523	1	01/18/2019 21:19	WG1225703
Styrene	U		0.00286	0.0131	1	01/18/2019 21:19	WG1225703
1,1,1,2-Tetrachloroethane	U		0.000523	0.00261	1	01/18/2019 21:19	WG1225703
1,1,2,2-Tetrachloroethane	U		0.000408	0.00261	1	01/18/2019 21:19	WG1225703
1,1,2-Trichlorotrifluoroethane	U		0.000706	0.00261	1	01/18/2019 21:19	WG1225703
Tetrachloroethene	U		0.000732	0.00261	1	01/18/2019 21:19	WG1225703
Toluene	U		0.00131	0.00523	1	01/18/2019 21:19	WG1225703
1,2,3-Trichlorobenzene	U		0.000654	0.00261	1	01/18/2019 21:19	WG1225703
1,2,4-Trichlorobenzene	U		0.00504	0.0131	1	01/18/2019 21:19	WG1225703
1,1,1-Trichloroethane	U	J4	0.000288	0.00261	1	01/18/2019 21:19	WG1225703
1,1,2-Trichloroethane	U		0.000924	0.00261	1	01/18/2019 21:19	WG1225703
Trichloroethene	U	J4	0.000418	0.00105	1	01/18/2019 21:19	WG1225703
Trichlorofluoromethane	U		0.000523	0.00261	1	01/18/2019 21:19	WG1225703
1,2,3-Trichloropropane	U		0.00533	0.0131	1	01/18/2019 21:19	WG1225703
1,2,4-Trimethylbenzene	U		0.00121	0.00523	1	01/18/2019 21:19	WG1225703
1,2,3-Trimethylbenzene	U		0.00120	0.00523	1	01/18/2019 21:19	WG1225703
1,3,5-Trimethylbenzene	U		0.00113	0.00523	1	01/18/2019 21:19	WG1225703
Vinyl chloride	U		0.000714	0.00261	1	01/18/2019 21:19	WG1225703
Xylenes, Total	U		0.00500	0.00680	1	01/18/2019 21:19	WG1225703
(S) Toluene-d8	*120*			*75.0-131*		*01/18/2019 21:19*	WG1225703
(S) Dibromofluoromethane	*91.2*			*65.0-129*		*01/18/2019 21:19*	WG1225703
(S) 4-Bromofluorobenzene	*99.5*			*67.0-138*		*01/18/2019 21:19*	WG1225703

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		1.39	4.18	1	01/16/2019 10:40	WG1223964
Residual Range Organics (RRO)	U		3.48	10.5	1	01/16/2019 10:40	WG1223964
(S) o-Terphenyl	*88.3*			*18.0-148*		*01/16/2019 10:40*	WG1223964

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.000628	0.00628	1	01/16/2019 15:27	WG1224012
Acenaphthene	U		0.000628	0.00628	1	01/16/2019 15:27	WG1224012
Acenaphthylene	U		0.000628	0.00628	1	01/16/2019 15:27	WG1224012
Benzo(a)anthracene	U		0.000628	0.00628	1	01/16/2019 15:27	WG1224012
Benzo(a)pyrene	U		0.000628	0.00628	1	01/16/2019 15:27	WG1224012
Benzo(b)fluoranthene	U		0.000628	0.00628	1	01/16/2019 15:27	WG1224012
Benzo(g,h,i)perylene	U		0.000628	0.00628	1	01/16/2019 15:27	WG1224012
Benzo(k)fluoranthene	U		0.000628	0.00628	1	01/16/2019 15:27	WG1224012
Chrysene	U		0.000628	0.00628	1	01/16/2019 15:27	WG1224012
Dibenz(a,h)anthracene	U		0.000628	0.00628	1	01/16/2019 15:27	WG1224012
Fluoranthene	U		0.000628	0.00628	1	01/16/2019 15:27	WG1224012
Fluorene	U		0.000628	0.00628	1	01/16/2019 15:27	WG1224012
Indeno(1,2,3-cd)pyrene	U		0.000628	0.00628	1	01/16/2019 15:27	WG1224012
Naphthalene	U		0.00209	0.0209	1	01/16/2019 15:27	WG1224012
Phenanthrene	U		0.000628	0.00628	1	01/16/2019 15:27	WG1224012
Pyrene	U		0.000628	0.00628	1	01/16/2019 15:27	WG1224012
1-Methylnaphthalene	U		0.00209	0.0209	1	01/16/2019 15:27	WG1224012
2-Methylnaphthalene	U		0.00209	0.0209	1	01/16/2019 15:27	WG1224012
2-Chloronaphthalene	U		0.00209	0.0209	1	01/16/2019 15:27	WG1224012
(S) Nitrobenzene-d5	*69.4*			*14.0-149*		*01/16/2019 15:27*	WG1224012

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
(S) 2-Fluorobiphenyl	*62.5*			*34.0-125*		*01/16/2019 15:27*	WG1224012
(S) p-Terphenyl-d14	*65.5*			*23.0-120*		*01/16/2019 15:27*	WG1224012

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	73.1		1	01/16/2019 09:31	WG1223817

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	U		1.17	3.45	25.25	01/16/2019 19:19	WG1224522
(S) a,a,a-Trifluorotoluene(FID)	*94.7*			*77.0-120*		*01/16/2019 19:19*	WG1224522

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	0.128		0.0189	0.0345	1.01	01/18/2019 22:03	WG1225703
Acrylonitrile	U		0.00263	0.0173	1.01	01/18/2019 22:03	WG1225703
Benzene	0.000608	J	0.000553	0.00138	1.01	01/18/2019 22:03	WG1225703
Bromobenzene	U		0.00145	0.0173	1.01	01/18/2019 22:03	WG1225703
Bromodichloromethane	U	J4	0.00109	0.00345	1.01	01/18/2019 22:03	WG1225703
Bromoform	U		0.00826	0.0345	1.01	01/18/2019 22:03	WG1225703
Bromomethane	U		0.00512	0.0173	1.01	01/18/2019 22:03	WG1225703
n-Butylbenzene	U		0.00531	0.0173	1.01	01/18/2019 22:03	WG1225703
sec-Butylbenzene	U		0.00350	0.0173	1.01	01/18/2019 22:03	WG1225703
tert-Butylbenzene	U		0.00213	0.00691	1.01	01/18/2019 22:03	WG1225703
Carbon tetrachloride	U		0.00149	0.00691	1.01	01/18/2019 22:03	WG1225703
Chlorobenzene	U		0.000792	0.00345	1.01	01/18/2019 22:03	WG1225703
Chlorodibromomethane	U		0.000621	0.00345	1.01	01/18/2019 22:03	WG1225703
Chloroethane	U		0.00149	0.00691	1.01	01/18/2019 22:03	WG1225703
Chloroform	U		0.000573	0.00345	1.01	01/18/2019 22:03	WG1225703
Chloromethane	U		0.00192	0.0173	1.01	01/18/2019 22:03	WG1225703
2-Chlorotoluene	U		0.00127	0.00345	1.01	01/18/2019 22:03	WG1225703
4-Chlorotoluene	U		0.00156	0.00691	1.01	01/18/2019 22:03	WG1225703
1,2-Dibromo-3-Chloropropane	U		0.00705	0.0345	1.01	01/18/2019 22:03	WG1225703
1,2-Dibromoethane	U		0.000725	0.00345	1.01	01/18/2019 22:03	WG1225703
Dibromomethane	U		0.00138	0.00691	1.01	01/18/2019 22:03	WG1225703
1,2-Dichlorobenzene	U		0.00200	0.00691	1.01	01/18/2019 22:03	WG1225703
1,3-Dichlorobenzene	U		0.00235	0.00691	1.01	01/18/2019 22:03	WG1225703
1,4-Dichlorobenzene	U		0.00272	0.00691	1.01	01/18/2019 22:03	WG1225703
Dichlorodifluoromethane	U		0.00113	0.00345	1.01	01/18/2019 22:03	WG1225703
1,1-Dichloroethane	U		0.000795	0.00345	1.01	01/18/2019 22:03	WG1225703
1,2-Dichloroethane	U		0.000657	0.00345	1.01	01/18/2019 22:03	WG1225703
1,1-Dichloroethene	U		0.000691	0.00345	1.01	01/18/2019 22:03	WG1225703
cis-1,2-Dichloroethene	U		0.000954	0.00345	1.01	01/18/2019 22:03	WG1225703
trans-1,2-Dichloroethene	U		0.00197	0.00691	1.01	01/18/2019 22:03	WG1225703
1,2-Dichloropropane	U		0.00175	0.00691	1.01	01/18/2019 22:03	WG1225703
1,1-Dichloropropene	U		0.000967	0.00345	1.01	01/18/2019 22:03	WG1225703
1,3-Dichloropropane	U		0.00242	0.00691	1.01	01/18/2019 22:03	WG1225703
cis-1,3-Dichloropropene	U		0.000937	0.00345	1.01	01/18/2019 22:03	WG1225703
trans-1,3-Dichloropropene	U		0.00211	0.00691	1.01	01/18/2019 22:03	WG1225703
2,2-Dichloropropane	U	J4	0.00110	0.00345	1.01	01/18/2019 22:03	WG1225703
Di-isopropyl ether	U		0.000484	0.00138	1.01	01/18/2019 22:03	WG1225703
Ethylbenzene	U		0.000732	0.00345	1.01	01/18/2019 22:03	WG1225703
Hexachloro-1,3-butadiene	U		0.0175	0.0345	1.01	01/18/2019 22:03	WG1225703
Isopropylbenzene	U		0.00119	0.00345	1.01	01/18/2019 22:03	WG1225703
p-Isopropyltoluene	U		0.00322	0.00691	1.01	01/18/2019 22:03	WG1225703
2-Butanone (MEK)	U		0.0172	0.0345	1.01	01/18/2019 22:03	WG1225703
Methylene Chloride	U		0.00918	0.0345	1.01	01/18/2019 22:03	WG1225703
4-Methyl-2-pentanone (MIBK)	U		0.0138	0.0345	1.01	01/18/2019 22:03	WG1225703

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Methyl tert-butyl ether	U		0.000408	0.00138	1.01	01/18/2019 22:03	WG1225703
Naphthalene	U		0.00431	0.0173	1.01	01/18/2019 22:03	WG1225703
n-Propylbenzene	U		0.00163	0.00691	1.01	01/18/2019 22:03	WG1225703
Styrene	U		0.00378	0.0173	1.01	01/18/2019 22:03	WG1225703
1,1,1,2-Tetrachloroethane	U		0.000691	0.00345	1.01	01/18/2019 22:03	WG1225703
1,1,2,2-Tetrachloroethane	U		0.000539	0.00345	1.01	01/18/2019 22:03	WG1225703
1,1,2-Trichlorotrifluoroethane	U		0.000933	0.00345	1.01	01/18/2019 22:03	WG1225703
Tetrachloroethene	U		0.000967	0.00345	1.01	01/18/2019 22:03	WG1225703
Toluene	0.00583	J	0.00172	0.00691	1.01	01/18/2019 22:03	WG1225703
1,2,3-Trichlorobenzene	U		0.000863	0.00345	1.01	01/18/2019 22:03	WG1225703
1,2,4-Trichlorobenzene	U		0.00666	0.0173	1.01	01/18/2019 22:03	WG1225703
1,1,1-Trichloroethane	U	J4	0.000380	0.00345	1.01	01/18/2019 22:03	WG1225703
1,1,2-Trichloroethane	U		0.00122	0.00345	1.01	01/18/2019 22:03	WG1225703
Trichloroethene	U	J4	0.000553	0.00138	1.01	01/18/2019 22:03	WG1225703
Trichlorofluoromethane	U		0.000691	0.00345	1.01	01/18/2019 22:03	WG1225703
1,2,3-Trichloropropane	U		0.00705	0.0173	1.01	01/18/2019 22:03	WG1225703
1,2,4-Trimethylbenzene	U		0.00160	0.00691	1.01	01/18/2019 22:03	WG1225703
1,2,3-Trimethylbenzene	U		0.00159	0.00691	1.01	01/18/2019 22:03	WG1225703
1,3,5-Trimethylbenzene	U		0.00149	0.00691	1.01	01/18/2019 22:03	WG1225703
Vinyl chloride	U		0.000944	0.00345	1.01	01/18/2019 22:03	WG1225703
Xylenes, Total	U		0.00661	0.00898	1.01	01/18/2019 22:03	WG1225703
(S) Toluene-d8	*111*			*75.0-131*		*01/18/2019 22:03*	WG1225703
(S) Dibromofluoromethane	*96.3*			*65.0-129*		*01/18/2019 22:03*	WG1225703
(S) 4-Bromofluorobenzene	*87.9*			*67.0-138*		*01/18/2019 22:03*	WG1225703

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	U		1.82	5.47	1	01/16/2019 10:53	WG1223964
Residual Range Organics (RRO)	U		4.56	13.7	1	01/16/2019 10:53	WG1223964
(S) o-Terphenyl	*69.3*			*18.0-148*		*01/16/2019 10:53*	WG1223964

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.000821	0.00821	1	01/16/2019 15:48	WG1224012
Acenaphthene	U		0.000821	0.00821	1	01/16/2019 15:48	WG1224012
Acenaphthylene	U		0.000821	0.00821	1	01/16/2019 15:48	WG1224012
Benzo(a)anthracene	0.00250	J	0.000821	0.00821	1	01/16/2019 15:48	WG1224012
Benzo(a)pyrene	0.00423	J	0.000821	0.00821	1	01/16/2019 15:48	WG1224012
Benzo(b)fluoranthene	0.00709	J	0.000821	0.00821	1	01/16/2019 15:48	WG1224012
Benzo(g,h,i)perylene	0.0127		0.000821	0.00821	1	01/16/2019 15:48	WG1224012
Benzo(k)fluoranthene	0.00171	J	0.000821	0.00821	1	01/16/2019 15:48	WG1224012
Chrysene	0.00248	J	0.000821	0.00821	1	01/16/2019 15:48	WG1224012
Dibenz(a,h)anthracene	U		0.000821	0.00821	1	01/16/2019 15:48	WG1224012
Fluoranthene	U		0.000821	0.00821	1	01/16/2019 15:48	WG1224012
Fluorene	U		0.000821	0.00821	1	01/16/2019 15:48	WG1224012
Indeno(1,2,3-cd)pyrene	0.00869		0.000821	0.00821	1	01/16/2019 15:48	WG1224012
Naphthalene	0.00729	J	0.00274	0.0274	1	01/16/2019 15:48	WG1224012
Phenanthrene	U		0.000821	0.00821	1	01/16/2019 15:48	WG1224012
Pyrene	U		0.000821	0.00821	1	01/16/2019 15:48	WG1224012
1-Methylnaphthalene	0.00638	J	0.00274	0.0274	1	01/16/2019 15:48	WG1224012
2-Methylnaphthalene	0.0105	J	0.00274	0.0274	1	01/16/2019 15:48	WG1224012
2-Chloronaphthalene	U		0.00274	0.0274	1	01/16/2019 15:48	WG1224012
(S) Nitrobenzene-d5	*72.1*			*14.0-149*		*01/16/2019 15:48*	WG1224012

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
(S) 2-Fluorobiphenyl	*37.8*			*34.0-125*		*01/16/2019 15:48*	WG1224012
(S) p-Terphenyl-d14	*64.7*			*23.0-120*		*01/16/2019 15:48*	WG1224012

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.6		1	01/16/2019 09:31	WG1223817

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Gasoline Range Organics-NWTPH	U		0.926	2.73	25	01/16/2019 19:43	WG1224522
(S) a,a,a-Trifluorotoluene(FID)	*94.6*			*77.0-120*		*01/16/2019 19:43*	WG1224522

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

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.0150	0.0273	1	01/18/2019 22:24	WG1225703
Acrylonitrile	U		0.00207	0.0136	1	01/18/2019 22:24	WG1225703
Benzene	U		0.000437	0.00109	1	01/18/2019 22:24	WG1225703
Bromobenzene	U		0.00115	0.0136	1	01/18/2019 22:24	WG1225703
Bromodichloromethane	U	J4	0.000860	0.00273	1	01/18/2019 22:24	WG1225703
Bromoform	U		0.00653	0.0273	1	01/18/2019 22:24	WG1225703
Bromomethane	U		0.00404	0.0136	1	01/18/2019 22:24	WG1225703
n-Butylbenzene	U		0.00419	0.0136	1	01/18/2019 22:24	WG1225703
sec-Butylbenzene	U		0.00276	0.0136	1	01/18/2019 22:24	WG1225703
tert-Butylbenzene	U		0.00169	0.00546	1	01/18/2019 22:24	WG1225703
Carbon tetrachloride	U		0.00118	0.00546	1	01/18/2019 22:24	WG1225703
Chlorobenzene	U		0.000626	0.00273	1	01/18/2019 22:24	WG1225703
Chlorodibromomethane	U		0.000491	0.00273	1	01/18/2019 22:24	WG1225703
Chloroethane	U		0.00118	0.00546	1	01/18/2019 22:24	WG1225703
Chloroform	U		0.000453	0.00273	1	01/18/2019 22:24	WG1225703
Chloromethane	U		0.00152	0.0136	1	01/18/2019 22:24	WG1225703
2-Chlorotoluene	U		0.00100	0.00273	1	01/18/2019 22:24	WG1225703
4-Chlorotoluene	U		0.00123	0.00546	1	01/18/2019 22:24	WG1225703
1,2-Dibromo-3-Chloropropane	U		0.00557	0.0273	1	01/18/2019 22:24	WG1225703
1,2-Dibromoethane	U		0.000573	0.00273	1	01/18/2019 22:24	WG1225703
Dibromomethane	U		0.00109	0.00546	1	01/18/2019 22:24	WG1225703
1,2-Dichlorobenzene	U		0.00158	0.00546	1	01/18/2019 22:24	WG1225703
1,3-Dichlorobenzene	U		0.00186	0.00546	1	01/18/2019 22:24	WG1225703
1,4-Dichlorobenzene	U		0.00215	0.00546	1	01/18/2019 22:24	WG1225703
Dichlorodifluoromethane	U		0.000893	0.00273	1	01/18/2019 22:24	WG1225703
1,1-Dichloroethane	U		0.000628	0.00273	1	01/18/2019 22:24	WG1225703
1,2-Dichloroethane	U		0.000519	0.00273	1	01/18/2019 22:24	WG1225703
1,1-Dichloroethene	U		0.000546	0.00273	1	01/18/2019 22:24	WG1225703
cis-1,2-Dichloroethene	U		0.000753	0.00273	1	01/18/2019 22:24	WG1225703
trans-1,2-Dichloroethene	U		0.00156	0.00546	1	01/18/2019 22:24	WG1225703
1,2-Dichloropropane	U		0.00139	0.00546	1	01/18/2019 22:24	WG1225703
1,1-Dichloropropene	U		0.000764	0.00273	1	01/18/2019 22:24	WG1225703
1,3-Dichloropropane	U		0.00191	0.00546	1	01/18/2019 22:24	WG1225703
cis-1,3-Dichloropropene	U		0.000740	0.00273	1	01/18/2019 22:24	WG1225703
trans-1,3-Dichloropropene	U		0.00167	0.00546	1	01/18/2019 22:24	WG1225703
2,2-Dichloropropane	U	J4	0.000866	0.00273	1	01/18/2019 22:24	WG1225703
Di-isopropyl ether	U		0.000382	0.00109	1	01/18/2019 22:24	WG1225703
Ethylbenzene	U		0.000579	0.00273	1	01/18/2019 22:24	WG1225703
Hexachloro-1,3-butadiene	U		0.0139	0.0273	1	01/18/2019 22:24	WG1225703
Isopropylbenzene	U		0.000942	0.00273	1	01/18/2019 22:24	WG1225703
p-Isopropyltoluene	U		0.00254	0.00546	1	01/18/2019 22:24	WG1225703
2-Butanone (MEK)	U		0.0136	0.0273	1	01/18/2019 22:24	WG1225703
Methylene Chloride	U		0.00725	0.0273	1	01/18/2019 22:24	WG1225703
4-Methyl-2-pentanone (MIBK)	U		0.0109	0.0273	1	01/18/2019 22:24	WG1225703

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Methyl tert-butyl ether	U		0.000322	0.00109	1	01/18/2019 22:24	WG1225703
Naphthalene	U		0.00341	0.0136	1	01/18/2019 22:24	WG1225703
n-Propylbenzene	U		0.00129	0.00546	1	01/18/2019 22:24	WG1225703
Styrene	U		0.00298	0.0136	1	01/18/2019 22:24	WG1225703
1,1,1,2-Tetrachloroethane	U		0.000546	0.00273	1	01/18/2019 22:24	WG1225703
1,1,2,2-Tetrachloroethane	U		0.000426	0.00273	1	01/18/2019 22:24	WG1225703
1,1,2-Trichlorotrifluoroethane	U		0.000737	0.00273	1	01/18/2019 22:24	WG1225703
Tetrachloroethene	U		0.000764	0.00273	1	01/18/2019 22:24	WG1225703
Toluene	U		0.00136	0.00546	1	01/18/2019 22:24	WG1225703
1,2,3-Trichlorobenzene	U		0.000682	0.00273	1	01/18/2019 22:24	WG1225703
1,2,4-Trichlorobenzene	U		0.00526	0.0136	1	01/18/2019 22:24	WG1225703
1,1,1-Trichloroethane	U	J4	0.000300	0.00273	1	01/18/2019 22:24	WG1225703
1,1,2-Trichloroethane	U		0.000964	0.00273	1	01/18/2019 22:24	WG1225703
Trichloroethene	U	J4	0.000437	0.00109	1	01/18/2019 22:24	WG1225703
Trichlorofluoromethane	U		0.000546	0.00273	1	01/18/2019 22:24	WG1225703
1,2,3-Trichloropropane	U		0.00557	0.0136	1	01/18/2019 22:24	WG1225703
1,2,4-Trimethylbenzene	U		0.00127	0.00546	1	01/18/2019 22:24	WG1225703
1,2,3-Trimethylbenzene	U		0.00126	0.00546	1	01/18/2019 22:24	WG1225703
1,3,5-Trimethylbenzene	U		0.00118	0.00546	1	01/18/2019 22:24	WG1225703
Vinyl chloride	U		0.000746	0.00273	1	01/18/2019 22:24	WG1225703
Xylenes, Total	U		0.00522	0.00710	1	01/18/2019 22:24	WG1225703
(S) Toluene-d8	*110*			*75.0-131*		*01/18/2019 22:24*	WG1225703
(S) Dibromofluoromethane	*94.2*			*65.0-129*		*01/18/2019 22:24*	WG1225703
(S) 4-Bromofluorobenzene	*94.8*			*67.0-138*		*01/18/2019 22:24*	WG1225703

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

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	320		14.5	43.7	10	01/16/2019 13:50	WG1223964
Residual Range Organics (RRO)	97.3	J	36.4	109	10	01/16/2019 13:50	WG1223964
(S) o-Terphenyl	*109*			*18.0-148*		*01/16/2019 13:50*	WG1223964

Sample Narrative:

L1060773-05 WG1223964: Cannot run at lower dilution due to viscosity of extract

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Anthracene	U		0.000655	0.00655	1	01/16/2019 16:09	WG1224012
Acenaphthene	U		0.000655	0.00655	1	01/16/2019 16:09	WG1224012
Acenaphthylene	U		0.000655	0.00655	1	01/16/2019 16:09	WG1224012
Benzo(a)anthracene	U		0.000655	0.00655	1	01/16/2019 16:09	WG1224012
Benzo(a)pyrene	U		0.000655	0.00655	1	01/16/2019 16:09	WG1224012
Benzo(b)fluoranthene	U		0.000655	0.00655	1	01/16/2019 16:09	WG1224012
Benzo(g,h,i)perylene	U		0.000655	0.00655	1	01/16/2019 16:09	WG1224012
Benzo(k)fluoranthene	U		0.000655	0.00655	1	01/16/2019 16:09	WG1224012
Chrysene	U		0.000655	0.00655	1	01/16/2019 16:09	WG1224012
Dibenz(a,h)anthracene	U		0.000655	0.00655	1	01/16/2019 16:09	WG1224012
Fluoranthene	U		0.000655	0.00655	1	01/16/2019 16:09	WG1224012
Fluorene	U		0.000655	0.00655	1	01/16/2019 16:09	WG1224012
Indeno(1,2,3-cd)pyrene	U		0.000655	0.00655	1	01/16/2019 16:09	WG1224012
Naphthalene	U		0.00218	0.0218	1	01/16/2019 16:09	WG1224012
Phenanthrene	U		0.000655	0.00655	1	01/16/2019 16:09	WG1224012
Pyrene	U		0.000655	0.00655	1	01/16/2019 16:09	WG1224012
1-Methylnaphthalene	U		0.00218	0.0218	1	01/16/2019 16:09	WG1224012

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
2-Methylnaphthalene	U		0.00218	0.0218	1	01/16/2019 16:09	WG1224012
2-Chloronaphthalene	U		0.00218	0.0218	1	01/16/2019 16:09	WG1224012
(S) Nitrobenzene-d5	*74.7*			*14.0-149*		*01/16/2019 16:09*	WG1224012
(S) 2-Fluorobiphenyl	*63.2*			*34.0-125*		*01/16/2019 16:09*	WG1224012
(S) p-Terphenyl-d14	*67.2*			*23.0-120*		*01/16/2019 16:09*	WG1224012

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Lead	2080		9.50	25.0	5	01/15/2019 12:47	WG1223291

Volatile Organic Compounds (GC) by Method NWTPHGX

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Gasoline Range Organics-NWTPH	U		31.6	100	1	01/15/2019 21:47	WG1223412
(S) a,a,a-Trifluorotoluene(FID)	*104*			*78.0-120*		*01/15/2019 21:47*	WG1223412

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	U		10.0	50.0	1	01/15/2019 03:43	WG1223338
Acrolein	U	J4	8.87	50.0	1	01/15/2019 03:43	WG1223338
Acrylonitrile	U		1.87	10.0	1	01/15/2019 03:43	WG1223338
Benzene	U		0.331	1.00	1	01/15/2019 03:43	WG1223338
Bromobenzene	U		0.352	1.00	1	01/15/2019 03:43	WG1223338
Bromodichloromethane	U		0.380	1.00	1	01/15/2019 03:43	WG1223338
Bromoform	U		0.469	1.00	1	01/15/2019 03:43	WG1223338
Bromomethane	U		0.866	5.00	1	01/15/2019 03:43	WG1223338
n-Butylbenzene	U		0.361	1.00	1	01/15/2019 03:43	WG1223338
sec-Butylbenzene	U		0.365	1.00	1	01/15/2019 03:43	WG1223338
tert-Butylbenzene	U		0.399	1.00	1	01/15/2019 03:43	WG1223338
Carbon tetrachloride	U		0.379	1.00	1	01/15/2019 03:43	WG1223338
Chlorobenzene	U		0.348	1.00	1	01/15/2019 03:43	WG1223338
Chlorodibromomethane	U		0.327	1.00	1	01/15/2019 03:43	WG1223338
Chloroethane	U		0.453	5.00	1	01/15/2019 03:43	WG1223338
Chloroform	U		0.324	5.00	1	01/15/2019 03:43	WG1223338
Chloromethane	U		0.276	2.50	1	01/15/2019 03:43	WG1223338
2-Chlorotoluene	U		0.375	1.00	1	01/15/2019 03:43	WG1223338
4-Chlorotoluene	U		0.351	1.00	1	01/15/2019 03:43	WG1223338
1,2-Dibromo-3-Chloropropane	U	J4	1.33	5.00	1	01/15/2019 03:43	WG1223338
1,2-Dibromoethane	U		0.381	1.00	1	01/15/2019 03:43	WG1223338
Dibromomethane	U		0.346	1.00	1	01/15/2019 03:43	WG1223338
1,2-Dichlorobenzene	U		0.349	1.00	1	01/15/2019 03:43	WG1223338
1,3-Dichlorobenzene	U		0.220	1.00	1	01/15/2019 03:43	WG1223338
1,4-Dichlorobenzene	U		0.274	1.00	1	01/15/2019 03:43	WG1223338
Dichlorodifluoromethane	U		0.551	5.00	1	01/15/2019 03:43	WG1223338
1,1-Dichloroethane	U		0.259	1.00	1	01/15/2019 03:43	WG1223338
1,2-Dichloroethane	U		0.361	1.00	1	01/15/2019 03:43	WG1223338
1,1-Dichloroethene	U		0.398	1.00	1	01/15/2019 03:43	WG1223338
cis-1,2-Dichloroethene	0.592	J	0.260	1.00	1	01/15/2019 03:43	WG1223338
trans-1,2-Dichloroethene	U		0.396	1.00	1	01/15/2019 03:43	WG1223338
1,2-Dichloropropane	U		0.306	1.00	1	01/15/2019 03:43	WG1223338
1,1-Dichloropropene	U		0.352	1.00	1	01/15/2019 03:43	WG1223338
1,3-Dichloropropane	U		0.366	1.00	1	01/15/2019 03:43	WG1223338
cis-1,3-Dichloropropene	U		0.418	1.00	1	01/15/2019 03:43	WG1223338
trans-1,3-Dichloropropene	U		0.419	1.00	1	01/15/2019 03:43	WG1223338
2,2-Dichloropropane	U		0.321	1.00	1	01/15/2019 03:43	WG1223338
Di-isopropyl ether	U		0.320	1.00	1	01/15/2019 03:43	WG1223338
Ethylbenzene	U		0.384	1.00	1	01/15/2019 03:43	WG1223338
Hexachloro-1,3-butadiene	U		0.256	1.00	1	01/15/2019 03:43	WG1223338
Isopropylbenzene	U		0.326	1.00	1	01/15/2019 03:43	WG1223338
p-Isopropyltoluene	U		0.350	1.00	1	01/15/2019 03:43	WG1223338
2-Butanone (MEK)	U		3.93	10.0	1	01/15/2019 03:43	WG1223338

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Methylene Chloride	U		1.00	5.00	1	01/15/2019 03:43	WG1223338
4-Methyl-2-pentanone (MIBK)	U		2.14	10.0	1	01/15/2019 03:43	WG1223338
Methyl tert-butyl ether	U		0.367	1.00	1	01/15/2019 03:43	WG1223338
Naphthalene	U		1.00	5.00	1	01/15/2019 03:43	WG1223338
n-Propylbenzene	U		0.349	1.00	1	01/15/2019 03:43	WG1223338
Styrene	U		0.307	1.00	1	01/15/2019 03:43	WG1223338
1,1,1,2-Tetrachloroethane	U		0.385	1.00	1	01/15/2019 03:43	WG1223338
1,1,2,2-Tetrachloroethane	U		0.130	1.00	1	01/15/2019 03:43	WG1223338
1,1,2-Trichlorotrifluoroethane	U		0.303	1.00	1	01/15/2019 03:43	WG1223338
Tetrachloroethene	U		0.372	1.00	1	01/15/2019 03:43	WG1223338
Toluene	U		0.412	1.00	1	01/15/2019 03:43	WG1223338
1,2,3-Trichlorobenzene	U		0.230	1.00	1	01/15/2019 03:43	WG1223338
1,2,4-Trichlorobenzene	U		0.355	1.00	1	01/15/2019 03:43	WG1223338
1,1,1-Trichloroethane	U		0.319	1.00	1	01/15/2019 03:43	WG1223338
1,1,2-Trichloroethane	U		0.383	1.00	1	01/15/2019 03:43	WG1223338
Trichloroethene	U		0.398	1.00	1	01/15/2019 03:43	WG1223338
Trichlorofluoromethane	U		1.20	5.00	1	01/15/2019 03:43	WG1223338
1,2,3-Trichloropropane	U	J4	0.807	2.50	1	01/15/2019 03:43	WG1223338
1,2,4-Trimethylbenzene	U		0.373	1.00	1	01/15/2019 03:43	WG1223338
1,2,3-Trimethylbenzene	U		0.321	1.00	1	01/15/2019 03:43	WG1223338
1,3,5-Trimethylbenzene	U		0.387	1.00	1	01/15/2019 03:43	WG1223338
Vinyl chloride	U		0.259	1.00	1	01/15/2019 03:43	WG1223338
Xylenes, Total	U		1.06	3.00	1	01/15/2019 03:43	WG1223338
(S) Toluene-d8	*107*			*80.0-120*		*01/15/2019 03:43*	WG1223338
(S) Dibromofluoromethane	*102*			*75.0-120*		*01/15/2019 03:43*	WG1223338
(S) 4-Bromofluorobenzene	*104*			*77.0-126*		*01/15/2019 03:43*	WG1223338

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

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	62.6	J	35.3	106	1.06	01/16/2019 03:19	WG1223279
Residual Range Organics (RRO)	89.0	J	88.3	265	1.06	01/16/2019 03:19	WG1223279
(S) o-Terphenyl	*44.2*			*31.0-160*		*01/16/2019 03:19*	WG1223279

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0140	0.0500	1	01/16/2019 07:35	WG1223802
Acenaphthene	U		0.0100	0.0500	1	01/16/2019 07:35	WG1223802
Acenaphthylene	U		0.0120	0.0500	1	01/16/2019 07:35	WG1223802
Benzo(a)anthracene	U		0.00410	0.0500	1	01/16/2019 07:35	WG1223802
Benzo(a)pyrene	U		0.0116	0.0500	1	01/16/2019 07:35	WG1223802
Benzo(b)fluoranthene	U		0.00212	0.0500	1	01/16/2019 07:35	WG1223802
Benzo(g,h,i)perylene	U		0.00227	0.0500	1	01/16/2019 07:35	WG1223802
Benzo(k)fluoranthene	U		0.0136	0.0500	1	01/16/2019 07:35	WG1223802
Chrysene	U		0.0108	0.0500	1	01/16/2019 07:35	WG1223802
Dibenz(a,h)anthracene	U		0.00396	0.0500	1	01/16/2019 07:35	WG1223802
Fluoranthene	U		0.0157	0.0500	1	01/16/2019 07:35	WG1223802
Fluorene	U		0.00850	0.0500	1	01/16/2019 07:35	WG1223802
Indeno(1,2,3-cd)pyrene	U		0.0148	0.0500	1	01/16/2019 07:35	WG1223802
Naphthalene	0.0390	J	0.0198	0.250	1	01/16/2019 07:35	WG1223802
Phenanthrene	U		0.00820	0.0500	1	01/16/2019 07:35	WG1223802
Pyrene	U		0.0117	0.0500	1	01/16/2019 07:35	WG1223802
1-Methylnaphthalene	0.0103	J	0.00821	0.250	1	01/16/2019 07:35	WG1223802
2-Methylnaphthalene	0.0145	J	0.00902	0.250	1	01/16/2019 07:35	WG1223802

Semi Volatile Organic Compounds (GC/MS) by Method 8270D-SIM

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
2-Chloronaphthalene	U		0.00647	0.250	1	01/16/2019 07:35	WG1223802
(S) Nitrobenzene-d5	*108*			*31.0-160*		*01/16/2019 07:35*	WG1223802
(S) 2-Fluorobiphenyl	*101*			*48.0-148*		*01/16/2019 07:35*	WG1223802
(S) p-Terphenyl-d14	*93.5*			*37.0-146*		*01/16/2019 07:35*	WG1223802

Method Blank (MB)

(MB) R3376447-1 01/16/19 09:31

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

L1060865-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1060865-01 01/16/19 09:31 • (DUP) R3376447-3 01/16/19 09:31

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	89.2	87.9	1	1.54		10

Laboratory Control Sample (LCS)

(LCS) R3376447-2 01/16/19 09:31

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) R3375870-1 01/15/19 11:01

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Lead	U		1.90	5.00

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

(LCS) R3375870-2 01/15/19 11:03 • (LCSD) R3375870-3 01/15/19 11:06

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	1000	991	979	99.1	97.9	80.0-120			1.25	20

L1060634-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1060634-06 01/15/19 11:08 • (MS) R3375870-5 01/15/19 11:14 • (MSD) R3375870-6 01/15/19 11:16

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	1000	ND	1010	994	100	99.0	1	75.0-125			1.27	20

Method Blank (MB)

(MB) R3375998-5 01/15/19 13:20

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Gasoline Range Organics-NWTPH	U		31.6	100
(S) a,a,a-Trifluorotoluene(FID)	*104*			*78.0-120*

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

(LCS) R3375998-3 01/15/19 12:14 • (LCSD) R3375998-4 01/15/19 12:36

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 %
Gasoline Range Organics-NWTPH	5500	4910	4810	89.2	87.4	70.0-124			2.09	20
(S) a,a,a-Trifluorotoluene(FID)				*105*	*104*	*78.0-120*				

Method Blank (MB)

(MB) R3377178-5 01/16/19 16:41

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)	*94.7*			*77.0-120*

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

(LCS) R3377178-3 01/16/19 15:29 • (LCSD) R3377178-4 01/16/19 15:53

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	5.40	5.58	98.1	102	71.0-124			3.38	20
(S) a,a,a-Trifluorotoluene(FID)				*108*	*108*	*77.0-120*				

L1060883-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1060883-01 01/16/19 23:46 • (MS) R3377178-8 01/17/19 00:59 • (MSD) R3377178-9 01/17/19 01:23

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	5.50	ND	1.61	1.70	29.3	31.0	1	10.0-149			5.56	27
(S) a,a,a-Trifluorotoluene(FID)					*94.6*	*94.2*		*77.0-120*				

Method Blank (MB)

(MB) R3375855-2 01/14/19 23:23

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	0.471	J	0.256	1.00

Method Blank (MB)

(MB) R3375855-2 01/14/19 23:23

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	*109*			*80.0-120*
(S) Dibromofluoromethane	*101*			*75.0-120*
(S) 4-Bromofluorobenzene	*106*			*77.0-126*

Laboratory Control Sample (LCS)

(LCS) R3375855-1 01/14/19 22:23

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acetone	125	146	117	19.0-160	
Acrolein	125	210	168	10.0-160	J4
Acrylonitrile	125	178	142	55.0-149	
Benzene	25.0	22.6	90.3	70.0-123	

Laboratory Control Sample (LCS)

(LCS) R3375855-1 01/14/19 22:23

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Bromobenzene	25.0	24.8	99.1	73.0-121	
Bromodichloromethane	25.0	22.7	90.8	75.0-120	
Bromoform	25.0	27.6	110	68.0-132	
Bromomethane	25.0	27.3	109	10.0-160	
n-Butylbenzene	25.0	25.8	103	73.0-125	
sec-Butylbenzene	25.0	24.7	98.8	75.0-125	
tert-Butylbenzene	25.0	25.2	101	76.0-124	
Carbon tetrachloride	25.0	21.0	84.0	68.0-126	
Chlorobenzene	25.0	25.0	100	80.0-121	
Chlorodibromomethane	25.0	25.0	99.9	77.0-125	
Chloroethane	25.0	29.0	116	47.0-150	
Chloroform	25.0	22.9	91.5	73.0-120	
Chloromethane	25.0	24.1	96.3	41.0-142	
2-Chlorotoluene	25.0	25.2	101	76.0-123	
4-Chlorotoluene	25.0	24.9	99.7	75.0-122	
1,2-Dibromo-3-Chloropropane	25.0	38.0	152	58.0-134	J4
1,2-Dibromoethane	25.0	25.6	102	80.0-122	
Dibromomethane	25.0	24.0	95.9	80.0-120	
1,2-Dichlorobenzene	25.0	26.8	107	79.0-121	
1,3-Dichlorobenzene	25.0	24.0	95.8	79.0-120	
1,4-Dichlorobenzene	25.0	25.3	101	79.0-120	
Dichlorodifluoromethane	25.0	31.6	126	51.0-149	
1,1-Dichloroethane	25.0	22.2	89.0	70.0-126	
1,2-Dichloroethane	25.0	22.9	91.6	70.0-128	
1,1-Dichloroethene	25.0	25.1	100	71.0-124	
cis-1,2-Dichloroethene	25.0	23.2	92.7	73.0-120	
trans-1,2-Dichloroethene	25.0	23.6	94.5	73.0-120	
1,2-Dichloropropane	25.0	24.0	95.8	77.0-125	
1,1-Dichloropropene	25.0	23.5	94.0	74.0-126	
1,3-Dichloropropane	25.0	23.8	95.2	80.0-120	
cis-1,3-Dichloropropene	25.0	25.3	101	80.0-123	
trans-1,3-Dichloropropene	25.0	26.0	104	78.0-124	
2,2-Dichloropropane	25.0	21.7	86.8	58.0-130	
Di-isopropyl ether	25.0	23.1	92.4	58.0-138	
Ethylbenzene	25.0	24.4	97.8	79.0-123	
Hexachloro-1,3-butadiene	25.0	25.5	102	54.0-138	
Isopropylbenzene	25.0	26.5	106	76.0-127	
p-Isopropyltoluene	25.0	26.1	104	76.0-125	
2-Butanone (MEK)	125	170	136	44.0-160	
Methylene Chloride	25.0	22.3	89.2	67.0-120	

Laboratory Control Sample (LCS)

(LCS) R3375855-1 01/14/19 22:23

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
4-Methyl-2-pentanone (MIBK)	125	157	126	68.0-142	
Methyl tert-butyl ether	25.0	23.2	92.9	68.0-125	
Naphthalene	25.0	30.8	123	54.0-135	
n-Propylbenzene	25.0	25.7	103	77.0-124	
Styrene	25.0	28.7	115	73.0-130	
1,1,1,2-Tetrachloroethane	25.0	24.6	98.5	75.0-125	
1,1,2,2-Tetrachloroethane	25.0	28.8	115	65.0-130	
Tetrachloroethene	25.0	25.3	101	72.0-132	
Toluene	25.0	22.7	90.9	79.0-120	
1,1,2-Trichlorotrifluoroethane	25.0	23.6	94.4	69.0-132	
1,2,3-Trichlorobenzene	25.0	30.6	122	50.0-138	
1,2,4-Trichlorobenzene	25.0	26.3	105	57.0-137	
1,1,1-Trichloroethane	25.0	22.6	90.5	73.0-124	
1,1,2-Trichloroethane	25.0	24.9	99.7	80.0-120	
Trichloroethene	25.0	24.3	97.4	78.0-124	
Trichlorofluoromethane	25.0	25.0	100	59.0-147	
1,2,3-Trichloropropane	25.0	32.8	131	73.0-130	J4
1,2,3-Trimethylbenzene	25.0	24.2	96.7	77.0-120	
1,2,4-Trimethylbenzene	25.0	23.2	92.6	76.0-121	
1,3,5-Trimethylbenzene	25.0	25.0	100	76.0-122	
Vinyl chloride	25.0	24.8	99.3	67.0-131	
Xylenes, Total	75.0	72.6	96.8	79.0-123	
(S) Toluene-d8			*106*	*80.0-120*	
(S) Dibromofluoromethane			*98.9*	*75.0-120*	
(S) 4-Bromofluorobenzene			*108*	*77.0-126*	

Method Blank (MB)

(MB) R3377204-3 01/18/19 19:57

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) R3377204-3 01/18/19 19:57

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	0.0127	J	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	*114*			*75.0-131*
(S) Dibromofluoromethane	*93.9*			*65.0-129*
(S) 4-Bromofluorobenzene	*93.9*			*67.0-138*

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

(LCS) R3377204-1 01/18/19 18:36 • (LCSD) R3377204-2 01/18/19 18:56

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 %
Acetone	0.625	0.677	0.646	108	103	10.0-160			4.75	31
Acrylonitrile	0.625	0.680	0.692	109	111	45.0-153			1.84	22
Benzene	0.125	0.124	0.130	99.0	104	70.0-123			4.68	20
Bromobenzene	0.125	0.130	0.138	104	110	73.0-121			5.64	20
Bromodichloromethane	0.125	0.157	0.159	126	127	73.0-121	J4	J4	0.973	20

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

(LCS) R3377204-1 01/18/19 18:36 • (LCSD) R3377204-2 01/18/19 18:56

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 %
Bromoform	0.125	0.101	0.103	81.0	82.2	64.0-132			1.53	20
Bromomethane	0.125	0.148	0.156	118	125	56.0-147			5.21	20
n-Butylbenzene	0.125	0.123	0.129	98.1	103	68.0-135			5.14	20
sec-Butylbenzene	0.125	0.124	0.129	99.3	103	74.0-130			3.72	20
tert-Butylbenzene	0.125	0.123	0.132	98.6	106	75.0-127			7.16	20
Carbon tetrachloride	0.125	0.132	0.136	105	109	66.0-128			3.50	20
Chlorobenzene	0.125	0.123	0.132	98.7	106	76.0-128			6.99	20
Chlorodibromomethane	0.125	0.130	0.139	104	111	74.0-127			6.85	20
Chloroethane	0.125	0.143	0.145	114	116	61.0-134			1.28	20
Chloroform	0.125	0.132	0.137	105	110	72.0-123			4.21	20
Chloromethane	0.125	0.118	0.131	94.3	105	51.0-138			10.9	20
2-Chlorotoluene	0.125	0.134	0.133	107	107	75.0-124			0.334	20
4-Chlorotoluene	0.125	0.125	0.134	100	107	75.0-124			6.68	20
1,2-Dibromo-3-Chloropropane	0.125	0.0950	0.0993	76.0	79.4	59.0-130			4.45	20
1,2-Dibromoethane	0.125	0.131	0.144	105	115	74.0-128			9.79	20
Dibromomethane	0.125	0.146	0.150	116	120	75.0-122			2.75	20
1,2-Dichlorobenzene	0.125	0.134	0.140	107	112	76.0-124			4.57	20
1,3-Dichlorobenzene	0.125	0.122	0.129	97.8	103	76.0-125			5.39	20
1,4-Dichlorobenzene	0.125	0.136	0.141	109	113	77.0-121			3.63	20
Dichlorodifluoromethane	0.125	0.174	0.190	139	152	43.0-156			8.63	20
1,1-Dichloroethane	0.125	0.131	0.137	105	110	70.0-127			4.32	20
1,2-Dichloroethane	0.125	0.129	0.137	104	110	65.0-131			5.58	20
1,1-Dichloroethene	0.125	0.123	0.131	98.5	104	65.0-131			5.87	20
cis-1,2-Dichloroethene	0.125	0.116	0.124	92.8	99.1	73.0-125			6.60	20
trans-1,2-Dichloroethene	0.125	0.132	0.135	105	108	71.0-125			2.51	20
1,2-Dichloropropane	0.125	0.122	0.129	97.7	103	74.0-125			5.58	20
1,1-Dichloropropene	0.125	0.125	0.130	99.9	104	73.0-125			4.31	20
1,3-Dichloropropane	0.125	0.139	0.151	111	121	80.0-125			8.19	20
cis-1,3-Dichloropropene	0.125	0.120	0.126	95.7	101	76.0-127			5.37	20
trans-1,3-Dichloropropene	0.125	0.136	0.144	109	115	73.0-127			5.32	20
2,2-Dichloropropane	0.125	0.162	0.177	130	142	59.0-135		J4	8.70	20
Di-isopropyl ether	0.125	0.130	0.136	104	109	60.0-136			4.64	20
Ethylbenzene	0.125	0.131	0.134	105	107	74.0-126			2.31	20
Hexachloro-1,3-butadiene	0.125	0.131	0.129	105	103	57.0-150			1.10	20
Isopropylbenzene	0.125	0.119	0.129	95.5	103	72.0-127			7.68	20
p-Isopropyltoluene	0.125	0.127	0.133	102	107	72.0-133			4.86	20
2-Butanone (MEK)	0.625	0.583	0.547	93.3	87.5	30.0-160			6.42	24
Methylene Chloride	0.125	0.129	0.138	103	110	68.0-123			6.76	20
4-Methyl-2-pentanone (MIBK)	0.625	0.622	0.636	99.6	102	56.0-143			2.13	20
Methyl tert-butyl ether	0.125	0.142	0.148	114	119	66.0-132			4.17	20

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

(LCS) R3377204-1 01/18/19 18:36 • (LCSD) R3377204-2 01/18/19 18:56

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 %
Naphthalene	0.125	0.112	0.111	89.4	88.6	59.0-130			0.908	20
n-Propylbenzene	0.125	0.117	0.127	93.7	101	74.0-126			7.87	20
Styrene	0.125	0.129	0.137	103	110	72.0-127			6.48	20
1,1,1,2-Tetrachloroethane	0.125	0.120	0.134	96.4	107	74.0-129			10.9	20
1,1,2,2-Tetrachloroethane	0.125	0.102	0.110	81.6	87.8	68.0-128			7.32	20
Tetrachloroethene	0.125	0.141	0.147	113	117	70.0-136			4.06	20
Toluene	0.125	0.132	0.143	105	115	75.0-121			8.61	20
1,1,2-Trichlorotrifluoroethane	0.125	0.160	0.165	128	132	61.0-139			2.93	20
1,2,3-Trichlorobenzene	0.125	0.119	0.124	95.6	99.1	59.0-139			3.64	20
1,2,4-Trichlorobenzene	0.125	0.136	0.140	108	112	62.0-137			3.34	20
1,1,1-Trichloroethane	0.125	0.152	0.170	122	136	69.0-126		J4	11.0	20
1,1,2-Trichloroethane	0.125	0.115	0.121	92.1	96.6	78.0-123			4.73	20
Trichloroethene	0.125	0.171	0.186	137	149	76.0-126	J4	J4	8.18	20
Trichlorofluoromethane	0.125	0.156	0.166	125	133	61.0-142			6.31	20
1,2,3-Trichloropropane	0.125	0.117	0.119	93.3	95.2	67.0-129			1.95	20
1,2,3-Trimethylbenzene	0.125	0.0981	0.104	78.5	83.5	74.0-124			6.24	20
1,2,4-Trimethylbenzene	0.125	0.122	0.129	97.5	103	70.0-126			5.80	20
1,3,5-Trimethylbenzene	0.125	0.122	0.127	97.4	101	73.0-127			4.01	20
Vinyl chloride	0.125	0.138	0.154	110	123	63.0-134			11.1	20
Xylenes, Total	0.375	0.438	0.474	117	126	72.0-127			7.89	20
(S) Toluene-d8				*103*	*106*	*75.0-131*				
(S) Dibromofluoromethane				*104*	*108*	*65.0-129*				
(S) 4-Bromofluorobenzene				*95.3*	*95.9*	*67.0-138*				

L1062340-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1062340-02 01/19/19 03:11 • (MS) R3377204-4 01/19/19 03:31 • (MSD) R3377204-5 01/19/19 03:52

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 %
Acetone	0.625	U	5.05	5.23	101	105	8	10.0-160			3.53	40
Acrylonitrile	0.625	U	3.83	3.92	76.6	78.3	8	10.0-160			2.22	40
Benzene	0.125	U	0.744	0.442	74.4	44.2	8	10.0-149		J3	51.0	37
Bromobenzene	0.125	U	0.786	0.673	78.6	67.3	8	10.0-156			15.5	38
Bromodichloromethane	0.125	U	0.899	0.665	89.9	66.5	8	10.0-143			30.0	37
Bromoform	0.125	U	0.481	0.481	48.1	48.1	8	10.0-146			0.114	36
Bromomethane	0.125	U	0.724	0.401	72.4	40.1	8	10.0-149		J3	57.3	38
n-Butylbenzene	0.125	1.46	2.41	2.13	95.5	67.3	8	10.0-160			12.4	40
sec-Butylbenzene	0.125	0.489	1.31	0.991	81.8	50.2	8	10.0-159			27.5	39
tert-Butylbenzene	0.125	U	0.835	0.511	83.5	51.1	8	10.0-156		J3	48.2	39

L1062340-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1062340-02 01/19/19 03:11 • (MS) R3377204-4 01/19/19 03:31 • (MSD) R3377204-5 01/19/19 03:52

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 %
Carbon tetrachloride	0.125	U	0.734	0.312	73.4	31.2	8	10.0-145		J3	80.6	37
Chlorobenzene	0.125	U	0.783	0.570	78.3	57.0	8	10.0-152			31.4	39
Chlorodibromomethane	0.125	U	0.730	0.622	73.0	62.2	8	10.0-146			16.0	37
Chloroethane	0.125	U	0.718	0.392	71.8	39.2	8	10.0-146		J3	58.8	40
Chloroform	0.125	U	0.783	0.523	78.3	52.3	8	10.0-146		J3	39.7	37
Chloromethane	0.125	U	0.748	0.371	74.8	37.1	8	10.0-159		J3	67.4	37
2-Chlorotoluene	0.125	U	0.779	0.553	77.9	55.3	8	10.0-159			34.0	38
4-Chlorotoluene	0.125	U	0.848	0.594	84.8	59.4	8	10.0-155			35.3	39
1,2-Dibromo-3-Chloropropane	0.125	U	0.482	0.453	48.2	45.3	8	10.0-151			6.18	39
1,2-Dibromoethane	0.125	U	0.773	0.798	77.3	79.8	8	10.0-148			3.26	34
Dibromomethane	0.125	U	0.776	0.720	77.6	72.0	8	10.0-147			7.56	35
1,2-Dichlorobenzene	0.125	U	0.762	0.663	76.2	66.3	8	10.0-155			13.9	37
1,3-Dichlorobenzene	0.125	U	0.738	0.548	73.8	54.8	8	10.0-153			29.6	38
1,4-Dichlorobenzene	0.125	U	0.785	0.625	78.5	62.5	8	10.0-151			22.7	38
Dichlorodifluoromethane	0.125	U	1.38	0.481	138	48.1	8	10.0-160		J3	96.7	35
1,1-Dichloroethane	0.125	U	0.726	0.456	72.6	45.6	8	10.0-147		J3	45.5	37
1,2-Dichloroethane	0.125	U	0.741	0.644	74.1	64.4	8	10.0-148			13.9	35
1,1-Dichloroethene	0.125	U	0.739	0.318	73.9	31.8	8	10.0-155		J3	79.7	37
cis-1,2-Dichloroethene	0.125	U	0.670	0.473	67.0	47.3	8	10.0-149			34.6	37
trans-1,2-Dichloroethene	0.125	U	0.724	0.383	72.4	38.3	8	10.0-150		J3	61.4	37
1,2-Dichloropropane	0.125	U	0.823	0.541	82.3	54.1	8	10.0-148		J3	41.4	37
1,1-Dichloropropene	0.125	U	0.738	0.335	73.8	33.5	8	10.0-153		J3	75.2	35
1,3-Dichloropropane	0.125	U	0.849	0.791	84.9	79.1	8	10.0-154			7.16	35
cis-1,3-Dichloropropene	0.125	U	0.711	0.582	71.1	58.2	8	10.0-151			20.0	37
trans-1,3-Dichloropropene	0.125	U	0.759	0.729	75.9	72.9	8	10.0-148			4.14	37
2,2-Dichloropropane	0.125	U	1.01	0.519	101	51.9	8	10.0-138		J3	64.2	36
Di-isopropyl ether	0.125	U	0.769	0.608	76.9	60.8	8	10.0-147			23.4	36
Ethylbenzene	0.125	0.312	1.15	0.816	84.2	50.4	8	10.0-160			34.3	38
Hexachloro-1,3-butadiene	0.125	U	0.870	0.595	87.0	59.5	8	10.0-160			37.6	40
Isopropylbenzene	0.125	0.200	0.957	0.644	75.7	44.4	8	10.0-155		J3	39.1	38
p-Isopropyltoluene	0.125	0.258	1.02	0.750	76.5	49.1	8	10.0-160			30.9	40
2-Butanone (MEK)	0.625	U	3.65	3.25	73.1	64.9	8	10.0-160			11.8	40
Methylene Chloride	0.125	U	0.747	0.520	74.7	52.0	8	10.0-141			35.9	37
4-Methyl-2-pentanone (MIBK)	0.625	U	3.62	3.77	72.3	75.3	8	10.0-160			4.05	35
Methyl tert-butyl ether	0.125	U	0.823	0.752	82.3	75.2	8	11.0-147			9.05	35
Naphthalene	0.125	0.231	1.00	0.833	77.0	60.1	8	10.0-160			18.4	36
n-Propylbenzene	0.125	0.569	1.31	1.02	74.4	45.5	8	10.0-158			24.7	38
Styrene	0.125	U	0.785	0.628	78.5	62.8	8	10.0-160			22.2	40
1,1,1,2-Tetrachloroethane	0.125	U	0.739	0.595	73.9	59.5	8	10.0-149			21.6	39
1,1,2,2-Tetrachloroethane	0.125	U	0.524	0.566	52.4	56.6	8	10.0-160			7.64	35

L1062340-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1062340-02 01/19/19 03:11 • (MS) R3377204-4 01/19/19 03:31 • (MSD) R3377204-5 01/19/19 03:52

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 %
Tetrachloroethene	0.125	U	0.834	0.462	83.4	46.2	8	10.0-156		J3	57.4	39
Toluene	0.125	U	0.829	0.523	82.9	52.3	8	10.0-156		J3	45.3	38
1,1,2-Trichlorotrifluoroethane	0.125	U	0.977	0.379	97.7	37.9	8	10.0-160		J3	88.2	36
1,2,3-Trichlorobenzene	0.125	U	0.707	0.685	70.7	68.5	8	10.0-160			3.24	40
1,2,4-Trichlorobenzene	0.125	U	0.810	0.712	81.0	71.2	8	10.0-160			12.9	40
1,1,1-Trichloroethane	0.125	U	0.931	0.440	93.1	44.0	8	10.0-144		J3	71.5	35
1,1,2-Trichloroethane	0.125	U	0.686	0.690	68.6	69.0	8	10.0-160			0.643	35
Trichloroethene	0.125	U	1.01	0.615	101	61.5	8	10.0-156		J3	48.8	38
Trichlorofluoromethane	0.125	U	0.964	0.373	96.4	37.3	8	10.0-160		J3	88.3	40
1,2,3-Trichloropropane	0.125	U	0.671	0.708	67.1	70.8	8	10.0-156			5.43	35
1,2,3-Trimethylbenzene	0.125	1.31	2.11	1.99	79.7	67.7	8	10.0-160			5.81	36
1,2,4-Trimethylbenzene	0.125	3.20	4.14	3.97	94.4	77.4	8	10.0-160			4.18	36
1,3,5-Trimethylbenzene	0.125	0.771	1.58	1.33	80.8	55.7	8	10.0-160			17.3	38
Vinyl chloride	0.125	U	0.725	0.338	72.5	33.8	8	10.0-160		J3	72.7	37
Xylenes, Total	0.375	1.82	4.66	3.73	94.7	63.7	8	10.0-160			22.2	38
(S) Toluene-d8					*106*	*109*		*75.0-131*				
(S) Dibromofluoromethane					*101*	*101*		*65.0-129*				
(S) 4-Bromofluorobenzene					*99.1*	*100*		*67.0-138*				

Sample Narrative:

OS: Non-target compounds too high to run at a lower dilution.

Method Blank (MB)

(MB) R3376087-1 01/15/19 21:54

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	*50.5*			*31.0-160*

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

(LCS) R3376087-2 01/15/19 22:15 • (LCSD) R3376087-3 01/15/19 22:35

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)	750	682	697	90.9	92.9	50.0-150			2.18	20
Residual Range Organics (RRO)	750	637	650	84.9	86.7	50.0-150			2.02	20
(S) o-Terphenyl				*72.5*	*72.5*	*31.0-160*				

Method Blank (MB)

(MB) R3376179-1 01/16/19 09:19

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	*93.7*			*18.0-148*

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

(LCS) R3376179-2 01/16/19 09:32 • (LCSD) R3376179-3 01/16/19 09:46

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 %
Diesel Range Organics (DRO)	25.0	23.4	23.6	93.6	94.4	50.0-150			0.851	20
Residual Range Organics (RRO)	25.0	17.2	17.4	68.8	69.6	50.0-150			1.16	20
(S) o-Terphenyl				*91.4*	*91.4*	*18.0-148*				

L1060773-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1060773-01 01/16/19 09:59 • (MS) R3376179-4 01/16/19 10:13 • (MSD) R3376179-5 01/16/19 10:26

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)	27.7	U	24.4	27.4	87.9	97.5	1	50.0-150			11.6	20
Residual Range Organics (RRO)	27.7	U	18.5	20.9	66.7	74.5	1	50.0-150			12.3	20
(S) o-Terphenyl					*80.6*	*84.4*		*18.0-148*				

Method Blank (MB)

(MB) R3376127-1 01/16/19 01:46

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	0.00438	J	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	*111*			*31.0-160*
(S) 2-Fluorobiphenyl	*110*			*48.0-148*
(S) p-Terphenyl-d14	*96.5*			*37.0-146*

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

(LCS) R3376127-2 01/16/19 02:10 • (LCSD) R3376127-3 01/16/19 02:33

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	2.16	1.89	108	94.5	67.0-150			13.3	20
Acenaphthene	2.00	2.10	1.85	105	92.5	65.0-138			12.7	20
Acenaphthylene	2.00	2.04	1.80	102	90.0	66.0-140			12.5	20
Benzo(a)anthracene	2.00	2.20	1.91	110	95.5	61.0-140			14.1	20
Benzo(a)pyrene	2.00	2.33	2.06	117	103	60.0-143			12.3	20
Benzo(b)fluoranthene	2.00	2.13	1.93	106	96.5	58.0-141			9.85	20
Benzo(g,h,i)perylene	2.00	2.46	2.18	123	109	52.0-153			12.1	20
Benzo(k)fluoranthene	2.00	2.31	2.02	115	101	58.0-148			13.4	20
Chrysene	2.00	2.20	1.94	110	97.0	64.0-144			12.6	20
Dibenz(a,h)anthracene	2.00	2.40	2.13	120	106	52.0-155			11.9	20
Fluoranthene	2.00	2.33	1.99	117	99.5	69.0-153			15.7	20

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

(LCS) R3376127-2 01/16/19 02:10 • (LCSD) R3376127-3 01/16/19 02:33

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	2.18	1.90	109	95.0	64.0-136			13.7	20
Indeno(1,2,3-cd)pyrene	2.00	2.38	2.09	119	105	54.0-153			13.0	20
Naphthalene	2.00	1.79	1.60	89.5	80.0	61.0-137			11.2	20
Phenanthrene	2.00	2.11	1.84	105	92.0	62.0-137			13.7	20
Pyrene	2.00	2.07	1.79	103	89.5	60.0-142			14.5	20
1-Methylnaphthalene	2.00	2.12	1.88	106	94.0	66.0-142			12.0	20
2-Methylnaphthalene	2.00	2.04	1.81	102	90.5	62.0-136			11.9	20
2-Chloronaphthalene	2.00	2.16	1.90	108	95.0	64.0-140			12.8	20
(S) Nitrobenzene-d5				*118*	*109*	*31.0-160*				
(S) 2-Fluorobiphenyl				*116*	*106*	*48.0-148*				
(S) p-Terphenyl-d14				*101*	*93.5*	*37.0-146*				

Method Blank (MB)

(MB) R3376435-3 01/16/19 13:00

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	*62.7*			*14.0-149*
(S) 2-Fluorobiphenyl	*62.1*			*34.0-125*
(S) p-Terphenyl-d14	*69.5*			*23.0-120*

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

(LCS) R3376435-1 01/16/19 12:18 • (LCSD) R3376435-2 01/16/19 12:39

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 %
Anthracene	0.0800	0.0704	0.0663	88.0	82.9	50.0-126			6.00	20
Acenaphthene	0.0800	0.0625	0.0584	78.1	73.0	50.0-120			6.78	20
Acenaphthylene	0.0800	0.0622	0.0571	77.8	71.4	50.0-120			8.55	20
Benzo(a)anthracene	0.0800	0.0600	0.0550	75.0	68.8	45.0-120			8.70	20
Benzo(a)pyrene	0.0800	0.0529	0.0519	66.1	64.9	42.0-120			1.91	20
Benzo(b)fluoranthene	0.0800	0.0527	0.0535	65.9	66.9	42.0-121			1.51	20
Benzo(g,h,i)perylene	0.0800	0.0498	0.0478	62.3	59.8	45.0-125			4.10	20
Benzo(k)fluoranthene	0.0800	0.0674	0.0613	84.3	76.6	49.0-125			9.48	20
Chrysene	0.0800	0.0680	0.0652	85.0	81.5	49.0-122			4.20	20
Dibenz(a,h)anthracene	0.0800	0.0479	0.0455	59.9	56.9	47.0-125			5.14	20
Fluoranthene	0.0800	0.0714	0.0674	89.3	84.3	49.0-129			5.76	20

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

(LCS) R3376435-1 01/16/19 12:18 • (LCSD) R3376435-2 01/16/19 12:39

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 %
Fluorene	0.0800	0.0606	0.0563	75.8	70.4	49.0-120			7.36	20
Indeno(1,2,3-cd)pyrene	0.0800	0.0501	0.0474	62.6	59.3	46.0-125			5.54	20
Naphthalene	0.0800	0.0571	0.0530	71.4	66.3	50.0-120			7.45	20
Phenanthrene	0.0800	0.0647	0.0614	80.9	76.8	47.0-120			5.23	20
Pyrene	0.0800	0.0684	0.0645	85.5	80.6	43.0-123			5.87	20
1-Methylnaphthalene	0.0800	0.0609	0.0564	76.1	70.5	51.0-121			7.67	20
2-Methylnaphthalene	0.0800	0.0581	0.0543	72.6	67.9	50.0-120			6.76	20
2-Chloronaphthalene	0.0800	0.0630	0.0585	78.8	73.1	50.0-120			7.41	20
(S) Nitrobenzene-d5				*80.1*	*75.9*	*14.0-149*				
(S) 2-Fluorobiphenyl				*68.7*	*66.9*	*34.0-125*				
(S) p-Terphenyl-d14				*68.5*	*66.5*	*23.0-120*				

L1061085-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1061085-01 01/16/19 16:51 • (MS) R3376435-4 01/16/19 17:12 • (MSD) R3376435-5 01/16/19 17:33

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 %
Anthracene	0.0800	U	0.0592	0.0541	74.0	67.6	1	10.0-145			9.00	30
Acenaphthene	0.0800	U	0.0435	0.0373	54.4	46.6	1	14.0-127			15.3	27
Acenaphthylene	0.0800	U	0.0449	0.0382	56.1	47.8	1	21.0-124			16.1	25
Benzo(a)anthracene	0.0800	U	0.0469	0.0449	58.6	56.1	1	10.0-139			4.36	30
Benzo(a)pyrene	0.0800	U	0.0454	0.0443	56.8	55.4	1	10.0-141			2.45	31
Benzo(b)fluoranthene	0.0800	U	0.0387	0.0392	48.4	49.0	1	10.0-140			1.28	36
Benzo(g,h,i)perylene	0.0800	U	0.0382	0.0364	47.8	45.5	1	10.0-140			4.83	33
Benzo(k)fluoranthene	0.0800	U	0.0485	0.0462	60.6	57.8	1	10.0-137			4.86	31
Chrysene	0.0800	U	0.0488	0.0492	61.0	61.5	1	10.0-145			0.816	30
Dibenz(a,h)anthracene	0.0800	U	0.0375	0.0370	46.9	46.3	1	10.0-132			1.34	31
Fluoranthene	0.0800	U	0.0519	0.0483	64.9	60.4	1	10.0-153			7.19	33
Fluorene	0.0800	U	0.0481	0.0424	60.1	53.0	1	11.0-130			12.6	29
Indeno(1,2,3-cd)pyrene	0.0800	U	0.0383	0.0369	47.9	46.1	1	10.0-137			3.72	32
Naphthalene	0.0800	U	0.0415	0.0363	51.9	45.4	1	10.0-135			13.4	27
Phenanthrene	0.0800	U	0.0469	0.0432	58.6	54.0	1	10.0-144			8.21	31
Pyrene	0.0800	0.00130	0.0538	0.0502	65.6	61.1	1	10.0-148			6.92	35
1-Methylnaphthalene	0.0800	U	0.0414	0.0345	51.8	43.1	1	10.0-142			18.2	28
2-Methylnaphthalene	0.0800	U	0.0407	0.0344	50.9	43.0	1	10.0-137			16.8	28
2-Chloronaphthalene	0.0800	U	0.0421	0.0366	52.6	45.8	1	29.0-120			14.0	24
(S) Nitrobenzene-d5					*65.0*	*70.0*		*14.0-149*				
(S) 2-Fluorobiphenyl					*56.6*	*57.3*		*34.0-125*				
(S) p-Terphenyl-d14					*56.2*	*56.2*		*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.

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.
MDL (dry)	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
J	The identification of the analyte is acceptable; the reported value is an estimate.
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.
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	T 104704245-17-14
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

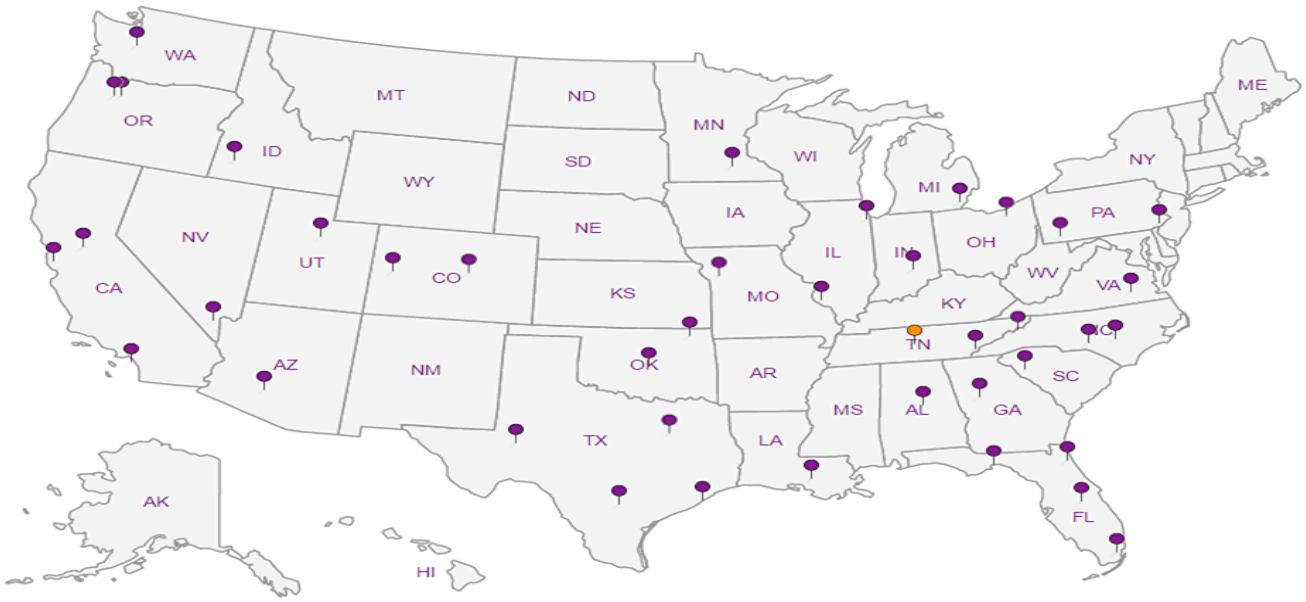
Third Party Federal Accreditations

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.



AEI Consultants - CA

2500 Camino Diablo
Walnut Creek, CA 94597

Billing Information:
Accounts Payable- Jeremy Smith
2500 Camino Diablo
Walnut Creek, CA 94597

Report to: Mallory Zaunius

Email To: mzaunius@aeiconsultants.com, tbadkins@aeiconsultants.com

Project Description: 900 N. Thunderbird Way

City/State Collected: Portland, OR

Phone: ~~925-746-6000~~ 503-680-7657
Fax:

Client Project # 399148

Lab Project # AEICONWCCA-399148

Collected by (print): M. Zaunius

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 #

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPHDX NOSGT 4ozClr-NoPres	NWTPHGX 40mlAmb/MeOH5ml/Syr	PAHs (SV8270PAHSIMD) 4ozClr-NoPres	Pb 4ozClr-NoPres	VOCs (V8260) 40mlAmb/MeOH5ml/Syr	dry weight 2ozClr-NoPres	Remarks	Sample # (lab only)
B-1-2.0	GB	SS	2	1/10/19	900	4								
B-1-5.0	GB	SS	5		905	4								
B-1-10.0	GB	SS	10		910	4								-01
B-1-15.0	GB	SS	15		915	4								
B-1-21.5	GB	SS	21.5		920	4								
B-2-5.0	GB	SS	5		1000	4								
B-2-10.0	GB	SS	10		1005	4								-02
B-3-5.0	GB	SS	5		1200	4								
B-3-10.0	GB	SS	10		1205	4								-03
B-5-5.0	GB	SS	5		1350	4							SCREEN: <0.5 mR/hr	

* 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 # 4757 5079 5035

Trip Blank Received: (Yes) / No
HCL / MeOH
TBR
2

Temp: 4.1 / 4.0 °C
Bottles Received: 6 8 + 2 + 3

If preservation required by Login: Date/Time

Condition: NCF / OK

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
	1/11/19	1430	Escpon
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)
Escpon	1/11/19	1430	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)

Date: 01/12/19 Time: 8:30

01-0068

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

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

L# L1060773

Table # A147

Acctnum: AEICONWCCA
Template: T144278
Prelogin: P686820
TSR: 110 - Brian Ford
PB: TB 12-21-18
Shipped Via: FedEx Ground

Chain of Custody Page 2 of 2

AEI Consultants - CA

2500 Camino Diablo
Walnut Creek, CA 94597

Billing Information:
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Walnut Creek, CA 94597

Pres Chk

Report to: Mallory Zaunius

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___ Same Day ___ Five Day
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Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	NWTPHDX NOSGT 4ozClr-NoPres	NWTPHGX 40mlAmb/MeOH5ml/Syr	PAHs (SV8270PAHSIMD) 4ozClr-NoPres	Pb 4ozClr-NoPres	VOCs (V8260) 40mlAmb/MeOH5ml/Syr	dry weight 2ozClr-NoPres	Remarks	Sample # (lab only)
B-5-10.0	GB	SS	10	1/10/19	1355	4								-05
B-4-5.0	GB	SS	5		1530	4								
B-4-10.0	GB	SS	10		1535	4								
B-4-15.0	GB	SS	15		1540	4								-04
B-2-W		~~SS~~			11:15	11								-06
		SS												
		SS												
		SS												
		SS												
		SS											RAD SCREEN: <0.5 mR/hr	

Analysis / Container / Preservative

Pace Analytical® National Center for Testing & Innovation
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
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L# L1060773

Table #

Acctnum: AEICONWCCA
Template: T144278
Prelogin: P686820
TSR: 110 - Brian Ford
PB: TB 12-21-18
Shipped Via: FedEX Ground

* 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 # 4757 5079 5035

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

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR
	1/11/19	1330	Escpar	2
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
Escpar	1/11/19	1430		4.1-1-1=4.0 avg 68+2 TB
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
				01/12/19 8:30

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Andy Vann

Pace Analytical®
National Center for Testing & Innovation

Login #:L1060773	Client: AEICONWCCA	Date: 01/12/19	Evaluated by: Chrystan Lyle

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time		Login Clarification Needed		**If Broken Container:**
	Temperature not in range		Chain of custody is incomplete		Insufficient packing material around container
	Improper container type		Please specify Metals requested.		Insufficient packing material inside cooler
	pH not in range.		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Couri
	Insufficient sample volume.		Received additional samples not listed on coc.		Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc		Container lid not intact
	Vials received with headspace.		Trip Blank not received.		**If no Chain of Custody:**
	Broken container	X	Client did not "X" analysis.		Received by:
	Broken container:		Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

Login Comments: No analysis marked on chain. Each soil sample received had 4 containers: 2*4oz jar, 1*40mL stirbar with methanol. Water sample "B-2-W" received samples: 1*250ml HDPE with HNO3, 2*100mL amb, 6*40ml amb vial with HCL, 2*40ml amb vial. 2 Tripblanks with HCL

Client informed by:		Call		Email X		Voice Mail		Date:01/14/19	Time:1400
TSR Initials:bjf	Client Contact: Mallory Zaunius								

Login Instructions:

Run the following for NWTPHGX, NWTPHDXNOSGT, SV8270PAHSIMD, V8260, TS.
B-1-10
B-2-10
B-3-10

B-4-15
B-5-10

Run the following for NWTPHGX, NWTPHDXNOSGT, PAHSIMLVID, V8260, and PBICP.
B-2-W

Place all other samples on hold.