Texas Commission on Environmental Quality

Remediation Division Correspondence Identification Form

SITE & PROGRAM AREA IDENTIFICATION

SITE LOCATION

Site Name: Union Pacific Railroad Houston Wood Preserving Works

Address 1: 4910 Liberty Road

Address 2:

Houston State: **Texas**

Zip Code: 77026 County: Harris

TCEQ Region: Houston - 12

REMEDIATION DIVISION PROGRAM AND FACILITY IDENTIFICATION

Is This Site Being Managed Under A State Lead Contract? ☐ Yes ☑ No

Program Area: IHW Corrective Action

Mail Code: MC-127 (IHW)

Is This A New Site To This Program Area? ☐ Yes ☑ No

Additional Information: SWR No. 31547

Additional Information: Permit/ Compliance Plan No. 50343

DOCUMENT(S) IDENTIFICATION

	PHASE OF REMEDIATION	DOCUMENT NAME
1.	Miscellanous	Soil Gas Probe Water Source Evaluation
2.	Please select a phase of remediatic	
3.	Please select a phase of remediatic	
4.	Please select a phase of remediatic	
5.	Please select a phase of remediatic	

CONTACT INFORMATION

☑ I attest that all work has been done in accordance with TCEQ rules ☑ I certify that I am aware misrepresentation of any claim is a violation.

RESPONSIBLE PARTY/APPLICANT/CUSTOMER INFORMATION (IF APPLICABLE)

Union Pacific Railroad

ENVIRONMENTAL CONSULTANT/REPORT PREPARER/AGENT

Golder Associates Inc.

SIGNATURES

DATABASE CODES

Document No.	TCEQ Database Term	Document No.	TCEQ Database Term
1.		4.	
2.		5.	
3.			

October 23, 2020 Project No. 19119232

Maureen Hatfield
Texas Commission on Environmental Quality
VCP-CA Section, Team 1, Remediation Division, MC-127
P.O. Box 13087
Austin, Texas 78711-3087

SOIL GAS PROBE WATER SOURCE EVALUATION
UNION PACIFIC RAILROAD HOUSTON WOOD PRESERVING WORKS FACILITY
4910 LIBERTY ROAD, HOUSTON, TEXAS
POST-CLOSURE CARE PERMIT NO. HW-50343; INDUSTRIAL SWR NO. 31547

Dear Ms. Hatfield,

Golder Associates Inc. (Golder), on behalf of Union Pacific Railroad (UPRR), is pleased to provide this letter report summarizing the soil gas probe water source evaluation conducted at the UPRR Houston Wood Preserving Works (HWPW) site (the Site). As detailed in the "Updated Soil Vapor Intrusion Assessment Interim Report" (Golder, 2020) dated August 4, 2020, UPRR conducted a soil gas investigation that included the installation of 28 soil gas probes off-site north of Liberty Road in January-February and June 2020, as shown on Figure 1. During soil gas sampling from these soil gas probes, water had infiltrated and accumulated in 13 of the 28 soil gas probes (SG-01 through SG-07, SG-09, SG-13, SG-13R, SG-23, SG-24, and SG-26). Following discussions with Texas Commission on Environmental Quality (TCEQ) staff, the TCEQ agreed that these water saturated soil gas probes would not be sampled for soil gas. Based on the review of historical and current utility maps, the 13 probes that were saturated with water were completed in areas either near former drainage ditches, in the vicinity of underground utilities, or where a former residential structure was located. Per a telephone discussion with TCEQ staff on July 8, 2020 and a brief scope of work detailed in an email dated July 22, 2020, Golder, on behalf of UPRR, proposed collecting water samples from the soil gas probes to evaluate possible sources of the shallow water that had collected in the soil gas probes. The objective was to collect water samples from the soil gas probes to compare the water chemistry to that of groundwater samples collected from a nearby A-Transmissive Zone (A-TZ) monitoring well (MW-35A) and to a City of Houston municipal drinking water (COH tap water) sample. Details of the sampling activities and data evaluation are provided below.

Sampling Event

The water sampling event from the 13 saturated soil gas probes was conducted on July 30 and 31, 2020. Water was collected from the soil gas probes using a peristaltic pump by connecting the peristaltic pump tubing to the soil gas probe tubing. Given that the construction of the soil gas probes was not intended for water sampling, the

volume of water available to fill the required sample bottles was limited. If an adequate volume of water was available for collection, the samples were analyzed for the following:

- Site-specific volatile organic compounds (VOCs) by Method 8260;
- Site-specific semi-volatile organic compounds (SVOCs) by Method 8270;
- Site-specific cation, arsenic, and major cations (calcium, magnesium, potassium, sodium) by Method 6020;
- Major anions (chloride, sulfate, bicarbonate, carbonate), nitrate, nitrite, and fluoride by Method 9056A and 2320B (alkalinity); and
- Orthophosphate by Method 4500-P.

Water collected from the soil gas probes for cation and anion analyses was filtered using a 10-µm pore size filter. Only four soil gas probe locations (SG-01, SG-02, SG-04, and SG-05) produced sufficient water for the complete set of analyses listed above. A COH tap water sample was collected from a tap in the UPRR Englewood Intermodal Yard office at 5500 Wallisville Road in Houston, Texas. A sample of the A-TZ groundwater was collected by low-flow sampling techniques from MW-35A. Samples were collected in laboratory-supplied containers, stored on ice in an insulated cooler, and shipped to Pace National in Mt. Juliet, Tennessee for analysis. A completed chain-of-custody accompanied the samples through receipt at the analytical laboratory. Copies of the laboratory report and data usability summary for the water sample data prepared pursuant to Texas Risk Reduction Program (TRRP)-13 Guidance are included in Attachment 1. For soil gas probes that produced sufficient volumes of water to analyze the major cation and anion concentrations, the percent charge-balance error (%CBE) was calculated for each sample to validate results with an acceptable range of ±5% (Freeze and Cherry, 1979) using Geochemist's Workbench Version 12.0. The sum of cations in milliequivalents per liter (meq/L) should equal the sum of anions in meq/L because waters are electrically neutral. The %CBE is calculated by subtracting the sum of anions in meq/L from the sum of cations in meq/L and dividing that difference by the sum of both cations and anions in meq/L and multiplying by 100. The charge balance in the SG-01 sample was greater than 5% (higher concentrations of cations than anions) which was taken into consideration during the evaluation. All other samples with sufficient sample volume had an acceptable charge balance of less than 5%. A summary of the analytical results is provided in Table 1.

Data Evaluation

Concentrations of site-specific chemicals of concern (COCs) detected in the soil gas probe water were compared to the concentrations detected in the A-TZ groundwater sample from monitoring well MW-35A. Also, concentrations of major cations and anions detected in the water samples from the soil gas probes, the groundwater sample from MW-35A, and the water sample from the COH tap were compared to each other to evaluate the source of water in the probes. Details of the evaluation are provided below.

Site-Specific Chemicals of Concern (COCs)

Site-specific COCs in water from soil gas probes were either not detected at or above sample detection limits (SDLs) or were detected at estimated concentrations less than the method quantitation limits (MQLs) (J-flagged) with the following exceptions:

- Low concentrations of toluene were detected in SG-01, SG-02, SG-03, SG-05, SG-06, SG-07, SG-13, SG-13R, and SG-26. The maximum toluene concentration detected was 0.0036 mg/L in SG-07, which is multiple orders of magnitude below the TRRP residential protective concentration level (PCL) for

groundwater ingestion of 1.0 mg/L. Toluene concentrations were not detected in the groundwater sample from MW-35A above the SDL (<0.0002 mg/L).

- Bis (2-ethylhexyl) phthalate was detected in water at SG-26 at a concentration of 0.0161 mg/L, which is above the TRRP residential PCL (0.006 mg/L). The constituent was also detected at SG-24 but at a concentration (0.00131 mg/L J) below the PCL. The bis (2-ethylhexyl) phthalate detections are likely not site-related. Bis (2-ethylhexyl) phthalate is a common laboratory contaminant (TRRP-14; Reid et al., 2007) and widely used in plastics manufacturing. Bis (2-ethylhexyl) phthalate is present in plastic products such as shower curtains, garden hoses, rainwear, some toys, sheathing for wires and cable, etc. (NCBI, 2020). Concentrations of bis (2-ethylhexyl) phthalate in all groundwater monitoring wells at the Site were below the residential PCL during the 2019 and January 2020 site-wide sampling events, further supporting that the bis (2-ethylhexyl) phthalate detections in the water sampled from the soil gas probes are not site-related. All other SVOCs analyzed in the SG-24 and SG-26 water samples were below SDLs or detected at concentrations less than the MQLs (J-flagged).
- Arsenic was detected in water samples at the four soil gas probe locations that produced enough water to sample for metals analyses. The arsenic concentrations in the water samples ranged from 0.000938J mg/L (SG-05) to 0.0103 mg/L (SG-02), which was at the PCL (0.01 mg/L). The arsenic concentration in the groundwater sample at MW-35A was 0.0219 mg/L in January 2020. As discussed in the response letter dated August 5, 2020 to the TCEQ Interim Groundwater Monitoring Report (IGMR) Comment Letter dated July 16, 2020, the presence of arsenic in groundwater is believed to be associated with naturally-occurring arsenate species within the groundwater matrix that are converted to the more soluble arsenite species due to reducing conditions resulting from the degradation of petroleum hydrocarbons (i.e. creosote-related COCs) from the Site (API, 2011).

Site-specific COC concentrations detected in the water collected from the soil gas probes were also conservatively compared to values developed using the U.S. Environmental Protection Agency's (EPA's) vapor intrusion screening level (VISL) calculator (EPA, 2015, EPA, 2019). The VISL calculator was used to calculate conservative, non-site specific, risk-based potential vapor intrusion (VI) screening values for site-specific COCs detected in groundwater. The VISL calculator (EPA, 2019) provides a screening level based on several basic inputs, including a residential or commercial exposure scenario, target hazard quotient, target carcinogenic risk, and groundwater temperature. For this evaluation, the selected inputs were residential scenario, hazard quotient of 0.1, carcinogenic risk of 10^{-5} (consistent with the TRRP criteria), and water temperature of 25°C. EPA's VISL calculator uses a conservative default attenuation factor of 0.001 for the attenuation of vapors between the groundwater source and the overlying receptor. All site-specific COC concentrations in the water samples from the soil gas probes were below the EPA VISLs by multiple orders of magnitude and are summarized in the following table.

COC	VISL (mg/L)	Maximum COC Concentrations in Soil Gas Probe Water Samples (mg/L)
1,2-Dichloroethane	0.0151	<0.000164
Benzene	0.014	<0.000188
Chlorobenzene	0.041	<0.000232

COC	VISL (mg/L)	Maximum COC Concentrations in Soil Gas Probe Water Samples (mg/L)
Ethylbenzene	0.035	<0.000274
Methylene Chloride	0.471	<0.00086
Toluene	1.92	0.00357 (SG-07)
Vinyl Chloride	0.0015	<0.000468
Xylenes	0.0385	<0.000348
Benzo(a)anthracene	0.344	<0.000265
Naphthalene	0.0174	<0.000215
Nitrobenzene	0.715	<0.000401

Cations and Anions

Major cations (calcium, magnesium, potassium, sodium) and major anions (chloride, sulfate, bicarbonate, carbonate) as well as nitrate, nitrite, and fluoride were analyzed to compare the main hydrochemical properties of the waters to identify possible sources of the water that had infiltrated and accumulated in the soil gas probes. To compare the major ion composition of the different waters sampled, Stiff and Piper diagrams, which are standard geochemical tools for visual comparisons of waters, were prepared and presented on Figure 2 and 3 below. Stiff diagrams are graphical representations of individual samples, where a polygon is created based concentrations (converted to total meq/L) with cations plotted on the left side of the polygon and anion concentrations plotted on the right. The points are connected to form polygons or a water-quality diagram for comparison between samples (Figure 2). Different overall shapes indicate samples with different water chemistries. Analytical results were also plotted on a Piper diagram to evaluate and preliminarily classify waters (water type/hydrochemical facies). Piper diagrams (Piper, 1944) provide another method to evaluate and compare water types based on the ionic composition of different water samples (Hem, 1985). Cation and anion concentrations (in total meq/L) as percentages of their respective totals are plotted on the two lower triangles (Figure 3). The cation and anion relative percentages in each triangle are then projected into a quadrilateral polygon that describes the water type or hydrochemical facies, and potential mixing of waters (Piper, 1944; Back, 1951).

As depicted in the Stiff and Piper diagrams below (Figure 2 and Figure 3, respectively), calcium and chloride are the dominant ions in the groundwater at MW-35A (Ca-Cl water type). Calcium and bicarbonate are the dominant ions in the water samples collected from soil gas probes SG-02, SG-04, and SG-05 and the City of Houston tap (Ca-HCO_3 water type). Sodium and bicarbonate are dominant in the water sample from SG-01 (Na-HCO_3 water type). Comparison of the Stiff diagrams also illustrates that the relative proportion of sulfate is greater than chloride in the soil gas probe waters while the relative proportion of sulfate and chloride are nearly equal in COH tap water.

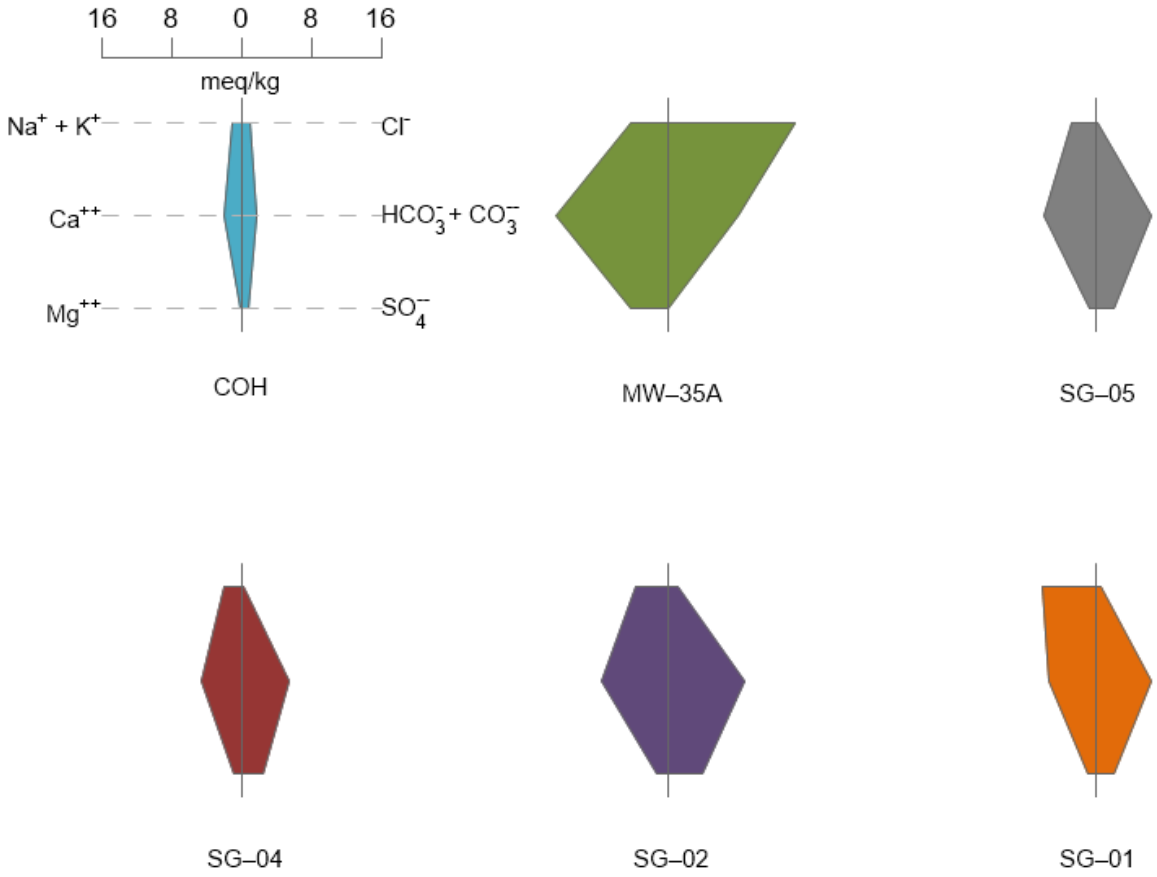

Figure 2: Stiff diagrams of water samples.

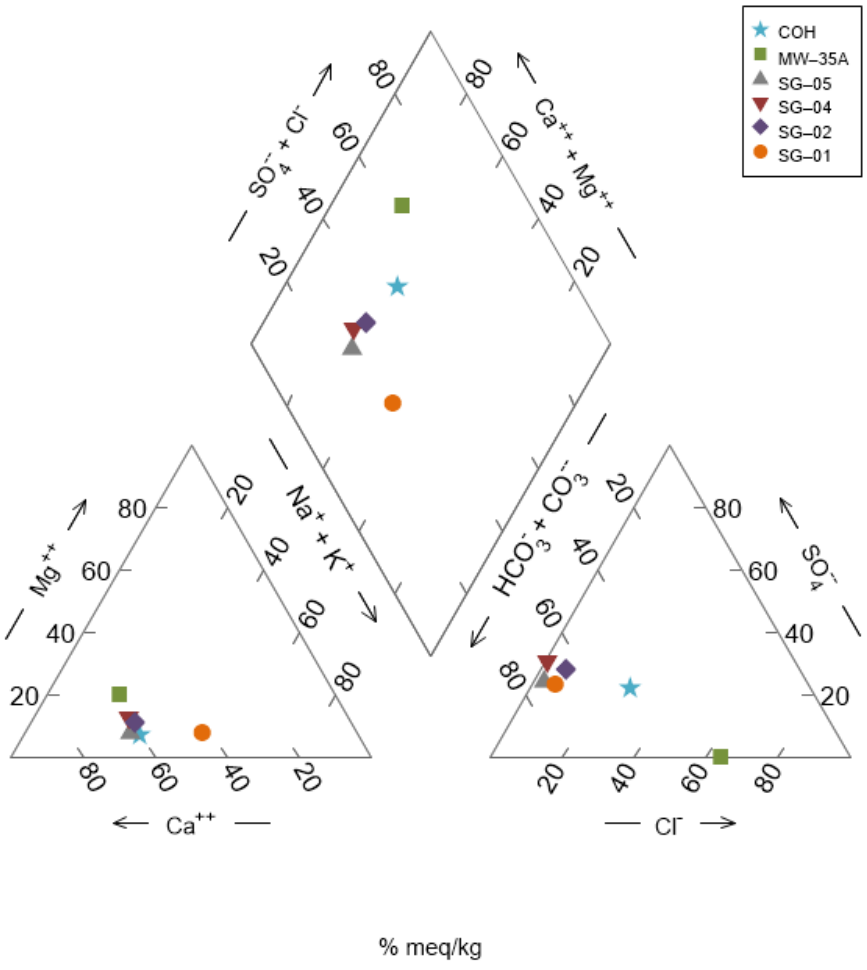

Figure 3: Piper diagram showing relative proportions of major ions in water samples.

Mixtures of waters from two or three sources (end-members) can be analyzed on a Piper diagram, assuming the total mass of each dissolved constituent does not change after mixing occurs (i.e., no chemical reactions occur). Possible mixtures of two sources plot on a straight line connecting the compositions of the end-members in the diamond portion of the Piper diagram (Briel, 1993). As an example, if the water sample results from the soil gas probes were a mixture of COH tap water and groundwater (MW-35A) (hypothetical end-members), the soil gas probe water samples would plot in between the compositions of the COH tap water and MW-35A along a hypothetical mixing line in the diamond portion of the Piper diagram. The compositions of water collected from the soil gas probes do not plot between the compositions of COH tap water and MW-35A (Figure 3); therefore water samples from soil gas probes do not appear to be a mixture of groundwater and COH tap water.

Total dissolved solids (TDS) ranged from 456 mg/L to 981 mg/L in the water collected from soil gas probes (SG-01, SG-02, SG-03, SG-04, SG-05, SG-06, and SG-09), as shown on Figure 4 below.

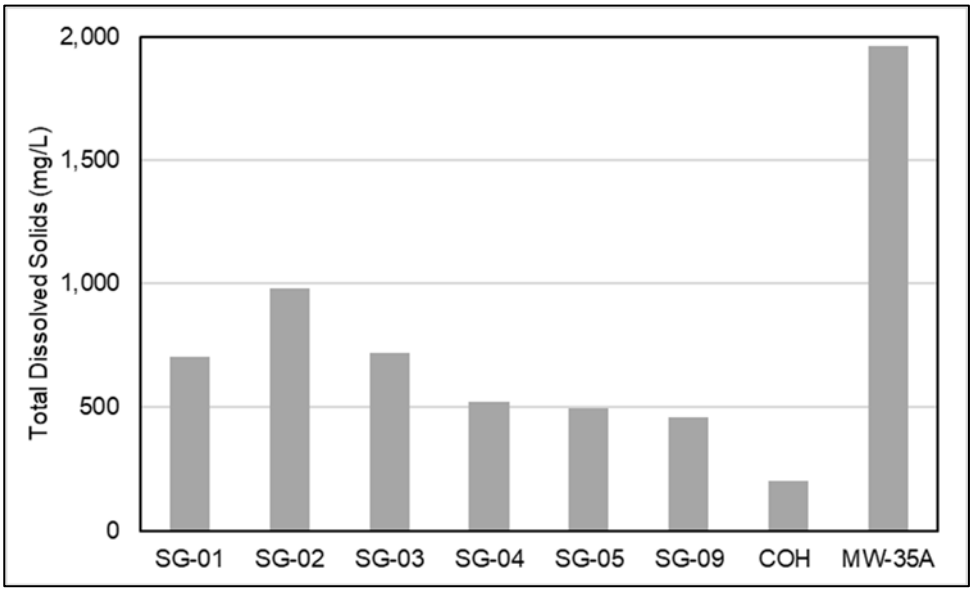

Figure 4: Total dissolved solids (TDS) concentrations in water samples.

TDS concentrations were detected at 201 J mg/L in the COH tap water and 1,960 J mg/L in MW-35A. Based on the TDS concentrations, the water samples from the soil gas probes do not appear to be representative of the A-TZ groundwater.

Conclusion

The following conclusions can be made based on the data evaluation:

- Site-specific COCs detected in the water samples collected from soil gas probes were either not detected above SDLs or detected but at concentrations below the applicable TRRP residential PCL except for bis(2-ethylhexyl) phthalate in SG-26. As discussed above, multiple lines of evidence suggest the bis(2-ethylhexyl) phthalate detection is not site-related.
- COC concentrations were below VISLs.
- The source of the water in the soil gas probes does not appear to be groundwater from the A-TZ based on water type and major anion and cation concentrations. Calcium and bicarbonate are the dominant cation/anions in most of the soil gas probe waters as well as the COH tap water sample. Calcium and chloride are the dominant cation and anion, respectively, in the A-TZ groundwater sample (MW-35A).
- While the soil gas probe water and COH tap water are similar water types, the source of the soil gas probe water is likely not from a leaking COH tap water line based on TDS and overall relative proportions of major anions.

As previously detailed, most of the soil gas probes were installed in areas that had been near former drainage ditches, near underground utilities, or where a former house was located. During the installation of the probes, fill material with debris such as bricks, pieces of concrete, and glass were encountered in most of the boreholes, which can create void spaces in the subsurface where infiltrated water can accumulate. Given that the water in soil gas probes does not appear to be A-TZ groundwater or COH tap water and the potential for existing voids in

the subsurface, it is likely that the water in the fill material and sandy, silty clay of the unsaturated zone that the soil gas probes are screened within is from storm water and/or rainfall infiltration.

Sincerely

Golder Associates Inc.

Michelle Hermiston, P.G.
Project Hydrogeologist

Eric Matzner, P.G.
Principal

CC: Kevin Peterburs, UPRR

Attachments: Table
Figure
Attachment 1 – Data Usability Summary and Laboratory Report

References

American Petroleum Institute (API), 2011. Groundwater Arsenic Manual – Attenuation of Naturally-Occurring Arsenic at Petroleum Impacted Sites. API Publication 4761.

Back, W. (1961), Techniques for mapping of hydrochemical facies. Short papers in the geologic and hydrologic sciences: US Geological Survey Professional Paper 424-D.

Briel, L.I. (1993). Documentation of a Multiple-Technique Computer Program for Plotting Major-Ion Composition of Natural Waters. *U.S. Geological Survey Report 93-74*, p. 7.

Freeze, R.A. and Cherry, J.A. (1979). Groundwater. *Prentice-Hall Inc.,* Englewood Cliffs, NJ.

Golder Associates Inc. (Golder), 2020, Updated Soil Vapor Intrusion Assessment Interim Report dated August 4.

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Piper, A.M. (1944), A Graphic Procedure in the Geochemical Interpretation of Water-Analyses. Eos, Transactions American Geophysical Union, 25, 914-928.

Reid, AM., Brougham, CA., Fogarty, AM., Roche JJ. (2007). An investigation into possible sources of phthalate contamination in the environmental analytical laboratory. *International Journal of Environmental Analytical Chemistry*

Stiff, H.A. (1951), The Interpretation of Chemical Water Analysis by Means of Patterns. Journal of Petroleum Technology, 3, 15-17.

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TABLES

Table 1

Summary of Water Analytical Results
UPRR Houston Wood Preserving Works

Sample ID	City of Houston Tap	MW-35A	SG-01	SG-02	SG-03	SG-04	SG-05	SG-06	SG-09
Date Collected	07/30/2020	07/30/2020	07/30/2020	07/30/2020	07/30/2020	07/30/2020	07/30/2020	07/30/2020	07/30/2020
Analyte	Result	Result	Result	Result	Result	Result	Result	Result	Result
Total Dissolved Solids (TDS)	201 J	1960 J	702 J	981 J	718	517 J	495 J	IS	456 J
Alkalinity	98.8	492	393	533	IS	334	395	IS	364
Alkalinity,Bicarbonate	98.8	492	393	533	IS	334	395	IS	364
Alkalinity,Carbonate	< 8.45	< 8.45	< 8.45	< 8.45	IS	< 8.45	< 8.45	IS	< 8.45
Orthophosphate	< 0.014	0.017 J	0.068	0.026 J	IS	< 0.014	0.016 J	IS	0.021 J
Calcium	42.1	262	107	157	IS	95	121	IS	IS
Magnesium	3.07	54.1	11.6	18	IS	11.6	9.05	IS	IS
Potassium	4.5	0.734 J	2.76	3.92	IS	8.45	1.71 J	IS	IS
Sodium	22.9	102	140	85.4	IS	42.9	63.8	IS	IS
Chloride	32.4	518	22.4	36	23.8	2.97	10.3	7.91	IS
Fluoride	0.206	0.288	0.504	0.51	0.334	0.253	0.397	0.506	IS
Nitrate	0.417 J	< 0.048	< 0.048	1.82	0.0989 J	< 0.048	0.148 J	0.54 J	IS
Nitrite	0.308 J	< 0.042	< 0.042	< 0.042	< 0.042	< 0.042	< 0.042 J	< 0.042	IS
Sulfate	34.6	< 0.594	103	183	80	114	103	95.7	IS
Charge Balance	3.0%	1.7%	15.7%	-2.0%	NC	-1.2%	3.9%	NC	NC

Notes:

All values in milligrams per liter (mg/L)

TRRP PCLs (30 TAC 350, Table 3) Residential $^{GW}GW_{Ing}$ PCL updated November 2019.

J = estimated value, < = not detected at the specified detection limit.

NC = Charge balance could not be calculated due to insufficient sample volume.

IS = Insufficient Sample Volume

Charge balance was calculated using the software Geochemist's Workbench 12.0.

Table 1

Summary of Water Analytical Results
UPRR Houston Wood Preserving Works

		Sample ID	SG-01	SG-02	SG-03	SG-04	SG-05	SG-06	SG-07
		Date Collected	07/30/2020	07/30/2020	07/30/2020	07/30/2020	07/30/2020	07/30/2020	07/30/2020
Analyte	**Units**	**Residential $^{GW}GW_{Ing}$ PCL**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOCs									
1,2-Dichloroethane	mg/l	0.0050	< 8.19E-05	< 8.19E-05	< 8.19E-05	< 8.19E-05	< 0.000164	< 8.19E-05	< 8.19E-05
Benzene	mg/l	0.0050	< 9.41E-05	< 9.41E-05	< 9.41E-05	< 9.41E-05	< 0.000188	< 9.41E-05	< 9.41E-05
Chlorobenzene	mg/l	0.10	< 0.000116	< 0.000116	< 0.000116	< 0.000116	< 0.000232	< 0.000116	< 0.000116
Ethylbenzene	mg/l	0.70	< 0.000137	< 0.000137	< 0.000137	< 0.000137	< 0.000274	< 0.000137	< 0.000137
Methylene Chloride	mg/l	0.0050	< 0.00043	< 0.00043	< 0.00043	< 0.00043	< 0.00086	< 0.00043	< 0.00043
Toluene	mg/l	1.0	0.000446 J	0.000473 J	0.0012	< 0.000278	0.0034	0.00216	0.00357
Vinyl Chloride	mg/l	0.0020	< 0.000234	< 0.000234	< 0.000234	< 0.000234	< 0.000468	< 0.000234	< 0.000234
Xylenes, Total	mg/l	10	< 0.000174	< 0.000174	< 0.000174	< 0.000174	< 0.000348	< 0.000174	< 0.000174
SVOCs									
2,4-Dimethylphenol	mg/l	0.49	< 6.36E-05	< 6.36E-05		< 0.000075	< 8.46E-05	< 0.000075	
2,4-Dinitrotoluene	mg/l	0.0013	< 9.83E-05	< 9.83E-05		< 0.000116	< 0.000131	< 0.000116	
2,6-Dinitrotoluene	mg/l	0.0013	< 0.00025	< 0.00025		< 0.000295	< 0.000333	< 0.000295	
2-Chloronaphthalene	mg/l	2.0	< 6.48E-05	< 6.48E-05		< 7.65E-05	< 8.62E-05	< 7.65E-05	
2-Methylnaphthalene	mg/l	0.098	< 0.000117	< 0.000117		< 0.000138	< 0.000156	< 0.000138	
4,6-Dinitro-2-methylphenol	mg/l	0.0024	< 0.00112	< 0.00112		< 0.00132	< 0.00149	< 0.00132	
4-Nitrophenol	mg/l	0.049	< 0.000143	< 0.000143		< 0.000169	< 0.00019	< 0.000169	
Acenaphthene	mg/l	1.5	< 8.86E-05	< 8.86E-05		< 0.000105	< 0.000118	< 0.000105	
Acenaphthylene	mg/l	1.5	< 9.21E-05	< 9.21E-05		< 0.000109	< 0.000122	< 0.000109	
Anthracene	mg/l	7.3	< 8.04E-05	< 8.04E-05		< 9.49E-05	< 0.000107	< 9.49E-05	
Azobenzene	mg/l	0.0083	< 0.000105	< 0.000105		< 0.000124	< 0.00014	< 0.000124	
Benzo(a)anthracene	mg/l	0.0091	< 0.000199	< 0.000199		< 0.000235	< 0.000265	< 0.000235	
Benzo(a)pyrene	mg/l	0.00020	< 3.81E-05	< 3.81E-05		< 0.000045	< 5.07E-05	< 0.000045	
Bis(2-Chlorethoxy)methane	mg/l	0.00083	< 0.000116	< 0.000116		< 0.000137	< 0.000154	< 0.000137	
Bis(2-Ethylhexyl)phthalate	mg/l	0.006	< 0.000895	< 0.000895		< 0.00106	< 0.00119	< 0.00106	
Chrysene	mg/l	0.91	< 0.00013	< 0.00013		< 0.000153	< 0.000173	< 0.000153	
Dibenzofuran	mg/l	0.098	< 0.000097	< 0.000097		< 0.000114	< 0.000129	< 0.000114	
Di-N-Butyl phthalate	mg/l	2.4	< 0.000453	< 0.000453		< 0.000535	< 0.000602	< 0.000535	
Fluoranthene	mg/l	0.98	< 0.000102	< 0.000102		< 0.00012	< 0.000136	< 0.00012	
Fluorene	mg/l	0.98	< 8.44E-05	< 8.44E-05		< 9.96E-05	< 0.000112	< 9.96E-05	
Naphthalene	mg/l	0.49	< 0.000159	< 0.000159		< 0.000188	< 0.000211	< 0.000188	
Nitrobenzene	mg/l	0.049	< 0.000297	< 0.000297		< 0.00035	< 0.000395	< 0.00035	
N-Nitrosodiphenylamine	mg/l	0.19	< 0.00237	< 0.00237		< 0.0028	< 0.00315	< 0.0028	
Pentachlorophenol	mg/l	0.001	< 0.000313	< 0.000313		< 0.000369	< 0.000416	< 0.000369	
Phenanthrene	mg/l	0.73	< 0.000112	< 0.000112		< 0.000132	< 0.000149	< 0.000132	
Phenol	mg/l	7.3	< 0.00433	< 0.00433		< 0.00511	< 0.00576	< 0.00511	
Pyrene	mg/l	0.73	< 0.000107	< 0.000107		< 0.000126	< 0.000142	< 0.000126	
Metals									
Arsenic	mg/l	0.010	0.00734	0.0103		0.00117 J	0.000938 J		

Notes:

All values in milligrams per liter (mg/L)

TRRP PCLs (30 TAC 350, Table 3) Residential $^{GW}GW_{Ing}$ PCL, Nov 2019.

J = estimated value, < = not detected at the specified detection limit.

Shaded values are greater than residential PCL.
*Site-specific COC data for MW-35A from the January 2020 sampling event. Data usability summary and laboratory report were provided in Appendix 3C of the Response Action Plan dated August 31, 2020.

Table 1

Summary of Water Analytical Results
UPRR Houston Wood Preserving Works

		Sample ID	SG-09	SG-13	SG-13R	SG-24	SG-26	City of Houston Tap Water	MW-35A*
		Date Collected	07/30/2020	07/30/2020	07/30/2020	07/30/2020	07/30/2020	07/30/2020	1/10/2020
Analyte	**Units**	**Residential $^{GW}GW_{Ing}$ PCL**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOCs									
1,2-Dichloroethane	mg/l	0.0050	< 8.19E-05	< 8.19E-05	< 8.19E-05	< 8.19E-05	< 8.19E-05	< 8.19E-05	< 0.0002
Benzene	mg/l	0.0050	< 9.41E-05	< 9.41E-05	< 9.41E-05	< 9.41E-05	< 9.41E-05	< 9.41E-05	< 0.0002
Chlorobenzene	mg/l	0.10	< 0.000116	< 0.000116	< 0.000116	< 0.000116	< 0.000116	< 0.000116	< 0.0003
Ethylbenzene	mg/l	0.70	< 0.000137	< 0.000137	< 0.000137	< 0.000137	< 0.000137	< 0.000137	< 0.0003
Methylene Chloride	mg/l	0.0050	< 0.00043	< 0.00043	< 0.00043	< 0.00043	< 0.00043	0.00406 J	< 0.001
Toluene	mg/l	1.0	< 0.000278	0.000353 J	0.000848 J	< 0.000278	0.000284 J	< 0.000278	< 0.0002
Vinyl Chloride	mg/l	0.0020	< 0.000234	< 0.000234	< 0.000234	< 0.000234	< 0.000234	< 0.000234	< 0.0002
Xylenes, Total	mg/l	10	< 0.000174	< 0.000174	< 0.000174	< 0.000174	< 0.000174	< 0.000174	< 0.0003
SVOCs									
2,4-Dimethylphenol	mg/l	0.49	< 7.63E-05			< 6.55E-05	< 8.59E-05	< 6.74E-05	< 0.000021
2,4-Dinitrotoluene	mg/l	0.0013	< 0.000118			< 0.000101	< 0.000133	< 0.000104	< 0.00004
2,6-Dinitrotoluene	mg/l	0.0013	< 0.0003			< 0.000258	< 0.000338	< 0.000265	< 0.000058
2-Chloronaphthalene	mg/l	2.0	< 7.78E-05			< 6.67E-05	< 8.75E-05	< 6.87E-05	< 0.000042
2-Methylnaphthalene	mg/l	0.098	0.00014			< 0.000176	< 0.000158	< 0.000124	< 0.000021
4,6-Dinitro-2-methylphenol	mg/l	0.0024	< 0.00134			< 0.00115	< 0.00151	< 0.00119	< 0.000019
4-Nitrophenol	mg/l	0.049	< 0.000172			< 0.000147	< 0.000193	< 0.000152	< 0.00002
Acenaphthene	mg/l	1.5	< 0.000106			< 9.13E-05	< 0.00012	< 9.39E-05	< 0.000047
Acenaphthylene	mg/l	1.5	< 0.000111			< 9.49E-05	< 0.000124	< 9.76E-05	< 0.000027
Anthracene	mg/l	7.3	< 9.65E-05			< 8.28E-05	< 0.000109	< 8.52E-05	< 0.000015
Azobenzene	mg/l	0.0083	< 0.000126			< 0.000108	< 0.000142	< 0.000111	< 0.000014
Benzo(a)anthracene	mg/l	0.0091	< 0.000239			< 0.000205	< 0.000269	< 0.000211	< 0.00005
Benzo(a)pyrene	mg/l	0.00020	< 4.57E-05			< 3.92E-05	< 5.14E-05	< 4.04E-05	< 0.00002
Bis(2-Chlorethoxy)methane	mg/l	0.00083	< 0.000139			< 0.000119	< 0.000157	< 0.000123	< 0.00003
Bis(2-Ethylhexyl)phthalate	mg/l	0.006	< 0.00107			0.00131 J	0.0161	< 0.000949	0.000061 J
Chrysene	mg/l	0.91	< 0.000156			< 0.000134	< 0.000176	< 0.000138	< 0.000021
Dibenzofuran	mg/l	0.098	< 0.000116			< 9.99E-05	< 0.000131	< 0.000103	< 0.00002
Di-N-Butyl phthalate	mg/l	2.4	< 0.000544			< 0.000467	0.000719 J	< 0.00048	< 0.00002
Fluoranthene	mg/l	0.98	< 0.000122			< 0.000105	< 0.000138	< 0.000108	< 0.00001
Fluorene	mg/l	0.98	< 0.000101			< 8.69E-05	< 0.000114	< 8.95E-05	0.000065 J
Naphthalene	mg/l	0.49	< 0.000191			< 0.000197	< 0.000215	< 0.000169	< 0.0002
Nitrobenzene	mg/l	0.049	< 0.000356			< 0.000306	< 0.000401	< 0.000315	< 0.000024
N-Nitrosodiphenylamine	mg/l	0.19	< 0.00284			< 0.00244	< 0.0032	< 0.00251	< 0.000025
Pentachlorophenol	mg/l	0.001	< 0.000376			< 0.000322	< 0.000423	< 0.000332	< 0.000079
Phenanthrene	mg/l	0.73	< 0.000134			< 0.000115	< 0.000151	< 0.000119	< 0.000021
Phenol	mg/l	7.3	< 0.0052			< 0.00446	< 0.00585	< 0.00459	< 0.000035
Pyrene	mg/l	0.73	< 0.000128			< 0.00011	< 0.000144	< 0.000113	< 0.000019
Metals									
Arsenic	mg/l	0.010						< 0.000735	0.0219

Notes:

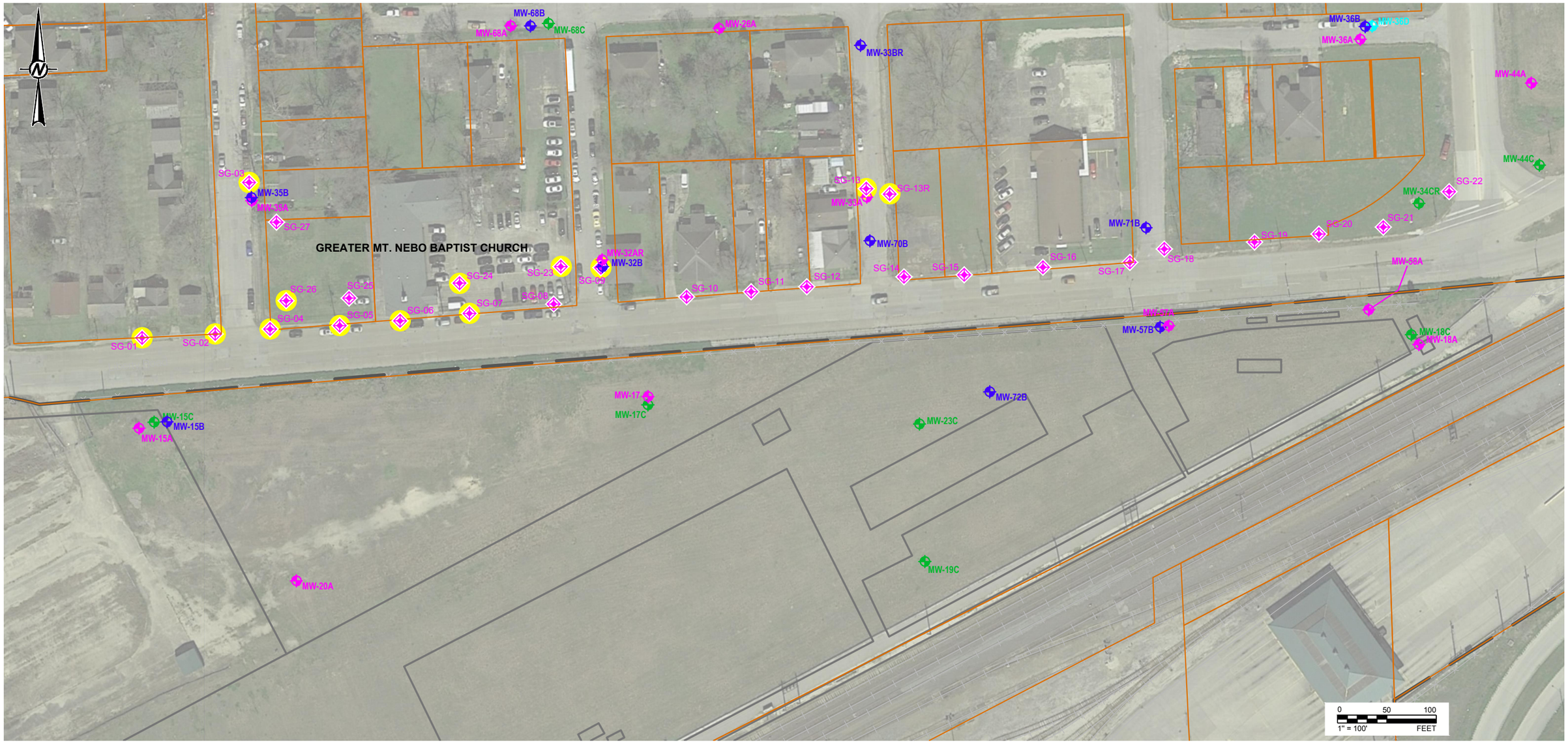
All values in milligrams per liter (mg/L)

TRRP PCLs (30 TAC 350, Table 3) Residential $^{GW}GW_{Ing}$ PCL, Nov 2019.

J = estimated value, < = not detected at the specified detection limit.

Shaded values are greater than residential PCL.
*Site-specific COC data for MW-35A from the January 2020 sampling event. Data usability summary and laboratory report were provided in Appendix 3C of the Response Action Plan dated August 31, 2020.

FIGURES



LEGEND

- UPRR PROPERTY BOUNDARY
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- B-CZ/B-TZ MONITORING WELL LOCATION
- C-TZ MONITORING WELL LOCATION
- D-TZ MONITORING WELL LOCATION
- SOIL GAS AND SURFACE SOIL SAMPLE LOCATION
- SOIL GAS AND SURFACE SOIL SAMPLE LOCATION (SOIL GAS SAMPLE POINT SATURATED WITH WATER)

REFERENCE(S)

BASE MAP TAKEN FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.
AERIAL: GOOGLE EARTH, IMAGERY DATED 2/23/19.

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
SOIL GAS SAMPLING LOCATIONS

CONSULTANT
GOLDER

YYYY-MM-DD	2020-10-13
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 1

ATTACHMENT 1

Data Usability Summary and Laboratory Report

Memorandum

October 1, 2020

To:	Eric Matzner	Ref. No.:	11183954-1620
From:	Chris G. Knight/eew/752-NF	Tel:	512-506-8803
cc:	Jesse Orth, Jon Lang; Julie Lidstone		

Subject: **Data Usability Summary**
HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event
Union Pacific Railroad (UPRR)/Houston TX-Wood Preserving Works
Houston, Texas
July 2020

1. Scope of Data Usability Study

This document details a Data Usability Summary (DUS) of analytical results for groundwater samples collected in support of the HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event at the Union Pacific Railroad (UPRR)/Houston TX-Wood Preserving Works site during July 2020. Samples were submitted to Pace Analytical National Center for Testing & Innovation, located in Mount Juliet, Tennessee and are reported in data package L1245663. The intended use of the data is to support the HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event at the site by providing current concentration of chemicals of concern.

Data were reviewed and validated by Chris G. Knight of GHD, in accordance with Title 30 of the Texas Administrative Code Section 350.54 (30 TAC 350.54) as described in the Texas Commission on Environmental Quality (TCEQ) Regulatory Guidance document entitled "Review and Reporting of COC Concentration Data under TRRP", (RG-366/TRRP-13), revised May 2010, herein referred to as "TRRP-13 Guidance". Evaluation of the data was based on information obtained from the chain of custody forms, the finished report forms, method blank data, recovery data from surrogate spikes/laboratory control samples (LCS)/matrix spikes (MS)/duplicate data, the laboratory review checklists (LRC), and the laboratory exception report (ER).

A sample collection and analysis summary is presented in Table 1. This summary provides a cross-reference of field sample identification numbers and location identification. Each sample is assigned a unique field identification number.

The validated sample results are presented in Table 2. A summary of the analytical methodology is presented in Table 3.

2. Laboratory Qualifications

The Laboratory's quality assurance program is consistent with the quality standards outlined in the National Environmental Laboratory Accreditation Program (NELAP). This laboratory was accredited under Texas Certification number #T104704245 at the time the analysis was performed and the certificate is included in Attachment A.

3. Project Objectives

3.1 Sampling/Analytical QA/QC Objectives

The QA/QC program was designed to identify contamination resulting from the sampling, sample transport and analytical process through the analysis of method blanks. The QA/QC program was designed to evaluate the quality of the resulting data with respect to bias and precision through analysis of LCS, MS, and duplicate analyses.

4. Data Review/Validation Results

4.1 Sample Holding Time and Preservation

Samples were shipped with a chain of custody and the paper work was filled out properly. All samples were delivered on ice and stored by the laboratory at the required temperature (0-6°C).

i) WG-1620SG0220200730 was received in an unpreserved sample container for metals analysis. The sample was properly preserved by the laboratory prior to analysis. No further actions were required.

The sample chain of custody documents and the analytical report were used to determine sample holding times. All samples were prepared and analyzed within the required holding times with the following exception (see Table 4):

i) The following samples were analyzed outside of the established holding times for nitrate (as N), nitrite (as N), and/or orthophosphate analyses: WG-1620COH20200730, WG-1620SG0520200730, WG-1620SG0620200730, and WG-1620SG0920200730. The associated sample results were qualified as estimated; biased low.

4.2 Sample Containers

Sample containers used were certified pre-cleaned glass and plastic containers provided by the laboratory. These containers meet or exceed analyte specifications established in the United States Environmental Protection Agency (USEPA) *Specifications and Guidance for Contaminant-free Sample Containers*.

4.3 Calibrations

According to the LRC, initial calibration and continuing calibration data met the criteria for the selected method.

4.4 Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures. As these were not discrete samples handled in the field, these blanks are not listed on the sample identification cross-reference list found in the data package.

For this study, laboratory method blanks were analyzed at a minimum frequency of one per twenty investigative samples and/or one per analytical batch and results are reported in the laboratory data package.

The method blank results were non-detect or below the method quantitation limit (MQL), indicating that laboratory contamination was not a factor for this investigation with the following exceptions (see Table 5):

i) One method blanks yielded low level detections for 2-methylnaphthaleneand naphthalene. Associated non-detect sample results and were not affected. No further actions were required. Associated sample results with similar detections to the method blank detections were qualified as non-detect.

4.5 Internal Standard and Surrogate Spike Recoveries

Recoveries of internal standards are addressed in the LRC of the data package. All internal standard recoveries associated with the compounds of interest were acceptable per the LRC.

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) determinations are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices. The recovery ranges established by the laboratory are adopted as the acceptance criteria for the project. Each individual surrogate compound is expected to meet the laboratory control limits. According to the TRRP-13 Guidelines, one outlying surrogate is acceptable for methods with multiple surrogate spike compounds as long as the recovery is at least ten percent.

Surrogate recoveries were assessed against laboratory control limits and/or the guidance in TRRP-13. All surrogate recoveries met the above criteria.

4.6 Laboratory Control Sample Analysis

LCS or LCS/laboratory control sample duplicate (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision. The recovery ranges established by the laboratory are adopted as the acceptance criteria for the project.

For this study, LCS or LCS/LCSD were analyzed at a minimum frequency of one per twenty investigative samples and/or one per analytical batch.

The LCS or LCS/LCSD contained all analytes specified in the methods. All LCS recoveries and RPDs were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision (where applicable) with the following exception:

i) One LCS/LCSD was reported with an elevated RPD for 2,4-dimethylphenol. All associated sample results were non-detect and not affected by the indicated variability. No further action was required.

4.7 Matrix Spike Analysis

To evaluate the effects of sample matrices on the preparation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with known concentrations of the analytes of interest and analyzed as MS or MS/matrix spike duplicate (MSD) samples. The RPD between the MS and MSD is used to assess analytical precision.

MS or MS/MSD analyses were performed as specified in Table 1. The recovery ranges established by the laboratory are adopted as the acceptance criteria for the project.

The MS or MS/MSD samples were spiked with all analytes specified in the methods. All percent recoveries and RPD values were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision with the following exception:

i) One MS was reported with a low recovery for chloride. The original sample concentration was significantly greater than the spike concentration. Therefore, the recovery was not assessed. No further action was required.

The laboratory also performed additional MS/MSD analyses on non-site samples. These cannot be used to assess accuracy and precision for the site samples.

4.8 Duplicate Sample Analyses

Analytical precision is evaluated based on the analysis of laboratory duplicate samples. For this study, duplicate samples were prepared and analyzed by the laboratory as specified in Table 1. The RPDs established by the laboratory are adopted as the acceptance criteria for the project.

The duplicate analyses performed were acceptable, demonstrating acceptable analytical precision with the following exception (see Table 6):

i) One duplicate analysis was reported with an elevated RPD for total dissolved solids (TDS) analysis. All associated sample results were qualified as estimated.

The laboratory also performed additional duplicate analyses on non-site samples. These cannot be used to assess precision for the site samples.

4.9 Field Procedures

Golder Associates, Inc. collected groundwater samples in accordance with their Standard Operating Procedures (SOP) for sample collection.

4.10 Analyte Reporting

The laboratory reported detected results for each analyte down to the sample detection limit (SDL), which is defined as the method detection limit (MDL) with sample-specific adjustments for dilutions, aliquot size, volumes, etc. Positive analyte detections less than the MQL but greater than the SDL were qualified as estimated (J) in Table 2 unless qualified elsewhere in this memorandum.

The detectability check standard (DCS) results supported the laboratory MDLs.

5. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are usable for the purpose of supporting the HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event at the site by providing current concentration of chemicals of concern in groundwater samples with the specific qualifications noted herein.

Table 1

Sample Collection and Analysis Summary
HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2020

					Analysis/Parameters											
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**Metals**	**Alkalinty**	**Chloride**	**Fluoride**	**Nitrate (as N)**	**Nitrite (as N)**	**Orthophosphate**	**Sulfate**	**TDS**	**Comments**
WG-1620SG2420200730	SG-24	Water	07/30/2020	09:00	X	X										
WG-1620SG2620200730	SG-26	Water	07/30/2020	09:30	X	X										
WG-1620SG13R20200730	SG-13R	Water	07/30/2020	10:00	X											
WG-1620SG1320200730	SG-13	Water	07/30/2020	10:30	X											
WG-1620COH20200730	COH	Water	07/30/2020	10:40	X	X	X	X	X	X	X	X	X	X	X	MS-P or MS/MSD-P
WG-1620SG0920200730	SG-09	Water	07/30/2020	11:30	X	X		X					X		X	
WG-1620SG0720200730	SG-07	Water	07/30/2020	11:40	X											
WG-1620SG0620200730	SG-06	Water	07/30/2020	12:25	X	X			X	X	X	X		X		
WG-1620SG0520200730	SG-05	Water	07/30/2020	13:00	X	X	X	X	X	X	X	X	X	X	X	
WG-1620SG0420200730	SG-04	Water	07/30/2020	13:40	X	X	X	X	X	X	X	X		X	X	
WG-1620SG0220200730	SG-02	Water	07/30/2020	14:30	X	X	X	X	X	X	X	X		X	X	
WG-1620SG0120200730	SG-01	Water	07/30/2020	14:50	X	X	X	X	X	X	X	X		X	X	

Table 1

Sample Collection and Analysis Summary
HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2020

					Analysis/Parameters											
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**Metals**	**Alkalinty**	**Chloride**	**Fluoride**	**Nitrate (as N)**	**Nitrite (as N)**	**Orthophosphate**	**Sulfate**	**TDS**	**Comments**
WG-1620SG0320200730	SG-03	Water	07/30/2020	15:30	X				X	X	X	X		X	X	MS-P or MS/MSD-P; DUP-P
WG-1620MW35A20200730	MW-35A	Water	07/30/2020	16:00			X	X	X	X	X	X	X	X	X	DUP-P

Notes:

VOCs	- Volatile Organic Compounds
SVOCs	- Semi-volatile Organic Compounds
N	- Nitrogen
TDS	- Total Dissolved Solids
MS-P or MS/MSD-P	- Matrix Spike or Matrix Spike/Matrix Spike Duplicate (partial parameters)
DUP-P	- Laboratory Duplicate (partial parameters)

Table 2

Analytical Results Summary
HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2020

Location ID:		COH	MW-35A	SG-01	SG-02	SG-03
Sample Name:		WG-1620COH20200730	WG-1620MW35A20200730	WG-1620SG0120200730	WG-1620SG0220200730	WG-1620SG0320200730
Sample Date:		07/30/2020	07/30/2020	07/30/2020	07/30/2020	07/30/2020
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.0000819	--	<0.0000819	<0.0000819	<0.0000819
Benzene	mg/L	<0.0000941	--	<0.0000941	<0.0000941	<0.0000941
Chlorobenzene	mg/L	<0.000116	--	<0.000116	<0.000116	<0.000116
Ethylbenzene	mg/L	<0.000137	--	<0.000137	<0.000137	<0.000137
Methylene chloride	mg/L	0.00406 J	--	<0.000430	<0.000430	<0.000430
Toluene	mg/L	<0.000278	--	0.000446 J	0.000473 J	0.00120
Vinyl chloride	mg/L	<0.000234	--	<0.000234	<0.000234	<0.000234
Xylenes (total)	mg/L	<0.000174	--	<0.000174	<0.000174	<0.000174
Semi-volatile Organic Compounds						
2,4-Dimethylphenol	mg/L	<0.0000674	--	<0.0000636	<0.0000636	--
2,4-Dinitrotoluene	mg/L	<0.000104	--	<0.0000983	<0.0000983	--
2,6-Dinitrotoluene	mg/L	<0.000265	--	<0.000250	<0.000250	--
2-Chloronaphthalene	mg/L	<0.0000687	--	<0.0000648	<0.0000648	--
2-Methylnaphthalene	mg/L	<0.000124	--	<0.000117	<0.000117	--
4,6-Dinitro-2-methylphenol	mg/L	<0.00119	--	<0.00112	<0.00112	--
4-Nitrophenol	mg/L	<0.000152	--	<0.000143	<0.000143	--
Acenaphthene	mg/L	<0.0000939	--	<0.0000886	<0.0000886	--
Acenaphthylene	mg/L	<0.0000976	--	<0.0000921	<0.0000921	--
Anthracene	mg/L	<0.0000852	--	<0.0000804	<0.0000804	--
Azobenzene	mg/L	<0.000111	--	<0.000105	<0.000105	--
Benzo(a)anthracene	mg/L	<0.000211	--	<0.000199	<0.000199	--
Benzo(a)pyrene	mg/L	<0.0000404	--	<0.0000381	<0.0000381	--

Table 2

Analytical Results Summary
HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2020

Location ID:		COH	MW-35A	SG-01	SG-02	SG-03
Sample Name:		WG-1620COH20200730	WG-1620MW35A20200730	WG-1620SG0120200730	WG-1620SG0220200730	WG-1620SG0320200730
Sample Date:		07/30/2020	07/30/2020	07/30/2020	07/30/2020	07/30/2020
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
bis(2-Chloroethoxy)methane	mg/L	<0.000123	--	<0.000116	<0.000116	--
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000949	--	<0.000895	<0.000895	--
Chrysene	mg/L	<0.000138	--	<0.000130	<0.000130	--
Di-n-butylphthalate (DBP)	mg/L	<0.000480	--	<0.000453	<0.000453	--
Dibenzofuran	mg/L	<0.000103	--	<0.0000970	<0.0000970	--
Fluoranthene	mg/L	<0.000108	--	<0.000102	<0.000102	--
Fluorene	mg/L	<0.0000895	--	<0.0000844	<0.0000844	--
N-Nitrosodiphenylamine	mg/L	<0.00251	--	<0.00237	<0.00237	--
Naphthalene	mg/L	<0.000169	--	<0.000159	<0.000159	--
Nitrobenzene	mg/L	<0.000315	--	<0.000297	<0.000297	--
Pentachlorophenol	mg/L	<0.000332	--	<0.000313	<0.000313	--
Phenanthrene	mg/L	<0.000119	--	<0.000112	<0.000112	--
Phenol	mg/L	<0.00459	--	<0.00433	<0.00433	--
Pyrene	mg/L	<0.000113	--	<0.000107	<0.000107	--
Metals						
Arsenic	mg/L	<0.000735	--	0.00734	0.0103	--
Calcium	mg/L	42.1	262	107	157	--
Magnesium	mg/L	3.07	54.1	11.6	18.0	--
Potassium	mg/L	4.50	0.734 J	2.76	3.92	--
Sodium	mg/L	22.9	102	140	85.4	--

Table 2

Analytical Results Summary
HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2020

	Location ID:	COH	MW-35A	SG-01	SG-02	SG-03
	Sample Name:	WG-1620COH20200730	WG-1620MW35A20200730	WG-1620SG0120200730	WG-1620SG0220200730	WG-1620SG0320200730
	Sample Date:	07/30/2020	07/30/2020	07/30/2020	07/30/2020	07/30/2020
Parameters	**Unit**					
General Chemistry						
Alkalinity, bicarbonate	mg/L	98.8	492	393	533	--
Alkalinity, carbonate	mg/L	<8.45	<8.45	<8.45	<8.45	--
Alkalinity, total (as $CaCO_3$)	mg/L	98.8	492	393	533	--
Chloride	mg/L	32.4	518	22.4	36.0	23.8
Fluoride	mg/L	0.206	0.288	0.504	0.510	0.334
Nitrate (as N)	mg/L	0.417	<0.0480	<0.0480	1.82	0.0989 J
Nitrite (as N)	mg/L	0.308	<0.0420	<0.0420	<0.0420	<0.0420
Orthophosphate	mg/L	<0.0140	0.0170 J	--	--	--
Sulfate	mg/L	34.6	<0.594	103	183	80.0
TDS	mg/L	201 J	1960 J	702 J	981 J	718

Table 2

Analytical Results Summary
HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2020

Location ID:		SG-04	SG-05	SG-06	SG-07	SG-09
Sample Name:		WG-1620SG0420200730	WG-1620SG0520200730	WG-1620SG0620200730	WG-1620SG0720200730	WG-1620SG0920200730
Sample Date:		07/30/2020	07/30/2020	07/30/2020	07/30/2020	07/30/2020
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.0000819	<0.000164	<0.0000819	<0.0000819	<0.0000819
Benzene	mg/L	<0.0000941	<0.000188	<0.0000941	<0.0000941	<0.0000941
Chlorobenzene	mg/L	<0.000116	<0.000232	<0.000116	<0.000116	<0.000116
Ethylbenzene	mg/L	<0.000137	<0.000274	<0.000137	<0.000137	<0.000137
Methylene chloride	mg/L	<0.000430	<0.000860	<0.000430	<0.000430	<0.000430
Toluene	mg/L	<0.000278	0.00340	0.00216	0.00357	<0.000278
Vinyl chloride	mg/L	<0.000234	<0.000468	<0.000234	<0.000234	<0.000234
Xylenes (total)	mg/L	<0.000174	<0.000348	<0.000174	<0.000174	<0.000174
Semi-volatile Organic Compounds						
2,4-Dimethylphenol	mg/L	<0.0000750	<0.0000846	<0.0000750	--	<0.0000763
2,4-Dinitrotoluene	mg/L	<0.000116	<0.000131	<0.000116	--	<0.000118
2,6-Dinitrotoluene	mg/L	<0.000295	<0.000333	<0.000295	--	<0.000300
2-Chloronaphthalene	mg/L	<0.0000765	<0.0000862	<0.0000765	--	<0.0000778
2-Methylnaphthalene	mg/L	<0.000138	<0.000156	<0.000138	--	<0.000140
4,6-Dinitro-2-methylphenol	mg/L	<0.00132	<0.00149	<0.00132	--	<0.00134
4-Nitrophenol	mg/L	<0.000169	<0.000190	<0.000169	--	<0.000172
Acenaphthene	mg/L	<0.000105	<0.000118	<0.000105	--	<0.000106
Acenaphthylene	mg/L	<0.000109	<0.000122	<0.000109	--	<0.000111
Anthracene	mg/L	<0.0000949	<0.000107	<0.0000949	--	<0.0000965
Azobenzene	mg/L	<0.000124	<0.000140	<0.000124	--	<0.000126
Benzo(a)anthracene	mg/L	<0.000235	<0.000265	<0.000235	--	<0.000239
Benzo(a)pyrene	mg/L	<0.0000450	<0.0000507	<0.0000450	--	<0.0000457

Table 2

Analytical Results Summary
HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2020

Location ID:		SG-04	SG-05	SG-06	SG-07	SG-09
Sample Name:		WG-1620SG0420200730	WG-1620SG0520200730	WG-1620SG0620200730	WG-1620SG0720200730	WG-1620SG0920200730
Sample Date:		07/30/2020	07/30/2020	07/30/2020	07/30/2020	07/30/2020
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
bis(2-Chloroethoxy)methane	mg/L	<0.000137	<0.000154	<0.000137	--	<0.000139
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.00106	<0.00119	<0.00106	--	<0.00107
Chrysene	mg/L	<0.000153	<0.000173	<0.000153	--	<0.000156
Di-n-butylphthalate (DBP)	mg/L	<0.000535	<0.000602	<0.000535	--	<0.000544
Dibenzofuran	mg/L	<0.000114	<0.000129	<0.000114	--	<0.000116
Fluoranthene	mg/L	<0.000120	<0.000136	<0.000120	--	<0.000122
Fluorene	mg/L	<0.0000996	<0.000112	<0.0000996	--	<0.000101
N-Nitrosodiphenylamine	mg/L	<0.00280	<0.00315	<0.00280	--	<0.00284
Naphthalene	mg/L	<0.000188	<0.000211	<0.000188	--	<0.000191
Nitrobenzene	mg/L	<0.000350	<0.000395	<0.000350	--	<0.000356
Pentachlorophenol	mg/L	<0.000369	<0.000416	<0.000369	--	<0.000376
Phenanthrene	mg/L	<0.000132	<0.000149	<0.000132	--	<0.000134
Phenol	mg/L	<0.00511	<0.00576	<0.00511	--	<0.00520
Pyrene	mg/L	<0.000126	<0.000142	<0.000126	--	<0.000128
Metals						
Arsenic	mg/L	0.00117 J	0.000938 J	--	--	--
Calcium	mg/L	95.0	121	--	--	--
Magnesium	mg/L	11.6	9.05	--	--	--
Potassium	mg/L	8.45	1.71 J	--	--	--
Sodium	mg/L	42.9	63.8	--	--	--

Table 2

Analytical Results Summary
HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2020

	Location ID:	SG-04	SG-05	SG-06	SG-07	SG-09
	Sample Name:	WG-1620SG0420200730	WG-1620SG0520200730	WG-1620SG0620200730	WG-1620SG0720200730	WG-1620SG0920200730
	Sample Date:	07/30/2020	07/30/2020	07/30/2020	07/30/2020	07/30/2020
Parameters	**Unit**					
General Chemistry						
Alkalinity, bicarbonate	mg/L	334	395	--	--	364
Alkalinity, carbonate	mg/L	<8.45	<8.45	--	--	<8.45
Alkalinity, total (as $CaCO_3$)	mg/L	334	395	--	--	364
Chloride	mg/L	2.97	10.3	7.91	--	--
Fluoride	mg/L	0.253	0.397	0.506	--	--
Nitrate (as N)	mg/L	<0.0480	0.148	0.540	--	--
Nitrite (as N)	mg/L	<0.0420	<0.0420	<0.0420	--	--
Orthophosphate	mg/L	--	0.0160 J	--	--	0.0210 J
Sulfate	mg/L	114	103	95.7	--	--
TDS	mg/L	517 J	495 J	--	--	456 J

Table 2

Analytical Results Summary
HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2020

Location ID:		SG-13	SG-13R	SG-24	SG-26
Sample Name:		WG-1620SG1320200730	WG-1620SG13R20200730	WG-1620SG2420200730	WG-1620SG2620200730
Sample Date:		07/30/2020	07/30/2020	07/30/2020	07/30/2020
Parameters	**Unit**				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.0000819	<0.0000819	<0.0000819	<0.0000819
Benzene	mg/L	<0.0000941	<0.0000941	<0.0000941	<0.0000941
Chlorobenzene	mg/L	<0.000116	<0.000116	<0.000116	<0.000116
Ethylbenzene	mg/L	<0.000137	<0.000137	<0.000137	<0.000137
Methylene chloride	mg/L	<0.000430	<0.000430	<0.000430	<0.000430
Toluene	mg/L	0.000353 J	0.000848 J	<0.000278	0.000284 J
Vinyl chloride	mg/L	<0.000234	<0.000234	<0.000234	<0.000234
Xylenes (total)	mg/L	<0.000174	<0.000174	<0.000174	<0.000174
Semi-volatile Organic Compounds					
2,4-Dimethylphenol	mg/L	--	--	<0.0000655	<0.0000859
2,4-Dinitrotoluene	mg/L	--	--	<0.000101	<0.000133
2,6-Dinitrotoluene	mg/L	--	--	<0.000258	<0.000338
2-Chloronaphthalene	mg/L	--	--	<0.0000667	<0.0000875
2-Methylnaphthalene	mg/L	--	--	<0.000176	<0.000158
4,6-Dinitro-2-methylphenol	mg/L	--	--	<0.00115	<0.00151
4-Nitrophenol	mg/L	--	--	<0.000147	<0.000193
Acenaphthene	mg/L	--	--	<0.0000913	<0.000120
Acenaphthylene	mg/L	--	--	<0.0000949	<0.000124
Anthracene	mg/L	--	--	<0.0000828	<0.000109
Azobenzene	mg/L	--	--	<0.000108	<0.000142
Benzo(a)anthracene	mg/L	--	--	<0.000205	<0.000269
Benzo(a)pyrene	mg/L	--	--	<0.0000392	<0.0000514

Table 2

Analytical Results Summary
HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2020

Location ID:		SG-13	SG-13R	SG-24	SG-26
Sample Name:		WG-1620SG1320200730	WG-1620SG13R20200730	WG-1620SG2420200730	WG-1620SG2620200730
Sample Date:		07/30/2020	07/30/2020	07/30/2020	07/30/2020
Parameters	**Unit**				
Semi-volatile Organic Compounds (Continued)					
bis(2-Chloroethoxy)methane	mg/L	--	--	<0.000119	<0.000157
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	--	--	0.00131 J	0.0161
Chrysene	mg/L	--	--	<0.000134	<0.000176
Di-n-butylphthalate (DBP)	mg/L	--	--	<0.000467	0.000719 J
Dibenzofuran	mg/L	--	--	<0.0000999	<0.000131
Fluoranthene	mg/L	--	--	<0.000105	<0.000138
Fluorene	mg/L	--	--	<0.0000869	<0.000114
N-Nitrosodiphenylamine	mg/L	--	--	<0.00244	<0.00320
Naphthalene	mg/L	--	--	<0.000197	<0.000215
Nitrobenzene	mg/L	--	--	<0.000306	<0.000401
Pentachlorophenol	mg/L	--	--	<0.000322	<0.000423
Phenanthrene	mg/L	--	--	<0.000115	<0.000151
Phenol	mg/L	--	--	<0.00446	<0.00585
Pyrene	mg/L	--	--	<0.000110	<0.000144
Metals					
Arsenic	mg/L	--	--	--	--
Calcium	mg/L	--	--	--	--
Magnesium	mg/L	--	--	--	--
Potassium	mg/L	--	--	--	--
Sodium	mg/L	--	--	--	--

Table 2

Analytical Results Summary
HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2020

	Location ID:	SG-13	SG-13R	SG-24	SG-26
	Sample Name:	WG-1620SG1320200730	WG-1620SG13R20200730	WG-1620SG2420200730	WG-1620SG2620200730
	Sample Date:	07/30/2020	07/30/2020	07/30/2020	07/30/2020
Parameters	**Unit**				
General Chemistry					
Alkalinity, bicarbonate	mg/L	--	--	--	--
Alkalinity, carbonate	mg/L	--	--	--	--
Alkalinity, total (as $CaCO_3$)	mg/L	--	--	--	--
Chloride	mg/L	--	--	--	--
Fluoride	mg/L	--	--	--	--
Nitrate (as N)	mg/L	--	--	--	--
Nitrite (as N)	mg/L	--	--	--	--
Orthophosphate	mg/L	--	--	--	--
Sulfate	mg/L	--	--	--	--
TDS	mg/L	--	--	--	--

Notes:

< - Not detected at the associated reporting limit

J - Estimated concentration

JL - Estimated concentration; biased low

$CaCO_3$ - Calcium Carbonate

N - Nitrogen

TDS - Total dissolved solids

"--" - Not applicable

Table 3

Analytical Methods
HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2020

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Extraction to Analysis (Days)
VOCs	SW-846 8260B	Water	-	14
SVOCs	SW-846 8270C	Water	7	40
Metals	SW-846 6020	Water	-	180
Alkalinty	SM 2320 B-2011	Water	-	14
Choride	SW-846 9056A	Water	-	28
Fluoride	SW-846 9056A	Water	-	28
Nitrate (as N)	SW-846 9056A	Water	-	2
Nitrite (as N)	SW-846 9056A	Water	-	2
Orthophosphate	SM 4500P E-2011	Water	-	2
Sulfate	SW-846 9056A	Water	-	28
TDS	SM 2540 C-2011	Water	-	7

Notes:

VOCs - Volatile Organic Compounds
SVOCs - Semi-volatile Organic Compounds
N - Nitrogen
TDS - Total Dissolved Solids
"-" - Not Applicable

Methods:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions
SM - "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, with subsequent revisions

Table 4

Qualified Sample Results Due to Holding Time Exceedance
HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2020

Parameter	Sample ID	Holding Time (hours)	Holding Time Criteria (hours)	Analyte	Qualified Sample Results	Units
General Chemistry	WG-1620COH20200730	3	2	Nitrate (as N)	0.417 JL	mg/L
	WG-1620SG0520200730	3			0.148 JL	mg/L
	WG-1620SG0620200730	3			0.540 JL	mg/L
General Chemistry	WG-1620COH20200730	3	2	Nitrite (as N)	0.308 JL	mg/L
	WG-1620SG0520200730	3			<0.0420 JL	mg/L
	WG-1620SG0620200730	3			<0.0420 JL	mg/L
General Chemistry	WG-1620COH20200730	3	2	Orthophosphate	<0.0140 JL	mg/L
	WG-1620SG0920200730	3			0.0210 JL	mg/L

Notes:

JL - Estimated concentration; biased low

< - Not detected at the assocaited reporting limit

Table 5

Qualified Sample Results Due to Analyte Concentrations in the Method Blank
HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2020

Parameter	Analyte	Analysis Date (mm/dd/yyyy)	Blank Result	Sample ID	Original Result	Qualified Result	Units
SVOCs	2-Methylnaphthalene	08/05/2020	0.000251 J	WG-1620SG2420200730	0.000176 J	<0.000176	mg/L
	Naphthalene		0.000332 J		0.000197 J	<0.000197	mg/L

Notes:

SVOCs - Semi-volatile Organic Compounds
J - Estimated concentration
< - Not detected at the associated reporting limit

Table 6

Qualified Sample Data Due to Outlying Laboratory Duplicate Results
HWPW Monitoring/Soil Gas Probe Groundwater Sampling Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2020

Parameter	Sample ID	Analyte	RPD (percent)	RPD Control Limit (percent)	Associated Sample IDs	Qualified Result	Units
General Chemistry	WG-1620MW35A20200730	TDS	71.8	5	WG-1620COH20200730	201 J	mg/L
					WG-1620MW35A20200730	1960 J	mg/L
					WG-1620SG0120200730	702 J	mg/L
					WG-1620SG0220200730	981 J	mg/L
					WG-1620SG0420200730	517 J	mg/L
					WG-1620SG0520200730	495 J	mg/L
					WG-1620SG0920200730	456 J	mg/L

Notes:

RPD - Relative Percent Difference
TDS - Total Dissolved Solids
J - Estimated concentration

Attachment A
Laboratory NELAP Certificate

Texas Commission on Environmental Quality

NELAP-Recognized Laboratory Accreditation is hereby awarded to

Environmental Science Corp. dba: Pace Analytical National Center for Testing & Innovation

12065 Lebanon Road
Mount Juliet, TN 37122-2508

in accordance with Texas Water Code Chapter 5, Subchapter R, Title 30 Texas Administrative Code Chapter 25, and the National Environmental Laboratory Accreditation Program.

The laboratory's scope of accreditation includes the fields of accreditation that accompany this certificate. Continued accreditation depends upon successful ongoing participation in the program. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current location(s) and accreditation status for particular methods and analyses (www.tceq.texas.gov/goto/lab). Accreditation does not imply that a product, process, system or person is approved by the Texas Commission on Environmental Quality.

Certificate Number: T104704245-19-16
Effective Date: 11/1/2019
Expiration Date: 10/31/2020

Executive Director Texas Commission on Environmental Quality

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704245-19-16

Environmental Science Corp. dba: Pace Analytical National Center for Testing & Innovation

Expiration Date: 10/31/2020

12065 Lebanon Road
Mount Juliet, TN 37122-2508

Issue Date: 11/1/2019

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Air & Emissions***

Method EPA TO-15

Analyte	AB	Analyte ID	Method ID
1,1,1-Trichloroethane	LA-DEQ	5160	10248803
1,1,2,2-Tetrachloroethane	LA-DEQ	5110	10248803
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	LA-DEQ	5195	10248803
1,1,2-Trichloroethane	LA-DEQ	5165	10248803
1,1-Dichloroethane	LA-DEQ	4630	10248803
1,1-Dichloroethylene	LA-DEQ	4640	10248803
1,2,3-Trimethylbenzene	LA-DEQ	5182	10248803
1,2,4-Trichlorobenzene	LA-DEQ	5155	10248803
1,2,4-Trimethylbenzene	LA-DEQ	5210	10248803
1,2-Dibromoethane (EDB, Ethylene dibromide)	LA-DEQ	4585	10248803
1,2-Dichloro-1,1,2,2-tetrafluoroethane (Freon 114)	LA-DEQ	4695	10248803
1,2-Dichlorobenzene	LA-DEQ	4610	10248803
1,2-Dichloroethane (Ethylene dichloride)	LA-DEQ	4635	10248803
1,2-Dichloropropane	LA-DEQ	4655	10248803
1,3,5-Trimethylbenzene	LA-DEQ	5215	10248803
1,3-Butadiene	LA-DEQ	9318	10248803
1,3-Dichlorobenzene	LA-DEQ	4615	10248803
1,4-Dichlorobenzene	LA-DEQ	4620	10248803
1,4-Dioxane (1,4-Diethyleneoxide)	LA-DEQ	4735	10248803
1-Propene (Propylene)	LA-DEQ	4836	10248803
2,2,4-Trimethylpentane (Isooctane)	LA-DEQ	5220	10248803
2-Butanone (Methyl ethyl ketone, MEK)	LA-DEQ	4410	10248803
4-Ethyltoluene	LA-DEQ	4542	10248803
Acetaldehyde	LA-DEQ	4300	10248803
Acetonitrile	LA-DEQ	4320	10248803
Acrylonitrile	LA-DEQ	4340	10248803
Benzene	LA-DEQ	4375	10248803
Benzyl chloride	LA-DEQ	5635	10248803

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Matrix: ***Air & Emissions***

Bromodichloromethane	LA-DEQ	4395	10248803
Bromoform	LA-DEQ	4400	10248803
Carbon tetrachloride	LA-DEQ	4455	10248803
Chlorobenzene	LA-DEQ	4475	10248803
Chlorodibromomethane	LA-DEQ	4575	10248803
Chloroethane (Ethyl chloride)	LA-DEQ	4485	10248803
Chloroform	LA-DEQ	4505	10248803
cis-1,2-Dichloroethylene	LA-DEQ	4645	10248803
cis-1,3-Dichloropropene	LA-DEQ	4680	10248803
Cyclohexane	LA-DEQ	4555	10248803
Dichlorodifluoromethane (Freon-12)	LA-DEQ	4625	10248803
Ethylbenzene	LA-DEQ	4765	10248803
Hexachlorobutadiene	LA-DEQ	4835	10248803
Isopropylbenzene (Cumene)	LA-DEQ	4900	10248803
m+p-xylene	LA-DEQ	5240	10248803
Methanol	LA-DEQ	4930	10248803
Methyl bromide (Bromomethane)	LA-DEQ	4950	10248803
Methyl chloride (Chloromethane)	LA-DEQ	4960	10248803
Methyl isobutyl ketone (Hexone) (MIBK)	LA-DEQ	4985	10248803
Methyl methacrylate	LA-DEQ	4990	10248803
Methyl tert-butyl ether (MTBE)	LA-DEQ	5000	10248803
Methylcyclohexane	LA-DEQ	4965	10248803
Methylene chloride (Dichloromethane)	LA-DEQ	4975	10248803
n-Butane	LA-DEQ	5007	10248803
n-Heptane	LA-DEQ	4825	10248803
n-Hexane	LA-DEQ	4850	10248803
n-Nonane	LA-DEQ	5026	10248803
n-Pentane	LA-DEQ	5028	10248803
n-Propylbenzene	LA-DEQ	5090	10248803
o-Xylene	LA-DEQ	5250	10248803

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Matrix: ***Air & Emissions***

Styrene	LA-DEQ	5100	10248803
Tetrachloroethylene (Perchloroethylene)	LA-DEQ	5115	10248803
Toluene	LA-DEQ	5140	10248803
trans-1,2-Dichloroethylene	LA-DEQ	4700	10248803
trans-1,3-Dichloropropylene	LA-DEQ	4685	10248803
Trichloroethene (Trichloroethylene)	LA-DEQ	5170	10248803
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	LA-DEQ	5175	10248803
Vinyl acetate	LA-DEQ	5225	10248803
Vinyl bromide (Bromoethene)	LA-DEQ	5230	10248803
Vinyl chloride	LA-DEQ	5235	10248803
Xylene (total)	LA-DEQ	5260	10248803

Texas Commission on Environmental Quality

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Matrix: ***Drinking Water***

Method ASTM D5174

Analyte	AB	Analyte ID	Method ID
Uranium	LA-DHH	3035	30031608

Method EPA 200.7

Analyte	AB	Analyte ID	Method ID
Aluminum	LA-DHH	1000	10013806
Barium	LA-DHH	1015	10013806
Beryllium	LA-DHH	1020	10013806
Boron	LA-DHH	1025	10013806
Cadmium	LA-DHH	1030	10013806
Chromium	LA-DHH	1040	10013806
Copper	LA-DHH	1055	10013806
Iron	LA-DHH	1070	10013806
Magnesium	LA-DHH	1085	10013806
Manganese	LA-DHH	1090	10013806
Molybdenum	LA-DHH	1100	10013806
Nickel	LA-DHH	1105	10013806
Potassium	LA-DHH	1125	10013806
Silica as SiO2	LA-DHH	1990	10013806
Silver	LA-DHH	1150	10013806
Sodium	LA-DHH	1155	10013806
Vanadium	LA-DHH	1185	10013806
Zinc	LA-DHH	1190	10013806

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Aluminum	LA-DHH	1000	10014605
Antimony	LA-DHH	1005	10014605
Arsenic	LA-DHH	1010	10014605
Barium	LA-DHH	1015	10014605
Beryllium	LA-DHH	1020	10014605
Cadmium	LA-DHH	1030	10014605

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Matrix: ***Drinking Water***

Chromium	LA-DHH	1040	10014605
Copper	LA-DHH	1055	10014605
Lead	LA-DHH	1075	10014605
Manganese	LA-DHH	1090	10014605
Nickel	LA-DHH	1105	10014605
Selenium	LA-DHH	1140	10014605
Silver	LA-DHH	1150	10014605
Thallium	LA-DHH	1165	10014605
Uranium	LA-DHH	3035	10014605
Zinc	LA-DHH	1190	10014605

Method EPA 245.1

Analyte	AB	Analyte ID	Method ID
Mercury	LA-DHH	1095	10036609

Method EPA 300.0

Analyte	AB	Analyte ID	Method ID
Bromide	LA-DHH	1540	10053200
Chloride	LA-DHH	1575	10053200
Fluoride	LA-DHH	1730	10053200
Nitrate as N	LA-DHH	1810	10053200
Nitrite as N	LA-DHH	1840	10053200
Sulfate	LA-DHH	2000	10053200

Method EPA 314.0

Analyte	AB	Analyte ID	Method ID
Perchlorate	LA-DHH	1895	10277006

Method EPA 335.4

Analyte	AB	Analyte ID	Method ID
Total cyanide	LA-DHH	1645	10061402

Method EPA 353.2

Analyte	AB	Analyte ID	Method ID
Nitrate as N	LA-DHH	1810	10067604
Nitrite as N	LA-DHH	1840	10067604

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Matrix: ***Drinking Water***

Method EPA 504.1

Analyte	AB	Analyte ID	Method ID
1,2-Dibromo-3-chloropropane (DBCP)	LA-DHH	4570	10082801
1,2-Dibromoethane (EDB, Ethylene dibromide)	LA-DHH	4585	10082801

Method EPA 524.2

Analyte	AB	Analyte ID	Method ID
1,1,1-Trichloroethane	LA-DHH	5160	10088809
1,1,2-Trichloroethane	LA-DHH	5165	10088809
1,1-Dichloroethylene	LA-DHH	4640	10088809
1,2,4-Trichlorobenzene	LA-DHH	5155	10088809
1,2-Dichlorobenzene	LA-DHH	4610	10088809
1,2-Dichloroethane (Ethylene dichloride)	LA-DHH	4635	10088809
1,2-Dichloropropane	LA-DHH	4655	10088809
1,4-Dichlorobenzene	LA-DHH	4620	10088809
Benzene	LA-DHH	4375	10088809
Carbon tetrachloride	LA-DHH	4455	10088809
Chlorobenzene	LA-DHH	4475	10088809
cis-1,2-Dichloroethylene	LA-DHH	4645	10088809
Ethylbenzene	LA-DHH	4765	10088809
Methylene chloride (Dichloromethane)	LA-DHH	4975	10088809
Styrene	LA-DHH	5100	10088809
Tetrachloroethylene (Perchloroethylene)	LA-DHH	5115	10088809
Toluene	LA-DHH	5140	10088809
Total trihalomethanes	LA-DHH	5205	10088809
trans-1,2-Dichloroethylene	LA-DHH	4700	10088809
Trichloroethene (Trichloroethylene)	LA-DHH	5170	10088809
Vinyl chloride	LA-DHH	5235	10088809
Xylene (total)	LA-DHH	5260	10088809

Method EPA 552.2

Analyte	AB	Analyte ID	Method ID
Total haloacetic acids	LA-DHH	9414	10095804

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Matrix: ***Drinking Water***

Method EPA 900.0

Analyte	AB	Analyte ID	Method ID
Gross-alpha	LA-DHH	2830	10308200
Gross-beta	LA-DHH	2840	10308200

Method EPA 901.1

Analyte	AB	Analyte ID	Method ID
Gross gamma	LA-DHH	2855	10308608

Method EPA 903.0

Analyte	AB	Analyte ID	Method ID
Radium-226	LA-DHH	2965	10309407

Method EPA 904.0

Analyte	AB	Analyte ID	Method ID
Radium-228	LA-DHH	2970	10309805

Method EPA 905.0

Analyte	AB	Analyte ID	Method ID
Strontium-89	LA-DHH	2995	10310006
Strontium-90	LA-DHH	3005	10310006

Method EPA 906.0

Analyte	AB	Analyte ID	Method ID
Tritium	LA-DHH	3030	10310200

Method SM 2510 B

Analyte	AB	Analyte ID	Method ID
Conductivity	LA-DHH	1610	20048004

Method SM 2540 C

Analyte	AB	Analyte ID	Method ID
Residue-filterable (TDS)	LA-DHH	1955	20049803

Method SM 4110 B

Analyte	AB	Analyte ID	Method ID
Fluoride	LA-DHH	1730	20076408
Nitrate as N	LA-DHH	1810	20076408
Nitrite as N	LA-DHH	1840	20076408

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Matrix: ***Drinking Water***

Method SM 4500-CN⁻ C,E

Analyte	AB	Analyte ID	Method ID
Total cyanide	LA-DHH	1645	20092404

Method SM 4500-CN⁻ C,G

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	LA-DHH	1510	20093203

Method SM 7500-Ra B

Analyte	AB	Analyte ID	Method ID
Radium-226	LA-DHH	2965	20170007

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Matrix: ***Non-Potable Water***

Method EPA 1000.0

Analyte	AB	Analyte ID	Method ID
Chronic toxicity	LA-DEQ	3325	10252605

Method EPA 1002.0

Analyte	AB	Analyte ID	Method ID
Chronic toxicity	LA-DEQ	3325	10253006

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	LA-DEQ	1780	10116606

Method EPA 120.1

Analyte	AB	Analyte ID	Method ID
Conductivity	LA-DEQ	1610	10006403

Method EPA 130.1

Analyte	AB	Analyte ID	Method ID
Total hardness as CaCO3	LA-DEQ	1755	10006801

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	LA-DEQ	849	10118806

Method EPA 1312

Analyte	AB	Analyte ID	Method ID
SPLP	LA-DEQ	850	10119003

Method EPA 150.1

Analyte	AB	Analyte ID	Method ID
pH	LA-DEQ	1900	10008409

Method EPA 160.4

Analyte	AB	Analyte ID	Method ID
Residue-volatile	LA-DEQ	1970	10010409

Method EPA 1664

Analyte	AB	Analyte ID	Method ID
n-Hexane Extractable Material (HEM) (O&G)	LA-DEQ	1803	10127807
Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	LA-DEQ	10220	10127807

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Matrix: ***Non-Potable Water***

Method EPA 180.1

Analyte	AB	Analyte ID	Method ID
Turbidity	LA-DEQ	2055	10011606

Method EPA 200.7

Analyte	AB	Analyte ID	Method ID
Aluminum	LA-DEQ	1000	10013806
Antimony	LA-DEQ	1005	10013806
Arsenic	LA-DEQ	1010	10013806
Barium	LA-DEQ	1015	10013806
Beryllium	LA-DEQ	1020	10013806
Boron	LA-DEQ	1025	10013806
Cadmium	LA-DEQ	1030	10013806
Calcium	LA-DEQ	1035	10013806
Chromium	LA-DEQ	1040	10013806
Cobalt	LA-DEQ	1050	10013806
Copper	LA-DEQ	1055	10013806
Iron	LA-DEQ	1070	10013806
Lead	LA-DEQ	1075	10013806
Lithium	LA-DEQ	1080	10013806
Magnesium	LA-DEQ	1085	10013806
Manganese	LA-DEQ	1090	10013806
Molybdenum	LA-DEQ	1100	10013806
Nickel	LA-DEQ	1105	10013806
Phosphorus	LA-DEQ	1910	10013806
Potassium	LA-DEQ	1125	10013806
Selenium	LA-DEQ	1140	10013806
Silica as SiO2	LA-DEQ	1990	10013806
Silver	LA-DEQ	1150	10013806
Sodium	LA-DEQ	1155	10013806
Strontium	LA-DEQ	1160	10013806
Thallium	LA-DEQ	1165	10013806

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Matrix: ***Non-Potable Water***

Tin	LA-DEQ	1175	10013806
Titanium	LA-DEQ	1180	10013806
Vanadium	LA-DEQ	1185	10013806
Zinc	LA-DEQ	1190	10013806

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Aluminum	LA-DEQ	1000	10014605
Antimony	LA-DEQ	1005	10014605
Arsenic	LA-DEQ	1010	10014605
Barium	LA-DEQ	1015	10014605
Beryllium	LA-DEQ	1020	10014605
Boron	LA-DEQ	1025	10014605
Boron	LA-DEQ	1025	10014605
Cadmium	LA-DEQ	1030	10014605
Calcium	LA-DEQ	1035	10014605
Chromium	LA-DEQ	1040	10014605
Cobalt	LA-DEQ	1050	10014605
Copper	LA-DEQ	1055	10014605
Iron	LA-DEQ	1070	10014605
Lead	LA-DEQ	1075	10014605
Magnesium	LA-DEQ	1085	10014605
Manganese	LA-DEQ	1090	10014605
Molybdenum	LA-DEQ	1100	10014605
Nickel	LA-DEQ	1105	10014605
Potassium	LA-DEQ	1125	10014605
Selenium	LA-DEQ	1140	10014605
Silver	LA-DEQ	1150	10014605
Sodium	LA-DEQ	1155	10014605
Strontium	LA-DEQ	1160	10014605
Thallium	LA-DEQ	1165	10014605

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Matrix: ***Non-Potable Water***

Thorium	LA-DEQ	1170	10014605
Tin	LA-DEQ	1175	10014605
Titanium	LA-DEQ	1180	10014605
Uranium	LA-DEQ	3035	10014605
Vanadium	LA-DEQ	1185	10014605
Zinc	LA-DEQ	1190	10014605

Method EPA 2000.0

Analyte	**AB**	**Analyte ID**	**Method ID**
Acute toxicity	LA-DEQ	3300	10264809

Method EPA 2002.0

Analyte	**AB**	**Analyte ID**	**Method ID**
Acute toxicity	LA-DEQ	3300	10214901

Method EPA 218.6

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	LA-DEQ	1045	10028009

Method EPA 245.1

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	LA-DEQ	1095	10036609

Method EPA 300.0

Analyte	**AB**	**Analyte ID**	**Method ID**
Bromide	LA-DEQ	1540	10053200
Chloride	LA-DEQ	1575	10053200
Fluoride	LA-DEQ	1730	10053200
Nitrate as N	LA-DEQ	1810	10053200
Nitrate-nitrite	LA-DEQ	1820	10053200
Nitrite as N	LA-DEQ	1840	10053200
Sulfate	LA-DEQ	2000	10053200

Method EPA 310.2

Analyte	**AB**	**Analyte ID**	**Method ID**
Alkalinity as CaCO3	LA-DEQ	1505	10055206

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Matrix: ***Non-Potable Water***

Method EPA 314.0

Analyte	AB	Analyte ID	Method ID
Perchlorate	LA-DEQ	1895	10277006

Method EPA 335.4

Analyte	AB	Analyte ID	Method ID
Total cyanide	LA-DEQ	1645	10061402

Method EPA 350.1

Analyte	AB	Analyte ID	Method ID
Ammonia as N	LA-DEQ	1515	10063408

Method EPA 351.2

Analyte	AB	Analyte ID	Method ID
Kjeldahl Nitrogen (Total Kjeldahl Nitrogen-TKN)	LA-DEQ	1790	10065404

Method EPA 353.2

Analyte	AB	Analyte ID	Method ID
Nitrate-nitrite	LA-DEQ	1820	10067400

Method EPA 365.1

Analyte	AB	Analyte ID	Method ID
Phosphorus	LA-DEQ	1910	10070005

Method EPA 365.2

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	LA-DEQ	1870	10070403

Method EPA 365.4

Analyte	AB	Analyte ID	Method ID
Phosphorus	LA-DEQ	1910	10071202

Method EPA 410.4

Analyte	AB	Analyte ID	Method ID
Chemical oxygen demand (COD)	LA-DEQ	1565	10077404

Method EPA 420.1

Analyte	AB	Analyte ID	Method ID
Total phenolics	LA-DEQ	1905	10079400

Method EPA 420.4

Analyte	AB	Analyte ID	Method ID

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Matrix: ***Non-Potable Water***

Total phenolics	LA-DEQ	1905	10080203

Method EPA 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	LA-DEQ	1000	10155201
Antimony	LA-DEQ	1005	10155201
Arsenic	LA-DEQ	1010	10155201
Barium	LA-DEQ	1015	10155201
Beryllium	LA-DEQ	1020	10155201
Boron	LA-DEQ	1025	10155201
Cadmium	LA-DEQ	1030	10155201
Calcium	LA-DEQ	1035	10155201
Chromium	LA-DEQ	1040	10155201
Cobalt	LA-DEQ	1050	10155201
Copper	LA-DEQ	1055	10155201
Iron	LA-DEQ	1070	10155201
Lead	LA-DEQ	1075	10155201
Lithium	LA-DEQ	1080	10155201
Magnesium	LA-DEQ	1085	10155201
Manganese	LA-DEQ	1090	10155201
Molybdenum	LA-DEQ	1100	10155201
Nickel	LA-DEQ	1105	10155201
Phosphorus	LA-DEQ	1910	10155201
Potassium	LA-DEQ	1125	10155201
Selenium	LA-DEQ	1140	10155201
Silver	LA-DEQ	1150	10155201
Sodium	LA-DEQ	1155	10155201
Strontium	LA-DEQ	1160	10155201
Thallium	LA-DEQ	1165	10155201
Tin	LA-DEQ	1175	10155201
Titanium	LA-DEQ	1180	10155201

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Matrix: ***Non-Potable Water***

Vanadium	LA-DEQ	1185	10155201
Zinc	LA-DEQ	1190	10155201

Method EPA 602

Analyte	AB	Analyte ID	Method ID
Benzene	LA-DEQ	4375	10102202
Ethylbenzene	LA-DEQ	4765	10102202
Methyl tert-butyl ether (MTBE)	LA-DEQ	5000	10102202
Toluene	LA-DEQ	5140	10102202
Xylene (total)	LA-DEQ	5260	10102202

Method EPA 6020

Analyte	AB	Analyte ID	Method ID
Aluminum	LA-DEQ	1000	10156419
Antimony	LA-DEQ	1005	10156419
Arsenic	LA-DEQ	1010	10156419
Barium	LA-DEQ	1015	10156419
Beryllium	LA-DEQ	1020	10156419
Boron	LA-DEQ	1025	10156419
Cadmium	LA-DEQ	1030	10156419
Calcium	LA-DEQ	1035	10156419
Chromium	LA-DEQ	1040	10156419
Cobalt	LA-DEQ	1050	10156419
Copper	LA-DEQ	1055	10156419
Iron	LA-DEQ	1070	10156419
Lead	LA-DEQ	1075	10156419
Magnesium	LA-DEQ	1085	10156419
Manganese	LA-DEQ	1090	10156419
Molybdenum	LA-DEQ	1100	10156419
Nickel	LA-DEQ	1105	10156419
Potassium	LA-DEQ	1125	10156419
Selenium	LA-DEQ	1140	10156419
Silver	LA-DEQ	1150	10156419

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Matrix: ***Non-Potable Water***

Sodium	LA-DEQ	1155	10156419
Strontium	LA-DEQ	1160	10156419
Thallium	LA-DEQ	1165	10156419
Tin	LA-DEQ	1175	10156419
Titanium	LA-DEQ	1180	10156419
Vanadium	LA-DEQ	1185	10156419
Zinc	LA-DEQ	1190	10156419

Method EPA 608.3

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	LA-DEQ	7355	10296625
4,4'-DDE	LA-DEQ	7360	10296625
4,4'-DDT	LA-DEQ	7365	10296625
Aldrin	LA-DEQ	7025	10296625
alpha-BHC (alpha-Hexachlorocyclohexane)	LA-DEQ	7110	10296625
alpha-Chlordane	LA-DEQ	7240	10296625
Aroclor-1016 (PCB-1016)	LA-DEQ	8880	10296625
Aroclor-1221 (PCB-1221)	LA-DEQ	8885	10296625
Aroclor-1232 (PCB-1232)	LA-DEQ	8890	10296625
Aroclor-1242 (PCB-1242)	LA-DEQ	8895	10296625
Aroclor-1248 (PCB-1248)	LA-DEQ	8900	10296625
Aroclor-1254 (PCB-1254)	LA-DEQ	8905	10296625
Aroclor-1260 (PCB-1260)	LA-DEQ	8910	10296625
beta-BHC (beta-Hexachlorocyclohexane)	LA-DEQ	7115	10296625
Chlordane (tech.)	LA-DEQ	7250	10296625
delta-BHC (delta-Hexachlorocyclohexane)	LA-DEQ	7105	10296625
Dieldrin	LA-DEQ	7470	10296625
Endosulfan I	LA-DEQ	7510	10296625
Endosulfan II	LA-DEQ	7515	10296625
Endosulfan sulfate	LA-DEQ	7520	10296625
Endrin	LA-DEQ	7540	10296625

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Matrix: ***Non-Potable Water***

Endrin aldehyde	LA-DEQ	7530	10296625
Endrin ketone	LA-DEQ	7535	10296625
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	LA-DEQ	7120	10296625
gamma-Chlordane	LA-DEQ	7245	10296625
Heptachlor	LA-DEQ	7685	10296625
Heptachlor epoxide	LA-DEQ	7690	10296625
Methoxychlor	LA-DEQ	7810	10296625
Toxaphene (Chlorinated camphene)	LA-DEQ	8250	10296625

Method EPA 610

Analyte	**AB**	**Analyte ID**	**Method ID**
Acenaphthene	LA-DEQ	5500	10104402
Acenaphthylene	LA-DEQ	5505	10104402
Anthracene	LA-DEQ	5555	10104402
Benzo(a)anthracene	LA-DEQ	5575	10104402
Benzo(a)pyrene	LA-DEQ	5580	10104402
Benzo(b)fluoranthene	LA-DEQ	5585	10104402
Benzo(g,h,i)perylene	LA-DEQ	5590	10104402
Benzo(k)fluoranthene	LA-DEQ	5600	10104402
Chrysene	LA-DEQ	5855	10104402
Dibenz(a,h) anthracene	LA-DEQ	5895	10104402
Fluoranthene	LA-DEQ	6265	10104402
Fluorene	LA-DEQ	6270	10104402
Indeno(1,2,3-cd) pyrene	LA-DEQ	6315	10104402
Naphthalene	LA-DEQ	5005	10104402
Phenanthrene	LA-DEQ	6615	10104402
Pyrene	LA-DEQ	6665	10104402

Method EPA 624.1

Analyte	**AB**	**Analyte ID**	**Method ID**
1,1,1-Trichloroethane	LA-DEQ	5160	10298121
1,1,2,2-Tetrachloroethane	LA-DEQ	5110	10298121
1,1,2-Trichloroethane	LA-DEQ	5165	10298121

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704245-19-16

Environmental Science Corp. dba: Pace Analytical National Center for Testing & Innovation

Expiration Date: 10/31/2020

12065 Lebanon Road
Mount Juliet, TN 37122-2508

Issue Date: 11/1/2019

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Non-Potable Water***

1,1-Dichloroethane	LA-DEQ	4630	10298121
1,1-Dichloroethylene	LA-DEQ	4640	10298121
1,2-Dibromoethane (EDB, Ethylene dibromide)	LA-DEQ	4585	10298121
1,2-Dichlorobenzene	LA-DEQ	4610	10298121
1,2-Dichloroethane (Ethylene dichloride)	LA-DEQ	4635	10298121
1,2-Dichloropropane	LA-DEQ	4655	10298121
1,3-Dichlorobenzene	LA-DEQ	4615	10298121
1,4-Dichlorobenzene	LA-DEQ	4620	10298121
2-Butanone (Methyl ethyl ketone, MEK)	LA-DEQ	4410	10298121
2-Chloroethyl vinyl ether	LA-DEQ	4500	10298121
Acetone (2-Propanone)	LA-DEQ	4315	10298121
Acrolein (Propenal)	LA-DEQ	4325	10298121
Acrylonitrile	LA-DEQ	4340	10298121
Benzene	LA-DEQ	4375	10298121
Bromodichloromethane	LA-DEQ	4395	10298121
Bromoform	LA-DEQ	4400	10298121
Carbon tetrachloride	LA-DEQ	4455	10298121
Chlorobenzene	LA-DEQ	4475	10298121
Chlorodibromomethane	LA-DEQ	4575	10298121
Chloroethane (Ethyl chloride)	LA-DEQ	4485	10298121
Chloroform	LA-DEQ	4505	10298121
cis-1,2-Dichloroethylene	LA-DEQ	4645	10298121
cis-1,3-Dichloropropene	LA-DEQ	4680	10298121
Ethylbenzene	LA-DEQ	4765	10298121
m+p-xylene	LA-DEQ	5240	10298121
Methyl bromide (Bromomethane)	LA-DEQ	4950	10298121
Methyl chloride (Chloromethane)	LA-DEQ	4960	10298121
Methyl tert-butyl ether (MTBE)	LA-DEQ	5000	10298121
Methylene chloride (Dichloromethane)	LA-DEQ	4975	10298121
Naphthalene	LA-DEQ	5005	10298121

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Matrix: ***Non-Potable Water***

o-Xylene	LA-DEQ	5250	10298121
Tetrachloroethylene (Perchloroethylene)	LA-DEQ	5115	10298121
Toluene	LA-DEQ	5140	10298121
Total trihalomethanes	LA-DEQ	5205	10298121
trans-1,2-Dichloroethylene	LA-DEQ	4700	10298121
trans-1,3-Dichloropropylene	LA-DEQ	4685	10298121
Trichloroethene (Trichloroethylene)	LA-DEQ	5170	10298121
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	LA-DEQ	5175	10298121
Vinyl chloride	LA-DEQ	5235	10298121
Xylene (total)	LA-DEQ	5260	10298121

Method EPA 625.1

Analyte	AB	Analyte ID	Method ID
1,2,4,5-Tetrachlorobenzene	LA-DEQ	6715	10300024
1,2,4-Trichlorobenzene	LA-DEQ	5155	10300024
1,2-Dichlorobenzene	LA-DEQ	4610	10300024
1,2-Diphenylhydrazine	LA-DEQ	6221	10300024
1,3-Dichlorobenzene	LA-DEQ	4615	10300024
1,4-Dichlorobenzene	LA-DEQ	4620	10300024
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	LA-DEQ	4659	10300024
2,3,4,6-Tetrachlorophenol	LA-DEQ	6735	10300024
2,4,5-Trichlorophenol	LA-DEQ	6835	10300024
2,4,6-Trichlorophenol	LA-DEQ	6840	10300024
2,4-Dichlorophenol	LA-DEQ	6000	10300024
2,4-Dimethylphenol	LA-DEQ	6130	10300024
2,4-Dinitrophenol	LA-DEQ	6175	10300024
2,4-Dinitrotoluene (2,4-DNT)	LA-DEQ	6185	10300024
2,6-Dinitrotoluene (2,6-DNT)	LA-DEQ	6190	10300024
2-Chloronaphthalene	LA-DEQ	5795	10300024
2-Chlorophenol	LA-DEQ	5800	10300024
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	LA-DEQ	6360	10300024

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Matrix: ***Non-Potable Water***

2-Methylphenol (o-Cresol)	LA-DEQ	6400	10300024
2-Nitrophenol	LA-DEQ	6490	10300024
3,3'-Dichlorobenzidine	LA-DEQ	5945	10300024
4-Bromophenyl phenyl ether (BDE-3)	LA-DEQ	5660	10300024
4-Chloro-3-methylphenol	LA-DEQ	5700	10300024
4-Chlorophenyl phenylether	LA-DEQ	5825	10300024
4-Methylphenol (p-Cresol)	LA-DEQ	6410	10300024
4-Nitrophenol	LA-DEQ	6500	10300024
Acenaphthene	LA-DEQ	5500	10300024
Acenaphthylene	LA-DEQ	5505	10300024
Anthracene	LA-DEQ	5555	10300024
Benzidine	LA-DEQ	5595	10300024
Benzo(a)anthracene	LA-DEQ	5575	10300024
Benzo(a)pyrene	LA-DEQ	5580	10300024
Benzo(b)fluoranthene	LA-DEQ	5585	10300024
Benzo(g,h,i)perylene	LA-DEQ	5590	10300024
Benzo(k)fluoranthene	LA-DEQ	5600	10300024
bis(2-Chloroethoxy)methane	LA-DEQ	5760	10300024
bis(2-Chloroethyl) ether	LA-DEQ	5765	10300024
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	LA-DEQ	6065	10300024
Butyl benzyl phthalate	LA-DEQ	5670	10300024
Chrysene	LA-DEQ	5855	10300024
Dibenz(a,h) anthracene	LA-DEQ	5895	10300024
Diethyl phthalate	LA-DEQ	6070	10300024
Dimethyl phthalate	LA-DEQ	6135	10300024
Di-n-butyl phthalate	LA-DEQ	5925	10300024
Di-n-octyl phthalate	LA-DEQ	6200	10300024
Fluoranthene	LA-DEQ	6265	10300024
Fluorene	LA-DEQ	6270	10300024
Hexachlorobenzene	LA-DEQ	6275	10300024

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Matrix: ***Non-Potable Water***

Hexachlorobutadiene	LA-DEQ	4835	10300024
Hexachlorocyclopentadiene	LA-DEQ	6285	10300024
Hexachloroethane	LA-DEQ	4840	10300024
Indeno(1,2,3-cd) pyrene	LA-DEQ	6315	10300024
Isophorone	LA-DEQ	6320	10300024
Naphthalene	LA-DEQ	5005	10300024
Nitrobenzene	LA-DEQ	5015	10300024
n-Nitrosodiethylamine	LA-DEQ	6525	10300024
n-Nitrosodimethylamine	LA-DEQ	6530	10300024
n-Nitrosodi-n-butylamine	LA-DEQ	5025	10300024
n-Nitrosodi-n-propylamine	LA-DEQ	6545	10300024
n-Nitrosodiphenylamine	LA-DEQ	6535	10300024
Pentachlorobenzene	LA-DEQ	6590	10300024
Pentachlorophenol	LA-DEQ	6605	10300024
Phenanthrene	LA-DEQ	6615	10300024
Phenol	LA-DEQ	6625	10300024
Pyrene	LA-DEQ	6665	10300024
Pyridine	LA-DEQ	5095	10300024

Method EPA 7196

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	LA-DEQ	1045	10162206

Method EPA 7199

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	LA-DEQ	1045	10163005

Method EPA 7470

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	LA-DEQ	1095	10165603

Method EPA 8011

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2-Dibromo-3-chloropropane (DBCP)	LA-DEQ	4570	10173009
1,2-Dibromoethane (EDB, Ethylene dibromide)	LA-DEQ	4585	10173009

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Matrix: ***Non-Potable Water***

Method EPA 8015

Analyte	AB	Analyte ID	Method ID
Diesel range organics (DRO)	LA-DEQ	9369	10173203
Ethanol	LA-DEQ	4750	10173203
Ethylene glycol	LA-DEQ	4785	10173203
Gasoline range organics (GRO)	LA-DEQ	9408	10173203
Methanol	LA-DEQ	4930	10173203
Propylene Glycol	LA-DEQ	6657	10173203

Method EPA 8021

Analyte	AB	Analyte ID	Method ID
Benzene	LA-DEQ	4375	10174400
Ethylbenzene	LA-DEQ	4765	10174400
m+p-xylene	LA-DEQ	5240	10174400
Methyl tert-butyl ether (MTBE)	LA-DEQ	5000	10174400
o-Xylene	LA-DEQ	5250	10174400
Toluene	LA-DEQ	5140	10174400
Xylene (total)	LA-DEQ	5260	10174400

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	LA-DEQ	7355	10178402
4,4'-DDE	LA-DEQ	7360	10178402
4,4'-DDT	LA-DEQ	7365	10178402
Aldrin	LA-DEQ	7025	10178402
alpha-BHC (alpha-Hexachlorocyclohexane)	LA-DEQ	7110	10178402
alpha-Chlordane	LA-DEQ	7240	10178402
beta-BHC (beta-Hexachlorocyclohexane)	LA-DEQ	7115	10178402
Chlordane (tech.)	LA-DEQ	7250	10178402
delta-BHC (delta-Hexachlorocyclohexane)	LA-DEQ	7105	10178402
Dieldrin	LA-DEQ	7470	10178402
Endosulfan I	LA-DEQ	7510	10178402
Endosulfan II	LA-DEQ	7515	10178402

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Matrix: ***Non-Potable Water***

Endosulfan sulfate	LA-DEQ	7520	10178402
Endrin	LA-DEQ	7540	10178402
Endrin aldehyde	LA-DEQ	7530	10178402
Endrin ketone	LA-DEQ	7535	10178402
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	LA-DEQ	7120	10178402
gamma-Chlordane	LA-DEQ	7245	10178402
Heptachlor	LA-DEQ	7685	10178402
Heptachlor epoxide	LA-DEQ	7690	10178402
Hexachlorobenzene	LA-DEQ	6275	10178402
Methoxychlor	LA-DEQ	7810	10178402
Toxaphene (Chlorinated camphene)	LA-DEQ	8250	10178402

Method EPA 8082

Analyte	**AB**	**Analyte ID**	**Method ID**
Aroclor-1016 (PCB-1016)	LA-DEQ	8880	10179007
Aroclor-1221 (PCB-1221)	LA-DEQ	8885	10179007
Aroclor-1232 (PCB-1232)	LA-DEQ	8890	10179007
Aroclor-1242 (PCB-1242)	LA-DEQ	8895	10179007
Aroclor-1248 (PCB-1248)	LA-DEQ	8900	10179007
Aroclor-1254 (PCB-1254)	LA-DEQ	8905	10179007
Aroclor-1260 (PCB-1260)	LA-DEQ	8910	10179007
PCBs (total)	LA-DEQ	8870	10179007

Method EPA 8141

Analyte	**AB**	**Analyte ID**	**Method ID**
Atrazine	LA-DEQ	7065	10181803
Azinphos-methyl (Guthion)	LA-DEQ	7075	10181803
Bolstar (Sulprofos)	LA-DEQ	7125	10181803
Carbophenothion	LA-DEQ	7220	10181803
Chlorpyrifos (Dursban)	LA-DEQ	7300	10181803
Coumaphos	LA-DEQ	7315	10181803
Demeton	LA-DEQ	7390	10181803
Demeton-o	LA-DEQ	7395	10181803

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Matrix: ***Non-Potable Water***

Demeton-s	LA-DEQ	7385	10181803
Diazinon	LA-DEQ	7410	10181803
Dichlorovos (DDVP, Dichlorvos)	LA-DEQ	8610	10181803
Dimethoate	LA-DEQ	7475	10181803
Disulfoton	LA-DEQ	8625	10181803
EPN (Phosphonothioic acid, phenyl-, O-ethyl O-(p-nitrophenyl) ester)	LA-DEQ	7550	10181803
Ethion	LA-DEQ	7565	10181803
Ethoprop	LA-DEQ	7570	10181803
Famphur	LA-DEQ	7580	10181803
Fensulfothion	LA-DEQ	7600	10181803
Fenthion	LA-DEQ	7605	10181803
Malathion	LA-DEQ	7770	10181803
Merphos	LA-DEQ	7785	10181803
Methyl parathion (Parathion, methyl)	LA-DEQ	7825	10181803
Mevinphos	LA-DEQ	7850	10181803
Naled	LA-DEQ	7905	10181803
Parathion, ethyl	LA-DEQ	7955	10181803
Phorate	LA-DEQ	7985	10181803
Phosmet (Imidan)	LA-DEQ	8000	10181803
Ronnel	LA-DEQ	8110	10181803
Sulfotepp	LA-DEQ	8155	10181803
Tetrachlorvinphos (Stirophos, Gardona)	LA-DEQ	8197	10181803
Tetraethyl pyrophosphate (TEPP)	LA-DEQ	8210	10181803
Tokuthion (Prothiophos)	LA-DEQ	8245	10181803
Trichloronate	LA-DEQ	8275	10181803

Method EPA 8151

Analyte	**AB**	**Analyte ID**	**Method ID**
2,4,5-T	LA-DEQ	8655	10183003
2,4-D	LA-DEQ	8545	10183003
2,4-DB	LA-DEQ	8560	10183003

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Matrix: ***Non-Potable Water***

Dalapon	LA-DEQ	8555	10183003
Dicamba	LA-DEQ	8595	10183003
Dichloroprop (Dichlorprop, Weedone)	LA-DEQ	8605	10183003
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	LA-DEQ	8620	10183003
MCPA	LA-DEQ	7775	10183003
MCPP	LA-DEQ	7780	10183003
Pentachlorophenol	LA-DEQ	6605	10183003
Silvex (2,4,5-TP)	LA-DEQ	8650	10183003

Method EPA 8260

Analyte	**AB**	**Analyte ID**	**Method ID**
1,1,1,2-Tetrachloroethane	LA-DEQ	5105	10184404
1,1,1-Trichloroethane	LA-DEQ	5160	10184404
1,1,2,2-Tetrachloroethane	LA-DEQ	5110	10184404
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	LA-DEQ	5195	10184404
1,1,2-Trichloroethane	LA-DEQ	5165	10184404
1,1-Dichloroethane	LA-DEQ	4630	10184404
1,1-Dichloroethylene	LA-DEQ	4640	10184404
1,1-Dichloropropene	LA-DEQ	4670	10184404
1,2,3-Trichlorobenzene	LA-DEQ	5150	10184404
1,2,3-Trichloropropane	LA-DEQ	5180	10184404
1,2,4-Trichlorobenzene	LA-DEQ	5155	10184404
1,2,4-Trimethylbenzene	LA-DEQ	5210	10184404
1,2-Dibromo-3-chloropropane (DBCP)	LA-DEQ	4570	10184404
1,2-Dibromoethane (EDB, Ethylene dibromide)	LA-DEQ	4585	10184404
1,2-Dichlorobenzene	LA-DEQ	4610	10184404
1,2-Dichloroethane (Ethylene dichloride)	LA-DEQ	4635	10184404
1,2-Dichloropropane	LA-DEQ	4655	10184404
1,3,5-Trimethylbenzene	LA-DEQ	5215	10184404
1,3-Dichlorobenzene	LA-DEQ	4615	10184404
1,3-Dichloropropane	LA-DEQ	4660	10184404

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Matrix: ***Non-Potable Water***

1,4-Dichlorobenzene	LA-DEQ	4620	10184404
1,4-Dioxane (1,4-Diethyleneoxide)	LA-DEQ	4735	10184404
2,2-Dichloropropane	LA-DEQ	4665	10184404
2-Butanone (Methyl ethyl ketone, MEK)	LA-DEQ	4410	10184404
2-Chloroethyl vinyl ether	LA-DEQ	4500	10184404
2-Chlorotoluene	LA-DEQ	4535	10184404
2-Hexanone (MBK)	LA-DEQ	4860	10184404
2-Nitropropane	LA-DEQ	5020	10184404
4-Chlorotoluene	LA-DEQ	4540	10184404
4-Isopropyltoluene (p-Cymene)	LA-DEQ	4915	10184404
4-Methyl-2-pentanone (MIBK)	LA-DEQ	4995	10184404
Acetone (2-Propanone)	LA-DEQ	4315	10184404
Acetonitrile	LA-DEQ	4320	10184404
Acrolein (Propenal)	LA-DEQ	4325	10184404
Acrylonitrile	LA-DEQ	4340	10184404
Allyl chloride (3-Chloropropene)	LA-DEQ	4355	10184404
Benzene	LA-DEQ	4375	10184404
Bromobenzene	LA-DEQ	4385	10184404
Bromochloromethane	LA-DEQ	4390	10184404
Bromodichloromethane	LA-DEQ	4395	10184404
Bromoform	LA-DEQ	4400	10184404
Carbon disulfide	LA-DEQ	4450	10184404
Carbon tetrachloride	LA-DEQ	4455	10184404
Chlorobenzene	LA-DEQ	4475	10184404
Chlorodibromomethane	LA-DEQ	4575	10184404
Chloroethane (Ethyl chloride)	LA-DEQ	4485	10184404
Chloroform	LA-DEQ	4505	10184404
Chloroprene (2-Chloro-1,3-butadiene)	LA-DEQ	4525	10184404
cis-1,2-Dichloroethylene	LA-DEQ	4645	10184404
cis-1,3-Dichloropropene	LA-DEQ	4680	10184404

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Matrix: ***Non-Potable Water***

cis-1,4-Dichloro-2-butene	LA-DEQ	4600	10184404
Dibromomethane (Methylene bromide)	LA-DEQ	4595	10184404
Dichlorodifluoromethane (Freon-12)	LA-DEQ	4625	10184404
Diethyl ether	LA-DEQ	4725	10184404
Di-isopropylether (DIPE)	LA-DEQ	9375	10184404
Ethanol	LA-DEQ	4750	10184404
Ethyl acetate	LA-DEQ	4755	10184404
Ethyl methacrylate	LA-DEQ	4810	10184404
Ethylbenzene	LA-DEQ	4765	10184404
Ethyl-t-butylether (ETBE) (2-Ethoxy-2-methylpropane)	LA-DEQ	4770	10184404
Hexachlorobutadiene	LA-DEQ	4835	10184404
Hexachloroethane	LA-DEQ	4840	10184404
Iodomethane (Methyl iodide)	LA-DEQ	4870	10184404
Isobutyl alcohol (2-Methyl-1-propanol)	LA-DEQ	4875	10184404
Isopropyl alcohol (2-Propanol, Isopropanol)	LA-DEQ	4895	10184404
Isopropylbenzene (Cumene)	LA-DEQ	4900	10184404
m+p-xylene	LA-DEQ	5240	10184404
Methacrylonitrile	LA-DEQ	4925	10184404
Methanol	LA-DEQ	4930	10184404
Methyl acetate	LA-DEQ	4940	10184404
Methyl acrylate	LA-DEQ	4945	10184404
Methyl bromide (Bromomethane)	LA-DEQ	4950	10184404
Methyl chloride (Chloromethane)	LA-DEQ	4960	10184404
Methyl methacrylate	LA-DEQ	4990	10184404
Methyl tert-butyl ether (MTBE)	LA-DEQ	5000	10184404
Methylcyclohexane	LA-DEQ	4965	10184404
Methylene chloride (Dichloromethane)	LA-DEQ	4975	10184404
Naphthalene	LA-DEQ	5005	10184404
n-Butyl alcohol (1-Butanol, n-Butanol)	LA-DEQ	4425	10184404
n-Butylbenzene	LA-DEQ	4435	10184404

Matrix: ***Non-Potable Water***

n-Propylbenzene	LA-DEQ	5090	10184404
o-Xylene	LA-DEQ	5250	10184404
Pentachloroethane	LA-DEQ	5035	10184404
Propionitrile (Ethyl cyanide)	LA-DEQ	5080	10184404
sec-Butylbenzene	LA-DEQ	4440	10184404
Styrene	LA-DEQ	5100	10184404
T-amylmethylether (TAME)	LA-DEQ	4370	10184404
tert-Butyl alcohol	LA-DEQ	4420	10184404
tert-Butylbenzene	LA-DEQ	4445	10184404
Tetrachloroethylene (Perchloroethylene)	LA-DEQ	5115	10184404
Toluene	LA-DEQ	5140	10184404
trans-1,2-Dichloroethylene	LA-DEQ	4700	10184404
trans-1,3-Dichloropropylene	LA-DEQ	4685	10184404
trans-1,4-Dichloro-2-butene	LA-DEQ	4605	10184404
Trichloroethene (Trichloroethylene)	LA-DEQ	5170	10184404
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	LA-DEQ	5175	10184404
Vinyl acetate	LA-DEQ	5225	10184404
Vinyl chloride	LA-DEQ	5235	10184404
Xylene (total)	LA-DEQ	5260	10184404

Method EPA 8270

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,4,5-Tetrachlorobenzene	LA-DEQ	6715	10185203
1,2,4-Trichlorobenzene	LA-DEQ	5155	10185203
1,2-Dichlorobenzene	LA-DEQ	4610	10185203
1,2-Diphenylhydrazine	LA-DEQ	6220	10185203
1,3,5-Trinitrobenzene (1,3,5-TNB)	LA-DEQ	6885	10185203
1,3-Dichlorobenzene	LA-DEQ	4615	10185203
1,3-Dinitrobenzene (1,3-DNB)	LA-DEQ	6160	10185203
1,4-Dichlorobenzene	LA-DEQ	4620	10185203
1,4-Naphthoquinone	LA-DEQ	6420	10185203

Texas Commission on Environmental Quality

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12065 Lebanon Road
Mount Juliet, TN 37122-2508

Issue Date: 11/1/2019

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Matrix: ***Non-Potable Water***

1,4-Phenylenediamine	LA-DEQ	6630	10185203
1-Chloronaphthalene	LA-DEQ	5790	10185203
1-Naphthylamine	LA-DEQ	6425	10185203
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	LA-DEQ	4659	10185203
2,3,4,6-Tetrachlorophenol	LA-DEQ	6735	10185203
2,4,5-Trichlorophenol	LA-DEQ	6835	10185203
2,4,6-Trichlorophenol	LA-DEQ	6840	10185203
2,4-Dichlorophenol	LA-DEQ	6000	10185203
2,4-Dimethylphenol	LA-DEQ	6130	10185203
2,4-Dinitrophenol	LA-DEQ	6175	10185203
2,4-Dinitrotoluene (2,4-DNT)	LA-DEQ	6185	10185203
2,6-Dichlorophenol	LA-DEQ	6005	10185203
2,6-Dinitrotoluene (2,6-DNT)	LA-DEQ	6190	10185203
2-Acetylaminofluorene	LA-DEQ	5515	10185203
2-Chloronaphthalene	LA-DEQ	5795	10185203
2-Chlorophenol	LA-DEQ	5800	10185203
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	LA-DEQ	6360	10185203
2-Methylaniline (o-Toluidine)	LA-DEQ	5145	10185203
2-Methylnaphthalene	LA-DEQ	6385	10185203
2-Methylphenol (o-Cresol)	LA-DEQ	6400	10185203
2-Naphthylamine	LA-DEQ	6430	10185203
2-Nitroaniline	LA-DEQ	6460	10185203
2-Nitrophenol	LA-DEQ	6490	10185203
2-Picoline (2-Methylpyridine)	LA-DEQ	5050	10185203
3,3'-Dichlorobenzidine	LA-DEQ	5945	10185203
3,3'-Dimethylbenzidine	LA-DEQ	6120	10185203
3-Methylcholanthrene	LA-DEQ	6355	10185203
3-Methylphenol (m-Cresol)	LA-DEQ	6405	10185203
3-Nitroaniline	LA-DEQ	6465	10185203
4,4'-Methylenebis(2-chloroaniline)	LA-DEQ	6365	10185203

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Matrix: ***Non-Potable Water***

4-Aminobiphenyl	LA-DEQ	5540	10185203
4-Bromophenyl phenyl ether (BDE-3)	LA-DEQ	5660	10185203
4-Chloro-3-methylphenol	LA-DEQ	5700	10185203
4-Chloroaniline	LA-DEQ	5745	10185203
4-Chlorophenyl phenylether	LA-DEQ	5825	10185203
4-Methylphenol (p-Cresol)	LA-DEQ	6410	10185203
4-Nitroaniline	LA-DEQ	6470	10185203
4-Nitrophenol	LA-DEQ	6500	10185203
4-Nitroquinoline-1-oxide	LA-DEQ	6510	10185203
5-Nitro-o-toluidine	LA-DEQ	6570	10185203
7,12-Dimethylbenz(a) anthracene	LA-DEQ	6115	10185203
a-a-Dimethylphenethylamine	LA-DEQ	6125	10185203
Acenaphthene	LA-DEQ	5500	10185203
Acenaphthylene	LA-DEQ	5505	10185203
Acetophenone	LA-DEQ	5510	10185203
Aniline	LA-DEQ	5545	10185203
Anthracene	LA-DEQ	5555	10185203
Aramite	LA-DEQ	5560	10185203
Atrazine	LA-DEQ	7065	10185203
Benzenethiol (Thiophenol)	LA-DEQ	6750	10185203
Benzidine	LA-DEQ	5595	10185203
Benzo(a)anthracene	LA-DEQ	5575	10185203
Benzo(a)pyrene	LA-DEQ	5580	10185203
Benzo(b)fluoranthene	LA-DEQ	5585	10185203
Benzo(g,h,i)perylene	LA-DEQ	5590	10185203
Benzo(k)fluoranthene	LA-DEQ	5600	10185203
Benzoic acid	LA-DEQ	5610	10185203
Benzyl alcohol	LA-DEQ	5630	10185203
Biphenyl	LA-DEQ	5640	10185203
bis(2-Chloroethoxy)methane	LA-DEQ	5760	10185203

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Matrix: ***Non-Potable Water***

bis(2-Chloroethyl) ether	LA-DEQ	5765	10185203
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	LA-DEQ	6065	10185203
Butyl benzyl phthalate	LA-DEQ	5670	10185203
Caprolactam	LA-DEQ	7180	10185203
Carbazole	LA-DEQ	5680	10185203
Chlorobenzilate	LA-DEQ	7260	10185203
Chrysene	LA-DEQ	5855	10185203
Diallate	LA-DEQ	7405	10185203
Dibenz(a,h) anthracene	LA-DEQ	5895	10185203
Dibenz(a,j) acridine	LA-DEQ	5900	10185203
Dibenzo(a,e) pyrene	LA-DEQ	5890	10185203
Dibenzofuran	LA-DEQ	5905	10185203
Diethyl phthalate	LA-DEQ	6070	10185203
Dimethoate	LA-DEQ	7475	10185203
Dimethyl phthalate	LA-DEQ	6135	10185203
Di-n-butyl phthalate	LA-DEQ	5925	10185203
Di-n-octyl phthalate	LA-DEQ	6200	10185203
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	LA-DEQ	8620	10185203
Diphenylamine	LA-DEQ	6205	10185203
Disulfoton	LA-DEQ	8625	10185203
Ethyl methanesulfonate	LA-DEQ	6260	10185203
Famphur	LA-DEQ	7580	10185203
Fluoranthene	LA-DEQ	6265	10185203
Fluorene	LA-DEQ	6270	10185203
Hexachlorobenzene	LA-DEQ	6275	10185203
Hexachlorobutadiene	LA-DEQ	4835	10185203
Hexachlorocyclopentadiene	LA-DEQ	6285	10185203
Hexachloroethane	LA-DEQ	4840	10185203
Hexachlorophene	LA-DEQ	6290	10185203
Hexachloropropene	LA-DEQ	6295	10185203

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Matrix: ***Non-Potable Water***

Indeno(1,2,3-cd) pyrene	LA-DEQ	6315	10185203
Isodrin	LA-DEQ	7725	10185203
Isophorone	LA-DEQ	6320	10185203
Isosafrole	LA-DEQ	6325	10185203
Kepone	LA-DEQ	7740	10185203
Methapyrilene	LA-DEQ	6345	10185203
Methyl methanesulfonate	LA-DEQ	6375	10185203
Methyl parathion (Parathion, methyl)	LA-DEQ	7825	10185203
Naphthalene	LA-DEQ	5005	10185203
Nitrobenzene	LA-DEQ	5015	10185203
n-Nitrosodiethylamine	LA-DEQ	6525	10185203
n-Nitrosodimethylamine	LA-DEQ	6530	10185203
n-Nitrosodi-n-butylamine	LA-DEQ	5025	10185203
n-Nitrosodi-n-propylamine	LA-DEQ	6545	10185203
n-Nitrosodiphenylamine	LA-DEQ	6535	10185203
n-Nitrosomethylethylamine	LA-DEQ	6550	10185203
n-Nitrosomorpholine	LA-DEQ	6555	10185203
n-Nitrosopiperidine	LA-DEQ	6560	10185203
n-Nitrosopyrrolidine	LA-DEQ	6565	10185203
o,o,o-Triethyl phosphorothioate	LA-DEQ	8290	10185203
Parathion, ethyl	LA-DEQ	7955	10185805
Pentachlorobenzene	LA-DEQ	6590	10185203
Pentachloronitrobenzene (PCNB)	LA-DEQ	6600	10185203
Pentachlorophenol	LA-DEQ	6605	10185203
Phenacetin	LA-DEQ	6610	10185203
Phenanthrene	LA-DEQ	6615	10185203
Phenol	LA-DEQ	6625	10185203
Phorate	LA-DEQ	7985	10185203
Phthalic anhydride	LA-DEQ	6640	10185203
Pronamide (Kerb)	LA-DEQ	6650	10185203

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Matrix: ***Non-Potable Water***

Pyrene	LA-DEQ	6665	10185203
Pyridine	LA-DEQ	5095	10185203
Quinoline	LA-DEQ	6670	10185203
Safrole	LA-DEQ	6685	10185203
Sulfotepp	LA-DEQ	8155	10185203
Thionazin (Zinophos)	LA-DEQ	8235	10185203
tris-(2,3-Dibromopropyl) phosphate (tris-BP)	LA-DEQ	8310	10185203

Method EPA 8310

Analyte	**AB**	**Analyte ID**	**Method ID**
Acenaphthene	LA-DEQ	5500	10187607
Acenaphthylene	LA-DEQ	5505	10187607
Anthracene	LA-DEQ	5555	10187607
Benzo(a)anthracene	LA-DEQ	5575	10187607
Benzo(a)pyrene	LA-DEQ	5580	10187607
Benzo(b)fluoranthene	LA-DEQ	5585	10187607
Benzo(g,h,i)perylene	LA-DEQ	5590	10187607
Benzo(k)fluoranthene	LA-DEQ	5600	10187607
Chrysene	LA-DEQ	5855	10187607
Dibenz(a,h) anthracene	LA-DEQ	5895	10187607
Fluoranthene	LA-DEQ	6265	10187607
Fluorene	LA-DEQ	6270	10187607
Indeno(1,2,3-cd) pyrene	LA-DEQ	6315	10187607
Naphthalene	LA-DEQ	5005	10187607
Phenanthrene	LA-DEQ	6615	10187607
Pyrene	LA-DEQ	6665	10187607

Method EPA 8330

Analyte	**AB**	**Analyte ID**	**Method ID**
1,3,5-Trinitrobenzene (1,3,5-TNB)	LA-DEQ	6885	10189807
1,3-Dinitrobenzene (1,3-DNB)	LA-DEQ	6160	10189807
2,4,6-Trinitrotoluene (2,4,6-TNT)	LA-DEQ	9651	10189807
2,4-Dinitrotoluene (2,4-DNT)	LA-DEQ	6185	10189807

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Matrix: ***Non-Potable Water***

2,6-Dinitrotoluene (2,6-DNT)	LA-DEQ	6190	10189807
2-Amino-4,6-dinitrotoluene (2-am-dnt)	LA-DEQ	9303	10189807
2-Nitrotoluene	LA-DEQ	9507	10189807
3-Nitrotoluene	LA-DEQ	9510	10189807
4-Amino-2,6-dinitrotoluene (4-am-dnt)	LA-DEQ	9306	10189807
4-Nitrotoluene	LA-DEQ	9513	10189807
Methyl-2,4,6-trinitrophenylnitramine (tetryl)	LA-DEQ	6415	10189807
Nitrobenzene	LA-DEQ	5015	10189807
Nitroglycerin	LA-DEQ	6485	10189807
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	LA-DEQ	9522	10189807
Pentaerythritoltetranitrate (PETN)	LA-DEQ	9558	10189807
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	LA-DEQ	9432	10189807

Method EPA 900.0

Analyte	**AB**	**Analyte ID**	**Method ID**
Gross-alpha	LA-DEQ	2830	10308200
Gross-beta	LA-DEQ	2840	10308200

Method EPA 9012

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	LA-DEQ	1510	10193405
Total cyanide	LA-DEQ	1645	10193405

Method EPA 9020

Analyte	**AB**	**Analyte ID**	**Method ID**
Total organic halides (TOX)	LA-DEQ	2045	10194000

Method EPA 903.0

Analyte	**AB**	**Analyte ID**	**Method ID**
Total radium	LA-DEQ	2975	10309407

Method EPA 9040

Analyte	**AB**	**Analyte ID**	**Method ID**
pH	LA-DEQ	1900	10196802

Method EPA 9050

Analyte	**AB**	**Analyte ID**	**Method ID**

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Matrix: ***Non-Potable Water***

Conductivity	LA-DEQ	1610	10198604

Method EPA 9056

Analyte	AB	Analyte ID	Method ID
Bromide	LA-DEQ	1540	10199209
Chloride	LA-DEQ	1575	10199209
Fluoride	LA-DEQ	1730	10199209
Nitrate as N	LA-DEQ	1810	10199209
Nitrate-nitrite	LA-DEQ	1820	10199209
Nitrite as N	LA-DEQ	1840	10199209
Sulfate	LA-DEQ	2000	10199209

Method EPA 9060

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	LA-DEQ	2040	10200201

Method EPA 9066

Analyte	AB	Analyte ID	Method ID
Total phenolics	LA-DEQ	1905	10200609

Method EPA RSK 175

Analyte	AB	Analyte ID	Method ID
Ethane	LA-DEQ	4747	10212905
Ethene	LA-DEQ	4752	10212905
Methane	LA-DEQ	4926	10212905
n-Propane	LA-DEQ	5029	10212905

Method SM 2120 B

Analyte	AB	Analyte ID	Method ID
Color	LA-DEQ	1605	20223807

Method SM 2130 B

Analyte	AB	Analyte ID	Method ID
Turbidity	LA-DEQ	2055	20042200

Method SM 2310 B (4a)

Analyte	AB	Analyte ID	Method ID
Acidity, as CaCO3	LA-DEQ	1500	20002806

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Matrix: ***Non-Potable Water***

Method	Analyte	AB	Analyte ID	Method ID
SM 2320 B	Alkalinity as CaCO3	LA-DEQ	1505	20045005
SM 2340 B	Total hardness as CaCO3	LA-DEQ	1755	20046008
SM 2340 C	Total hardness as CaCO3	LA-DEQ	1755	20047001
SM 2510 B	Conductivity	LA-DEQ	1610	20048004
SM 2540 B	Residue-total (total solids)	LA-DEQ	1950	20004608
SM 2540 C	Residue-filterable (TDS)	LA-DEQ	1955	20049803
SM 2540 D	Residue-nonfilterable (TSS)	LA-DEQ	1960	20004802
SM 2540 F	Residue-settleable	LA-DEQ	1965	20005009
SM 3500-Cr B	Chromium (VI)	LA-DEQ	1045	20065809
SM 3500-Cr C	Chromium (VI)	LA-DEQ	1045	20066404
SM 3500-Fe B				

Analyte	AB	Analyte ID	Method ID

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Matrix: ***Non-Potable Water***

Iron	LA-DEQ	1070	20068604

Method SM 4110 B

Analyte	**AB**	**Analyte ID**	**Method ID**
Chloride	LA-DEQ	1575	20076408
Fluoride	LA-DEQ	1730	20076408
Nitrate as N	LA-DEQ	1810	20076408
Nitrate-nitrite	LA-DEQ	1820	20076408
Nitrite as N	LA-DEQ	1840	20076408
Sulfate	LA-DEQ	2000	20076408

Method SM 4500-Cl G

Analyte	**AB**	**Analyte ID**	**Method ID**
Total residual chlorine	LA-DEQ	1940	20020604

Method SM 4500-CN^- C

Analyte	**AB**	**Analyte ID**	**Method ID**
Total cyanide	LA-DEQ	1645	20020808

Method SM 4500-CN^- E

Analyte	**AB**	**Analyte ID**	**Method ID**
Total cyanide	LA-DEQ	1645	20021209

Method SM 4500-CN^- G

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	LA-DEQ	1510	20021607

Method SM 4500-F^- C

Analyte	**AB**	**Analyte ID**	**Method ID**
Fluoride	LA-DEQ	1730	20101808

Method SM 4500-H+ B

Analyte	**AB**	**Analyte ID**	**Method ID**
pH	LA-DEQ	1900	20104603

Method SM 4500-NH3 C

Analyte	**AB**	**Analyte ID**	**Method ID**
Kjeldahl Nitrogen (Total Kjeldahl Nitrogen-TKN)	LA-DEQ	1790	20023603

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Matrix: ***Non-Potable Water***

Method	Analyte	AB	Analyte ID	Method ID
SM 4500-NH3 G	Ammonia as N	LA-DEQ	1515	20023205
SM 4500-NO3 F	Nitrate-nitrite	LA-DEQ	1820	20024402
SM 4500-O C	Oxygen, dissolved	LA-DEQ	1880	20025201
SM 4500-O G	Oxygen, dissolved	LA-DEQ	1880	20025405
SM 4500-P E	Orthophosphate as P	LA-DEQ	1870	20025803
SM 4500-$S2^{-}$ D	Sulfide	LA-DEQ	2005	20125400
SM 4500-$SO3^{-}$ B	Sulfite	LA-DEQ	2015	20026806
SM 5210 B	Biochemical oxygen demand (BOD)	LA-DEQ	1530	20027401
	Carbonaceous BOD, CBOD	LA-DEQ	1555	20027401
SM 5220 D	Chemical oxygen demand (COD)	LA-DEQ	1565	20027809
SM 5310 B	Total Organic Carbon (TOC)	LA-DEQ	2040	20137206

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Matrix: ***Non-Potable Water***

Method SM 5540 C

Analyte	AB	Analyte ID	Method ID
Surfactants - MBAS	LA-DEQ	2025	20144405

Method SM 6200 B

Analyte	AB	Analyte ID	Method ID
1,1,1-Trichloroethane	LA-DEQ	5160	20146605
1,1,2,2-Tetrachloroethane	LA-DEQ	5110	20146605
1,1,2-Trichloroethane	LA-DEQ	5165	20146605
1,1-Dichloroethane	LA-DEQ	4630	20146605
1,1-Dichloroethylene	LA-DEQ	4640	20146605
1,2-Dichlorobenzene	LA-DEQ	4610	20146605
1,2-Dichloroethane (Ethylene dichloride)	LA-DEQ	4635	20146605
1,2-Dichloropropane	LA-DEQ	4655	20146605
1,3-Dichlorobenzene	LA-DEQ	4615	20146605
1,4-Dichlorobenzene	LA-DEQ	4620	20146605
2-Chloroethyl vinyl ether	LA-DEQ	4500	20146605
Benzene	LA-DEQ	4375	20146605
Bromodichloromethane	LA-DEQ	4395	20146605
Bromoform	LA-DEQ	4400	20146605
Chlorobenzene	LA-DEQ	4475	20146605
Chlorodibromomethane	LA-DEQ	4575	20146605
Chloroethane (Ethyl chloride)	LA-DEQ	4485	20146605
Chloroform	LA-DEQ	4505	20146605
cis-1,3-Dichloropropene	LA-DEQ	4680	20146605
Ethylbenzene	LA-DEQ	4765	20146605
Methyl bromide (Bromomethane)	LA-DEQ	4950	20146605
Methyl chloride (Chloromethane)	LA-DEQ	4960	20146605
Tetrachloroethylene (Perchloroethylene)	LA-DEQ	5115	20146605
Toluene	LA-DEQ	5140	20146605
trans-1,2-Dichloroethylene	LA-DEQ	4700	20146605
trans-1,3-Dichloropropylene	LA-DEQ	4685	20146605

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Matrix: ***Non-Potable Water***

Trichloroethene (Trichloroethylene)	LA-DEQ	5170	20146605
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	LA-DEQ	5175	20146605
Vinyl chloride	LA-DEQ	5235	20146605

Method SM 6640 B

Analyte	**AB**	**Analyte ID**	**Method ID**
2,4,5-T	LA-DEQ	8655	20031407
2,4-D	LA-DEQ	8545	20031407
Silvex (2,4,5-TP)	LA-DEQ	8650	20031407

Method SM 7500 Ra B

Analyte	**AB**	**Analyte ID**	**Method ID**
Total radium	LA-DEQ	2975	20170007

Method TCEQ 1005

Analyte	**AB**	**Analyte ID**	**Method ID**
Total Petroleum Hydrocarbons (TPH)	LA-DEQ	2050	90019208

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Matrix: ***Solid & Chemical Materials***

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	LA-DEQ	1780	10116606

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	LA-DEQ	849	10118806

Method EPA 1312

Analyte	AB	Analyte ID	Method ID
SPLP	LA-DEQ	850	10119003

Method EPA 300.0

Analyte	AB	Analyte ID	Method ID
Bromide	LA-DEQ	1540	10053200
Chloride	LA-DEQ	1575	10053200
Fluoride	LA-DEQ	1730	10053200
Nitrate as N	LA-DEQ	1810	10053200
Nitrate-nitrite	LA-DEQ	1820	10053200
Nitrite as N	LA-DEQ	1840	10053200
Orthophosphate as P	LA-DEQ	1870	10053200
Sulfate	LA-DEQ	2000	10053200

Method EPA 314.0

Analyte	AB	Analyte ID	Method ID
Perchlorate	LA-DEQ	1895	10277006

Method EPA 350.1

Analyte	AB	Analyte ID	Method ID
Ammonia as N	LA-DEQ	1515	10063408

Method EPA 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	LA-DEQ	1000	10155201
Antimony	LA-DEQ	1005	10155201
Arsenic	LA-DEQ	1010	10155201
Barium	LA-DEQ	1015	10155201

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Matrix: ***Solid & Chemical Materials***

Beryllium	LA-DEQ	1020	10155201
Boron	LA-DEQ	1025	10155201
Cadmium	LA-DEQ	1030	10155201
Calcium	LA-DEQ	1035	10155201
Chromium	LA-DEQ	1040	10155201
Cobalt	LA-DEQ	1050	10155201
Copper	LA-DEQ	1055	10155201
Iron	LA-DEQ	1070	10155201
Lead	LA-DEQ	1075	10155201
Lithium	LA-DEQ	1080	10155201
Magnesium	LA-DEQ	1085	10155201
Manganese	LA-DEQ	1090	10155201
Molybdenum	LA-DEQ	1100	10155201
Nickel	LA-DEQ	1105	10155201
Phosphorus	LA-DEQ	1910	10155201
Potassium	LA-DEQ	1125	10155201
Selenium	LA-DEQ	1140	10155201
Silver	LA-DEQ	1150	10155201
Sodium	LA-DEQ	1155	10155201
Strontium	LA-DEQ	1160	10155201
Thallium	LA-DEQ	1165	10155201
Tin	LA-DEQ	1175	10155201
Titanium	LA-DEQ	1180	10155201
Vanadium	LA-DEQ	1185	10155201
Zinc	LA-DEQ	1190	10155201

Method EPA 6020

Analyte	**AB**	**Analyte ID**	**Method ID**
Aluminum	LA-DEQ	1000	10156419
Antimony	LA-DEQ	1005	10156419
Arsenic	LA-DEQ	1010	10156419

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Matrix: ***Solid & Chemical Materials***

Barium	LA-DEQ	1015	10156419
Beryllium	LA-DEQ	1020	10156419
Boron	LA-DEQ	1025	10156419
Cadmium	LA-DEQ	1030	10156419
Calcium	LA-DEQ	1035	10156419
Chromium	LA-DEQ	1040	10156419
Cobalt	LA-DEQ	1050	10156419
Copper	LA-DEQ	1055	10156419
Iron	LA-DEQ	1070	10156419
Lead	LA-DEQ	1075	10156419
Magnesium	LA-DEQ	1085	10156419
Manganese	LA-DEQ	1090	10156419
Molybdenum	LA-DEQ	1100	10156419
Nickel	LA-DEQ	1105	10156419
Potassium	LA-DEQ	1125	10156419
Selenium	LA-DEQ	1140	10156419
Silver	LA-DEQ	1150	10156419
Sodium	LA-DEQ	1155	10156419
Strontium	LA-DEQ	1160	10156419
Thallium	LA-DEQ	1165	10156419
Tin	LA-DEQ	1175	10156419
Titanium	LA-DEQ	1180	10156419
Vanadium	LA-DEQ	1185	10156419
Zinc	LA-DEQ	1190	10156419

Method EPA 7196

Analyte	AB	Analyte ID	Method ID
Chromium (VI)	LA-DEQ	1045	10162206

Method EPA 7199

Analyte	AB	Analyte ID	Method ID
Chromium (VI)	LA-DEQ	1045	10163005

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Matrix: ***Solid & Chemical Materials***

Method EPA 7471

Analyte	AB	Analyte ID	Method ID
Mercury	LA-DEQ	1095	10166004

Method EPA 8015

Analyte	AB	Analyte ID	Method ID
Diesel range organics (DRO)	LA-DEQ	9369	10173203
Ethanol	LA-DEQ	4750	10173203
Ethylene glycol	LA-DEQ	4785	10173203
Gasoline range organics (GRO)	LA-DEQ	9408	10173203
Methanol	LA-DEQ	4930	10173203
Propylene Glycol	LA-DEQ	6657	10173203

Method EPA 8021

Analyte	AB	Analyte ID	Method ID
Benzene	LA-DEQ	4375	10174400
Ethylbenzene	LA-DEQ	4765	10174400
m+p-xylene	LA-DEQ	5240	10174400
Methyl tert-butyl ether (MTBE)	LA-DEQ	5000	10174400
o-Xylene	LA-DEQ	5250	10174400
Toluene	LA-DEQ	5140	10174400
Xylene (total)	LA-DEQ	5260	10174400

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	LA-DEQ	7355	10178402
4,4'-DDE	LA-DEQ	7360	10178402
4,4'-DDT	LA-DEQ	7365	10178402
Aldrin	LA-DEQ	7025	10178402
alpha-BHC (alpha-Hexachlorocyclohexane)	LA-DEQ	7110	10178402
alpha-Chlordane	LA-DEQ	7240	10178402
beta-BHC (beta-Hexachlorocyclohexane)	LA-DEQ	7115	10178402
Chlordane (tech.)	LA-DEQ	7250	10178402
delta-BHC (delta-Hexachlorocyclohexane)	LA-DEQ	7105	10178402

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Matrix: ***Solid & Chemical Materials***

Dieldrin	LA-DEQ	7470	10178402
Endosulfan I	LA-DEQ	7510	10178402
Endosulfan II	LA-DEQ	7515	10178402
Endosulfan sulfate	LA-DEQ	7520	10178402
Endrin	LA-DEQ	7540	10178402
Endrin aldehyde	LA-DEQ	7530	10178402
Endrin ketone	LA-DEQ	7535	10178402
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	LA-DEQ	7120	10178402
gamma-Chlordane	LA-DEQ	7245	10178402
Heptachlor	LA-DEQ	7685	10178402
Heptachlor epoxide	LA-DEQ	7690	10178402
Hexachlorobenzene	LA-DEQ	6275	10178402
Methoxychlor	LA-DEQ	7810	10178402
Toxaphene (Chlorinated camphene)	LA-DEQ	8250	10178402

Method EPA 8082

Analyte	**AB**	**Analyte ID**	**Method ID**
Aroclor-1016 (PCB-1016)	LA-DEQ	8880	10179007
Aroclor-1221 (PCB-1221)	LA-DEQ	8885	10179007
Aroclor-1232 (PCB-1232)	LA-DEQ	8890	10179007
Aroclor-1242 (PCB-1242)	LA-DEQ	8895	10179007
Aroclor-1248 (PCB-1248)	LA-DEQ	8900	10179007
Aroclor-1254 (PCB-1254)	LA-DEQ	8905	10179007
Aroclor-1260 (PCB-1260)	LA-DEQ	8910	10179007

Method EPA 8141

Analyte	**AB**	**Analyte ID**	**Method ID**
Azinphos-methyl (Guthion)	LA-DEQ	7075	10181803
Bolstar (Sulprofos)	LA-DEQ	7125	10181803
Chlorpyrifos (Dursban)	LA-DEQ	7300	10181803
Coumaphos	LA-DEQ	7315	10181803
Demeton	LA-DEQ	7390	10181803
Demeton-o	LA-DEQ	7395	10181803

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Matrix: ***Solid & Chemical Materials***

Demeton-s	LA-DEQ	7385	10181803
Diazinon	LA-DEQ	7410	10181803
Dichlorovos (DDVP, Dichlorvos)	LA-DEQ	8610	10181803
Dimethoate	LA-DEQ	7475	10181803
Disulfoton	LA-DEQ	8625	10181803
EPN (Phosphonothioic acid, phenyl-, O-ethyl O-(p-nitrophenyl) ester)	LA-DEQ	7550	10181803
Ethoprop	LA-DEQ	7570	10181803
Fensulfothion	LA-DEQ	7600	10181803
Fenthion	LA-DEQ	7605	10181803
Malathion	LA-DEQ	7770	10181803
Merphos	LA-DEQ	7785	10181803
Methyl parathion (Parathion, methyl)	LA-DEQ	7825	10181803
Mevinphos	LA-DEQ	7850	10181803
Naled	LA-DEQ	7905	10181803
Parathion, ethyl	LA-DEQ	7955	10182000
Phorate	LA-DEQ	7985	10181803
Ronnel	LA-DEQ	8110	10181803
Sulfotepp	LA-DEQ	8155	10181803
Tetrachlorvinphos (Stirophos, Gardona)	LA-DEQ	8197	10181803
Tetraethyl pyrophosphate (TEPP)	LA-DEQ	8210	10181803
Tokuthion (Prothiophos)	LA-DEQ	8245	10181803
Trichloronate	LA-DEQ	8275	10181803

Method EPA 8151

Analyte	**AB**	**Analyte ID**	**Method ID**
2,4,5-T	LA-DEQ	8655	10183003
2,4-D	LA-DEQ	8545	10183003
2,4-DB	LA-DEQ	8560	10183003
Dalapon	LA-DEQ	8555	10183003
Dicamba	LA-DEQ	8595	10183003
Dichloroprop (Dichlorprop, Weedone)	LA-DEQ	8605	10183003

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Matrix: ***Solid & Chemical Materials***

Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	LA-DEQ	8620	10183003
MCPA	LA-DEQ	7775	10183003
MCPP	LA-DEQ	7780	10183003
Pentachlorophenol	LA-DEQ	6605	10183003
Silvex (2,4,5-TP)	LA-DEQ	8650	10183003

Method EPA 8260

Analyte	AB	Analyte ID	Method ID
1,1,1,2-Tetrachloroethane	LA-DEQ	5105	10184404
1,1,1-Trichloroethane	LA-DEQ	5160	10184404
1,1,2,2-Tetrachloroethane	LA-DEQ	5110	10184404
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	LA-DEQ	5195	10184404
1,1,2-Trichloroethane	LA-DEQ	5165	10184404
1,1-Dichloroethane	LA-DEQ	4630	10184404
1,1-Dichloroethylene	LA-DEQ	4640	10184404
1,1-Dichloropropene	LA-DEQ	4670	10184404
1,2,3-Trichlorobenzene	LA-DEQ	5150	10184404
1,2,3-Trichloropropane	LA-DEQ	5180	10184404
1,2,4-Trichlorobenzene	LA-DEQ	5155	10184404
1,2,4-Trimethylbenzene	LA-DEQ	5210	10184404
1,2-Dibromo-3-chloropropane (DBCP)	LA-DEQ	4570	10184404
1,2-Dibromoethane (EDB, Ethylene dibromide)	LA-DEQ	4585	10184404
1,2-Dichlorobenzene	LA-DEQ	4610	10184404
1,2-Dichloroethane (Ethylene dichloride)	LA-DEQ	4635	10184404
1,2-Dichloropropane	LA-DEQ	4655	10184404
1,3,5-Trimethylbenzene	LA-DEQ	5215	10184404
1,3-Dichlorobenzene	LA-DEQ	4615	10184404
1,3-Dichloropropane	LA-DEQ	4660	10184404
1,4-Dichlorobenzene	LA-DEQ	4620	10184404
1,4-Dioxane (1,4-Diethyleneoxide)	LA-DEQ	4735	10184404
2,2-Dichloropropane	LA-DEQ	4665	10184404

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Matrix: ***Solid & Chemical Materials***

2-Butanone (Methyl ethyl ketone, MEK)	LA-DEQ	4410	10184404
2-Chloroethyl vinyl ether	LA-DEQ	4500	10184404
2-Chlorotoluene	LA-DEQ	4535	10184404
2-Hexanone (MBK)	LA-DEQ	4860	10184404
2-Nitropropane	LA-DEQ	5020	10184404
4-Chlorotoluene	LA-DEQ	4540	10184404
4-Isopropyltoluene (p-Cymene)	LA-DEQ	4915	10184404
4-Methyl-2-pentanone (MIBK)	LA-DEQ	4995	10184404
Acetone (2-Propanone)	LA-DEQ	4315	10184404
Acetonitrile	LA-DEQ	4320	10184404
Acrolein (Propenal)	LA-DEQ	4325	10184404
Acrylonitrile	LA-DEQ	4340	10184404
Allyl chloride (3-Chloropropene)	LA-DEQ	4355	10184404
Benzene	LA-DEQ	4375	10184404
Bromobenzene	LA-DEQ	4385	10184404
Bromochloromethane	LA-DEQ	4390	10184404
Bromodichloromethane	LA-DEQ	4395	10184404
Bromoform	LA-DEQ	4400	10184404
Carbon disulfide	LA-DEQ	4450	10184404
Carbon tetrachloride	LA-DEQ	4455	10184404
Chlorobenzene	LA-DEQ	4475	10184404
Chlorodibromomethane	LA-DEQ	4575	10184404
Chloroethane (Ethyl chloride)	LA-DEQ	4485	10184404
Chloroform	LA-DEQ	4505	10184404
Chloroprene (2-Chloro-1,3-butadiene)	LA-DEQ	4525	10184404
cis-1,2-Dichloroethylene	LA-DEQ	4645	10184404
cis-1,3-Dichloropropene	LA-DEQ	4680	10184404
cis-1,4-Dichloro-2-butene	LA-DEQ	4600	10184404
Dibromomethane (Methylene bromide)	LA-DEQ	4595	10184404
Dichlorodifluoromethane (Freon-12)	LA-DEQ	4625	10184404

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Matrix: ***Solid & Chemical Materials***

Diethyl ether	LA-DEQ	4725	10184404
Ethanol	LA-DEQ	4750	10184404
Ethyl acetate	LA-DEQ	4755	10184404
Ethyl methacrylate	LA-DEQ	4810	10184404
Ethylbenzene	LA-DEQ	4765	10184404
Hexachlorobutadiene	LA-DEQ	4835	10184404
Hexachloroethane	LA-DEQ	4840	10184404
Iodomethane (Methyl iodide)	LA-DEQ	4870	10184404
Isobutyl alcohol (2-Methyl-1-propanol)	LA-DEQ	4875	10184404
Isopropylbenzene (Cumene)	LA-DEQ	4900	10184404
m+p-xylene	LA-DEQ	5240	10184404
Methacrylonitrile	LA-DEQ	4925	10184404
Methyl acetate	LA-DEQ	4940	10184404
Methyl acrylate	LA-DEQ	4945	10184404
Methyl bromide (Bromomethane)	LA-DEQ	4950	10184404
Methyl chloride (Chloromethane)	LA-DEQ	4960	10184404
Methyl methacrylate	LA-DEQ	4990	10184404
Methyl tert-butyl ether (MTBE)	LA-DEQ	5000	10184404
Methylcyclohexane	LA-DEQ	4965	10184404
Methylene chloride (Dichloromethane)	LA-DEQ	4975	10184404
Naphthalene	LA-DEQ	5005	10184404
n-Butyl alcohol (1-Butanol, n-Butanol)	LA-DEQ	4425	10184404
n-Butylbenzene	LA-DEQ	4435	10184404
n-Propylbenzene	LA-DEQ	5090	10184404
o-Xylene	LA-DEQ	5250	10184404
Pentachloroethane	LA-DEQ	5035	10184404
Propionitrile (Ethyl cyanide)	LA-DEQ	5080	10184404
sec-Butylbenzene	LA-DEQ	4440	10184404
Styrene	LA-DEQ	5100	10184404
tert-Butyl alcohol	LA-DEQ	4420	10184404

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Matrix: ***Solid & Chemical Materials***

tert-Butylbenzene	LA-DEQ	4445	10184404
Tetrachloroethylene (Perchloroethylene)	LA-DEQ	5115	10184404
Toluene	LA-DEQ	5140	10184404
trans-1,2-Dichloroethylene	LA-DEQ	4700	10184404
trans-1,3-Dichloropropylene	LA-DEQ	4685	10184404
trans-1,4-Dichloro-2-butene	LA-DEQ	4605	10184404
Trichloroethene (Trichloroethylene)	LA-DEQ	5170	10184404
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	LA-DEQ	5175	10184404
Vinyl acetate	LA-DEQ	5225	10184404
Vinyl chloride	LA-DEQ	5235	10184404
Xylene (total)	LA-DEQ	5260	10184404

Method EPA 8270

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,4,5-Tetrachlorobenzene	LA-DEQ	6715	10185203
1,2,4-Trichlorobenzene	LA-DEQ	5155	10185203
1,2-Dichlorobenzene	LA-DEQ	4610	10185203
1,2-Diphenylhydrazine	LA-DEQ	6220	10185203
1,3,5-Trinitrobenzene (1,3,5-TNB)	LA-DEQ	6885	10185203
1,3-Dichlorobenzene	LA-DEQ	4615	10185203
1,3-Dinitrobenzene (1,3-DNB)	LA-DEQ	6160	10185203
1,4-Dichlorobenzene	LA-DEQ	4620	10185203
1,4-Dinitrobenzene	LA-DEQ	6165	10185203
1,4-Naphthoquinone	LA-DEQ	6420	10185203
1,4-Phenylenediamine	LA-DEQ	6630	10185203
1-Chloronaphthalene	LA-DEQ	5790	10185203
1-Naphthylamine	LA-DEQ	6425	10185203
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	LA-DEQ	4659	10185203
2,3,4,6-Tetrachlorophenol	LA-DEQ	6735	10185203
2,4,5-Trichlorophenol	LA-DEQ	6835	10185203
2,4,6-Trichlorophenol	LA-DEQ	6840	10185203

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Matrix: ***Solid & Chemical Materials***

2,4-Dichlorophenol	LA-DEQ	6000	10185203
2,4-Dimethylphenol	LA-DEQ	6130	10185203
2,4-Dinitrophenol	LA-DEQ	6175	10185203
2,4-Dinitrotoluene (2,4-DNT)	LA-DEQ	6185	10185203
2,6-Dichlorophenol	LA-DEQ	6005	10185203
2,6-Dinitrotoluene (2,6-DNT)	LA-DEQ	6190	10185203
2-Acetylaminofluorene	LA-DEQ	5515	10185203
2-Chloronaphthalene	LA-DEQ	5795	10185203
2-Chlorophenol	LA-DEQ	5800	10185203
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	LA-DEQ	6360	10185203
2-Methylaniline (o-Toluidine)	LA-DEQ	5145	10185203
2-Methylnaphthalene	LA-DEQ	6385	10185203
2-Methylphenol (o-Cresol)	LA-DEQ	6400	10185203
2-Naphthylamine	LA-DEQ	6430	10185203
2-Nitroaniline	LA-DEQ	6460	10185203
2-Nitrophenol	LA-DEQ	6490	10185203
2-Picoline (2-Methylpyridine)	LA-DEQ	5050	10185203
3,3'-Dichlorobenzidine	LA-DEQ	5945	10185203
3,3'-Dimethylbenzidine	LA-DEQ	6120	10185203
3-Methylcholanthrene	LA-DEQ	6355	10185203
3-Methylphenol (m-Cresol)	LA-DEQ	6405	10185203
3-Nitroaniline	LA-DEQ	6465	10185203
4,4'-Methylenebis(2-chloroaniline)	LA-DEQ	6365	10185203
4-Aminobiphenyl	LA-DEQ	5540	10185203
4-Bromophenyl phenyl ether (BDE-3)	LA-DEQ	5660	10185203
4-Chloro-3-methylphenol	LA-DEQ	5700	10185203
4-Chloroaniline	LA-DEQ	5745	10185203
4-Chlorophenyl phenylether	LA-DEQ	5825	10185203
4-Dimethyl aminoazobenzene	LA-DEQ	6105	10185203
4-Methylphenol (p-Cresol)	LA-DEQ	6410	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704245-19-16

Environmental Science Corp. dba: Pace Analytical National Center for Testing & Innovation

Expiration Date: 10/31/2020

12065 Lebanon Road
Mount Juliet, TN 37122-2508

Issue Date: 11/1/2019

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Matrix: ***Solid & Chemical Materials***

4-Nitroaniline	LA-DEQ	6470	10185203
4-Nitrophenol	LA-DEQ	6500	10185203
4-Nitroquinoline-1-oxide	LA-DEQ	6510	10185203
5-Nitro-o-toluidine	LA-DEQ	6570	10185203
7,12-Dimethylbenz(a) anthracene	LA-DEQ	6115	10185203
a-a-Dimethylphenethylamine	LA-DEQ	6125	10185203
Acenaphthene	LA-DEQ	5500	10185203
Acenaphthylene	LA-DEQ	5505	10185203
Acetophenone	LA-DEQ	5510	10185203
Aniline	LA-DEQ	5545	10185203
Anthracene	LA-DEQ	5555	10185203
Aramite	LA-DEQ	5560	10185203
Atrazine	LA-DEQ	7065	10185203
Benzenethiol (Thiophenol)	LA-DEQ	6750	10185203
Benzidine	LA-DEQ	5595	10185203
Benzo(a)anthracene	LA-DEQ	5575	10185203
Benzo(a)pyrene	LA-DEQ	5580	10185203
Benzo(b)fluoranthene	LA-DEQ	5585	10185203
Benzo(g,h,i)perylene	LA-DEQ	5590	10185203
Benzo(k)fluoranthene	LA-DEQ	5600	10185203
Benzoic acid	LA-DEQ	5610	10185203
Benzyl alcohol	LA-DEQ	5630	10185203
Biphenyl	LA-DEQ	5640	10185203
bis(2-Chloroethoxy)methane	LA-DEQ	5760	10185203
bis(2-Chloroethyl) ether	LA-DEQ	5765	10185203
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	LA-DEQ	6065	10185203
Butyl benzyl phthalate	LA-DEQ	5670	10185203
Caprolactam	LA-DEQ	7180	10185203
Carbazole	LA-DEQ	5680	10185203
Chlorobenzilate	LA-DEQ	7260	10185203

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Matrix: ***Solid & Chemical Materials***

Chrysene	LA-DEQ	5855	10185203
Diallate	LA-DEQ	7405	10185203
Dibenz(a,h) anthracene	LA-DEQ	5895	10185203
Dibenz(a,j) acridine	LA-DEQ	5900	10185203
Dibenzo(a,e) pyrene	LA-DEQ	5890	10185203
Dibenzofuran	LA-DEQ	5905	10185203
Diethyl phthalate	LA-DEQ	6070	10185203
Dimethoate	LA-DEQ	7475	10185203
Dimethyl phthalate	LA-DEQ	6135	10185203
Di-n-butyl phthalate	LA-DEQ	5925	10185203
Di-n-octyl phthalate	LA-DEQ	6200	10185203
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	LA-DEQ	8620	10185203
Diphenylamine	LA-DEQ	6205	10185203
Disulfoton	LA-DEQ	8625	10185203
Ethyl methanesulfonate	LA-DEQ	6260	10185203
Famphur	LA-DEQ	7580	10185203
Fluoranthene	LA-DEQ	6265	10185203
Fluorene	LA-DEQ	6270	10185203
Hexachlorobenzene	LA-DEQ	6275	10185203
Hexachlorobutadiene	LA-DEQ	4835	10185203
Hexachlorocyclopentadiene	LA-DEQ	6285	10185203
Hexachloroethane	LA-DEQ	4840	10185203
Hexachlorophene	LA-DEQ	6290	10185203
Hexachloropropene	LA-DEQ	6295	10185203
Indeno(1,2,3-cd) pyrene	LA-DEQ	6315	10185203
Isodrin	LA-DEQ	7725	10185203
Isophorone	LA-DEQ	6320	10185203
Isosafrole	LA-DEQ	6325	10185203
Kepone	LA-DEQ	7740	10185203
Methapyrilene	LA-DEQ	6345	10185203

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Matrix: ***Solid & Chemical Materials***

Methyl methanesulfonate	LA-DEQ	6375	10185203
Methyl parathion (Parathion, methyl)	LA-DEQ	7825	10185203
Methylphenols, total	LA-DEQ	10313	10185203
Naphthalene	LA-DEQ	5005	10185203
Nitrobenzene	LA-DEQ	5015	10185203
n-Nitrosodiethylamine	LA-DEQ	6525	10185203
n-Nitrosodimethylamine	LA-DEQ	6530	10185203
n-Nitrosodi-n-butylamine	LA-DEQ	5025	10185203
n-Nitrosodi-n-propylamine	LA-DEQ	6545	10185203
n-Nitrosodiphenylamine	LA-DEQ	6535	10185203
n-Nitrosomethylethylamine	LA-DEQ	6550	10185203
n-Nitrosomorpholine	LA-DEQ	6555	10185203
n-Nitrosopiperidine	LA-DEQ	6560	10185203
n-Nitrosopyrrolidine	LA-DEQ	6565	10185203
o,o,o-Triethyl phosphorothioate	LA-DEQ	8290	10185203
Parathion, ethyl	LA-DEQ	7955	10185203
Pentachlorobenzene	LA-DEQ	6590	10185203
Pentachloronitrobenzene (PCNB)	LA-DEQ	6600	10185203
Pentachlorophenol	LA-DEQ	6605	10185203
Phenacetin	LA-DEQ	6610	10185203
Phenanthrene	LA-DEQ	6615	10185203
Phenol	LA-DEQ	6625	10185203
Phorate	LA-DEQ	7985	10185203
Phthalic anhydride	LA-DEQ	6640	10185203
Pronamide (Kerb)	LA-DEQ	6650	10185203
Pyrene	LA-DEQ	6665	10185203
Pyridine	LA-DEQ	5095	10185203
Quinoline	LA-DEQ	6670	10185203
Safrole	LA-DEQ	6685	10185203
Sulfotepp	LA-DEQ	8155	10185203

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Matrix: ***Solid & Chemical Materials***

Thionazin (Zinophos)	LA-DEQ	8235	10185203
tris-(2,3-Dibromopropyl) phosphate (tris-BP)	LA-DEQ	8310	10185203

Method EPA 8310

Analyte	AB	Analyte ID	Method ID
Acenaphthene	LA-DEQ	5500	10187607
Acenaphthylene	LA-DEQ	5505	10187607
Anthracene	LA-DEQ	5555	10187607
Benzo(a)anthracene	LA-DEQ	5575	10187607
Benzo(a)pyrene	LA-DEQ	5580	10187607
Benzo(b)fluoranthene	LA-DEQ	5585	10187607
Benzo(g,h,i)perylene	LA-DEQ	5590	10187607
Benzo(k)fluoranthene	LA-DEQ	5600	10187607
Chrysene	LA-DEQ	5855	10187607
Dibenz(a,h) anthracene	LA-DEQ	5895	10187607
Fluoranthene	LA-DEQ	6265	10187607
Fluorene	LA-DEQ	6270	10187607
Indeno(1,2,3-cd) pyrene	LA-DEQ	6315	10187607
Naphthalene	LA-DEQ	5005	10187607
Phenanthrene	LA-DEQ	6615	10187607
Pyrene	LA-DEQ	6665	10187607

Method EPA 8330

Analyte	AB	Analyte ID	Method ID
1,3,5-Trinitrobenzene (1,3,5-TNB)	LA-DEQ	6885	10189807
1,3-Dinitrobenzene (1,3-DNB)	LA-DEQ	6160	10189807
2,4,6-Trinitrotoluene (2,4,6-TNT)	LA-DEQ	9651	10189807
2,4-Dinitrotoluene (2,4-DNT)	LA-DEQ	6185	10189807
2,6-Dinitrotoluene (2,6-DNT)	LA-DEQ	6190	10189807
2-Amino-4,6-dinitrotoluene (2-am-dnt)	LA-DEQ	9303	10189807
2-Nitrotoluene	LA-DEQ	9507	10189807
3-Nitrotoluene	LA-DEQ	9510	10189807
4-Amino-2,6-dinitrotoluene (4-am-dnt)	LA-DEQ	9306	10189807

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Matrix: ***Solid & Chemical Materials***

4-Nitrotoluene	LA-DEQ	9513	10189807
Methyl-2,4,6-trinitrophenylnitramine (tetryl)	LA-DEQ	6415	10189807
Nitrobenzene	LA-DEQ	5015	10189807
Nitroglycerin	LA-DEQ	6485	10189807
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	LA-DEQ	9522	10189807
Pentaerythritoltetranitrate (PETN)	LA-DEQ	9558	10189807
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	LA-DEQ	9432	10189807

Method EPA 9012

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	LA-DEQ	1510	10193405
Total cyanide	LA-DEQ	1645	10193405

Method EPA 9023

Analyte	**AB**	**Analyte ID**	**Method ID**
Extractable organics halides (EOX)	LA-DEQ	1720	10195003

Method EPA 9034

Analyte	**AB**	**Analyte ID**	**Method ID**
Sulfide	LA-DEQ	2005	10196006

Method EPA 9045

Analyte	**AB**	**Analyte ID**	**Method ID**
pH	LA-DEQ	1900	10197805

Method EPA 9050

Analyte	**AB**	**Analyte ID**	**Method ID**
Conductivity	LA-DEQ	1610	10198808

Method EPA 9056

Analyte	**AB**	**Analyte ID**	**Method ID**
Bromide	LA-DEQ	1540	10199209
Chloride	LA-DEQ	1575	10199209
Fluoride	LA-DEQ	1730	10199209
Nitrate as N	LA-DEQ	1810	10199209
Nitrate-nitrite	LA-DEQ	1820	10199209
Nitrite as N	LA-DEQ	1840	10199209

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Matrix: ***Solid & Chemical Materials***

Orthophosphate as P	LA-DEQ	1870	10199209
Sulfate	LA-DEQ	2000	10199209

Method EPA 906.0

Analyte	**AB**	**Analyte ID**	**Method ID**
Tritium	LA-DEQ	3030	10310200

Method EPA 9066

Analyte	**AB**	**Analyte ID**	**Method ID**
Total phenolics	LA-DEQ	1905	10200609

Method EPA 9071

Analyte	**AB**	**Analyte ID**	**Method ID**
n-Hexane Extractable Material (HEM) (O&G)	LA-DEQ	1803	10201204
Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	LA-DEQ	10220	10201204

Method EPA 9076

Analyte	**AB**	**Analyte ID**	**Method ID**
Total chlorine	LA-DEQ	1585	10202401

Method EPA 9095

Analyte	**AB**	**Analyte ID**	**Method ID**
Paint Filter Liquids Test	LA-DEQ	10312	10204009

Method EPA 9310

Analyte	**AB**	**Analyte ID**	**Method ID**
Gross-alpha	LA-DEQ	2830	10310802
Gross-beta	LA-DEQ	2840	10310802

Method HASL-300 Ga-01-R

Analyte	**AB**	**Analyte ID**	**Method ID**
Gross gamma	LA-DEQ	2855	90000207

Method HASL-300 U-02-RC

Analyte	**AB**	**Analyte ID**	**Method ID**
Uranium	LA-DEQ	3035	90011204

Method SM 2540 G

Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-total (total solids)	LA-DEQ	1950	20005203

Texas Commission on Environmental Quality

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Matrix: ***Solid & Chemical Materials***

Method TCEQ 1005

Analyte	AB	Analyte ID	Method ID
Total Petroleum Hydrocarbons (TPH)	LA-DEQ	2050	90019208

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

September 16, 2020

Revised Report

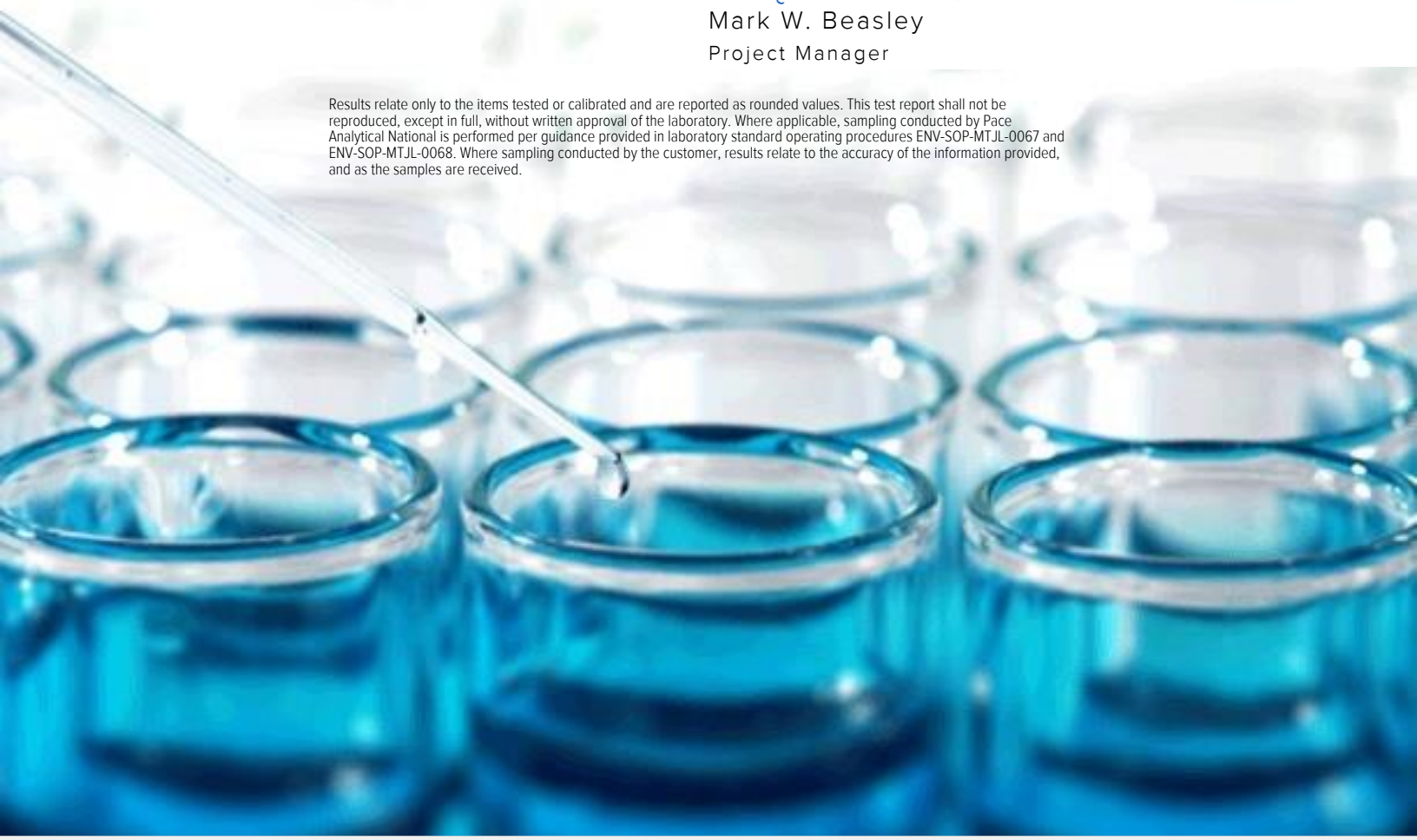
UPRR - Golder Associates

Sample Delivery Group:	L1245663
Samples Received:	08/01/2020
Project Number:	1620
Description:	Houston TX-Wood Preserving Works
Site:	HWPW - MONITORING
Report To:	Eric Matzner
	2201 Double Creek Dr., Ste 4004
	Round Rock, TX 78664

Entire Report Reviewed By:

Mark W. Beasley
Project Manager

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



WG-1620SG2420200730 L1245663-01 GW

Collected by: Tim McSpaddew | Collected date/time: 07/30/20 09:00 | Received date/time: 08/01/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1522083	1	08/08/20 19:36	08/08/20 19:36	JHH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1520176	1.03	08/04/20 16:09	08/05/20 04:49	AO	Mt. Juliet, TN

WG-1620SG2620200730 L1245663-02 GW

Collected by: Tim McSpaddew | Collected date/time: 07/30/20 09:30 | Received date/time: 08/01/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1522083	1	08/08/20 19:57	08/08/20 19:57	JHH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1520176	1.35	08/04/20 16:09	08/05/20 05:10	AO	Mt. Juliet, TN

WG-1620SG13R20200730 L1245663-03 GW

Collected by: Tim McSpaddew | Collected date/time: 07/30/20 10:00 | Received date/time: 08/01/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1522083	1	08/08/20 22:48	08/08/20 22:48	JHH	Mt. Juliet, TN

WG-1620SG1320200730 L1245663-04 GW

Collected by: Tim McSpaddew | Collected date/time: 07/30/20 10:30 | Received date/time: 08/01/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1522083	1	08/08/20 23:09	08/08/20 23:09	JHH	Mt. Juliet, TN

WG-1620COH20200730 L1245663-05 GW

Collected by: Tim McSpaddew | Collected date/time: 07/30/20 10:40 | Received date/time: 08/01/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1519232	1	08/02/20 20:26	08/03/20 13:58	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1521062	1	08/07/20 13:53	08/07/20 13:53	GB	Mt. Juliet, TN
Wet Chemistry by Method 4500P E-2011	WG1518767	1	08/01/20 13:07	08/01/20 13:07	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1518747	1	08/01/20 12:09	08/01/20 12:09	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1519256	1	08/07/20 18:23	08/07/20 21:10	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1522083	1	08/08/20 23:30	08/08/20 23:30	JHH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1520176	1.06	08/04/20 16:09	08/05/20 05:31	AO	Mt. Juliet, TN

WG-1620SG0920200730 L1245663-06 GW

Collected by: Tim McSpaddew | Collected date/time: 07/30/20 11:30 | Received date/time: 08/01/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1519232	1	08/02/20 20:26	08/03/20 13:58	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1521062	1	08/07/20 14:00	08/07/20 14:00	GB	Mt. Juliet, TN
Wet Chemistry by Method 4500P E-2011	WG1518767	1	08/01/20 13:08	08/01/20 13:08	JIC	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1522083	1	08/08/20 23:51	08/08/20 23:51	JHH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1520176	1.2	08/04/20 16:09	08/05/20 05:52	AO	Mt. Juliet, TN

WG-1620SG0720200730 L1245663-07 GW

Collected by: Tim McSpaddew | Collected date/time: 07/30/20 11:40 | Received date/time: 08/01/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1523958	1	08/11/20 15:04	08/11/20 15:04	JAH	Mt. Juliet, TN

WG-1620SG0620200730 L1245663-08 GW

Collected by: Tim McSpaddew | Collected date/time: 07/30/20 12:25 | Received date/time: 08/01/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG1518747	1	08/01/20 13:02	08/01/20 13:02	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1518747	5	08/01/20 18:28	08/01/20 18:28	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1523958	1	08/11/20 15:25	08/11/20 15:25	JAH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1520176	1.18	08/04/20 16:09	08/05/20 06:13	AO	Mt. Juliet, TN

WG-1620SG0520200730 L1245663-09 GW

Collected by: Tim McSpaddew | Collected date/time: 07/30/20 13:00 | Received date/time: 08/01/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1519232	1	08/02/20 20:26	08/03/20 13:58	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1521062	1	08/07/20 14:07	08/07/20 14:07	GB	Mt. Juliet, TN
Wet Chemistry by Method 4500P E-2011	WG1518767	1	08/01/20 12:58	08/01/20 12:58	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1518747	1	08/01/20 13:13	08/01/20 13:13	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1518747	5	08/01/20 18:39	08/01/20 18:39	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1519256	1	08/07/20 18:23	08/07/20 21:14	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1522083	2	08/09/20 03:22	08/09/20 03:22	JHH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1520177	1.33	08/06/20 07:23	08/07/20 00:14	AO	Mt. Juliet, TN

WG-1620SG0420200730 L1245663-10 GW

Collected by: Tim McSpaddew | Collected date/time: 07/30/20 13:40 | Received date/time: 08/01/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1519232	1	08/02/20 20:26	08/03/20 13:58	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1521062	1	08/07/20 14:15	08/07/20 14:15	GB	Mt. Juliet, TN
Wet Chemistry by Method 4500P E-2011	WG1518767	1	08/01/20 13:09	08/01/20 13:09	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1518747	1	08/01/20 13:23	08/01/20 13:23	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1518747	5	08/01/20 18:50	08/01/20 18:50	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1519256	1	08/07/20 18:23	08/07/20 21:17	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1522083	1	08/09/20 00:54	08/09/20 00:54	JHH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1520177	1.18	08/06/20 07:23	08/06/20 20:18	AO	Mt. Juliet, TN

WG-1620SG0220200730 L1245663-11 GW

Collected by: Tim McSpaddew | Collected date/time: 07/30/20 14:30 | Received date/time: 08/01/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1519232	1	08/02/20 20:26	08/03/20 13:58	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1521062	1	08/07/20 14:23	08/07/20 14:23	GB	Mt. Juliet, TN
Wet Chemistry by Method 4500P E-2011	WG1518767	1	08/01/20 13:09	08/01/20 13:09	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1518747	1	08/01/20 13:34	08/01/20 13:34	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1518747	5	08/01/20 19:23	08/01/20 19:23	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1519256	1	08/07/20 18:23	08/07/20 21:20	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1522083	1	08/09/20 01:16	08/09/20 01:16	JHH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1520177	1	08/06/20 07:23	08/07/20 00:36	AO	Mt. Juliet, TN

WG-1620SG0120200730 L1245663-12 GW

Collected by: Tim McSpaddew | Collected date/time: 07/30/20 14:50 | Received date/time: 08/01/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1519232	1	08/02/20 20:26	08/03/20 13:58	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1521062	1	08/07/20 14:38	08/07/20 14:38	GB	Mt. Juliet, TN
Wet Chemistry by Method 4500P E-2011	WG1518767	1	08/01/20 13:09	08/01/20 13:09	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1518747	1	08/01/20 13:45	08/01/20 13:45	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1518747	5	08/01/20 19:34	08/01/20 19:34	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1519256	1	08/07/20 18:23	08/07/20 21:23	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1522083	1	08/09/20 01:37	08/09/20 01:37	JHH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270 C	WG1520177	1	08/06/20 07:23	08/06/20 20:40	AO	Mt. Juliet, TN

WG-1620SG0320200730 L1245663-13 GW

Collected by: Tim McSpaddew | Collected date/time: 07/30/20 15:30 | Received date/time: 08/01/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1520008	1	08/04/20 16:32	08/04/20 17:00	MMF	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1518747	1	08/01/20 13:56	08/01/20 13:56	ELN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1522083	1	08/09/20 01:58	08/09/20 01:58	JHH	Mt. Juliet, TN

WG-1620MW35A20200730 L1245663-14 GW

Collected by: Tim McSpaddew | Collected date/time: 07/30/20 16:00 | Received date/time: 08/01/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG1519232	1	08/02/20 20:26	08/03/20 13:58	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG1521062	1	08/07/20 14:46	08/07/20 14:46	GB	Mt. Juliet, TN
Wet Chemistry by Method 4500P E-2011	WG1518767	1	08/01/20 13:10	08/01/20 13:10	JIC	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1518747	1	08/01/20 14:29	08/01/20 14:29	ELN	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG1519605	10	08/03/20 22:11	08/03/20 22:11	ELN	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG1519256	1	08/07/20 18:23	08/07/20 21:27	JPD	Mt. Juliet, TN

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

Mark W. Beasley
Project Manager

Report Revision History

Level II Report - Version 1: 08/12/20 12:18

This data package consists of this signature page, the laboratory review checklist, and the following reportable data as applicable:

R1 - Field chain-of-custody documentation;

R2 - Sample identification cross-reference;

R3 - Test reports (analytical data sheets) for each environmental sample that includes:

a. Items consistent with NELAC Chapter 5,

b. dilution factors,

c. preparation methods,

d. cleanup methods, and

e. if required for the project, tentatively identified compounds (TICs).

R4 - Surrogate recovery data including:

a. Calculated recovery (%R), and

b. The laboratory's surrogate QC limits.

R5 - Test reports/summary forms for blank samples;

R6 - Test reports/summary forms for laboratory control samples (LCSs) including:

a. LCS spiking amounts,

b. Calculated %R for each analyte, and

c. The laboratory's LCS QC limits.

R7 - Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a. Samples associated with the MS/MSD clearly identified,

b. MS/MSD spiking amounts,

c. Concentration of each MS/MSD analyte measured in the parent and spiked samples,

d. Calculated %Rs and relative percent differences (RPDs), and

e. The laboratory's MS/MSD QC limits

R8 - Laboratory analytical duplicate (if applicable) recovery and precision:

a. The amount of analyte measured in the duplicate,

b. The calculated RPD, and

c. The laboratory's QC limits for analytical duplicates.

R9 - List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.

R10 - Other problems or anomalies.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Mark W. Beasley
Project Manager

Laboratory Review Checklist: Reportable Data

Laboratory Name: Pace Analytical National	LRC Date: 09/16/2020 13:58
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: L1245663-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13 and 14
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1518767, WG1518747, WG1519605, WG1519232, WG1520176, WG1520008, WG1520177, WG1521062, WG1519256, WG1522083 and WG1523958

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?			X		
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?		X			1
		Other than those results < MQL, were all other raw values bracketed by calibration standards?		X			2
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	X				
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TICs reported?			X		
R4	O	Surrogate recovery data					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?		X			3
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			4
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?		X			5
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Supporting Data

Laboratory Name: Pace Analytical National	LRC Date: 09/16/2020 13:58
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: L1245663-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13 and 14
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1518767, WG1518747, WG1519605, WG1519232, WG1520176, WG1520008, WG1520177, WG1521062, WG1519256, WG1522083 and WG1523958

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	Initial calibration (ICAL)					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration blank (CCB):					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	Mass spectral tuning					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	Internal standards (IS)					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	Raw data (NELAC Section 5.5.10)					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	Dual column confirmation					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	Tentatively identified compounds (TICs)					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	Interference Check Sample (ICS) results					
		Were percent recoveries within method QC limits?	X				
S9	I	Serial dilutions, post digestion spikes, and method of standard additions					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	Method detection limit (MDL) studies					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	Proficiency test reports					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	Standards documentation					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	Compound/analyte identification procedures					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	Demonstration of analyst competency (DOC)					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	Verification/validation documentation for methods (NELAC Chapter 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	Laboratory standard operating procedures (SOPs)					
		Are laboratory SOPs current and on file for each method performed	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Exception Reports

Laboratory Name: Pace Analytical National	LRC Date: 09/16/2020 13:58
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: L1245663-01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13 and 14
Reviewer Name: Mark W. Beasley	Prep Batch Number(s): WG1518767, WG1518747, WG1519605, WG1519232, WG1520176, WG1520008, WG1520177, WG1521062, WG1519256, WG1522083 and WG1523958

ER #[1]	Description
1	9056A WG1518747 L1245663-05, 08 and 09: Prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values. 4500P E-2011 WG1518767 L1245663-05 and 06: Prepared and/or analyzed past holding time as defined in the method. Concentrations should be considered minimum values.
2	9056A WG1518747 R3555641-3: The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL). 9056A WG1519605 R3556044-3, 4 and 5: The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
3	8270 C WG1520176 2,4-Dimethylphenol: Relative Percent Difference is outside of established control limits.
4	9056A WG1518747 Chloride: Percent Recovery is outside of established control limits. 9056A WG1519605 Chloride: Percent Recovery is outside of established control limits.
5	2540 C-2011 WG1519232 Dissolved Solids: Relative Percent Difference is outside of established control limits.

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	0.00100	1	08/08/2020 19:36	WG1522083
Chlorobenzene	U		0.000116	0.00100	0.00100	1	08/08/2020 19:36	WG1522083
1,2-Dichloroethane	U		0.0000819	0.00100	0.00100	1	08/08/2020 19:36	WG1522083
Ethylbenzene	U		0.000137	0.00100	0.00100	1	08/08/2020 19:36	WG1522083
Methylene Chloride	U		0.000430	0.00500	0.00500	1	08/08/2020 19:36	WG1522083
Toluene	U		0.000278	0.00100	0.00100	1	08/08/2020 19:36	WG1522083
Vinyl chloride	U		0.000234	0.00100	0.00100	1	08/08/2020 19:36	WG1522083
Xylenes, Total	U		0.000174	0.00300	0.00300	1	08/08/2020 19:36	WG1522083
(S) Toluene-d8	*103*				*80.0-120*		*08/08/2020 19:36*	WG1522083
(S) 4-Bromofluorobenzene	*95.4*				*77.0-126*		*08/08/2020 19:36*	WG1522083
(S) 1,2-Dichloroethane-d4	*110*				*70.0-130*		*08/08/2020 19:36*	WG1522083

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.0000913	0.00100	0.00103	1.03	08/05/2020 04:49	WG1520176
Acenaphthylene	U		0.0000949	0.00100	0.00103	1.03	08/05/2020 04:49	WG1520176
Anthracene	U		0.0000828	0.00100	0.00103	1.03	08/05/2020 04:49	WG1520176
Benzo(a)anthracene	U		0.000205	0.00100	0.00103	1.03	08/05/2020 04:49	WG1520176
Benzo(a)pyrene	U		0.0000392	0.000200	0.000206	1.03	08/05/2020 04:49	WG1520176
Bis(2-chlorethoxy)methane	U		0.000119	0.0100	0.0103	1.03	08/05/2020 04:49	WG1520176
2-Chloronaphthalene	U		0.0000667	0.00100	0.00103	1.03	08/05/2020 04:49	WG1520176
Chrysene	U		0.000134	0.00100	0.00103	1.03	08/05/2020 04:49	WG1520176
Dibenzofuran	U		0.0000999	0.0100	0.0103	1.03	08/05/2020 04:49	WG1520176
2,4-Dinitrotoluene	U		0.000101	0.0100	0.0103	1.03	08/05/2020 04:49	WG1520176
2,6-Dinitrotoluene	U		0.000258	0.0100	0.0103	1.03	08/05/2020 04:49	WG1520176
1,2-Diphenylhydrazine	U		0.000108	0.0100	0.0103	1.03	08/05/2020 04:49	WG1520176
Fluoranthene	U		0.000105	0.00100	0.00103	1.03	08/05/2020 04:49	WG1520176
Fluorene	U		0.0000869	0.00100	0.00103	1.03	08/05/2020 04:49	WG1520176
2-Methylnaphthalene	0.000176	B J	0.000121	0.00100	0.00103	1.03	08/05/2020 04:49	WG1520176
Naphthalene	0.000197	B J	0.000164	0.00100	0.00103	1.03	08/05/2020 04:49	WG1520176
Nitrobenzene	U		0.000306	0.0100	0.0103	1.03	08/05/2020 04:49	WG1520176
n-Nitrosodiphenylamine	U		0.00244	0.0100	0.0103	1.03	08/05/2020 04:49	WG1520176
Phenanthrene	U		0.000115	0.00100	0.00103	1.03	08/05/2020 04:49	WG1520176
Bis(2-ethylhexyl)phthalate	0.00131	J	0.000922	0.00300	0.00309	1.03	08/05/2020 04:49	WG1520176
Di-n-butyl phthalate	U		0.000467	0.00300	0.00309	1.03	08/05/2020 04:49	WG1520176
Pyrene	U		0.000110	0.00100	0.00103	1.03	08/05/2020 04:49	WG1520176
2,4-Dimethylphenol	U	J3	0.0000655	0.0100	0.0103	1.03	08/05/2020 04:49	WG1520176
4,6-Dinitro-2-methylphenol	U		0.00115	0.0100	0.0103	1.03	08/05/2020 04:49	WG1520176
4-Nitrophenol	U		0.000147	0.0100	0.0103	1.03	08/05/2020 04:49	WG1520176
Pentachlorophenol	U		0.000322	0.0100	0.0103	1.03	08/05/2020 04:49	WG1520176
Phenol	U		0.00446	0.0100	0.0103	1.03	08/05/2020 04:49	WG1520176
(S) 2-Fluorophenol	*26.0*				*10.0-120*		*08/05/2020 04:49*	WG1520176
(S) Phenol-d5	*18.1*				*10.0-120*		*08/05/2020 04:49*	WG1520176
(S) Nitrobenzene-d5	*38.5*				*10.0-127*		*08/05/2020 04:49*	WG1520176
(S) 2-Fluorobiphenyl	*56.2*				*10.0-130*		*08/05/2020 04:49*	WG1520176
(S) 2,4,6-Tribromophenol	*67.5*				*10.0-155*		*08/05/2020 04:49*	WG1520176
(S) p-Terphenyl-d14	*85.8*				*10.0-128*		*08/05/2020 04:49*	WG1520176

Sample Narrative:

L1245663-01 WG1520176: Dilution due to sample volume.

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

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	0.00100	1	08/08/2020 19:57	WG1522083
Chlorobenzene	U		0.000116	0.00100	0.00100	1	08/08/2020 19:57	WG1522083
1,2-Dichloroethane	U		0.0000819	0.00100	0.00100	1	08/08/2020 19:57	WG1522083
Ethylbenzene	U		0.000137	0.00100	0.00100	1	08/08/2020 19:57	WG1522083
Methylene Chloride	U		0.000430	0.00500	0.00500	1	08/08/2020 19:57	WG1522083
Toluene	0.000284	J	0.000278	0.00100	0.00100	1	08/08/2020 19:57	WG1522083
Vinyl chloride	U		0.000234	0.00100	0.00100	1	08/08/2020 19:57	WG1522083
Xylenes, Total	U		0.000174	0.00300	0.00300	1	08/08/2020 19:57	WG1522083
(S) Toluene-d8	*105*				*80.0-120*		*08/08/2020 19:57*	WG1522083
(S) 4-Bromofluorobenzene	*92.9*				*77.0-126*		*08/08/2020 19:57*	WG1522083
(S) 1,2-Dichloroethane-d4	*105*				*70.0-130*		*08/08/2020 19:57*	WG1522083

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000120	0.00100	0.00135	1.35	08/05/2020 05:10	WG1520176
Acenaphthylene	U		0.000124	0.00100	0.00135	1.35	08/05/2020 05:10	WG1520176
Anthracene	U		0.000109	0.00100	0.00135	1.35	08/05/2020 05:10	WG1520176
Benzo(a)anthracene	U		0.000269	0.00100	0.00135	1.35	08/05/2020 05:10	WG1520176
Benzo(a)pyrene	U		0.0000514	0.000200	0.000270	1.35	08/05/2020 05:10	WG1520176
Bis(2-chlorethoxy)methane	U		0.000157	0.0100	0.0135	1.35	08/05/2020 05:10	WG1520176
2-Chloronaphthalene	U		0.0000875	0.00100	0.00135	1.35	08/05/2020 05:10	WG1520176
Chrysene	U		0.000176	0.00100	0.00135	1.35	08/05/2020 05:10	WG1520176
Dibenzofuran	U		0.000131	0.0100	0.0135	1.35	08/05/2020 05:10	WG1520176
2,4-Dinitrotoluene	U		0.000133	0.0100	0.0135	1.35	08/05/2020 05:10	WG1520176
2,6-Dinitrotoluene	U		0.000338	0.0100	0.0135	1.35	08/05/2020 05:10	WG1520176
1,2-Diphenylhydrazine	U		0.000142	0.0100	0.0135	1.35	08/05/2020 05:10	WG1520176
Fluoranthene	U		0.000138	0.00100	0.00135	1.35	08/05/2020 05:10	WG1520176
Fluorene	U		0.000114	0.00100	0.00135	1.35	08/05/2020 05:10	WG1520176
2-Methylnaphthalene	U		0.000158	0.00100	0.00135	1.35	08/05/2020 05:10	WG1520176
Naphthalene	U		0.000215	0.00100	0.00135	1.35	08/05/2020 05:10	WG1520176
Nitrobenzene	U		0.000401	0.0100	0.0135	1.35	08/05/2020 05:10	WG1520176
n-Nitrosodiphenylamine	U		0.00320	0.0100	0.0135	1.35	08/05/2020 05:10	WG1520176
Phenanthrene	U		0.000151	0.00100	0.00135	1.35	08/05/2020 05:10	WG1520176
Bis(2-ethylhexyl)phthalate	0.0161		0.00121	0.00300	0.00405	1.35	08/05/2020 05:10	WG1520176
Di-n-butyl phthalate	0.000719	J	0.000612	0.00300	0.00405	1.35	08/05/2020 05:10	WG1520176
Pyrene	U		0.000144	0.00100	0.00135	1.35	08/05/2020 05:10	WG1520176
2,4-Dimethylphenol	U	J3	0.0000859	0.0100	0.0135	1.35	08/05/2020 05:10	WG1520176
4,6-Dinitro-2-methylphenol	U		0.00151	0.0100	0.0135	1.35	08/05/2020 05:10	WG1520176
4-Nitrophenol	U		0.000193	0.0100	0.0135	1.35	08/05/2020 05:10	WG1520176
Pentachlorophenol	U		0.000423	0.0100	0.0135	1.35	08/05/2020 05:10	WG1520176
Phenol	U		0.00585	0.0100	0.0135	1.35	08/05/2020 05:10	WG1520176
(S) 2-Fluorophenol	*25.1*				*10.0-120*		*08/05/2020 05:10*	WG1520176
(S) Phenol-d5	*16.5*				*10.0-120*		*08/05/2020 05:10*	WG1520176
(S) Nitrobenzene-d5	*36.3*				*10.0-127*		*08/05/2020 05:10*	WG1520176
(S) 2-Fluorobiphenyl	*50.3*				*10.0-130*		*08/05/2020 05:10*	WG1520176
(S) 2,4,6-Tribromophenol	*61.5*				*10.0-155*		*08/05/2020 05:10*	WG1520176
(S) p-Terphenyl-d14	*81.5*				*10.0-128*		*08/05/2020 05:10*	WG1520176

Sample Narrative:

L1245663-02 WG1520176: Dilution due to sample volume.

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

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	0.00100	1	08/08/2020 22:48	WG1522083
Chlorobenzene	U		0.000116	0.00100	0.00100	1	08/08/2020 22:48	WG1522083
1,2-Dichloroethane	U		0.0000819	0.00100	0.00100	1	08/08/2020 22:48	WG1522083
Ethylbenzene	U		0.000137	0.00100	0.00100	1	08/08/2020 22:48	WG1522083
Methylene Chloride	U		0.000430	0.00500	0.00500	1	08/08/2020 22:48	WG1522083
Toluene	0.000848	J	0.000278	0.00100	0.00100	1	08/08/2020 22:48	WG1522083
Vinyl chloride	U		0.000234	0.00100	0.00100	1	08/08/2020 22:48	WG1522083
Xylenes, Total	U		0.000174	0.00300	0.00300	1	08/08/2020 22:48	WG1522083
(S) Toluene-d8	*104*				*80.0-120*		*08/08/2020 22:48*	WG1522083
(S) 4-Bromofluorobenzene	*97.6*				*77.0-126*		*08/08/2020 22:48*	WG1522083
(S) 1,2-Dichloroethane-d4	*105*				*70.0-130*		*08/08/2020 22:48*	WG1522083

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

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.0000941	0.00100	0.00100	1	08/08/2020 23:09	WG1522083
Chlorobenzene	U		0.000116	0.00100	0.00100	1	08/08/2020 23:09	WG1522083
1,2-Dichloroethane	U		0.0000819	0.00100	0.00100	1	08/08/2020 23:09	WG1522083
Ethylbenzene	U		0.000137	0.00100	0.00100	1	08/08/2020 23:09	WG1522083
Methylene Chloride	U		0.000430	0.00500	0.00500	1	08/08/2020 23:09	WG1522083
Toluene	0.000353	J	0.000278	0.00100	0.00100	1	08/08/2020 23:09	WG1522083
Vinyl chloride	U		0.000234	0.00100	0.00100	1	08/08/2020 23:09	WG1522083
Xylenes, Total	U		0.000174	0.00300	0.00300	1	08/08/2020 23:09	WG1522083
(S) Toluene-d8	*105*				*80.0-120*		*08/08/2020 23:09*	WG1522083
(S) 4-Bromofluorobenzene	*97.6*				*77.0-126*		*08/08/2020 23:09*	WG1522083
(S) 1,2-Dichloroethane-d4	*105*				*70.0-130*		*08/08/2020 23:09*	WG1522083

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Dissolved Solids	201		2.82	10.0	10.0	1	08/03/2020 13:58	WG1519232

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Alkalinity	98.8		8.45	20.0	20.0	1	08/07/2020 13:53	WG1521062
Alkalinity,Bicarbonate	98.8		8.45	20.0	20.0	1	08/07/2020 13:53	WG1521062
Alkalinity,Carbonate	U		8.45	20.0	20.0	1	08/07/2020 13:53	WG1521062

Sample Narrative:

L1245663-05 WG1521062: Endpoint pH 4.5 headspace

Wet Chemistry by Method 4500P E-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Phosphate,Ortho	U	T8	0.0140	0.0300	0.0300	1	08/01/2020 13:07	WG1518767

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Chloride	32.4		0.379	1.00	1.00	1	08/01/2020 12:09	WG1518747
Fluoride	0.206		0.0640	0.150	0.150	1	08/01/2020 12:09	WG1518747
Nitrate	0.417	T8	0.0480	0.100	0.100	1	08/01/2020 12:09	WG1518747
Nitrite	0.308	T8	0.0420	0.100	0.100	1	08/01/2020 12:09	WG1518747
Sulfate	34.6		0.594	5.00	5.00	1	08/01/2020 12:09	WG1518747

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Arsenic	U		0.000735	0.00200	0.00200	1	08/07/2020 21:10	WG1519256
Calcium	42.1		0.480	1.00	1.00	1	08/07/2020 21:10	WG1519256
Magnesium	3.07		0.465	1.00	1.00	1	08/07/2020 21:10	WG1519256
Potassium	4.50		0.534	2.00	2.00	1	08/07/2020 21:10	WG1519256
Sodium	22.9		0.630	2.00	2.00	1	08/07/2020 21:10	WG1519256

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

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.0000941	0.00100	0.00100	1	08/08/2020 23:30	WG1522083
Chlorobenzene	U		0.000116	0.00100	0.00100	1	08/08/2020 23:30	WG1522083
1,2-Dichloroethane	U		0.0000819	0.00100	0.00100	1	08/08/2020 23:30	WG1522083
Ethylbenzene	U		0.000137	0.00100	0.00100	1	08/08/2020 23:30	WG1522083
Methylene Chloride	0.00406	J	0.000430	0.00500	0.00500	1	08/08/2020 23:30	WG1522083
Toluene	U		0.000278	0.00100	0.00100	1	08/08/2020 23:30	WG1522083
Vinyl chloride	U		0.000234	0.00100	0.00100	1	08/08/2020 23:30	WG1522083
Xylenes, Total	U		0.000174	0.00300	0.00300	1	08/08/2020 23:30	WG1522083
(S) Toluene-d8	*103*				*80.0-120*		*08/08/2020 23:30*	WG1522083
(S) 4-Bromofluorobenzene	*94.4*				*77.0-126*		*08/08/2020 23:30*	WG1522083
(S) 1,2-Dichloroethane-d4	*106*				*70.0-130*		*08/08/2020 23:30*	WG1522083

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acenaphthene	U		0.0000939	0.00100	0.00106	1.06	08/05/2020 05:31	WG1520176
Acenaphthylene	U		0.0000976	0.00100	0.00106	1.06	08/05/2020 05:31	WG1520176
Anthracene	U		0.0000852	0.00100	0.00106	1.06	08/05/2020 05:31	WG1520176
Benzo(a)anthracene	U		0.000211	0.00100	0.00106	1.06	08/05/2020 05:31	WG1520176
Benzo(a)pyrene	U		0.0000404	0.000200	0.000212	1.06	08/05/2020 05:31	WG1520176
Bis(2-chlorethoxy)methane	U		0.000123	0.0100	0.0106	1.06	08/05/2020 05:31	WG1520176
2-Chloronaphthalene	U		0.0000687	0.00100	0.00106	1.06	08/05/2020 05:31	WG1520176
Chrysene	U		0.000138	0.00100	0.00106	1.06	08/05/2020 05:31	WG1520176
Dibenzofuran	U		0.000103	0.0100	0.0106	1.06	08/05/2020 05:31	WG1520176
2,4-Dinitrotoluene	U		0.000104	0.0100	0.0106	1.06	08/05/2020 05:31	WG1520176
2,6-Dinitrotoluene	U		0.000265	0.0100	0.0106	1.06	08/05/2020 05:31	WG1520176
1,2-Diphenylhydrazine	U		0.000111	0.0100	0.0106	1.06	08/05/2020 05:31	WG1520176
Fluoranthene	U		0.000108	0.00100	0.00106	1.06	08/05/2020 05:31	WG1520176
Fluorene	U		0.0000895	0.00100	0.00106	1.06	08/05/2020 05:31	WG1520176
2-Methylnaphthalene	U		0.000124	0.00100	0.00106	1.06	08/05/2020 05:31	WG1520176
Naphthalene	U		0.000169	0.00100	0.00106	1.06	08/05/2020 05:31	WG1520176
Nitrobenzene	U		0.000315	0.0100	0.0106	1.06	08/05/2020 05:31	WG1520176
n-Nitrosodiphenylamine	U		0.00251	0.0100	0.0106	1.06	08/05/2020 05:31	WG1520176
Phenanthrene	U		0.000119	0.00100	0.00106	1.06	08/05/2020 05:31	WG1520176
Bis(2-ethylhexyl)phthalate	U		0.000949	0.00300	0.00318	1.06	08/05/2020 05:31	WG1520176
Di-n-butyl phthalate	U		0.000480	0.00300	0.00318	1.06	08/05/2020 05:31	WG1520176
Pyrene	U		0.000113	0.00100	0.00106	1.06	08/05/2020 05:31	WG1520176
2,4-Dimethylphenol	U	J3	0.0000674	0.0100	0.0106	1.06	08/05/2020 05:31	WG1520176
4,6-Dinitro-2-methylphenol	U		0.00119	0.0100	0.0106	1.06	08/05/2020 05:31	WG1520176
4-Nitrophenol	U		0.000152	0.0100	0.0106	1.06	08/05/2020 05:31	WG1520176
Pentachlorophenol	U		0.000332	0.0100	0.0106	1.06	08/05/2020 05:31	WG1520176
Phenol	U		0.00459	0.0100	0.0106	1.06	08/05/2020 05:31	WG1520176
(S) 2-Fluorophenol	*28.8*				*10.0-120*		*08/05/2020 05:31*	WG1520176
(S) Phenol-d5	*19.0*				*10.0-120*		*08/05/2020 05:31*	WG1520176
(S) Nitrobenzene-d5	*39.3*				*10.0-127*		*08/05/2020 05:31*	WG1520176
(S) 2-Fluorobiphenyl	*52.7*				*10.0-130*		*08/05/2020 05:31*	WG1520176
(S) 2,4,6-Tribromophenol	*64.8*				*10.0-155*		*08/05/2020 05:31*	WG1520176
(S) p-Terphenyl-d14	*88.3*				*10.0-128*		*08/05/2020 05:31*	WG1520176

Sample Narrative:

L1245663-05 WG1520176: Dilution due to sample volume.

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Dissolved Solids	456		2.82	10.0	10.0	1	08/03/2020 13:58	WG1519232

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Alkalinity	364		8.45	20.0	20.0	1	08/07/2020 14:00	WG1521062
Alkalinity,Bicarbonate	364		8.45	20.0	20.0	1	08/07/2020 14:00	WG1521062
Alkalinity,Carbonate	U		8.45	20.0	20.0	1	08/07/2020 14:00	WG1521062

Sample Narrative:

L1245663-06 WG1521062: Endpoint pH 4.5 headspace

Wet Chemistry by Method 4500P E-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Phosphate,Ortho	0.0210	J T8	0.0140	0.0300	0.0300	1	08/01/2020 13:08	WG1518767

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

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.0000941	0.00100	0.00100	1	08/08/2020 23:51	WG1522083
Chlorobenzene	U		0.000116	0.00100	0.00100	1	08/08/2020 23:51	WG1522083
1,2-Dichloroethane	U		0.0000819	0.00100	0.00100	1	08/08/2020 23:51	WG1522083
Ethylbenzene	U		0.000137	0.00100	0.00100	1	08/08/2020 23:51	WG1522083
Methylene Chloride	U		0.000430	0.00500	0.00500	1	08/08/2020 23:51	WG1522083
Toluene	U		0.000278	0.00100	0.00100	1	08/08/2020 23:51	WG1522083
Vinyl chloride	U		0.000234	0.00100	0.00100	1	08/08/2020 23:51	WG1522083
Xylenes, Total	U		0.000174	0.00300	0.00300	1	08/08/2020 23:51	WG1522083
(S) Toluene-d8	*103*				*80.0-120*		*08/08/2020 23:51*	WG1522083
(S) 4-Bromofluorobenzene	*96.0*				*77.0-126*		*08/08/2020 23:51*	WG1522083
(S) 1,2-Dichloroethane-d4	*106*				*70.0-130*		*08/08/2020 23:51*	WG1522083

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acenaphthene	U		0.000106	0.00100	0.00120	1.2	08/05/2020 05:52	WG1520176
Acenaphthylene	U		0.000111	0.00100	0.00120	1.2	08/05/2020 05:52	WG1520176
Anthracene	U		0.0000965	0.00100	0.00120	1.2	08/05/2020 05:52	WG1520176
Benzo(a)anthracene	U		0.000239	0.00100	0.00120	1.2	08/05/2020 05:52	WG1520176
Benzo(a)pyrene	U		0.0000457	0.000200	0.000240	1.2	08/05/2020 05:52	WG1520176
Bis(2-chlorethoxy)methane	U		0.000139	0.0100	0.0120	1.2	08/05/2020 05:52	WG1520176
2-Chloronaphthalene	U		0.0000778	0.00100	0.00120	1.2	08/05/2020 05:52	WG1520176
Chrysene	U		0.000156	0.00100	0.00120	1.2	08/05/2020 05:52	WG1520176
Dibenzofuran	U		0.000116	0.0100	0.0120	1.2	08/05/2020 05:52	WG1520176
2,4-Dinitrotoluene	U		0.000118	0.0100	0.0120	1.2	08/05/2020 05:52	WG1520176
2,6-Dinitrotoluene	U		0.000300	0.0100	0.0120	1.2	08/05/2020 05:52	WG1520176
1,2-Diphenylhydrazine	U		0.000126	0.0100	0.0120	1.2	08/05/2020 05:52	WG1520176
Fluoranthene	U		0.000122	0.00100	0.00120	1.2	08/05/2020 05:52	WG1520176
Fluorene	U		0.000101	0.00100	0.00120	1.2	08/05/2020 05:52	WG1520176
2-Methylnaphthalene	U		0.000140	0.00100	0.00120	1.2	08/05/2020 05:52	WG1520176
Naphthalene	U		0.000191	0.00100	0.00120	1.2	08/05/2020 05:52	WG1520176
Nitrobenzene	U		0.000356	0.0100	0.0120	1.2	08/05/2020 05:52	WG1520176
n-Nitrosodiphenylamine	U		0.00284	0.0100	0.0120	1.2	08/05/2020 05:52	WG1520176
Phenanthrene	U		0.000134	0.00100	0.00120	1.2	08/05/2020 05:52	WG1520176

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Bis(2-ethylhexyl)phthalate	U		0.00107	0.00300	0.00360	1.2	08/05/2020 05:52	WG1520176
Di-n-butyl phthalate	U		0.000544	0.00300	0.00360	1.2	08/05/2020 05:52	WG1520176
Pyrene	U		0.000128	0.00100	0.00120	1.2	08/05/2020 05:52	WG1520176
2,4-Dimethylphenol	U	J3	0.0000763	0.0100	0.0120	1.2	08/05/2020 05:52	WG1520176
4,6-Dinitro-2-methylphenol	U		0.00134	0.0100	0.0120	1.2	08/05/2020 05:52	WG1520176
4-Nitrophenol	U		0.000172	0.0100	0.0120	1.2	08/05/2020 05:52	WG1520176
Pentachlorophenol	U		0.000376	0.0100	0.0120	1.2	08/05/2020 05:52	WG1520176
Phenol	U		0.00520	0.0100	0.0120	1.2	08/05/2020 05:52	WG1520176
(S) 2-Fluorophenol	*29.9*				*10.0-120*		*08/05/2020 05:52*	WG1520176
(S) Phenol-d5	*21.0*				*10.0-120*		*08/05/2020 05:52*	WG1520176
(S) Nitrobenzene-d5	*39.7*				*10.0-127*		*08/05/2020 05:52*	WG1520176
(S) 2-Fluorobiphenyl	*55.3*				*10.0-130*		*08/05/2020 05:52*	WG1520176
(S) 2,4,6-Tribromophenol	*70.5*				*10.0-155*		*08/05/2020 05:52*	WG1520176
(S) p-Terphenyl-d14	*92.5*				*10.0-128*		*08/05/2020 05:52*	WG1520176

Sample Narrative:

L1245663-06 WG1520176: Dilution due to sample volume.

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

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.0000941	0.00100	0.00100	1	08/11/2020 15:04	WG1523958
Chlorobenzene	U		0.000116	0.00100	0.00100	1	08/11/2020 15:04	WG1523958
1,2-Dichloroethane	U		0.0000819	0.00100	0.00100	1	08/11/2020 15:04	WG1523958
Ethylbenzene	U		0.000137	0.00100	0.00100	1	08/11/2020 15:04	WG1523958
Methylene Chloride	U		0.000430	0.00500	0.00500	1	08/11/2020 15:04	WG1523958
Toluene	0.00357		0.000278	0.00100	0.00100	1	08/11/2020 15:04	WG1523958
Vinyl chloride	U		0.000234	0.00100	0.00100	1	08/11/2020 15:04	WG1523958
Xylenes, Total	U		0.000174	0.00300	0.00300	1	08/11/2020 15:04	WG1523958
(S) Toluene-d8	*102*				*80.0-120*		*08/11/2020 15:04*	WG1523958
(S) 4-Bromofluorobenzene	*99.7*				*77.0-126*		*08/11/2020 15:04*	WG1523958
(S) 1,2-Dichloroethane-d4	*103*				*70.0-130*		*08/11/2020 15:04*	WG1523958

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Chloride	7.91		0.379	1.00	1.00	1	08/01/2020 13:02	WG1518747
Fluoride	0.506		0.0640	0.150	0.150	1	08/01/2020 13:02	WG1518747
Nitrate	0.540	T8	0.0480	0.100	0.100	1	08/01/2020 13:02	WG1518747
Nitrite	U	T8	0.0420	0.100	0.100	1	08/01/2020 13:02	WG1518747
Sulfate	95.7		2.97	5.00	25.0	5	08/01/2020 18:28	WG1518747

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

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Benzene	U		0.0000941	0.00100	0.00100	1	08/11/2020 15:25	WG1523958
Chlorobenzene	U		0.000116	0.00100	0.00100	1	08/11/2020 15:25	WG1523958
1,2-Dichloroethane	U		0.0000819	0.00100	0.00100	1	08/11/2020 15:25	WG1523958
Ethylbenzene	U		0.000137	0.00100	0.00100	1	08/11/2020 15:25	WG1523958
Methylene Chloride	U		0.000430	0.00500	0.00500	1	08/11/2020 15:25	WG1523958
Toluene	0.00216		0.000278	0.00100	0.00100	1	08/11/2020 15:25	WG1523958
Vinyl chloride	U		0.000234	0.00100	0.00100	1	08/11/2020 15:25	WG1523958
Xylenes, Total	U		0.000174	0.00300	0.00300	1	08/11/2020 15:25	WG1523958
(S) Toluene-d8	*100*				*80.0-120*		*08/11/2020 15:25*	WG1523958
(S) 4-Bromofluorobenzene	*99.6*				*77.0-126*		*08/11/2020 15:25*	WG1523958
(S) 1,2-Dichloroethane-d4	*108*				*70.0-130*		*08/11/2020 15:25*	WG1523958

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000105	0.00100	0.00118	1.18	08/05/2020 06:13	WG1520176
Acenaphthylene	U		0.000109	0.00100	0.00118	1.18	08/05/2020 06:13	WG1520176
Anthracene	U		0.0000949	0.00100	0.00118	1.18	08/05/2020 06:13	WG1520176
Benzo(a)anthracene	U		0.000235	0.00100	0.00118	1.18	08/05/2020 06:13	WG1520176
Benzo(a)pyrene	U		0.0000450	0.000200	0.000236	1.18	08/05/2020 06:13	WG1520176
Bis(2-chlorethoxy)methane	U		0.000137	0.0100	0.0118	1.18	08/05/2020 06:13	WG1520176
2-Chloronaphthalene	U		0.0000765	0.00100	0.00118	1.18	08/05/2020 06:13	WG1520176
Chrysene	U		0.000153	0.00100	0.00118	1.18	08/05/2020 06:13	WG1520176
Dibenzofuran	U		0.000114	0.0100	0.0118	1.18	08/05/2020 06:13	WG1520176
2,4-Dinitrotoluene	U		0.000116	0.0100	0.0118	1.18	08/05/2020 06:13	WG1520176
2,6-Dinitrotoluene	U		0.000295	0.0100	0.0118	1.18	08/05/2020 06:13	WG1520176
1,2-Diphenylhydrazine	U		0.000124	0.0100	0.0118	1.18	08/05/2020 06:13	WG1520176
Fluoranthene	U		0.000120	0.00100	0.00118	1.18	08/05/2020 06:13	WG1520176
Fluorene	U		0.0000996	0.00100	0.00118	1.18	08/05/2020 06:13	WG1520176
2-Methylnaphthalene	U		0.000138	0.00100	0.00118	1.18	08/05/2020 06:13	WG1520176
Naphthalene	U		0.000188	0.00100	0.00118	1.18	08/05/2020 06:13	WG1520176
Nitrobenzene	U		0.000350	0.0100	0.0118	1.18	08/05/2020 06:13	WG1520176
n-Nitrosodiphenylamine	U		0.00280	0.0100	0.0118	1.18	08/05/2020 06:13	WG1520176
Phenanthrene	U		0.000132	0.00100	0.00118	1.18	08/05/2020 06:13	WG1520176
Bis(2-ethylhexyl)phthalate	U		0.00106	0.00300	0.00354	1.18	08/05/2020 06:13	WG1520176
Di-n-butyl phthalate	U		0.000535	0.00300	0.00354	1.18	08/05/2020 06:13	WG1520176
Pyrene	U		0.000126	0.00100	0.00118	1.18	08/05/2020 06:13	WG1520176
2,4-Dimethylphenol	U	J3	0.0000750	0.0100	0.0118	1.18	08/05/2020 06:13	WG1520176
4,6-Dinitro-2-methylphenol	U		0.00132	0.0100	0.0118	1.18	08/05/2020 06:13	WG1520176
4-Nitrophenol	U		0.000169	0.0100	0.0118	1.18	08/05/2020 06:13	WG1520176
Pentachlorophenol	U		0.000369	0.0100	0.0118	1.18	08/05/2020 06:13	WG1520176
Phenol	U		0.00511	0.0100	0.0118	1.18	08/05/2020 06:13	WG1520176
(S) 2-Fluorophenol	*25.1*				*10.0-120*		*08/05/2020 06:13*	WG1520176
(S) Phenol-d5	*16.8*				*10.0-120*		*08/05/2020 06:13*	WG1520176
(S) Nitrobenzene-d5	*34.8*				*10.0-127*		*08/05/2020 06:13*	WG1520176
(S) 2-Fluorobiphenyl	*48.5*				*10.0-130*		*08/05/2020 06:13*	WG1520176

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

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
(S) 2,4,6-Tribromophenol	*62.1*				*10.0-155*		*08/05/2020 06:13*	WG1520176
(S) p-Terphenyl-d14	*83.2*				*10.0-128*		*08/05/2020 06:13*	WG1520176

Sample Narrative:

L1245663-08 WG1520176: Dilution due to sample volume.

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Dissolved Solids	495		2.82	10.0	10.0	1	08/03/2020 13:58	WG1519232

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Alkalinity	395		8.45	20.0	20.0	1	08/07/2020 14:07	WG1521062
Alkalinity,Bicarbonate	395		8.45	20.0	20.0	1	08/07/2020 14:07	WG1521062
Alkalinity,Carbonate	U		8.45	20.0	20.0	1	08/07/2020 14:07	WG1521062

Sample Narrative:

L1245663-09 WG1521062: Endpoint pH 4.5 headspace

Wet Chemistry by Method 4500P E-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Phosphate,Ortho	0.0160	J	0.0140	0.0300	0.0300	1	08/01/2020 12:58	WG1518767

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Chloride	10.3		0.379	1.00	1.00	1	08/01/2020 13:13	WG1518747
Fluoride	0.397		0.0640	0.150	0.150	1	08/01/2020 13:13	WG1518747
Nitrate	0.148	T8	0.0480	0.100	0.100	1	08/01/2020 13:13	WG1518747
Nitrite	U	T8	0.0420	0.100	0.100	1	08/01/2020 13:13	WG1518747
Sulfate	103		2.97	5.00	25.0	5	08/01/2020 18:39	WG1518747

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Arsenic	0.000938	J	0.000735	0.00200	0.00200	1	08/07/2020 21:14	WG1519256
Calcium	121		0.480	1.00	1.00	1	08/07/2020 21:14	WG1519256
Magnesium	9.05		0.465	1.00	1.00	1	08/07/2020 21:14	WG1519256
Potassium	1.71	J	0.534	2.00	2.00	1	08/07/2020 21:14	WG1519256
Sodium	63.8		0.630	2.00	2.00	1	08/07/2020 21:14	WG1519256

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

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.000188	0.00100	0.00200	2	08/09/2020 03:22	WG1522083
Chlorobenzene	U		0.000232	0.00100	0.00200	2	08/09/2020 03:22	WG1522083
1,2-Dichloroethane	U		0.000164	0.00100	0.00200	2	08/09/2020 03:22	WG1522083
Ethylbenzene	U		0.000274	0.00100	0.00200	2	08/09/2020 03:22	WG1522083
Methylene Chloride	U		0.000860	0.00500	0.0100	2	08/09/2020 03:22	WG1522083
Toluene	0.00340		0.000556	0.00100	0.00200	2	08/09/2020 03:22	WG1522083
Vinyl chloride	U		0.000468	0.00100	0.00200	2	08/09/2020 03:22	WG1522083
Xylenes, Total	U		0.000348	0.00300	0.00600	2	08/09/2020 03:22	WG1522083
(S) Toluene-d8	*103*				*80.0-120*		*08/09/2020 03:22*	WG1522083
(S) 4-Bromofluorobenzene	*93.0*				*77.0-126*		*08/09/2020 03:22*	WG1522083
(S) 1,2-Dichloroethane-d4	*104*				*70.0-130*		*08/09/2020 03:22*	WG1522083

Sample Narrative:

L1245663-09 WG1522083: Lowest possible dilution due to sediment in sample vial.

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000118	0.00100	0.00133	1.33	08/07/2020 00:14	WG1520177
Acenaphthylene	U		0.000122	0.00100	0.00133	1.33	08/07/2020 00:14	WG1520177
Anthracene	U		0.000107	0.00100	0.00133	1.33	08/07/2020 00:14	WG1520177
Benzo(a)anthracene	U		0.000265	0.00100	0.00133	1.33	08/07/2020 00:14	WG1520177
Benzo(a)pyrene	U		0.0000507	0.000200	0.000266	1.33	08/07/2020 00:14	WG1520177
Bis(2-chlorethoxy)methane	U		0.000154	0.0100	0.0133	1.33	08/07/2020 00:14	WG1520177
2-Chloronaphthalene	U		0.0000862	0.00100	0.00133	1.33	08/07/2020 00:14	WG1520177
Chrysene	U		0.000173	0.00100	0.00133	1.33	08/07/2020 00:14	WG1520177
Dibenzofuran	U		0.000129	0.0100	0.0133	1.33	08/07/2020 00:14	WG1520177
2,4-Dinitrotoluene	U		0.000131	0.0100	0.0133	1.33	08/07/2020 00:14	WG1520177
2,6-Dinitrotoluene	U		0.000333	0.0100	0.0133	1.33	08/07/2020 00:14	WG1520177
1,2-Diphenylhydrazine	U		0.000140	0.0100	0.0133	1.33	08/07/2020 00:14	WG1520177
Fluoranthene	U		0.000136	0.00100	0.00133	1.33	08/07/2020 00:14	WG1520177
Fluorene	U		0.000112	0.00100	0.00133	1.33	08/07/2020 00:14	WG1520177
2-Methylnaphthalene	U		0.000156	0.00100	0.00133	1.33	08/07/2020 00:14	WG1520177
Naphthalene	U		0.000211	0.00100	0.00133	1.33	08/07/2020 00:14	WG1520177
Nitrobenzene	U		0.000395	0.0100	0.0133	1.33	08/07/2020 00:14	WG1520177
n-Nitrosodiphenylamine	U		0.00315	0.0100	0.0133	1.33	08/07/2020 00:14	WG1520177
Phenanthrene	U		0.000149	0.00100	0.00133	1.33	08/07/2020 00:14	WG1520177
Bis(2-ethylhexyl)phthalate	U		0.00119	0.00300	0.00399	1.33	08/07/2020 00:14	WG1520177
Di-n-butyl phthalate	U		0.000602	0.00300	0.00399	1.33	08/07/2020 00:14	WG1520177
Pyrene	U		0.000142	0.00100	0.00133	1.33	08/07/2020 00:14	WG1520177
2,4-Dimethylphenol	U		0.0000846	0.0100	0.0133	1.33	08/07/2020 00:14	WG1520177
4,6-Dinitro-2-methylphenol	U		0.00149	0.0100	0.0133	1.33	08/07/2020 00:14	WG1520177
4-Nitrophenol	U		0.000190	0.0100	0.0133	1.33	08/07/2020 00:14	WG1520177
Pentachlorophenol	U		0.000416	0.0100	0.0133	1.33	08/07/2020 00:14	WG1520177
Phenol	U		0.00576	0.0100	0.0133	1.33	08/07/2020 00:14	WG1520177
(S) 2-Fluorophenol	*23.6*				*10.0-120*		*08/07/2020 00:14*	WG1520177
(S) Phenol-d5	*13.2*				*10.0-120*		*08/07/2020 00:14*	WG1520177
(S) Nitrobenzene-d5	*43.8*				*10.0-127*		*08/07/2020 00:14*	WG1520177
(S) 2-Fluorobiphenyl	*58.5*				*10.0-130*		*08/07/2020 00:14*	WG1520177
(S) 2,4,6-Tribromophenol	*64.0*				*10.0-155*		*08/07/2020 00:14*	WG1520177
(S) p-Terphenyl-d14	*85.7*				*10.0-128*		*08/07/2020 00:14*	WG1520177

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Dissolved Solids	517		2.82	10.0	10.0	1	08/03/2020 13:58	WG1519232

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Alkalinity	334		8.45	20.0	20.0	1	08/07/2020 14:15	WG1521062
Alkalinity,Bicarbonate	334		8.45	20.0	20.0	1	08/07/2020 14:15	WG1521062
Alkalinity,Carbonate	U		8.45	20.0	20.0	1	08/07/2020 14:15	WG1521062

Sample Narrative:

L1245663-10 WG1521062: Endpoint pH 4.5 headspace

Wet Chemistry by Method 4500P E-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Phosphate,Ortho	U		0.0140	0.0300	0.0300	1	08/01/2020 13:09	WG1518767

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Chloride	2.97		0.379	1.00	1.00	1	08/01/2020 13:23	WG1518747
Fluoride	0.253		0.0640	0.150	0.150	1	08/01/2020 13:23	WG1518747
Nitrate	U		0.0480	0.100	0.100	1	08/01/2020 13:23	WG1518747
Nitrite	U		0.0420	0.100	0.100	1	08/01/2020 13:23	WG1518747
Sulfate	114		2.97	5.00	25.0	5	08/01/2020 18:50	WG1518747

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Arsenic	0.00117	J	0.000735	0.00200	0.00200	1	08/07/2020 21:17	WG1519256
Calcium	95.0		0.480	1.00	1.00	1	08/07/2020 21:17	WG1519256
Magnesium	11.6		0.465	1.00	1.00	1	08/07/2020 21:17	WG1519256
Potassium	8.45		0.534	2.00	2.00	1	08/07/2020 21:17	WG1519256
Sodium	42.9		0.630	2.00	2.00	1	08/07/2020 21:17	WG1519256

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

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.0000941	0.00100	0.00100	1	08/09/2020 00:54	WG1522083
Chlorobenzene	U		0.000116	0.00100	0.00100	1	08/09/2020 00:54	WG1522083
1,2-Dichloroethane	U		0.0000819	0.00100	0.00100	1	08/09/2020 00:54	WG1522083
Ethylbenzene	U		0.000137	0.00100	0.00100	1	08/09/2020 00:54	WG1522083
Methylene Chloride	U		0.000430	0.00500	0.00500	1	08/09/2020 00:54	WG1522083
Toluene	U		0.000278	0.00100	0.00100	1	08/09/2020 00:54	WG1522083
Vinyl chloride	U		0.000234	0.00100	0.00100	1	08/09/2020 00:54	WG1522083
Xylenes, Total	U		0.000174	0.00300	0.00300	1	08/09/2020 00:54	WG1522083
(S) Toluene-d8	*102*				*80.0-120*		*08/09/2020 00:54*	WG1522083
(S) 4-Bromofluorobenzene	*93.4*				*77.0-126*		*08/09/2020 00:54*	WG1522083
(S) 1,2-Dichloroethane-d4	*106*				*70.0-130*		*08/09/2020 00:54*	WG1522083

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.000105	0.00100	0.00118	1.18	08/06/2020 20:18	WG1520177
Acenaphthylene	U		0.000109	0.00100	0.00118	1.18	08/06/2020 20:18	WG1520177
Anthracene	U		0.0000949	0.00100	0.00118	1.18	08/06/2020 20:18	WG1520177
Benzo(a)anthracene	U		0.000235	0.00100	0.00118	1.18	08/06/2020 20:18	WG1520177
Benzo(a)pyrene	U		0.0000450	0.000200	0.000236	1.18	08/06/2020 20:18	WG1520177
Bis(2-chlorethoxy)methane	U		0.000137	0.0100	0.0118	1.18	08/06/2020 20:18	WG1520177
2-Chloronaphthalene	U		0.0000765	0.00100	0.00118	1.18	08/06/2020 20:18	WG1520177
Chrysene	U		0.000153	0.00100	0.00118	1.18	08/06/2020 20:18	WG1520177
Dibenzofuran	U		0.000114	0.0100	0.0118	1.18	08/06/2020 20:18	WG1520177
2,4-Dinitrotoluene	U		0.000116	0.0100	0.0118	1.18	08/06/2020 20:18	WG1520177
2,6-Dinitrotoluene	U		0.000295	0.0100	0.0118	1.18	08/06/2020 20:18	WG1520177
1,2-Diphenylhydrazine	U		0.000124	0.0100	0.0118	1.18	08/06/2020 20:18	WG1520177
Fluoranthene	U		0.000120	0.00100	0.00118	1.18	08/06/2020 20:18	WG1520177
Fluorene	U		0.0000996	0.00100	0.00118	1.18	08/06/2020 20:18	WG1520177
2-Methylnaphthalene	U		0.000138	0.00100	0.00118	1.18	08/06/2020 20:18	WG1520177
Naphthalene	U		0.000188	0.00100	0.00118	1.18	08/06/2020 20:18	WG1520177
Nitrobenzene	U		0.000350	0.0100	0.0118	1.18	08/06/2020 20:18	WG1520177
n-Nitrosodiphenylamine	U		0.00280	0.0100	0.0118	1.18	08/06/2020 20:18	WG1520177
Phenanthrene	U		0.000132	0.00100	0.00118	1.18	08/06/2020 20:18	WG1520177
Bis(2-ethylhexyl)phthalate	U		0.00106	0.00300	0.00354	1.18	08/06/2020 20:18	WG1520177
Di-n-butyl phthalate	U		0.000535	0.00300	0.00354	1.18	08/06/2020 20:18	WG1520177
Pyrene	U		0.000126	0.00100	0.00118	1.18	08/06/2020 20:18	WG1520177
2,4-Dimethylphenol	U		0.0000750	0.0100	0.0118	1.18	08/06/2020 20:18	WG1520177
4,6-Dinitro-2-methylphenol	U		0.00132	0.0100	0.0118	1.18	08/06/2020 20:18	WG1520177
4-Nitrophenol	U		0.000169	0.0100	0.0118	1.18	08/06/2020 20:18	WG1520177
Pentachlorophenol	U		0.000369	0.0100	0.0118	1.18	08/06/2020 20:18	WG1520177
Phenol	U		0.00511	0.0100	0.0118	1.18	08/06/2020 20:18	WG1520177
(S) 2-Fluorophenol	*31.4*				*10.0-120*		*08/06/2020 20:18*	WG1520177
(S) Phenol-d5	*18.2*				*10.0-120*		*08/06/2020 20:18*	WG1520177
(S) Nitrobenzene-d5	*58.6*				*10.0-127*		*08/06/2020 20:18*	WG1520177
(S) 2-Fluorobiphenyl	*72.3*				*10.0-130*		*08/06/2020 20:18*	WG1520177
(S) 2,4,6-Tribromophenol	*86.4*				*10.0-155*		*08/06/2020 20:18*	WG1520177
(S) p-Terphenyl-d14	*92.4*				*10.0-128*		*08/06/2020 20:18*	WG1520177

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Dissolved Solids	981		3.75	13.3	13.3	1	08/03/2020 13:58	WG1519232

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Alkalinity	533		8.45	20.0	20.0	1	08/07/2020 14:23	WG1521062
Alkalinity,Bicarbonate	533		8.45	20.0	20.0	1	08/07/2020 14:23	WG1521062
Alkalinity,Carbonate	U		8.45	20.0	20.0	1	08/07/2020 14:23	WG1521062

Sample Narrative:

L1245663-11 WG1521062: Endpoint pH 4.5 headspace

Wet Chemistry by Method 4500P E-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Phosphate,Ortho	0.0260	J	0.0140	0.0300	0.0300	1	08/01/2020 13:09	WG1518767

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Chloride	36.0		0.379	1.00	1.00	1	08/01/2020 13:34	WG1518747
Fluoride	0.510		0.0640	0.150	0.150	1	08/01/2020 13:34	WG1518747
Nitrate	1.82		0.0480	0.100	0.100	1	08/01/2020 13:34	WG1518747
Nitrite	U		0.0420	0.100	0.100	1	08/01/2020 13:34	WG1518747
Sulfate	183		2.97	5.00	25.0	5	08/01/2020 19:23	WG1518747

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Arsenic	0.0103		0.000735	0.00200	0.00200	1	08/07/2020 21:20	WG1519256
Calcium	157		0.480	1.00	1.00	1	08/07/2020 21:20	WG1519256
Magnesium	18.0		0.465	1.00	1.00	1	08/07/2020 21:20	WG1519256
Potassium	3.92		0.534	2.00	2.00	1	08/07/2020 21:20	WG1519256
Sodium	85.4		0.630	2.00	2.00	1	08/07/2020 21:20	WG1519256

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

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.0000941	0.00100	0.00100	1	08/09/2020 01:16	WG1522083
Chlorobenzene	U		0.000116	0.00100	0.00100	1	08/09/2020 01:16	WG1522083
1,2-Dichloroethane	U		0.0000819	0.00100	0.00100	1	08/09/2020 01:16	WG1522083
Ethylbenzene	U		0.000137	0.00100	0.00100	1	08/09/2020 01:16	WG1522083
Methylene Chloride	U		0.000430	0.00500	0.00500	1	08/09/2020 01:16	WG1522083
Toluene	0.000473	J	0.000278	0.00100	0.00100	1	08/09/2020 01:16	WG1522083
Vinyl chloride	U		0.000234	0.00100	0.00100	1	08/09/2020 01:16	WG1522083
Xylenes, Total	U		0.000174	0.00300	0.00300	1	08/09/2020 01:16	WG1522083
(S) Toluene-d8	*103*				*80.0-120*		*08/09/2020 01:16*	WG1522083
(S) 4-Bromofluorobenzene	*93.0*				*77.0-126*		*08/09/2020 01:16*	WG1522083
(S) 1,2-Dichloroethane-d4	*106*				*70.0-130*		*08/09/2020 01:16*	WG1522083

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result mg/l	Qualifier	SDL mg/l	Unadj. MQL mg/l	MQL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	U		0.0000886	0.00100	0.00100	1	08/07/2020 00:36	WG1520177
Acenaphthylene	U		0.0000921	0.00100	0.00100	1	08/07/2020 00:36	WG1520177
Anthracene	U		0.0000804	0.00100	0.00100	1	08/07/2020 00:36	WG1520177
Benzo(a)anthracene	U		0.000199	0.00100	0.00100	1	08/07/2020 00:36	WG1520177
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	08/07/2020 00:36	WG1520177
Bis(2-chlorethoxy)methane	U		0.000116	0.0100	0.0100	1	08/07/2020 00:36	WG1520177
2-Chloronaphthalene	U		0.0000648	0.00100	0.00100	1	08/07/2020 00:36	WG1520177
Chrysene	U		0.000130	0.00100	0.00100	1	08/07/2020 00:36	WG1520177
Dibenzofuran	U		0.0000970	0.0100	0.0100	1	08/07/2020 00:36	WG1520177
2,4-Dinitrotoluene	U		0.0000983	0.0100	0.0100	1	08/07/2020 00:36	WG1520177
2,6-Dinitrotoluene	U		0.000250	0.0100	0.0100	1	08/07/2020 00:36	WG1520177
1,2-Diphenylhydrazine	U		0.000105	0.0100	0.0100	1	08/07/2020 00:36	WG1520177
Fluoranthene	U		0.000102	0.00100	0.00100	1	08/07/2020 00:36	WG1520177
Fluorene	U		0.0000844	0.00100	0.00100	1	08/07/2020 00:36	WG1520177
2-Methylnaphthalene	U		0.000117	0.00100	0.00100	1	08/07/2020 00:36	WG1520177
Naphthalene	U		0.000159	0.00100	0.00100	1	08/07/2020 00:36	WG1520177
Nitrobenzene	U		0.000297	0.0100	0.0100	1	08/07/2020 00:36	WG1520177
n-Nitrosodiphenylamine	U		0.00237	0.0100	0.0100	1	08/07/2020 00:36	WG1520177
Phenanthrene	U		0.000112	0.00100	0.00100	1	08/07/2020 00:36	WG1520177
Bis(2-ethylhexyl)phthalate	U		0.000895	0.00300	0.00300	1	08/07/2020 00:36	WG1520177
Di-n-butyl phthalate	U		0.000453	0.00300	0.00300	1	08/07/2020 00:36	WG1520177
Pyrene	U		0.000107	0.00100	0.00100	1	08/07/2020 00:36	WG1520177
2,4-Dimethylphenol	U		0.0000636	0.0100	0.0100	1	08/07/2020 00:36	WG1520177
4,6-Dinitro-2-methylphenol	U		0.00112	0.0100	0.0100	1	08/07/2020 00:36	WG1520177
4-Nitrophenol	U		0.000143	0.0100	0.0100	1	08/07/2020 00:36	WG1520177
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	08/07/2020 00:36	WG1520177
Phenol	U		0.00433	0.0100	0.0100	1	08/07/2020 00:36	WG1520177
(S) 2-Fluorophenol	*27.1*				*10.0-120*		*08/07/2020 00:36*	WG1520177
(S) Phenol-d5	*16.3*				*10.0-120*		*08/07/2020 00:36*	WG1520177
(S) Nitrobenzene-d5	*52.3*				*10.0-127*		*08/07/2020 00:36*	WG1520177
(S) 2-Fluorobiphenyl	*71.7*				*10.0-130*		*08/07/2020 00:36*	WG1520177
(S) 2,4,6-Tribromophenol	*79.0*				*10.0-155*		*08/07/2020 00:36*	WG1520177
(S) p-Terphenyl-d14	*91.4*				*10.0-128*		*08/07/2020 00:36*	WG1520177

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Dissolved Solids	702		2.82	10.0	10.0	1	08/03/2020 13:58	WG1519232

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Alkalinity	393		8.45	20.0	20.0	1	08/07/2020 14:38	WG1521062
Alkalinity,Bicarbonate	393		8.45	20.0	20.0	1	08/07/2020 14:38	WG1521062
Alkalinity,Carbonate	U		8.45	20.0	20.0	1	08/07/2020 14:38	WG1521062

Sample Narrative:

L1245663-12 WG1521062: Endpoint pH 4.5 headspace

Wet Chemistry by Method 4500P E-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Phosphate,Ortho	0.0680		0.0140	0.0300	0.0300	1	08/01/2020 13:09	WG1518767

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Chloride	22.4		0.379	1.00	1.00	1	08/01/2020 13:45	WG1518747
Fluoride	0.504		0.0640	0.150	0.150	1	08/01/2020 13:45	WG1518747
Nitrate	U		0.0480	0.100	0.100	1	08/01/2020 13:45	WG1518747
Nitrite	U		0.0420	0.100	0.100	1	08/01/2020 13:45	WG1518747
Sulfate	103		2.97	5.00	25.0	5	08/01/2020 19:34	WG1518747

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Arsenic	0.00734		0.000735	0.00200	0.00200	1	08/07/2020 21:23	WG1519256
Calcium	107		0.480	1.00	1.00	1	08/07/2020 21:23	WG1519256
Magnesium	11.6		0.465	1.00	1.00	1	08/07/2020 21:23	WG1519256
Potassium	2.76		0.534	2.00	2.00	1	08/07/2020 21:23	WG1519256
Sodium	140		0.630	2.00	2.00	1	08/07/2020 21:23	WG1519256

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

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.0000941	0.00100	0.00100	1	08/09/2020 01:37	WG1522083
Chlorobenzene	U		0.000116	0.00100	0.00100	1	08/09/2020 01:37	WG1522083
1,2-Dichloroethane	U		0.0000819	0.00100	0.00100	1	08/09/2020 01:37	WG1522083
Ethylbenzene	U		0.000137	0.00100	0.00100	1	08/09/2020 01:37	WG1522083
Methylene Chloride	U		0.000430	0.00500	0.00500	1	08/09/2020 01:37	WG1522083
Toluene	0.000446	J	0.000278	0.00100	0.00100	1	08/09/2020 01:37	WG1522083
Vinyl chloride	U		0.000234	0.00100	0.00100	1	08/09/2020 01:37	WG1522083
Xylenes, Total	U		0.000174	0.00300	0.00300	1	08/09/2020 01:37	WG1522083
(S) Toluene-d8	*103*				*80.0-120*		*08/09/2020 01:37*	WG1522083
(S) 4-Bromofluorobenzene	*93.2*				*77.0-126*		*08/09/2020 01:37*	WG1522083
(S) 1,2-Dichloroethane-d4	*105*				*70.0-130*		*08/09/2020 01:37*	WG1522083

Semi Volatile Organic Compounds (GC/MS) by Method 8270 C

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Acenaphthene	U		0.0000886	0.00100	0.00100	1	08/06/2020 20:40	WG1520177
Acenaphthylene	U		0.0000921	0.00100	0.00100	1	08/06/2020 20:40	WG1520177
Anthracene	U		0.0000804	0.00100	0.00100	1	08/06/2020 20:40	WG1520177
Benzo(a)anthracene	U		0.000199	0.00100	0.00100	1	08/06/2020 20:40	WG1520177
Benzo(a)pyrene	U		0.0000381	0.000200	0.000200	1	08/06/2020 20:40	WG1520177
Bis(2-chlorethoxy)methane	U		0.000116	0.0100	0.0100	1	08/06/2020 20:40	WG1520177
2-Chloronaphthalene	U		0.0000648	0.00100	0.00100	1	08/06/2020 20:40	WG1520177
Chrysene	U		0.000130	0.00100	0.00100	1	08/06/2020 20:40	WG1520177
Dibenzofuran	U		0.0000970	0.0100	0.0100	1	08/06/2020 20:40	WG1520177
2,4-Dinitrotoluene	U		0.0000983	0.0100	0.0100	1	08/06/2020 20:40	WG1520177
2,6-Dinitrotoluene	U		0.000250	0.0100	0.0100	1	08/06/2020 20:40	WG1520177
1,2-Diphenylhydrazine	U		0.000105	0.0100	0.0100	1	08/06/2020 20:40	WG1520177
Fluoranthene	U		0.000102	0.00100	0.00100	1	08/06/2020 20:40	WG1520177
Fluorene	U		0.0000844	0.00100	0.00100	1	08/06/2020 20:40	WG1520177
2-Methylnaphthalene	U		0.000117	0.00100	0.00100	1	08/06/2020 20:40	WG1520177
Naphthalene	U		0.000159	0.00100	0.00100	1	08/06/2020 20:40	WG1520177
Nitrobenzene	U		0.000297	0.0100	0.0100	1	08/06/2020 20:40	WG1520177
n-Nitrosodiphenylamine	U		0.00237	0.0100	0.0100	1	08/06/2020 20:40	WG1520177
Phenanthrene	U		0.000112	0.00100	0.00100	1	08/06/2020 20:40	WG1520177
Bis(2-ethylhexyl)phthalate	U		0.000895	0.00300	0.00300	1	08/06/2020 20:40	WG1520177
Di-n-butyl phthalate	U		0.000453	0.00300	0.00300	1	08/06/2020 20:40	WG1520177
Pyrene	U		0.000107	0.00100	0.00100	1	08/06/2020 20:40	WG1520177
2,4-Dimethylphenol	U		0.0000636	0.0100	0.0100	1	08/06/2020 20:40	WG1520177
4,6-Dinitro-2-methylphenol	U		0.00112	0.0100	0.0100	1	08/06/2020 20:40	WG1520177
4-Nitrophenol	U		0.000143	0.0100	0.0100	1	08/06/2020 20:40	WG1520177
Pentachlorophenol	U		0.000313	0.0100	0.0100	1	08/06/2020 20:40	WG1520177
Phenol	U		0.00433	0.0100	0.0100	1	08/06/2020 20:40	WG1520177
(S) 2-Fluorophenol	*32.0*				*10.0-120*		*08/06/2020 20:40*	WG1520177
(S) Phenol-d5	*17.2*				*10.0-120*		*08/06/2020 20:40*	WG1520177
(S) Nitrobenzene-d5	*62.7*				*10.0-127*		*08/06/2020 20:40*	WG1520177
(S) 2-Fluorobiphenyl	*78.4*				*10.0-130*		*08/06/2020 20:40*	WG1520177
(S) 2,4,6-Tribromophenol	*81.9*				*10.0-155*		*08/06/2020 20:40*	WG1520177
(S) p-Terphenyl-d14	*91.0*				*10.0-128*		*08/06/2020 20:40*	WG1520177

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Dissolved Solids	718		2.82	10.0	10.0	1	08/04/2020 17:00	WG1520008

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Chloride	23.8		0.379	1.00	1.00	1	08/01/2020 13:56	WG1518747
Fluoride	0.334		0.0640	0.150	0.150	1	08/01/2020 13:56	WG1518747
Nitrate	0.0989	J	0.0480	0.100	0.100	1	08/01/2020 13:56	WG1518747
Nitrite	U		0.0420	0.100	0.100	1	08/01/2020 13:56	WG1518747
Sulfate	80.0		0.594	5.00	5.00	1	08/01/2020 13:56	WG1518747

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

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Benzene	U		0.0000941	0.00100	0.00100	1	08/09/2020 01:58	WG1522083
Chlorobenzene	U		0.000116	0.00100	0.00100	1	08/09/2020 01:58	WG1522083
1,2-Dichloroethane	U		0.0000819	0.00100	0.00100	1	08/09/2020 01:58	WG1522083
Ethylbenzene	U		0.000137	0.00100	0.00100	1	08/09/2020 01:58	WG1522083
Methylene Chloride	U		0.000430	0.00500	0.00500	1	08/09/2020 01:58	WG1522083
Toluene	0.00120		0.000278	0.00100	0.00100	1	08/09/2020 01:58	WG1522083
Vinyl chloride	U		0.000234	0.00100	0.00100	1	08/09/2020 01:58	WG1522083
Xylenes, Total	U		0.000174	0.00300	0.00300	1	08/09/2020 01:58	WG1522083
(S) Toluene-d8	*104*				*80.0-120*		*08/09/2020 01:58*	WG1522083
(S) 4-Bromofluorobenzene	*93.6*				*77.0-126*		*08/09/2020 01:58*	WG1522083
(S) 1,2-Dichloroethane-d4	*107*				*70.0-130*		*08/09/2020 01:58*	WG1522083

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Dissolved Solids	1960	J3	7.05	25.0	25.0	1	08/03/2020 13:58	WG1519232

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Alkalinity	492		8.45	20.0	20.0	1	08/07/2020 14:46	WG1521062
Alkalinity,Bicarbonate	492		8.45	20.0	20.0	1	08/07/2020 14:46	WG1521062
Alkalinity,Carbonate	U		8.45	20.0	20.0	1	08/07/2020 14:46	WG1521062

Sample Narrative:

L1245663-14 WG1521062: Endpoint pH 4.5 headspace

Wet Chemistry by Method 4500P E-2011

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Phosphate,Ortho	0.0170	J	0.0140	0.0300	0.0300	1	08/01/2020 13:10	WG1518767

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Chloride	518		3.79	1.00	10.0	10	08/03/2020 22:11	WG1519605
Fluoride	0.288		0.0640	0.150	0.150	1	08/01/2020 14:29	WG1518747
Nitrate	U		0.0480	0.100	0.100	1	08/01/2020 14:29	WG1518747
Nitrite	U		0.0420	0.100	0.100	1	08/01/2020 14:29	WG1518747
Sulfate	U		0.594	5.00	5.00	1	08/01/2020 14:29	WG1518747

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	SDL	Unadj. MQL	MQL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l	mg/l		date / time	
Calcium	262		0.480	1.00	1.00	1	08/07/2020 21:27	WG1519256
Magnesium	54.1		0.465	1.00	1.00	1	08/07/2020 21:27	WG1519256
Potassium	0.734	J	0.534	2.00	2.00	1	08/07/2020 21:27	WG1519256
Sodium	102		0.630	2.00	2.00	1	08/07/2020 21:27	WG1519256

Method Blank (MB)

(MB) R3556211-1 08/03/20 13:58

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		2.82	10.0

L1245663-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1245663-14 08/03/20 13:58 • (DUP) R3556211-3 08/03/20 13:58

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1960	4160	1	71.8	J3	5

Laboratory Control Sample (LCS)

(LCS) R3556211-2 08/03/20 13:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	7540	85.7	77.4-123	

Method Blank (MB)

(MB) R3556691-1 08/04/20 17:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	U		2.82	10.0

L1245636-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1245636-01 08/04/20 17:00 • (DUP) R3556691-3 08/04/20 17:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	956	959	1	0.313		5

Laboratory Control Sample (LCS)

(LCS) R3556691-2 08/04/20 17:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8530	96.9	77.4-123	

Method Blank (MB)

(MB) R3557637-1 08/07/20 13:11

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	U		8.45	20.0
Alkalinity,Bicarbonate	U		8.45	20.0
Alkalinity,Carbonate	U		8.45	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1245797-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1245797-01 08/07/20 13:23 • (DUP) R3557637-2 08/07/20 13:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	119	119	1	0.0976		20
Alkalinity,Bicarbonate	119	119	1	0.0976		20
Alkalinity,Carbonate	U	U	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

L1245801-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1245801-04 08/07/20 16:06 • (DUP) R3557637-4 08/07/20 16:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	148	148	1	0.0983		20
Alkalinity,Bicarbonate	148	148	1	0.0983		20
Alkalinity,Carbonate	U	U	1	0.000		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R3557637-3 08/07/20 14:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	100	100	85.0-115	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R3555414-1 08/01/20 12:58

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Phosphate,Ortho	U		0.0140	0.0300

L1245637-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1245637-01 08/01/20 13:06 • (DUP) R3555414-3 08/01/20 13:06

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphate,Ortho	4.51	4.49	10	0.466		20

L1245689-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1245689-02 08/01/20 13:11 • (DUP) R3555414-6 08/01/20 13:12

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphate,Ortho	3.57	3.62	5	1.59		20

Laboratory Control Sample (LCS)

(LCS) R3555414-2 08/01/20 12:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Phosphate,Ortho	0.245	0.249	102	85.0-115	

L1245663-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1245663-05 08/01/20 13:07 • (MS) R3555414-4 08/01/20 13:08 • (MSD) R3555414-5 08/01/20 13:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Phosphate,Ortho	0.500	U	0.499	0.511	99.8	102	1	80.0-120			2.38	20

Method Blank (MB)

(MB) R3555641-1 08/01/20 08:41

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00
Fluoride	U		0.0640	0.150
Nitrate	U		0.0480	0.100
Nitrite	U		0.0420	0.100
Sulfate	U		0.594	5.00

L1245641-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1245641-02 08/01/20 15:28 • (DUP) R3555641-4 08/01/20 15:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	15.1	15.1	1	0.133		15
Fluoride	0.161	0.169	1	4.78		15
Nitrate	0.101	0.103	1	2.45		15
Nitrite	U	U	1	0.000		15
Sulfate	7.86	7.97	1	1.37		15

L1245663-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1245663-13 08/01/20 13:56 • (DUP) R3555641-7 08/01/20 19:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	23.8	23.9	1	0.694		15
Fluoride	0.334	0.335	1	0.150		15
Nitrate	0.0989	0.110	1	10.2		15
Nitrite	U	U	1	0.000		15
Sulfate	80.0	80.2	1	0.347		15

Laboratory Control Sample (LCS)

(LCS) R3555641-2 08/01/20 08:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	40.5	101	80.0-120	
Fluoride	8.00	8.44	106	80.0-120	
Nitrate	8.00	8.10	101	80.0-120	
Nitrite	8.00	8.09	101	80.0-120	

Laboratory Control Sample (LCS)

(LCS) R3555641-2 08/01/20 08:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40.0	39.9	99.6	80.0-120	

L1245663-14 Original Sample (OS) • Matrix Spike (MS)

(OS) L1245663-14 08/01/20 14:29 • (MS) R3555641-3 08/01/20 14:56

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	542	570	56.1	1	80.0-120	E V
Fluoride	5.00	0.288	5.28	99.9	1	80.0-120	
Nitrate	5.00	U	4.84	96.9	1	80.0-120	
Nitrite	5.00	U	5.42	108	1	80.0-120	
Sulfate	50.0	U	49.9	99.8	1	80.0-120	

L1245641-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1245641-03 08/01/20 15:50 • (MS) R3555641-5 08/01/20 16:01 • (MSD) R3555641-6 08/01/20 16:12

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	9.01	62.4	62.4	107	107	1	80.0-120			0.0322	15
Fluoride	5.00	0.185	5.40	5.43	104	105	1	80.0-120			0.535	15
Nitrate	5.00	U	5.14	5.14	103	103	1	80.0-120			0.0292	15
Nitrite	5.00	U	5.17	5.18	103	104	1	80.0-120			0.143	15
Sulfate	50.0	4.60	56.9	57.1	105	105	1	80.0-120			0.281	15

Method Blank (MB)

(MB) R3556044-1 08/03/20 14:36

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	U		0.379	1.00

L1244538-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1244538-02 08/03/20 15:58 • (DUP) R3556044-3 08/03/20 16:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	15400	15300	1	0.138	E	15

L1245663-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1245663-14 08/03/20 22:11 • (DUP) R3556044-7 08/03/20 22:26

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	518	514	10	0.758		15

Laboratory Control Sample (LCS)

(LCS) R3556044-2 08/03/20 14:51

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.4	98.5	80.0-120	

L1244601-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1244601-01 08/03/20 16:43 • (MS) R3556044-4 08/03/20 16:58 • (MSD) R3556044-5 08/03/20 17:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	274	308	308	68.3	69.2	1	80.0-120	E V	E V	0.145	15

L1244842-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1244842-02 08/03/20 20:26 • (MS) R3556044-6 08/03/20 21:11

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	3.41	54.6	102	1	80.0-120	

Method Blank (MB)

(MB) R3557681-1 08/07/20 20:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic	U		0.000735	0.00200
Calcium	U		0.480	1.00
Magnesium	U		0.465	1.00
Potassium	U		0.534	2.00
Sodium	U		0.630	2.00

Laboratory Control Sample (LCS)

(LCS) R3557681-2 08/07/20 20:18

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic	0.0500	0.0476	95.3	80.0-120	
Calcium	5.00	4.90	97.9	80.0-120	
Magnesium	5.00	4.78	95.7	80.0-120	
Potassium	5.00	4.85	97.0	80.0-120	
Sodium	5.00	4.77	95.3	80.0-120	

L1245641-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1245641-02 08/07/20 20:21 • (MS) R3557681-4 08/07/20 20:27 • (MSD) R3557681-5 08/07/20 20:31

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	0.0500	0.0136	0.0604	0.0602	93.6	93.3	1	75.0-125			0.255	20
Calcium	5.00	37.3	41.3	41.5	80.9	85.2	1	75.0-125			0.512	20
Potassium	5.00	4.54	9.28	9.32	94.8	95.7	1	75.0-125			0.464	20
Magnesium	5.00	25.9	30.5	31.0	90.1	101	1	75.0-125			1.80	20
Sodium	5.00	16.2	20.5	22.0	86.3	116	1	75.0-125			7.00	20

Method Blank (MB)

(MB) R3557973-2 08/08/20 19:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Chlorobenzene	U		0.000116	0.00100
1,2-Dichloroethane	U		0.0000819	0.00100
Ethylbenzene	U		0.000137	0.00100
Methylene Chloride	U		0.000430	0.00500
Toluene	U		0.000278	0.00100
Vinyl chloride	U		0.000234	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*103*			*80.0-120*
(S) 4-Bromofluorobenzene	*93.1*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3557973-1 08/08/20 18:12

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00529	106	70.0-123	
Chlorobenzene	0.00500	0.00473	94.6	80.0-121	
1,2-Dichloroethane	0.00500	0.00532	106	70.0-128	
Ethylbenzene	0.00500	0.00519	104	79.0-123	
Methylene Chloride	0.00500	0.00532	106	67.0-120	
Toluene	0.00500	0.00519	104	79.0-120	
Vinyl chloride	0.00500	0.00644	129	67.0-131	
Xylenes, Total	0.0150	0.0149	99.3	79.0-123	
(S) Toluene-d8			*99.3*	*80.0-120*	
(S) 4-Bromofluorobenzene			*96.9*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*106*	*70.0-130*	

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

Method Blank (MB)

(MB) R3558679-2 08/11/20 12:37

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Chlorobenzene	U		0.000116	0.00100
1,2-Dichloroethane	U		0.0000819	0.00100
Ethylbenzene	U		0.000137	0.00100
Methylene Chloride	U		0.000430	0.00500
Toluene	U		0.000278	0.00100
Vinyl chloride	U		0.000234	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*105*			*80.0-120*
(S) 4-Bromofluorobenzene	*98.4*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3558679-1 08/11/20 11:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00457	91.4	70.0-123	
Chlorobenzene	0.00500	0.00478	95.6	80.0-121	
1,2-Dichloroethane	0.00500	0.00476	95.2	70.0-128	
Ethylbenzene	0.00500	0.00481	96.2	79.0-123	
Methylene Chloride	0.00500	0.00471	94.2	67.0-120	
Toluene	0.00500	0.00446	89.2	79.0-120	
Vinyl chloride	0.00500	0.00420	84.0	67.0-131	
Xylenes, Total	0.0150	0.0141	94.0	79.0-123	
(S) Toluene-d8			*99.6*	*80.0-120*	
(S) 4-Bromofluorobenzene			*104*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*101*	*70.0-130*	

Method Blank (MB)

(MB) R3556395-3 08/05/20 01:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acenaphthene	U		0.0000886	0.00100
Acenaphthylene	U		0.0000921	0.00100
Anthracene	U		0.0000804	0.00100
Azobenzene	U		0.000105	0.0100
Benzo(a)anthracene	U		0.000199	0.00100
Benzo(a)pyrene	U		0.0000381	0.000200
Bis(2-chlorethoxy)methane	U		0.000116	0.0100
2-Chloronaphthalene	U		0.0000648	0.00100
Chrysene	U		0.000130	0.00100
Dibenzofuran	U		0.0000970	0.0100
2,4-Dinitrotoluene	U		0.0000983	0.0100
2,6-Dinitrotoluene	U		0.000250	0.0100
Fluoranthene	U		0.000102	0.00100
Fluorene	U		0.0000844	0.00100
2-Methylnaphthalene	0.000251	J	0.000117	0.00100
Naphthalene	0.000332	J	0.000159	0.00100
Nitrobenzene	U		0.000297	0.0100
n-Nitrosodiphenylamine	U		0.00237	0.0100
Phenanthrene	U		0.000112	0.00100
Bis(2-ethylhexyl)phthalate	U		0.000895	0.00300
Di-n-butyl phthalate	U		0.000453	0.00300
Pyrene	U		0.000107	0.00100
2,4-Dimethylphenol	U		0.0000636	0.0100
4,6-Dinitro-2-methylphenol	U		0.00112	0.0100
4-Nitrophenol	U		0.000143	0.0100
Pentachlorophenol	U		0.000313	0.0100
Phenol	U		0.00433	0.0100
(S) Nitrobenzene-d5	*37.3*			*10.0-127*
(S) 2-Fluorobiphenyl	*48.8*			*10.0-130*
(S) p-Terphenyl-d14	*86.4*			*10.0-128*
(S) Phenol-d5	*14.0*			*10.0-120*
(S) 2-Fluorophenol	*23.4*			*10.0-120*
(S) 2,4,6-Tribromophenol	*55.5*			*10.0-155*

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

(LCS) R3556395-1 08/05/20 00:36 • (LCSD) R3556395-2 08/05/20 00:57

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0500	0.0363	0.0308	72.6	61.6	41.0-120			16.4	22
Acenaphthylene	0.0500	0.0399	0.0335	79.8	67.0	43.0-120			17.4	22
Anthracene	0.0500	0.0382	0.0346	76.4	69.2	45.0-120			9.89	20
Azobenzene	0.0500	0.0360	0.0319	72.0	63.8	41.0-126			12.1	20
Benzo(a)anthracene	0.0500	0.0446	0.0412	89.2	82.4	47.0-120			7.93	20
Benzo(a)pyrene	0.0500	0.0435	0.0405	87.0	81.0	47.0-120			7.14	20
Bis(2-chlorethoxy)methane	0.0500	0.0312	0.0256	62.4	51.2	33.0-120			19.7	24
2-Chloronaphthalene	0.0500	0.0373	0.0303	74.6	60.6	37.0-120			20.7	25
Chrysene	0.0500	0.0407	0.0369	81.4	73.8	48.0-120			9.79	20
Dibenzofuran	0.0500	0.0386	0.0336	77.2	67.2	44.0-120			13.9	22
2,4-Dinitrotoluene	0.0500	0.0437	0.0391	87.4	78.2	49.0-124			11.1	20
2,6-Dinitrotoluene	0.0500	0.0415	0.0369	83.0	73.8	46.0-120			11.7	21
Fluoranthene	0.0500	0.0387	0.0357	77.4	71.4	51.0-120			8.06	20
Fluorene	0.0500	0.0384	0.0342	76.8	68.4	47.0-120			11.6	20
2-Methylnaphthalene	0.0500	0.0319	0.0261	63.8	52.2	33.0-120			20.0	25
Naphthalene	0.0500	0.0320	0.0253	64.0	50.6	27.0-120			23.4	27
Nitrobenzene	0.0500	0.0284	0.0222	56.8	44.4	27.0-120			24.5	29
n-Nitrosodiphenylamine	0.0500	0.0385	0.0347	77.0	69.4	47.0-120			10.4	20
Phenanthrene	0.0500	0.0401	0.0372	80.2	74.4	46.0-120			7.50	20
Bis(2-ethylhexyl)phthalate	0.0500	0.0510	0.0457	102	91.4	43.0-122			11.0	20
Di-n-butyl phthalate	0.0500	0.0446	0.0408	89.2	81.6	49.0-121			8.90	20
Pyrene	0.0500	0.0431	0.0395	86.2	79.0	47.0-120			8.72	20
2,4-Dimethylphenol	0.0500	0.0320	0.0241	64.0	48.2	33.0-120		J3	28.2	26
4,6-Dinitro-2-methylphenol	0.0500	0.0390	0.0309	78.0	61.8	38.0-138			23.2	25
4-Nitrophenol	0.0500	0.0125	0.0104	25.0	20.8	10.0-120			18.3	33
Pentachlorophenol	0.0500	0.0369	0.0310	73.8	62.0	23.0-120			17.4	25
Phenol	0.0500	0.0111	0.00906	22.2	18.1	10.0-120			20.2	36
(S) Nitrobenzene-d5				*46.4*	*33.8*	*10.0-127*				
(S) 2-Fluorobiphenyl				*75.8*	*61.9*	*10.0-130*				
(S) p-Terphenyl-d14				*92.4*	*85.1*	*10.0-128*				
(S) Phenol-d5				*22.2*	*17.5*	*10.0-120*				
(S) 2-Fluorophenol				*35.5*	*28.6*	*10.0-120*				
(S) 2,4,6-Tribromophenol				*83.5*	*72.0*	*10.0-155*				

Method Blank (MB)

(MB) R3557267-2 08/06/20 19:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Acenaphthene	U		0.0000886	0.00100
Acenaphthylene	U		0.0000921	0.00100
Anthracene	U		0.0000804	0.00100
Azobenzene	U		0.000105	0.0100
Benzo(a)anthracene	U		0.000199	0.00100
Benzo(a)pyrene	U		0.0000381	0.000200
Bis(2-chlorethoxy)methane	U		0.000116	0.0100
2-Chloronaphthalene	U		0.0000648	0.00100
Chrysene	U		0.000130	0.00100
Dibenzofuran	U		0.0000970	0.0100
2,4-Dinitrotoluene	U		0.0000983	0.0100
2,6-Dinitrotoluene	U		0.000250	0.0100
Fluoranthene	U		0.000102	0.00100
Fluorene	U		0.0000844	0.00100
2-Methylnaphthalene	U		0.000117	0.00100
Naphthalene	U		0.000159	0.00100
Nitrobenzene	U		0.000297	0.0100
n-Nitrosodiphenylamine	U		0.00237	0.0100
Phenanthrene	U		0.000112	0.00100
Bis(2-ethylhexyl)phthalate	U		0.000895	0.00300
Di-n-butyl phthalate	U		0.000453	0.00300
Pyrene	U		0.000107	0.00100
2,4-Dimethylphenol	U		0.0000636	0.0100
4,6-Dinitro-2-methylphenol	U		0.00112	0.0100
4-Nitrophenol	U		0.000143	0.0100
Pentachlorophenol	U		0.000313	0.0100
Phenol	U		0.00433	0.0100
(S) Nitrobenzene-d5	*66.8*			*10.0-127*
(S) 2-Fluorobiphenyl	*87.4*			*10.0-130*
(S) p-Terphenyl-d14	*102*			*10.0-128*
(S) Phenol-d5	*19.2*			*10.0-120*
(S) 2-Fluorophenol	*34.8*			*10.0-120*
(S) 2,4,6-Tribromophenol	*82.0*			*10.0-155*

Laboratory Control Sample (LCS)

(LCS) R3557267-1 08/06/20 19:35

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Acenaphthene	0.0500	0.0395	79.0	41.0-120	
Acenaphthylene	0.0500	0.0436	87.2	43.0-120	
Anthracene	0.0500	0.0406	81.2	45.0-120	
Azobenzene	0.0500	0.0377	75.4	41.0-126	
Benzo(a)anthracene	0.0500	0.0493	98.6	47.0-120	
Benzo(a)pyrene	0.0500	0.0472	94.4	47.0-120	
Bis(2-chlorethoxy)methane	0.0500	0.0336	67.2	33.0-120	
2-Chloronaphthalene	0.0500	0.0412	82.4	37.0-120	
Chrysene	0.0500	0.0446	89.2	48.0-120	
Dibenzofuran	0.0500	0.0420	84.0	44.0-120	
2,4-Dinitrotoluene	0.0500	0.0463	92.6	49.0-124	
2,6-Dinitrotoluene	0.0500	0.0446	89.2	46.0-120	
Fluoranthene	0.0500	0.0417	83.4	51.0-120	
Fluorene	0.0500	0.0421	84.2	47.0-120	
2-Methylnaphthalene	0.0500	0.0358	71.6	33.0-120	
Naphthalene	0.0500	0.0350	70.0	27.0-120	
Nitrobenzene	0.0500	0.0315	63.0	27.0-120	
n-Nitrosodiphenylamine	0.0500	0.0416	83.2	47.0-120	
Phenanthrene	0.0500	0.0424	84.8	46.0-120	
Bis(2-ethylhexyl)phthalate	0.0500	0.0551	110	43.0-122	
Di-n-butyl phthalate	0.0500	0.0479	95.8	49.0-121	
Pyrene	0.0500	0.0456	91.2	47.0-120	
2,4-Dimethylphenol	0.0500	0.0346	69.2	33.0-120	
4,6-Dinitro-2-methylphenol	0.0500	0.0441	88.2	38.0-138	
4-Nitrophenol	0.0500	0.00790	15.8	10.0-120	
Pentachlorophenol	0.0500	0.0400	80.0	23.0-120	
Phenol	0.0500	0.00925	18.5	10.0-120	
(S) Nitrobenzene-d5			*48.3*	*10.0-127*	
(S) 2-Fluorobiphenyl			*84.1*	*10.0-130*	
(S) p-Terphenyl-d14			*99.7*	*10.0-128*	
(S) Phenol-d5			*18.6*	*10.0-120*	
(S) 2-Fluorophenol			*33.3*	*10.0-120*	
(S) 2,4,6-Tribromophenol			*90.0*	*10.0-155*	

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
MQL	Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
SDL	Sample Detection Limit.
(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 Sample Detection Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.
* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

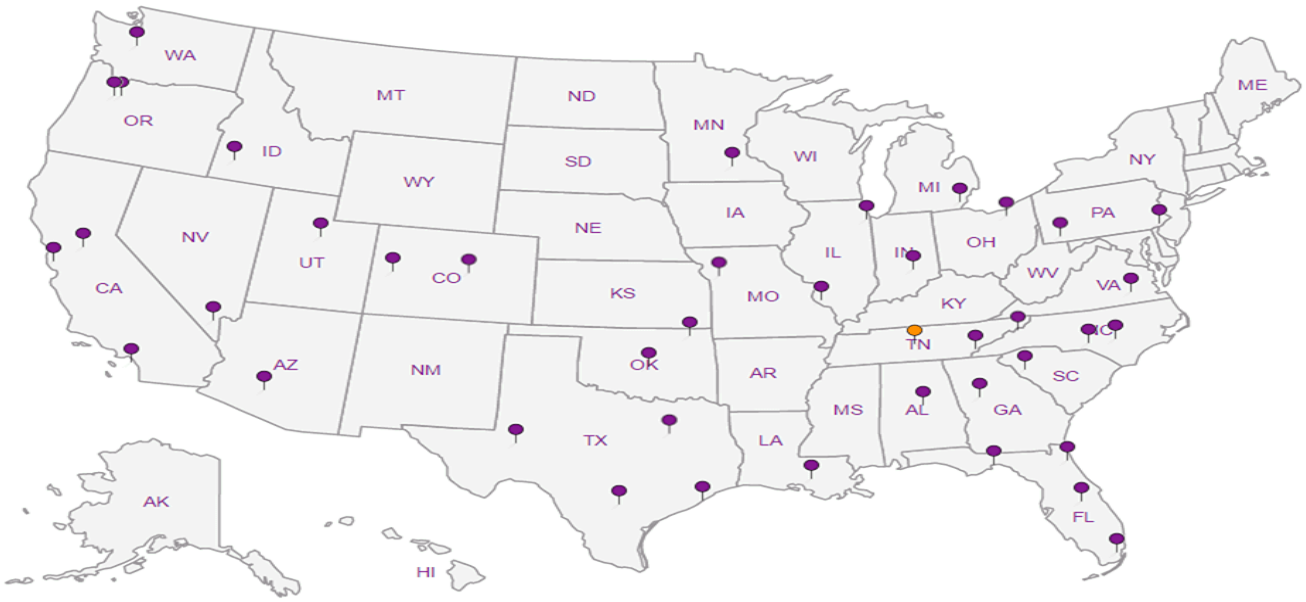
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



UPRR - Golder Associates

2201 Double Creek Dr., Ste 4004
Round Rock, TX 78664

Billing Information:
Kevin Peterburs
4823 N 119th Street
Milwaukee, WI 53225

Report to: Eric Matzner

Email To: eric_matzner@golder.com;Michelle_Hermiston

Project Description: Houston TX-Wood Preserving Works

City/State Collected:

Please Circle: PT MT CT ET

Phone: 281-350-7197

Client Project # 1620

Lab Project # UPRRGOLD-1620

Collected by (print): Tim McSpadden

Collected by (signature): T. McSpadden

Immediately Packed on Ice N ___ Y X

Site/Facility ID # HWPW - MONITORING

P.O. #

Quote #

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day
Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8270TX 100ml Amb NoPres	ALK, TDS, PORTHO 250mlHDPE-NoPres	As, Ca, K, Mg, Na 250mlHDPE-HNO3	Cl, F, NO2, NO3, SO4 125mlHDPE-NoPres	V8260 40mlAmb-HCl	Pres Chk	Remarks	Sample # (lab only)
WG-1620SG24202007 30	G	GW	-	7-30-20	9:00	5	X				X			-01
WG-1620SG26202007 30	G	GW	-	7-30-20	9:30	5	X				X			-02
WG-1620SG13R202007 30	G	GW	-	7-30-20	10:00	3	2MR				X			-03
WG-1620SG13 202007 30	G	GW	-	7-30-20	10:30	2	MR				X			-04
WG-1620 COH 202007 30	G	GW	-	7-30-20	10:40	8	X	X	X	X	X			-05
WG-1620SG09 2020 07 30	G	GW	-	7-30-20	1130	7	X	X			X			-06
WG-1620SG07 202007 30	G	GW	-	7-30-20	1140	3					X			-07
WG-1620SG06 202007 30	G	GW	-	7-30-20	1225	6	X			X	X			-08
WG-1620SG05 202007 30	G	GW	-	7-30-20	1300	8	X	X	X	X	X			-09
WG-1620SG04 202007 30	G	GW	-	7-30-20	1340	8	X	X	X	X	X			-10

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace Analytical® National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1245663

Table # B054

Acctnum: UPRRGOLD

Template: T170991

Prelogin: P788951

PM: 134 - Mark W. Beasley

PB:

Shipped Via: FedEX Ground

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: 8260 and 8270 site specific compound list

pH _____ Temp _____

Flow _____ Other _____

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking #

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	Temp:	Bottles Received:	If preservation required by Login: Date/Time
	7-31-20	1400	7/31/20 1430	3	°C	79	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)				
	7/31/20	1820					
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:	Hold:	Condition: NCF / OK
				8/1/20	700		

UPRR - Golder Associates

2201 Double Creek Dr., Ste 4004
Round Rock, TX 78664

Billing Information:
Kevin Peterburs
4823 N 119th Street
Milwaukee, WI 53225

Pres Chk

Email To:
eric_matzner@golder.com;Michelle_Hermiston

Report to:
Eric Matzner

Project Description:
Houston TX-Wood Preserving Works

City/State Collected:

Please Circle: PT MT CT ET

Phone: 281-350-7197

Client Project #
1620

Lab Project #
UPRRGOLD-1620

Collected by (print):
TIM McSpadden

Collected by (signature):

Site/Facility ID #
HWPW - MONITORING

P.O. #

Quote #

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8270TX 100ml Amb NoPres	ALK, TDS, PORTHO 250mlHDPE-NoPres	As, Ca, K, Mg, Na 250mlHDPE-HNO3	Cl, F, NO2, NO3, SO4 125mlHDPE-NoPres	V8260 40mlAmb-HCl	Remarks	Sample # (lab only)
WG1620SG0220200730	G	GW	-	7-30-20	1430	8	X	X	X	X	X		-11
WG1620SG0120200730	G	GW	-	7-30-20	1450	8	X	X	X	X	X		-12
WG1620SG0320200730	G	GW	~	7-30-20	1530	4				X	X		-13
WG1620MW35A20200730	G	GW	-	7-30-20	1600	3		X	X	X			-14
		GW											
		GW											
		GW											
		GW											
		GW											
		GW											

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:8260 and 8270 site specific compound list

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Relinquished by: (Signature) — Date: 7/31/20 Time: 1400
Received by: (Signature) — 7/31/20 14:00

Relinquished by: (Signature) — Date: 7/31/20 Time: 1800
Received by: (Signature)

Relinquished by: (Signature) — Date: Time:
Received for lab by: (Signature)

Trip Blank Received: Yes / No
HCL / MeoH
TBR

Temp: 1.3 °C Bottles Received: 78
25-1-24

Date: 8/01/20 Time: 900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Sample Receipt Checklist
COC Seal Present/Intact: __NP X Y __N
COC Signed/Accurate: X Y __N
Bottles arrive intact: X Y __N
Correct bottles used: X Y __N
Sufficient volume sent: X Y __N
If Applicable
VOA Zero Headspace: X Y __N
Preservation Correct/Checked: X Y __N
RAD Screen <0.5 mR/hr: X Y __N

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG #

Table #

Acctnum: UPRRGOLD
Template:T170991
Prelogin: P788951
PM: 134 - Mark W. Beasley
PB:

Shipped Via: FedEX Ground

Hailey Melson

Login #: L1245663	Client: UPRRGOLD	Date: 08/01/2020	Evaluated by: Monica R.

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
x	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		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:

pH=7 for ID: WG-1620SG0220200730

Client informed by:		Call		Email		Voice Mail		Date: 8/1/20	Time: 1205
TSR Initials: MB	Client Contact:								

Login Instructions:

Preserve and run

UPRR - Golder Associates

2201 Double Creek Dr., Ste 4004
Round Rock, TX 78664

Billing Information:
Kevin Peterburs
4823 N 119th Street
Milwaukee, WI 53225

Pres Chk

Report to: Eric Matzner

Email To: eric_matzner@golder.com;Michelle_Hermiston

Project Description: Houston TX-Wood Preserving Works

City/State Collected:

Please Circle: PT MT CT ET

Phone: 281-350-7197

Client Project # 1620

Lab Project # UPRRGOLD-1620

Collected by (print): Tim McSpadden

Collected by (signature): T. McSpadden

Immediately Packed on Ice N ___ Y X

Site/Facility ID # HWPW - MONITORING

P.O. #

Quote #

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day
Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8270TX 100ml Amb NoPres	ALK, TDS, PORTHO 250mlHDPE-NoPres	As, Ca, K, Mg, Na 250mlHDPE-HNO3	Cl, F, NO2, NO3, SO4 125mlHDPE-NoPres	V8260 40mlAmb-HCl	Remarks	Sample # (lab only)
WG-1620SG-24-20200730	G	GW	-	7-30-20	9:00	5	X				X		-01
WG-1620SG-26-20200730	G	GW	-	7-30-20	9:30	5	X				X		-02
WG-1620SG-13R-20200730	G	GW	-	7-30-20	10:00	3	2 MR				X		-03
WG-1620SG-13-20200730	G	GW	-	7-30-20	10:30	2	MR				X		-04
WG-1620COH-20200730	G	GW	-	7-30-20	10:40	8	X	X	X	X	X		-05
WG-1620SG09-20200730	G	GW	-	7-30-20	1130	7	X	X			X		-06
WG-1620SG07-20200730	G	GW	-	7-30-20	1140	3					X		-07
WG-1620SG06-20200730	G	GW	-	7-30-20	1225	6	X			X	X		-08
WG-1620SG05-20200730	G	GW	-	7-30-20	1300	8	X	X	X	X	X		-09
WG-1620SG04-20200730	G	GW	-	7-30-20	1340	8	X	X	X	X	X		-10

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

SDG # L1245663

Table B054

Acctnum: UPRRGOLD

Template: T170991

Prelogin: P788951

PM: 134 - Mark W. Beasley

PB:

Shipped Via: FedEX Ground

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: 8260 and 8270 site specific compound list

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

	Date:	Time:		
Relinquished by: (Signature)	7-31-20	1400	Received by: (Signature)	7/31/20 1430
Relinquished by: (Signature)	7/31/20	1810	Received by: (Signature)	
Relinquished by: (Signature)			Received for lab by: (Signature)	

Trip Blank Received: Yes / No HCl / MeoH TBR

Temp: 2.5-1=2.4 °C Bottles Received: 79

Date: 8/1/20 Time: 900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

UPRR - Golder Associates

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Round Rock, TX 78664

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Pres Chk

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Immediately Packed on Ice N ____ Y X

Site/Facility ID # HWPW - MONITORING

P.O. #

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WG1620SG022020730	G	GW	-	7-30-20	1430	8	X	X	X	X	X		-11
WG1620SG012020730	G	GW	-	7-30-20	1450	8	X	X	X	X	X		-12
WG1620SG032020730	G	GW	-	7-30-20	1530	4				X	X		-13
WG1620MW35A2020730	G	GW	-	7-30-20	1600	3		X	X	X			-14
		GW											
		GW											
		GW											
		GW											
		GW											
		GW											

Chain of Custody Page ___ of ___

Pace Analytical®
National Center for Testing & Innovation

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Mount Juliet, TN 37122
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SDG # L1245666

Table #

Acctnum: UPRRGOLD

Template: T170991

Prelogin: P788951

PM: 134 - Mark W. Beasley

PB:

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* Matrix:
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Remarks: 8260 and 8270 site specific compound list

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by: (Signature)	Date: 7-31-20	Time: 1400	Received by: (Signature)	7/31/20 14:00	Trip Blank Received: (Yes / No) HCL / MeoH TBR
Relinquished by: (Signature)	Date: 7/31/20	Time: 1810	Received by: (Signature)	Temp: 2.5+.2=2.4 °C	Bottles Received: 78
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 8/01/20	Time: 900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Hailey Melson

Pace Analytical®
National Center for Testing & Innovation

Login #: L1245663	Client: UPRRGOLD	Date: 08/01/2020	Evaluated by: Monica R.

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
x	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		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:

pH=7 for ID: WG-1620SG0220200730

Client informed by:		Call		Email		Voice Mail		Date: 8/1/20	Time: 1205
TSR Initials: MB	Client Contact:								

Login Instructions:

Preserve and run