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	Interim Groundwater Monitoring Report (2019-2020)
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.			

GOLDER

Interim Groundwater Monitoring Report (2019-2020)

Union Pacific Railroad Houston Wood Preserving Works Facility

Post-Closure Care Permit No HW-50343/Industrial SWR No. 31547

Prepared for:

Mr. Kevin Peterburs
Union Pacific Railroad Company
4823 N 119th Street
Milwaukee, WI 53225

Prepared by:

Golder Associates Inc.
2201 Double Creek Dr, Suite 4004
Round Rock, Texas, USA 78664
Texas Geoscience Firm No. 50369
Texas Engineering Firm No. 2578

+1 512 671-3434

April 30, 2020

Table of Contents

TABLES

FIGURES

ATTACHMENTS

1.0 INTRODUCTION

This Interim Groundwater Monitoring Report (IGMR) was prepared by Golder Associates Inc. (Golder) on behalf of Union Pacific Railroad (UPRR) to summarize the site-wide groundwater sampling activities conducted in July 2019 and the additional groundwater assessment activities and site-wide sampling event in January-March 2020 at the UPRR Houston Wood Preserving Works Facility (the Site) located at 4910 Liberty Road, Houston, Texas. The January-March 2020 site-wide groundwater sampling included the sampling of the additional monitoring wells that were installed in February through March 2020 to further assess groundwater at the Site, as discussed in Section 2.0 below. The analytical data from the recently installed wells are included in this IGMR.

Details on the additional groundwater investigations, groundwater monitoring activities, groundwater elevation data and analytical results are provided in the following sections. In addition, information regarding off-site property notification in accordance with Texas Risk Reduction Program (TRRP) Rules 350.55(a) is also provided.

2.0 ADDITIONAL GROUNDWATER INVESTIGATION ACTIVITIES

2.1 Assessment Methods

As detailed in the Conceptual Response Action Plan (RAP) dated July 9, 2019 (Golder, 2019b) in response to the TCEQ 4th Technical Notice of Deficiency (TNOD) dated April 11 2019, UPRR proposed to install additional monitoring wells to refine the lateral and vertical extent of the dissolved phase plume in the A-Transmissive Zone (A-TZ), B-Cohesive Zone/ B-Transmissive Zone (B-TZ/B-CZ), and C-Transmissive Zone (C-TZ). The TCEQ reviewed the proposed monitoring well locations and requested additional monitoring wells be installed as detailed in a TCEQ September 6, 2019 letter. Following a meeting with the TCEQ on September 23, 2019 discussing the proposed locations, UPRR prepared a response letter dated October 23, 2019 to the TCEQ confirming the number and location of monitoring wells to be installed. The TCEQ issued a letter dated December 13, 2019 approving UPRR to proceed with the planned monitoring well installation activities. The following monitoring wells were installed during the period from February through March 2020 and were sampled in March 2020 (locations shown on Figure 1):

- Nine A-TZ wells, MW-47A, MW-84A, MW-88A, MW-91A, MW-94A, MW-95A, MW-97A, MW-98A, and MW-60AR (replacement well);
- Ten B-TZ/B-CZ wells - MW-50B, MW-54B, MW-60B, MW-61B, MW-76B, MW-88B, MW-92B, MW-93B, MW-96B, and MW-98B; and
- Two C-TZ wells - MW-70C and MW 99C.

After each monitoring well was installed, the wells were developed to remove sediment from the wells. Permanent monitoring wells were surveyed by a licensed, professional surveyor to Texas State Plane coordinates (NAD 27, Texas South Central, U.S. Feet). A summary of the monitoring well construction for wells located at the Site is provided on Table A-1 of Attachment A. Monitoring well boring logs for the monitoring wells installed January through March 2020 are provided in Attachment A.

2.2 Data Quality

Samples collected from the Site were analyzed in accordance with the guidelines of U.S. Environmental Protection Agency (EPA) SW-846, Test Methods for Evaluating Solid Waste-Physical/Chemical Methods. The procedures for laboratory analysis, with any modifications, are further documented in the laboratory standard operating procedures, which are maintained at the laboratory, and are listed in the laboratory's quality assurance

plan. Analyses of groundwater samples for these sampling events were performed by ALS Laboratory Group in Houston, Texas. Data obtained from field and laboratory measurements were reviewed for conformance to project requirements, ensuring the lowest method quantitation limit (MQL) was used in the evaluation.

Analytical data from the groundwater samples collected during the groundwater investigations from 2019 through 2020 were reviewed for adherence to established quality assurance/quality control (QA/QC) criteria, and Data Usability Summaries (DUSs) were prepared following TCEQ publication RG-366/TRRP-13 (TCEQ, 2010) to demonstrate the quality of the laboratory analytical data and present any deviations from the established QA/QC criteria. Copies of the analytical data reports and details of the DUSs are provided in Attachment B. For data included in this IGMR, the groundwater data are considered usable for the purpose of evaluating chemicals of concern (COCs) in the environmental media to assess the affected property based on the COCs and establish TRRP protective concentration level exceedance (PCLE) zones.

3.0 GROUNDWATER MONITORING ACTIVITIES

Golder, on behalf of UPRR, conducted groundwater monitoring activities at the Site in July 2019 and January-March 2020 to further evaluate the lateral and vertical extent COCs in groundwater and continue to evaluate groundwater COC trends at the Site. Groundwater samples were collected using low-flow sampling techniques described in the EPA guidance document Low-Flow (Minimal Drawdown) Ground Water Sampling Procedures (EPA, 1996). Each sample was analyzed for the site-specific COC list (volatile organic compounds (VOCs) by EPA Method 8260, semi-volatile organic compounds (SVOCs) by EPA Method 8270C, and arsenic by EPA Method 6020).

Prior to sampling, the depth to water and the thickness or presence of non-aqueous phase liquids (NAPL) was measured using an oil-water interface probe. The wells were then purged at a low flow rate using a peristaltic pump with dedicated tubing with the pump intake near the lower portion of the screened interval, unless dense NAPL (DNAPL) was present. Purging was accomplished in such a way as to minimize disturbance of sediments at the bottom of the well, and therefore minimize turbidity of the water samples. During well purging, field parameters, including specific conductance, pH, temperature, dissolved oxygen, oxidation/reduction potential (redox), and turbidity were monitored with field meters. Field meters were calibrated before sampling each day, using the manufacturer's recommended procedures. Odor and color of the purge water were also noted on the groundwater sampling record. Each monitoring well was purged until the field parameters pH, specific conductance, and temperature had stabilized, or until the well purged dry. Groundwater sampling records from July 2019 through March 2020 are provided in Attachment C.

After purging, groundwater samples were collected from the discharge of the peristaltic pump following low-flow sampling techniques. In July 2019, none of the wells with detectable DNAPL were sampled. However, as requested by the TCEQ in a letter dated September 6, 2019 (Additional Comments to UPRR's July 10, 2019 Response to 4th TNOD), wells with detectable DNAPL were sampled during the January–March 2020 sampling event. For wells with DNAPL measured, the pump intake was raised to at least 2 to 3 feet above the top of the measured DNAPL.

Since dedicated tubing was used in each well, no equipment rinse sample was collected. Sampling information (i.e., sample time, bottle sets, sampler name, use of filter, etc.) was recorded on the groundwater sampling forms. Groundwater samples were placed in coolers and delivered to ALS Laboratory Group in Houston, Texas for analysis. The samples were analyzed in accordance with EPA protocol for the analytical methods requested.

Analytical laboratory reports and DUSs for both sampling events are provided in Attachment B.

3.1 July 2019 Site-Wide Sampling event

The July 2019 sampling event was conducted between July 9 and July 31, 2019, in which 97 groundwater monitoring wells were sampled from the following groundwater bearing units (GWBUs):

- Forty (40) A-TZ monitoring wells;
- Thirty-two (32) B-TZ/B-CZ monitoring wells;
- Twenty-one (21) C-TZ monitoring wells; and
- Four (4) D-TZ monitoring wells.

Monitoring wells containing detectable DNAPL were not sampled during this monitoring event.

3.2 January-March 2020 Site-Wide Sampling Event

The January-March 2020 sampling event was conducted between January 9 and March 20, 2020 (January-March 2020 sampling event), and included the sampling of monitoring wells installed in February and March 2020. During the January-March 2020 sampling event, 127 groundwater monitoring wells were sampled from the following GWBUs:

- Forty-eight (48) A-TZ monitoring wells;
- Forty-eight (48) B-TZ/B-CZ monitoring wells;
- Twenty-seven (27) C-TZ monitoring wells; and
- Four (4) D-TZ monitoring wells.

Monitoring wells containing detectable DNAPL were sampled during this monitoring event.

4.0 GROUNDWATER ELEVATION DATA

Prior to purging and sampling, the static depth to groundwater in wells was measured from the designated surveyed measuring point with an interface probe to the nearest one hundredth of one foot (0.01 ft). Groundwater elevations for the monitoring wells measured in July 2019 and January 2020 are summarized on Table 1. Potentiometric surface maps for each of the four transmissive zones, A-TZ, B-TZ/B-CZ, C-TZ, and D-TZ, are presented on Figures 5A-1a through and 5A-4a for the July 2019 sampling event, and on Figures 5A-1b through and 5A-4b for the January-March 2020 sampling event. Groundwater flow directions are described in the following sections.

4.1 A-TZ Wells

Groundwater in the A-TZ generally flows from southwest to east-northeast across the Site at a gradient ranging from approximately 0.002 ft/ft to 0.016 ft/ft (approximate average of 0.004 ft/ft), with a groundwater divide on the east side of the Site just west of the Lockwood Road Bridge (Figures 5A-1a and 5A-1b). As discussed in the Updated APAR Addendum (PBW, 2010), the 60-in wastewater line runs north to south just west of the Lockwood Bridge and appears to intersect the A-TZ. Groundwater flow in the A-TZ flows to the east on the west side of the wastewater line and flows to the west on the east side of the wastewater line.

The highest groundwater elevation in the A-TZ during the July 2019 and January 2020 event was near the west side of the Site at Solid Waste Management Unit (SWMU) 1 (45.35 feet relative to the City of Houston Vertical Datum (HVD) (MW-08, July 2019) and 45.47 ft HVD (MW-02, January 2020)), with the lowest elevations near the east side of the Site along Lockwood Drive (34.06 feet HVD (MW-18A, July 2019) and 33.86 ft HVD (MW-18A, January 2020)) near the area where the wastewater line is located.

4.2 B-CZ/B-TZ Wells

Groundwater in the B-TZ generally flows from west to east-northeast across the Site at gradients ranging from 0.003 ft/ft to 0.02 ft/ft, with an average of approximately 0.004 ft/ft. As shown on Figures 5A-2a and 5A-2b, there is a piezometric high near the west perimeter of the Site near SWMU 1, similar to the flow conditions in the A-TZ. Off-site to the north, the groundwater flow conditions in the B-TZ are more variable. In July 2019 and January 2020, groundwater flow was to the east, north, or northwest depending on the location. For the two monitoring events, the highest groundwater elevation in the B-TZ was 45.70 feet HVD (P-12 (July 2019), and lowest elevation in the B-TZ wells was 36.09 feet HVD (MW-80B, July 2019).

As discussed in the Response Action Plan (RAP) (Attachment 1A - APAR Addendum, PBW, 2014), there is a lateral change in the hydrogeology of the B-TZ as it pinches out from west to east into the B-CZ clay unit, where groundwater is encountered in very thin carbonate seams (typically less than 0.1 feet thick) within the clay unit at relatively the same elevation as the B-TZ. The B-CZ, where these thin carbonate seams are found, was classified as a Class 3 groundwater resource that was approved by the TCEQ in the 3rd TNOD letter dated April 10, 2017.

Groundwater flow in the B-CZ during the gauging events show variable flow direction with flow to the east-northeast on the east portion of the Site. Groundwater potentiometric elevations from the off-site wells north of the Site (i.e., MW-36B and MW-59B) indicate flow to the north toward MW-67B (Figures 5A-2a and 5A-2b). There is also a groundwater elevation high near off-site wells MW-36B and MW-71B showing flow radiating from that area (Figures 5A-2a and 5A-2b). The highest groundwater elevation in the B-CZ in July 2019 was 43.97 feet HVD (MW-71B), and the lowest elevation in the B-CZ wells was 34.20 feet HVD (MW-49B) (Figure 5A-2a)

4.3 C-TZ Wells

Groundwater flow direction in the C-TZ is generally from northeast to southwest across the Site (Figures 5A-3a and 5A-3b) with a gradient about 0.001 ft/ft. The flow direction is similar to previous gauging events in the C-TZ. Groundwater elevations measured in July 2019 and January 2020 events ranged from a high of approximately 29.72 feet HVD (MW-53C, July 2019) to 25.52 feet HVD (MW-86C, January 2020). There are two areas showing relatively low potentiometric elevations, near MW-23C and in the vicinity of MW-44C, MW-45C, and MW-46C. Both areas, where current DNAPL recovery efforts are being conducted (i.e., monthly recovery events), have potentiometric elevations about 1 to 3 feet lower than the surrounding potentiometric elevations (Figures 5A-3a (July 2019) and 5A-3b (January 2020)).

4.4 D-TZ Wells

Groundwater flow direction in the D-TZ appears to be from the southeast to northwest during the July 2019 event (Figure 5A-4a) and from the east to west during the January 2020 event (Figure 5A-4b) at gradients ranging from 0.0015 ft/ft to 0.0038 ft/ft. Groundwater elevations range from a high of -34.75 feet HVD (MW-66D (January 2020) to a low of -38.84 feet HVD (MW-59D, January 2020).

5.0 GROUNDWATER ANALYTICAL RESULTS

Groundwater analytical data were compared to the TCEQ TRRP Residential Groundwater PCLs or Residential Assessment Levels (RALs) (the lesser value between $^{GW}GW_{Ing}$ and $^{Air}GW_{Inh\text{-}V}$ PCLs), dated November 2019, assuming the source area greater than 0.5 acre in size (30-acre source area). Critical PCLs (cPCLs) to assess PCLE Zones were then established assuming residential or commercial/industrial (C/I) land use depending on the location of the monitoring well (i.e., on-site wells compared to C/I PCLs and off-site wells compared to residential PCLs). The PCLE Zones were established based on the COC concentrations for both the July 2019 and January-March 2020 sampling events. Semi-annual groundwater monitoring data from January 2009 through March 2020 were used to construct the following summary tables and evaluate trends in COC concentrations in groundwater:

- Table 1 – Groundwater Measurements
- Table 2 – Analytical Results Summary – Class 2 Groundwater
- Table 3 – Analytical Results Summary – Class 3 Groundwater
- Table 4 - Analytical Results Summary – A-TZ Wells – Vapor Intrusion Screening Level (VISL) Comparison (2019-2020)

COCs evaluated were the site-specific COCs identified in the RCRA Facility Investigation (RFI) Work Plan (IC, 1994) prepared for the Site. In addition to the 34 site-specific COCs, groundwater samples from selected wells were analyzed for vinyl chloride by EPA Method 8260 and samples from the site-wide monitoring wells were analyzed for arsenic by EPA Method 6020 based on previous groundwater sampling events. Comparing the maximum groundwater analytical data from the July 2019 and January 2020 groundwater sampling events to cPCLs, concentrations of 18 target COCs (plus arsenic) exceeded their respective RALs:

<u>Volatile Organic Compounds (VOCs)</u>

- Benzene (A-TZ, B-CZ/B-TZ, C-TZ)

<u>Semi-Volatile Organic Compounds (SVOCs)</u>

- 2,4-Dimethylphenol (A-TZ, B-TZ)
- 2,6-Dinitrotoluene (C-TZ)
- 2-Methylnaphthalene (A-TZ, B-CZ/B-TZ, & C-TZ)
- *Acenaphthene (B-CZ/B-TZ only*)*
- *Acenaphthylene (B-CZ/B-TZ only*)*
- *Anthracene (B-CZ only*)*
- Benzo(a)anthracene (B-CZ/B-TZ)
- Benzo(a)pyrene (A-TZ, B-CZ/B-TZ, & C-TZ)
- *Chrysene (B-TZ only*)*
- Dibenzofuran (A-TZ, B-CZ/B-TZ, & C-TZ)
- *Fluoranthene (B-CZ/B-TZ only*)*
- *Fluorene (B-CZ/B-TZ only*)*
- Naphthalene (A-TZ, B-CZ/B-TZ, & C-TZ)
- Pentachlorophenol (C-TZ)
- Phenanthrene (B-CZ/B-TZ only)

Volatile Organic Compounds (VOCs)

Semi-Volatile Organic Compounds (SVOCs)

- Phenol (A-TZ, B-CZ)
- *Pyrene (B-CZ/B-TZ only*)*

** - COC only detected in wells with DNAPL present*

As noted above, seven SVOC concentrations (acenaphthene, acenaphthylene, anthracene, chrysene, fluoranthene, fluorene, and pyrene) were detected above RALs in wells MW-12B, MW-32B, MW-49B, and MW-70B. Each of these wells contained detectable DNAPL during the sampling event. As a result, these concentrations would tend to overestimate the dissolved concentration in the groundwater if some DNAPL was entrained in the sample during sample collection. As an example, naphthalene concentrations were detected in MW-12B at 760 mg/L in January 2020, which is more than an order of magnitude greater than the solubility of naphthalene in water at 41 mg/L, thereby demonstrating the entrainment of some naphthalene-containing NAPL within the sample collected from this well.

5.1 July 2019 and January-March 2020 COC Concentrations

The spatial distribution of the COCs exceeding RALs in each GWBU from the July 2019 and January-March 2020 monitoring events are presented on the following figures (provided in Attachment D and E, respectively for each event):

- Figure 5B-1 for unit A-TZ,
- Figure 5B-2 for B-TZ/B-CZ,
- Figure 5B-3 for C-TZ, and
- Figure 5B-4 for D-TZ.

In addition to the figures listed above, individual COC concentration maps for the most commonly detected groundwater COCs at the Site (primary COCs –VOC benzene, and SVOCs 2,4-dimethylphenol, 2-methylnaphthalene, dibenzofuran, and naphthalene) were prepared for the A-TZ, B-CZ/B-TZ, and C-TZ units at the Site using the July 2019 (Attachment D) and January-March 2020 (Attachment E) data. The figures (Figure 5B-5 through 5B-19) are listed below:

GWBU	A-TZ	B-CZ/B-TZ	C-TZ
COC	**Figure Number**		
Benzene	5B-5	5B-10	5B-15
2,4 – Dimethylphenol	5B-6	5B-11	5B-16
2-Methylnaphthalene	5B-7	5B-12	5B-17
Dibenzofuran	5B-8	5B-13	5B-18
Naphthalene	5B-9	5B-14	5B-19

For each COC concentration map, a cumulative groundwater PCLE Zone based on the combined PCLE Zones for each individual COC in each GWBU is shown on the figures.

Monitoring wells in the four GWBUs were also sampled and analyzed for arsenic. Arsenic concentrations from the July 2019 and January-March 2020 sampling events were detected above the TCEQ TRRP RAL and cPCL in the A-TZ and B-CZ/B-CZ zones (Tables 2 and 3). Arsenic isopleth maps were generated for the A-TZ, B-CZ/B-TZ, and C-TZ based on the 2019 and 2020 data (Figure 5B-20 through Figure 5B-22 in Attachment D (July 2019) and E (January-March 2020)). Details of the distribution of the COCs detected in each transmissive zone are discussed below.

5.1.1 A-TZ Wells

VOCs

During the July 2019 and January-March 2020 groundwater monitoring events, benzene concentrations were the only VOCs that were detected above its RAL and cPCL of 0.005 mg/L in A-TZ wells. Benzene concentrations detected above the RAL were predominantly located on the eastern portion of the Site and in the northern portion of the Englewood Intermodal Yard (Figure 5B-5 (Attachments D and E)).

Except for the benzene concentration detected at off-site well MW-26A at 0.00036J mg/L (July 2019 event), an order of magnitude below the RAL, none of the off-site A-TZ wells to the north had benzene concentrations detected above the sample detection limit (SDL) during the two sampling events. Therefore, benzene concentrations are delineated to the RAL to the north. Benzene concentrations are also delineated to the RAL to the east of the Site in wells MW-47A, MW-59A, MW-60AR, and MW-61A; delineated to the RAL to the south at MW-50A, MW-51A, MW-97A, and MW-98A ; and delineated to the RAL to the west at wells MW-05, MW-09, MW-12A, MW-15A, and MW-88A based on the analytical data from both events. Based on the analytical results, the PCLE Zone for benzene in the A-TZ is within the Site boundary except to the north (along Liberty Road) and east in which it extends onto the City of Houston right-of-way (ROW) (Figure 5B-5, Attachments D and E)).

For the wells installed in February-March 2020, benzene concentrations were below SDLs in the eight new A-TZ wells MW-47A, MW-84A, MW-88A, MW-91A, MW-94A, MW-95A, MW-97A, MW-98A, and in replacement well MW-60AR sampled during the March 2020 sampling event.

Other VOCs (1,2-dichloroethane, chlorobenzene, ethylbenzene, toluene, vinyl chloride, and xylenes) were detected above SDLs in the A-TZ wells sampled during the July 2019 and January-March 2020 sampling events, however, none of the results exceeded their respective RALs.

SVOCs

Similar to the benzene detections, SVOCs were detected above the applicable RALs in A-TZ wells located generally on the eastern portion of the Site and in the northern portion of the Englewood Intermodal Yard. The primary SVOCs detected in the A-TZ above RALs included 2,4-dimethylphenol, 2-methylnaphthalene, dibenzofuran, and naphthalene (Figures 5B-6 through 5B-9, Attachments D and E). Analytical data from the July 2019 and January-March 2020 sampling events indicated that concentrations of SVOCs 2,4-dimethylphenol, 2-methylnaphthalene, dibenzofuran, and naphthalene were delineated in the A-TZ to the north, east, south and west below their respective RALs similar to the benzene concentrations. Dibenzofuran was detected above the RAL in one A-TZ well (MW-12A) on the western side of the Site during both sampling events but below the cPCL. Dibenzofuran concentrations were below RALs in the off-site well to the northwest (MW-38A) of MW-12A during both events.

For both sampling events, the groundwater PCLE Zone for the primary SVOCs that exceeded their cPCLs generally falls within the benzene PCLE Zone. Therefore, similar to the benzene PCLE Zone, none of the SVOC

concentrations detected in A-TZ wells offsite exceeded their respective RALs. The PCLE Zones for the individual SVOCs are predominately within the Site boundary except to the north (along Liberty Road) and east in which it extends onto the City of Houston ROW.

For the newly installed wells in February-March 2020, SVOCs 2,4-dimethylphenol, 2-methylnaphthalene, dibenzofuran, and naphthalene concentrations were below RALs in the eight new A-TZ wells MW-47A, MW-84A, MW-88A, MW-91A, MW-94A, MW-95A, MW-97A, MW-98A, and in replacement well MW-60AR during the March 2020 sampling event.

Except for benzo(a)pyrene and phenol, concentrations for the other SVOCs analyzed were either detected below RALs or below the SDL in the A-TZ wells during the July 2019 and January-March 2020 sampling events. Benzo(a)pyrene at MW-57A and phenol at MW-17 were detected at concentrations greater than the respective RALs in July 2019. Benzo(a)pyrene at MW-57A and MW-79A was detected at concentrations greater than the RAL in January-March 2020. Trace DNAPL was observed in MW-57A in early 2019 but has not been detected since then.

Arsenic

Arsenic concentrations have generally fluctuated in A-TZ wells between sampling events (Table 2). Of the A-TZ wells sampled in July 2019, arsenic concentrations in 13 A-TZ wells exceeded the RAL where only 7 of those same wells sampled in January 2020 had arsenic concentrations detected above the RAL. The July 2019 arsenic concentrations in A-TZ wells generally exceed the RAL along the northern boundary of the Site (MW-13, MW-15A, MW-17, and MW-18A), offsite to the north (MW-26A, MW-32AR, MW-33A, MW-35A, MW-44A, and MW-68A), in the southwestern portion of the Site (MW-04 and MW-05), and one well in the central portion of the Englewood Intermodal Yard (MW-77A) (Figure 5B-20, Attachment D). The January-March 2020 arsenic concentrations in A-TZ wells exceed the RAL along the northern boundary of the Site (MW-13, MW-15A, MW-18A, and MW-57A), offsite to the north (MW-26A, MW-35A, and MW-68A), one well offsite to the west (MW-38A), and at one well in the central portion of the Englewood intermodal yard (MW-77A) (Figure 5B-20, Attachment E). For the newly installed wells in February-March 2020, arsenic concentrations were below the RAL in the eight new A-TZ wells MW-47A, MW-84A, MW-88A, MW-91A, MW-94A, MW-95A, MW-97A, MW-98A, and in replacement well MW-60AR during the March 2020 sampling event. Based on the January-March 2020 groundwater data with the newly installed wells, the arsenic concentrations are delineated to the RAL in the A-TZ except near MW-13 on the northwest corner of the Site.

Arsenic concentrations in the A-TZ wells do not appear to correlate with the elevated concentrations of the primary COCs. Many wells with elevated arsenic concentrations (exceeding RAL) do not have exceedances of other COC concentrations, especially north of the Site. For example, arsenic concentrations were highest at MW-26A and MW-13 in July 2019, but all other COC concentrations were detected below RALs at MW-26A and at MW-13 (Table 2). Similar to July 2019, January-March 2020 arsenic concentrations were highest at MW-13, and all other COC concentrations in MW-13 were below RALs (Table 2). Dissolved concentrations of arsenic in groundwater at the Site are likely associated with naturally-occurring arsenic in the aquifer matrix that is reduced from less mobile arsenate species to more mobile arsenite species under reducing conditions caused by the natural degradation of petroleum hydrocarbons (Cozzarelli, et al., 2015).

EPA Vapor Intrusion Screening Level Evaluation

Groundwater analytical data from July 2019 and January-March 2020 for the off-site monitoring wells completed in the A-TZ north, west and east of the Site were also 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 the identified COCs in the A-TZ. The EPA tool calculates the COC concentration in groundwater, based on certain default conditions, at which the COC is not expected to pose an unacceptable VI risk and, as such, can be eliminated from further consideration.

EPA VISL Calculator

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 groundwater temperature of 25°C. Based on these inputs, the calculated groundwater screening concentrations were estimated. These values were compared with the July 2019 and January-March 2020 groundwater sample COC concentrations for the Site-specific COCs (Table 4). A summary of the VISL values relative to the maximum detected COC concentrations from the two sampling events are provided in the following table.

COC	VISL Screening Level for Elimination from Further Consideration (mg/L)	Maximum Detected COC Concentrations in Off-Site A-TZ Wells July 2019 & January-March 2020 Samples (mg/L)
Benzene	0.014	0.00036J (MW-26A-July 2019)
Chlorobenzene	0.041	<0.0003
Ethylbenzene	0.035	<0.0003
Methylene Chloride	0.471	<0.001
Toluene	1.92	<0.0002
Xylenes	0.0385	<0.0003
Benzo(a)anthracene	0.344	0.00012 (MW-25A-Jan 2020)
Naphthalene	0.0174	0.0026 (MW-27A – July 2019)
Nitrobenzene	0.715	<0.000025

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. This attenuation factor is not adjusted for the more rapid attenuation observed in petroleum hydrocarbon vapors and is therefore likely overly conservative for these compounds. Nevertheless, as indicated above, the COC concentrations from the July 2019 and January-March 2020 off-site A-TZ wells were below the conservative EPA VISL-calculated screening levels by orders of magnitude indicating the VI pathway from the shallow groundwater is incomplete.

5.1.2 B-CZ/B-TZ Wells

VOCs

During the July 2019 and January-March 2020 groundwater monitoring events, benzene concentrations were the only VOCs that were detected above its RAL of 0.005 mg/L (Class 2 groundwater PCL) in B-TZ wells and 0.5 mg/L (Class 3 groundwater PCL) in the B-CZ wells. Benzene concentrations detected above the two RALs in July 2019 and January-March 2020 were predominantly located in area extending from the northeastern portion of the Englewood Intermodal Yard, through the eastern portion of the Site, and off-site to the north (Figure 5B-10 (Attachment D and E)). There is also a smaller area where benzene concentrations exceed the RAL on the western portion of the Site.

Benzene concentrations in the B-CZ are delineated to the Class 3 groundwater RAL to the north and east by MW-33BR, MW-59B, MW-60B, MW-61B, MW-63B, MW-67B, and MW-71B (also shown on Figure 5B-10 (Attachment D and E). Benzene concentrations in the B-TZ in the eastern portion of the Site are delineated to the RAL to the west by MW-15B, MW-82B, MW-88B, MW-89B, MW-90B, MW-92B, and MW-93B and to the south by MW-50B, MW-76B, MW-80B, MW-81B, and MW-98B. Benzene concentrations in the smaller area on the west side of the Site are delineated to the RAL to the north by MW-39B, to the east by MW-42B, to the south by P-11, and to the east by MW-62B, TW-41B, and MW-38B. Benzene concentrations were below RALs in the ten new B-CZ/B-TZ wells during the March 2020 sampling event: MW-50B, MW-54B, MW-60B, MW-61B, MW-76B, MW-88B, MW-92B, MW-93B, MW-96B, and MW-98B.

The PCLE Zone for benzene based on land use (i.e., C/I for on-Site wells and Residential for off-Site wells) in the B-CZ/B-TZ (Class 3 and 2 groundwater, respectively) for both the July 2019 and January-March 2020 events encompasses the northeastern portion of the Englewood Intermodal Yard, eastern portion of the Site, and extends off-site to the north of the Site (referred to as the “Main” PCLE Zone). The PCLE Zone for the smaller area on the west side of the Site appears to be within the Site property boundary (referred to as the “West” PCLE Zone).

Other VOCs (ethylbenzene, toluene, vinyl chloride, and xylenes) were detected above SDLs in the B-CZ/B-TZ wells sampled during the July 2019 and January-March 2020 sampling events; however, none of the results exceeded their respective RALs.

SVOCS

Similar to the benzene concentrations, primary SVOCs 2,4-dimethylphenol, 2-methylnaphthalene, dibenzofuran, and naphthalene were detected above their respective RALs in B-CZ/B-TZ wells located generally in the area extending from the northeastern portion of the Englewood Intermodal Yard, through the eastern portion of the Site, and off-site to the north (Figures 5B-11 through 5B-14 (Attachment D and E)). A smaller area on the western portion of the Site also had RAL exceedances for 2-methylnaphthalene, dibenzofuran, and naphthalene.

Analytical data from the July 2019 and January-March 2020 sampling events indicated that concentrations of SVOCs 2,4-dimethylphenol, 2-methylnaphthalene, dibenzofuran, and naphthalene were delineated in the B-CZ/B-TZ to the north, east, south and west below their respective RALs for both areas. For the newly installed wells in February-March 2020, 2,4-dimethylphenol, 2-methylnaphthalene, dibenzofuran, and naphthalene concentrations were below RALs in the ten new B-CZ/B-TZ wells during the March 2020 sampling event: MW-50B, MW-54B, MW-60B, MW-61B, MW-76B, MW-88B, MW-92B, MW-93B, MW-96B, and MW-98B.

For both sampling events, the groundwater PCLE Zones based on the land use and groundwater classification cPCLs for the primary SVOCs either fall within or are very similar to the benzene PCLE Zones for both the Main and West PCLE Zones.

Except for benzo(a)pyrene in MW-68B and phenol in MW-74B, all other SVOCs were either detected below RALs or below the SDL in the B-CZ/B-TZ wells sampled in July 2019. During the January-March 2020 sampling event, wells with DNAPL were sampled as requested by the TCEQ in a letter dated September 6, 2019. The following other SVOCs were detected above RALs in January-March 2020 in MW-12B, MW-32B, MW-41B, MW-49B, MW-68B, MW-70B, MW-74B, and MW-75B: acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, benzo(a)pyrene, chrysene, fluoranthene, fluorene, phenanthrene, phenol, and pyrene. Except for MW-74B, DNAPL was detected in each of these B-CZ/B-TZ wells that had SVOC exceedances during the January-March 2020 sampling event. Well MW-74B has not had detectable DNAPL since installation; however, DNAPL was noted in the boring log for this well in the B-CZ/B-TZ interval during monitoring well installation.

Arsenic

Arsenic concentrations in the B-TZ in July 2019 exceeded the Class 2 groundwater RAL (0.01 mg/L) in seven wells at the Site in two areas: the western portion of the Site (MW-40B, TW-41B, and P-11) and offsite north of the Site (MW-15B, MW-68B, MW-83B, and MW-84B). Arsenic concentrations in the B-TZ in January-March 2020 exceeded the RAL in the same two areas but in 11 wells: western portion of the Site (MW-40B, TW-41B, and P-11, MW-12B, MW-41B, and MW-62B) but also extended offsite to the west (MW-22BR and MW-38B), and offsite to the north (MW-35B and MW-83B).

Arsenic levels in B-CZ/B-TZ wells north of the Site do not appear to correlate with the elevated concentrations of the primary COCs in the B-CZ/B-TZ in the same area. Concentrations of primary COCs (benzene and SVOCs) were above RALs in July 2019 and January-March 2020 in the eastern portion of the Site, where arsenic concentrations were below the arsenic RAL in that same area. The arsenic concentrations to the north of the Site from the January-March 2020 sampling event are delineated to the RAL to the north, east, south, and west (Figure 5B-21 (Attachment E)).

B-TZ wells on the western side of the Site had both primary COC and arsenic concentrations above the RALs. Based on the groundwater data from the January-March 2020 sampling event, arsenic concentrations are delineated to the RAL in the B-TZ except to the west near MW-38B and MW-62B (Figure 5B-21 (Attachment E)). Arsenic concentrations in MW-38B and MW-62B have fluctuated above and below the RAL over the past two years. In June 2018, arsenic concentrations in MW-38B (0.0386 mg/L) and MW-68B (0.0112 mg/L) exceeded the RAL, whereas in January and July 2019, arsenic concentrations in MW-38B (<0.0004 mg/L and 0.000553 mg/L J, respectively) and MW-62B (<0.0004 mg/L and 0.00194 mg/L J, respectively) were below the RAL. All other site-related COC concentrations were below respective RALs in MW-38B and MW-62B during the past two years.

Arsenic concentrations were below RALs in the ten new B-CZ/B-TZ wells sampled during the March 2020 sampling event: MW-50B, MW-54B, MW-60B, MW-61B, MW-76B, MW-88B, MW-92B, MW-93B, MW-96B, and MW-98B.

5.1.3 C-TZ Wells

VOCs

During July 2019 and January-March 2020 groundwater monitoring events, benzene was the only VOC that had concentrations detected above its RAL in C-TZ wells. Benzene concentrations were detected above the RAL in wells located in the northeast portion of the Site (MW-17C and MW-18C (July 2019), and MW-18C (Jan-Mar 2020)) and offsite to the north and northeast (only MW-46C and MW-70C in Jan-Mar 2020) (Figure 5B-15 (Attachment D and E). DNAPL was historically observed in wells MW-44C, MW-45C, and MW-46C, but has not been detected since June 2019 in MW-44C and MW-46C, and since October 2015 in MW-45C. These three wells were sampled in January 2020, and benzene was detected above the RAL in only MW-46C. Benzene was detected above the RAL in newly installed well MW-70C north of the Site and below the SDL in the other newly installed C-TZ well MW-99C northeast of the Site.

Benzene concentrations are delineated to the RAL to the east of the Site by MW-54C; to the north by MW-28C, MW-53C, MW-87C, and MW-99C; to the west by MW-15C, MW-17C and MW-68C; and to the south by MW-19C, MW-47C, MW-48C, and MW-88C. The PCLE Zone for benzene in the C-TZ is in the northeast portion of the Site and extends offsite to the north (along and across Liberty Road (MW-70C)) and east in which it extends onto the City of Houston ROW (MW-46C) (Figure 5B-15 (Attachments D and E)). The PCLE Zone is delineated based on the same wells listed above.

Other VOCs (chlorobenzene, ethylbenzene, toluene, and xylenes) were detected above SDLs in the C-TZ wells sampled during the July 2019 and January-March 2020 sampling events, however, none of the results exceeded their respective RALs.

SVOCs

Following a similar pattern for the benzene detections above its RAL in the C-TZ, SVOCs were detected above the applicable RALs in C-TZ wells located in the northeastern portion of the Site and offsite to the north and northeast. The primary SVOCs detected in the C-TZ above RALs include 2-methylnaphthalene, dibenzofuran, and naphthalene (Figures 5B-16 through 5B-19 (Attachment D and E)). Analytical data from the July 2019 and January-March 2020 sampling events indicated that concentrations of SVOCs 2-methylnaphthalene, dibenzofuran, and naphthalene were delineated in the C-TZ to the north (MW-53C, MW-87C, MW-28C, and MW-99C), east (MW-54C), south (MW-19C, MW-47C, MW-48C, and MW-88C), and west (MW-15C, MW-17C and MW-68C) below their respective RALs similar to the benzene concentrations.

For both sampling events, the groundwater PCLE Zone for the primary SVOCs generally falls within the extent of the benzene PCLE Zone. Therefore, similar to the benzene PCLE Zone, the PCLE Zones for the individual SVOCs are predominately within the Site boundary except to the north (along and across Liberty Road (MW-70C)) and east where it extends onto the City of Houston ROW (MW-25C and MW-46C).

For the newly installed wells in February-March 2020, SVOCs 2,4-dimethylphenol, 2-methylnaphthalene, and dibenzofuran concentrations were at or below RALs in the two new C-TZ wells, MW-70C and MW-99C, during the March 2020 sampling event. The naphthalene concentration in MW-70C was above the RAL in March 2020.

Other SVOCs (2,6-dinitrotoluene, benzo(a)pyrene, and pentachlorophenol) were detected at concentrations that exceeded their RALs in the C-TZ during the July 2019 and January-March 2020 sampling events. The 2,6-dinitrotoluene concentration in MW-53C was detected above the RAL (0.001 mg/L) in July 2019 but below the SDL during the January-March 2020 sampling event. The reported 2,6-dinitrotoluene concentration in MW-21C was below the SDL (0.00004 mg/L) during both sampling events but detected above the RAL at 0.003 mg/L in the

field duplicate collected at MW-21C during the January-March 2020 sampling event (qualified with a J-flag). Benzo(a)pyrene was detected above the RAL (0.0002 mg/L) at well MW-25C in July 2019, but below the SDL during the January-March 2020 sampling event. In January-March 2020, benzo(a)pyrene was detected above the RAL at wells MW-18C, MW-23C, MW-44C, MW-45C, and MW-46C. As previously mentioned, DNAPL was historically observed in wells MW-23C, MW-44C, MW-45C, and MW-46C, and these wells were not sampled in July 2019. Pentachlorophenol was detected above the RAL (0.001 mg/L) in well MW-18C in July 2019 and January 2020 and in off-Site well MW-25C in January 2020. Except for the unverified 2,6-dinitrotoluene concentration in MW-21C, the PCLE Zones for these additional SVOCs are within the benzene and primary SVOC PCLE Zones discussed above.

Arsenic

Arsenic was not detected above the RAL in any of the C-TZ wells in July 2019 or January-March 2020.

5.1.4 D-TZ Wells

VOCs

In July 2019 and January-March 2020, no VOCs were detected above RALs in D-TZ wells. All VOCs were below the SDL.

SVOCs

In July 2019 and January-March 2020, no SVOCs were detected above RALs in D-TZ wells. All SVOCs were either below the SDL or detected (estimated – J-flagged) multiple orders of magnitude below respective RALs.

Arsenic

Arsenic was not detected above the RAL in any of the D-TZ wells in July 2019 or January-March 2020.

5.2 COC Concentration Trends

Graphs of primary COC concentrations (benzene, 2,4-dimethylphenol, 2-methylnaphthalene, dibenzofuran, and naphthalene) over time at each monitoring well are provided in Attachment F. Trends of the primary COC concentrations at monitoring wells in each GWBU from 2009 (or date of installation) to 2020 with at least four sampling events, including samples collected from wells containing detectable DNAPL, were preliminarily evaluated by performing Mann-Kendall trend test. The Mann-Kendall test is a non-parametric statistical test that makes no distributional assumptions of data and is used to analyze linear increasing or decreasing trends in data over time (GSI, 2012). The temporal trend module of the Monitoring and Remediation Optimization System (MAROS) software (developed by GSI Environmental Inc. (GSI) on behalf of Air Force Civil Engineer Center (AFCEC)) was used to run the Mann-Kendall tests at individual wells over time (MAROS version 3 (GSI, 2012)). The Mann-Kendall test was applied to concentrations from each primary COC at each well, comprised of concentrations for detects and detection limits for non-detects.

Using the Mann-Kendall statistic (MK (S)), the trends in the data can then be evaluated. Increases in constituent concentrations over time are indicated by positive values, and decreases in constituent concentrations are indicated by negative values. The MK (S) indicates the direction of the trend and the confidence factor (p-value) indicates the strength of the trend.

- Mann-Kendall test results with a p-value less than 0.05 indicate a statistically significant increasing or decreasing trend (95% level of confidence).
- Results with a p-value greater than 0.05 but less than 0.1 indicate a “probably” increasing or “probably” decreasing trend. Mann-Kendall test results with a p-value greater than 0.10 indicate either a “stable” trend or “no trend”.
- A “stable” trend occurs when data from a constituent in a well has a coefficient of variation less than 1, appears to follow a decreasing trend, and has a p-value from the Mann-Kendall test greater than 0.10.
- In all other cases when the p-value from the Mann-Kendall test is greater than 0.10, the constituent and well is considered to have “no trend” (GSI, 2012).

The preliminary results of the Mann-Kendall analysis and output from the software are provided in Attachment G. The Mann-Kendall test results generally indicated that primary COC concentrations are either stable, decreasing, probably decreasing, or exhibit no trend in most of the monitoring wells at the Site. However, the following Mann-Kendall test results preliminarily indicate an increasing/probably increasing trend for certain primary COC concentrations in selected monitoring wells:

A-TZ:

- Results indicate a probably increasing trend in naphthalene in on-site well MW-51A and a probably increasing trend in 2-methynaphthalene concentrations in on-site well MW-03. However, in both these wells, primary COC concentrations are multiple orders of magnitude lower than applicable PCLs with a majority of the datasets comprising non-detects or estimate values (J-flagged).

B-CZ/B-TZ:

- Results indicate an increasing trend in benzene, 2,4-dimethylphenol, 2-methylnaphthalene, and dibenzofuran and probably increasing trends in naphthalene concentrations in on-site well MW-49B. DNAPL has been observed in well MW-49B.
- Results indicate an increasing trend in 2-methylnaphthalene and naphthalene in off-site well MW-70B. No trend was determined for the other primary COCs at MW-70B. DNAPL has also been observed in MW-70B.
- Results indicate an increasing trend in 2-methylnaphthalene, dibenzofuran, and naphthalene and probably increasing trend in benzene in on-site well TW-41B. Test well TW-41B is located between DNAPL recovery wells MW-12B and MW-41B, which both have had DNAPL in-depth thicknesses as thick as 15 to 26 feet. TW-41B is a 4-inch stainless steel well installed in 2009 to serve as a possible DNAPL recovery well given the relatively thick DNAPL noted in the two nearby wells. No DNAPL has been detected in TW-41 since installation.
- Results indicate a probably increasing trend in benzene concentrations in off-site well MW-83B. Since installation in 2018, the benzene concentration in MW-83B has been above the RAL and has ranged from 0.018 mg/L to 0.032 mg/L with a standard deviation of 0.006 mg/L. The highest concentration was detected in January 2019 at 0.032 mg/L, and has decreased to 0.021 mg/L in July 2019 and January 2020. None of the other primary COCs showed increasing trends in this well (decreasing or probably decreasing trends (2-methylnaphthalene, dibenzofuran, and naphthalene) and not trend (2,4-dimethylphenol).
- Results indicate an increasing trend and probably increasing trend in naphthalene concentrations in off-site well MW-90B and on-site well MW-81B, respectively. However, in both these wells, all primary COC concentrations are multiple orders of magnitude lower than applicable PCLs with a majority of the datasets comprising non-detects or estimates (J-flagged).

C-TZ:

- Results indicate an increasing trend in 2,4-dimethylphenol concentrations in on-site well MW-23C. DNAPL has been observed in well MW-23C. Mann-Kendall test results indicate no trend or a stable trend for the other primary COC concentrations in MW-23C.
- Results indicate an increasing trend in naphthalene concentrations in on-site MW-86C. However, primary COC concentrations are multiple orders of magnitude lower than applicable PCLs with a majority of the dataset comprising non-detects or estimated values (J-flagged).

Of the 104 wells evaluated, 10 wells listed above showed an increasing or probably increasing trend in primary COC concentrations. DNAPL has been observed in 3 of those 10 wells. For 5 of the 10 wells, the majority of the datasets comprised of non-detects or estimates (J-flagged).

5.3 Naphthalene Concentration in MW-11B

As detailed in the Corrective Action Monitoring Report - 2019 Second Semi-Annual Event dated January 17, 2020 (Golder, 2020), naphthalene concentrations were detected in point of compliance (POC) well MW-11B completed in the B-TZ above the Groundwater Protective Standards (GWPS) established in the approved Compliance Plan (CP) Table III for the Closed Surface Impoundment (Solid Waste Management Unit (SWMU) 1) during the second semi-annual monitoring period of 2019.

Based on the analytical results from the July 2019 monitoring event, naphthalene concentrations were detected at POC well MW-11B at 0.70 mg/L, above the GWPS of 0.49 mg/L. As allowed under the CP Section VI.D3, monitoring well MW-11B was resampled on July 30, 2019 for naphthalene to confirm the initial GWPS exceedance. The resampled results indicated that naphthalene concentrations were detected at 1.1 mg/L. Therefore, the initial GWPS exceedance at MW-11B for naphthalene was verified with the resampling event and the POC well was considered to be non-compliant. The TCEQ was notified of the verified exceedance in a letter dated September 5, 2019. An additional groundwater sample from POC well MW-11B was collected in October 2019. The naphthalene concentration in MW-11B in October 2019 was detected at 0.6 mg/L, also above the GWPS. Naphthalene concentrations in groundwater samples from all other SWMU 1 monitoring wells in A-TZ and B-TZ have not exceeded the established CP PCLs since July 2005 and are considered compliant. Following submittal of the Corrective Action Monitoring Report - 2019 Second Semi-Annual Event, the TCEQ issued a comment letter dated March 18, 2020 with the following comment:

> *"Based on our review of the above-referenced Report, the TCEQ concurs that the report generally fulfills the reporting requirements of Provision VII.C.2 of the above-referenced Permit with the following comment: UPRR should finish their evaluation of naphthalene concentration trends in well MW-11B, present their findings in the April 30, 2020 Initial Groundwater Sampling Interim Report, and assess whether WMU No. 1 remains in the corrective action program or switches to compliance monitoring."*

Since submittal of the Corrective Action Monitoring Report - 2019 Second Semi-Annual Event (Golder, 2020), UPRR conducted the first semi-annual corrective action monitoring event in January 2020. The groundwater analytical data from the January 2020 sampling event indicated that the naphthalene concentrations in POC well MW-11B decreased to less than the SDL (<0.002 mg/L). These results indicate that the well is now compliant since the analytical results are less than the GWSP established in CP Table III.

In response to the TCEQ comment, the historical naphthalene concentrations at MW-11B were evaluated. A summary table and a graph of historical naphthalene concentrations in MW-11B from 1994 through 2020 (including the January 2020 sample result) are provided in Attachment H. The historical naphthalene

concentrations show a relatively consistent seasonal pattern of higher naphthalene concentrations detected during the second semi-annual monitoring events typically conducted in July compared to the first semi-annual monitoring events typically conducted in January (Table 1 and Graph 1, Attachment H). From January 2009 through January 2020, naphthalene concentrations during the first semi-annual monitoring event for each year have been below SDLs at MW-11B except for January 2014 when naphthalene concentrations were detected slightly above the SDL at 0.000382J mg/L. In comparison, naphthalene concentrations in MW-11B have been detected above the SDL during each second semi-annual event dating back to 1994, with the recent GWPS exceedances detected in July and October 2019.

UPRR is scheduled to conduct the second semi-annual monitoring event in July 2020, and will assess if POC well MW-11B remains compliant under the current corrective action monitoring program. As detailed in the Section XI (CP) of the RCRA Permit Renewal application (initial submittal-December 2014 through Revision 4 -June 2017), UPRR proposed to revise the CP to move the SWMU 1 to compliance monitoring. UPRR will evaluate the proposed switch to compliance monitoring following review of the second semi-annual 2020 sampling event.

6.0 CONCLUSIONS

The following conclusions were made for each GWBU based on the groundwater sampling analytical events from the site-wide events conducted in July 2019 and January-March 2020:

- **A-TZ:**
  - Site-specific VOCs and SVOCs are delineated to applicable RALs in the A-TZ at the Site. The combined PCLE Zone in the A-TZ is within the Site boundary except to the north (along Liberty Road) and east in which it extends onto the City of Houston ROW.
  - Based on the January-March 2020 groundwater data including data from the wells installed in February-March 2020, arsenic concentrations are delineated to the RAL in the A-TZ on-site and off-site except near MW-13 on the northwest corner of the Site. Arsenic concentrations in the A-TZ wells do not appear to correlate with the elevated concentrations of the primary COCs, and are likely associated with naturally-occurring arsenic mobilizing under reducing conditions caused by the natural degradation of petroleum hydrocarbons.
  - Site-specific COC concentrations detected in the off-site A-TZ wells during the July 2019 and January-March 2020 sampling events were below the conservative EPA VISL-calculated screening levels, indicating the off-site VI pathway from groundwater is incomplete.
- **B-CZ/B-TZ:**
  - Site-specific VOCs and SVOCs are delineated to applicable RALs in the B-CZ and B-TZ at the Site. The combined PCLE Zone based on land use (i.e., C/I for on-Site wells and Residential for off-Site wells) in the B-CZ/B-TZ (Class 3 and 2 groundwater, respectively) for both the July 2019 and January-March 2020 events encompasses the northeastern portion of the Englewood Intermodal Yard, eastern portion of the Site, and extends off-site to the north of the Site (referred to as the “Main” PCLE Zone). The PCLE Zone for the smaller area on the west side of the Site appears to be within the Site property boundary (referred to as the “West” PCLE Zone).
  - Based on the January-March 2020 groundwater data, arsenic concentrations that exceeded the RAL in the wells to the north of the Site were delineated to the RAL based on the results of the wells nearby. The arsenic concentrations that exceed the RAL on the west side of the Site are delineated to the RAL in the B-TZ except to the west near MW-38B and MW-62B.

- **C-TZ:**
  - Site-specific VOCs and SVOCs are delineated to applicable RALs in the C-TZ at the Site. The combined PCLE Zone in the C-TZ is in the northeast portion of the Site and extends offsite to the north and to the east onto the City of Houston ROW.
  - Arsenic concentrations were not detected above the RAL in any of the C-TZ wells during the July 2019 or January-March 2020 sampling events.
- **D-TZ:**
  - No site-specific VOC, SVOC, or arsenic concentrations were detected above RALs in D-TZ wells.

7.0 ADDITIONAL GROUNDWATER SAMPLING EVENT

An additional groundwater sampling event will be conducted for the monitoring wells installed in February/March 2020 as agreed upon during the meeting with the TCEQ on December 19, 2019 and detailed in the UPRR response letter dated February 7, 2020. The second sampling event is scheduled for late May 2020. Data collected during the additional sampling event will be used to confirm initial results from the March 2020 sampling event.

8.0 NOTIFICATIONS

With the additional groundwater data collected in July 2019 and January-March 2020 being submitted to the TCEQ in this IGMR, property owners identified where the groundwater PCLE Zone extends off-site onto property not owned by UPRR and onto the City of Houston will be notified of the availability of information related to the groundwater monitoring at the Site as required under 30 Texas Administrative Code §350.55(b). The list and map showing the off-site property owners that will be notified is provided in Attachment I.

9.0 REFERENCES

Cozzarelli, IM; Schreiber, ME; Erickson, ML; and Ziegler, BA. 2015. Arsenic cycling in hydrocarbon plumes: Secondary effects of natural attenuation, Groundwater, 21 Jan.

Environmental Protection Agency (EPA), 1996. Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures, April.

EPA, 2015. Technical Guide for Addressing Petroleum Vapor Intrusion at Leaking Underground Storage Tank Sites (EPA 510-R-15-001), June.

EPA, 2019. Vapor Intrusion Screening Level (VISL) calculator, https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-level-calculator. Accessed April.

Golder Associates Inc. (Golder), 2019a. Response to 4th Technical Notice of Deficiency – Deficiency No. Specific T59, Houston Wood Preserving Works, Houston, TX, July 3.

Golder, 2019b. Response to 4th Technical Notice of Deficiency and Conceptual Response Action Plan (RAP), Houston Wood Preserving Works, Houston, TX, July 9.

Golder, 2020. Corrective Action Monitoring Report - 2019 Second Semi-Annual Event, Houston Wood Preserving Works, Houston, TX, January 17.

GSI Environmental Inc. (GSI), 2012. Software User's Manual – GSI Mann-Kendall Toolkit for Constituent Trend Analysis, Houston, TX.

Industrial Compliance (IC), 1994. RCRA Facility Investigation Work Plan, Southern Pacific Transportation Company, Former Wood Preserving Works, 4910 Liberty Road, Houston, Texas, October 14, 1994.

Pastor, Behling & Wheeler, LLC (PBW), 2010. Updated Affected Property Assessment Report (APAR) Addendum, Houston Wood Preserving Works, Houston, TX, October.

PBW, 2014. Response Action Plan (RAP), Houston Wood Preserving Works, Houston, TX, November 21.

Texas Commission Environmental Quality (TCEQ), 2010. Review and Reporting of COC Concentration Data under TRRP, TCEQ Remediation Division, RG-366/TRRP-13, Revised May.

TABLES

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-01A	47.92	9/2/1993	6.96			40.99
	47.92	12/21/1993	3.28			44.67
	47.92	3/24/1994	3.95			44
	47.92	6/22/1994	5.30			42.65
	47.92	9/28/1994	7.10			40.85
	47.92	10/13/1994	7.26			40.69
	47.92	1/24/1995	2.63			45.32
	47.92	4/11/1995	2.61			45.34
	47.92	7/11/1995	4.78			43.17
	47.92	1/23/1996	5.67			42.28
	47.92	7/19/1996	7.84			40.11
	47.92	9/17/1996	8.33			39.62
	47.92	10/31/1996	6.90			41.05
	47.92	11/22/1996	8.63			39.32
	47.92	12/27/1996	5.50			42.45
	47.92	1/22/1997	3.41			44.54
	47.92	2/21/1997	2.68			45.27
	47.92	3/25/1997	2.96			44.99
	47.92	4/23/1997	4.27			43.68
	47.92	4/24/1997	4.47			43.48
	47.92	5/13/1997	2.91			45.04
	47.92	6/20/1997	4.88			43.07
	47.92	6/25/1997	2.59			45.36
	47.92	7/1/1997	4.04			43.91
	47.92	7/24/1997	6.80			41.15
	47.92	8/16/1997	7.84			40.11
	47.92	8/22/1997	9.52			38.43
	47.92	9/25/1997	6.02			41.93
	47.92	10/22/1997	4.89			43.06
	47.92	11/25/1997	4.88			43.07
	47.92	12/19/1997	4.26			43.69
	47.92	1/20/1998	3.10			44.85
	47.92	3/3/1998	2.87			45.08
	47.92	3/18/1998	2.68			45.27
	47.92	4/24/1998	6.73			41.22
	47.92	5/21/1998	6.89			41.06
	47.92	7/30/1998	7.96			39.99
	47.92	8/25/1998	6.87			41.08
	47.92	9/21/1998	4.70			43.25
	47.92	10/26/1998	5.98			41.97
	47.92	11/23/1998	4.11			43.84
	47.92	1/29/1999	3.01			44.94
	47.92	2/26/1999	3.20			44.75
	47.92	3/16/1999	3.71			44.24
	47.92	4/29/1999	3.93			44.02
	47.92	6/1/1999	3.98			43.97
	47.92	7/30/1999	4.31			43.64
	47.92	8/27/1999	4.11			43.84
	47.92	9/27/1999	9.67			38.28
	47.92	10/29/1999	10.67			37.28
	47.92	12/29/1999	10.00			37.95
	47.92	2/4/2000	12.71			35.24
	47.92	2/25/2000	9.10			38.85
	47.92	3/27/2000	7.38			40.57
	47.92	4/7/2000	7.00			40.95
	47.92	5/31/2000	7.15			40.8
	47.92	6/1/2000	7.00			40.95
	47.92	7/28/2000	7.11			40.84
	47.92	8/30/2000	10.33			37.62
	47.92	9/19/2000	11.56			36.39
	47.92	10/27/2000	9.01			38.94
	47.92	11/21/2000	8.49			39.46
	47.92	5/1/2001	6.60			41.35
	47.92	10/1/2001	6.85			41.1
	47.92	3/11/2002	3.31			44.64
	47.92	9/23/2002	3.23			44.72
	47.92	3/10/2003	2.48			45.44
	47.92	9/23/2003	4.29			43.63

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-01A	47.92	3/15/2004	3.49			44.43
	47.92	9/13/2004	8.26			39.66
	47.92	7/18/2005	3.73			44.19
	47.92	1/4/2006	8.54			39.38
	47.92	7/27/2006	3.10			44.82
	47.92	1/23/2007	2.26			45.66
	47.92	3/7/2007	2.36			45.56
	47.92	7/27/2007	4.05			43.87
	47.92	1/28/2008	2.51			45.41
	47.92	7/16/2008	7.21			40.71
	47.92	1/22/2009	6.21			41.71
	47.92	7/22/2009	6.96			40.96
	47.92	1/8/2010	3.07			44.85
	47.92	7/12/2010	3.87			44.05
	47.88	1/12/2011	3.63			44.25
	47.88	7/13/2011	9.94			37.94
	47.88	1/27/2012	3.19			44.69
	47.88	7/10/2013	9.96			37.92
	47.88	1/8/2014	5.21			42.67
	47.88	7/2/2014	6.81			41.07
	47.88	1/7/2015	2.36			45.52
	47.88	8/10/2015	4.11			43.77
	47.90	1/12/2016	2.49			45.41
	47.90	7/7/2016	5.42			42.48
	47.90	1/12/2017	4.29			43.61
	47.90	7/12/2017	6.19			41.71
	47.90	1/3/2018	6.47			41.43
	47.90	7/18/2018	5.88			42.02
	47.90	1/3/2019	5.96			41.94
	47.90	7/1/2019	2.85			45.05
	47.90	1/14/2020	2.71			45.19
MW-02	47.97	9/2/1993	7.45			40.58
	47.97	12/21/1993	2.58			45.45
	47.97	3/24/1994	4.08			43.95
	47.97	6/22/1994	5.85			42.18
	47.97	9/28/1994	7.05			40.98
	47.97	10/13/1994	7.69			40.34
	47.97	1/24/1995	2.12			45.91
	47.97	4/11/1995	2.53			45.5
	47.97	7/11/1995	5.34			42.69
	47.97	1/23/1996	5.69			42.34
	47.97	7/19/1996	8.28			39.75
	47.97	9/17/1996	8.84			39.19
	47.97	10/31/1996	7.11			40.92
	47.97	11/22/1996	8.99			39.04
	47.97	12/27/1996	5.42			42.61
	47.97	1/22/1997	3.08			44.95
	47.97	2/21/1997	2.60			45.43
	47.97	3/25/1997	2.98			45.05
	47.97	4/23/1997	4.60			43.43
	47.97	4/24/1997	4.78			43.25
	47.97	5/13/1997	2.89			45.14
	47.97	6/20/1997	5.45			42.58
	47.97	6/25/1997	2.59			45.44
	47.97	7/1/1997	4.48			43.55
	47.97	7/24/1997	7.42			40.61
	47.97	8/16/1997	8.42			39.61
	47.97	8/22/1997	9.20			38.83
	47.97	9/25/1997	4.53			43.5
	47.97	10/22/1997	4.95			43.08
	47.97	11/25/1997	4.97			43.06
	47.97	12/19/1997	4.33			43.7
	47.97	1/20/1998	3.05			44.98
	47.97	3/3/1998	2.88			45.15
	47.97	3/18/1998	2.66			45.37
	47.97	4/24/1998	7.09			40.94
	47.97	5/21/1998	7.00			41.03
	47.97	7/30/1998	8.11			39.92

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-02	47.97	8/25/1998	7.33			40.7
	47.97	9/21/1998	4.18			43.85
	47.97	10/26/1998	6.85			41.18
	47.97	11/23/1998	4.63			43.4
	47.97	1/29/1999	3.51			44.52
	47.97	2/26/1999	3.61			44.42
	47.97	3/16/1999	3.55			44.48
	47.97	4/29/1999	3.76			44.27
	47.97	6/1/1999	3.76			44.27
	47.97	7/30/1999	4.61			43.42
	47.97	8/27/1999	3.96			44.07
	47.97	9/27/1999	10.12			37.91
	47.97	10/29/1999	11.33			36.7
	47.97	12/29/1999	10.66			37.37
	47.97	2/4/2000	13.19			34.84
	47.97	2/25/2000	9.57			38.46
	47.97	3/27/2000	7.73			40.3
	47.97	4/7/2000	7.30			40.73
	47.97	5/31/2000	7.33			40.7
	47.97	6/1/2000	7.31			40.72
	47.97	7/28/2000	7.35			40.68
	47.97	8/30/2000	10.55			37.48
	47.97	9/19/2000	11.93			36.1
	47.97	10/27/2000	9.04			38.99
	47.97	11/21/2000	8.66			39.37
	47.97	5/1/2001	6.91			41.12
	47.97	10/1/2001	8.22			39.81
	47.97	3/11/2002	3.33			44.7
	47.97	9/23/2002	3.16			44.87
	47.97	3/10/2003	2.54			45.43
	47.97	9/23/2003	3.29			44.68
	47.97	3/15/2004	2.87			45.1
	47.97	9/13/2004	8.71			39.26
	47.97	7/18/2005	2.98			44.99
	47.97	1/4/2006	8.77			39.2
	47.97	7/27/2006	2.87			45.1
	47.97	1/23/2007	2.34			45.63
	47.97	3/7/2007	2.23			45.74
	47.97	7/27/2007	4.40			43.57
	47.97	1/28/2008	2.42			45.55
	47.97	7/16/2008	7.72			40.25
	47.97	1/22/2009	6.31			41.66
	47.97	7/22/2009	7.56			40.41
	47.97	1/8/2010	3.91			44.06
	47.97	7/12/2010	4.37			43.6
	48.00	1/12/2011	3.63			44.37
	48.00	7/13/2011	10.28			37.72
	48.00	1/27/2012	2.67			45.33
	48.00	7/10/2013	10.58			37.42
	48.00	1/8/2014	5.47			42.53
	48.00	7/2/2014	7.51			40.49
	48.00	1/7/2015	2.41			45.59
	48.00	8/10/2015	4.96			43.04
	47.89	1/12/2016	2.91			44.98
	47.89	7/7/2016	6.12			41.77
	47.89	1/12/2017	4.62			43.27
	47.89	7/12/2017	6.82			41.07
	47.89	1/3/2018	6.87			41.02
	47.89	7/18/2018	6.62			
	47.89	1/3/2019	6.31			41.58
	47.89	7/1/2019	3.09			
	47.89	1/14/2020	2.42			45.47
MW-03	48.34	9/2/1993	8.17			40.17
	48.34	12/21/1993	3.81			44.53
	48.34	3/24/1994	4.74			43.6
	48.34	6/22/1994	6.35			41.99
	48.34	9/28/1994	7.56			40.78
	48.34	10/13/1994	8.21			40.13

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-03	48.34	1/24/1995	3.18			45.16
	48.34	4/11/1995	3.22			45.12
	48.34	7/11/1995	7.90			40.44
	48.34	1/23/1996	6.27			42.07
	48.34	7/19/1996	8.77			39.57
	48.34	9/17/1996	9.31			39.03
	48.34	10/31/1996	7.61			40.73
	48.34	11/22/1996	9.48			38.86
	48.34	12/27/1996	6.14			42.2
	48.34	1/22/1997	5.68			42.66
	48.34	2/21/1997	3.13			45.21
	48.34	3/25/1997	3.48			44.86
	48.34	4/23/1997	5.17			43.17
	48.34	4/24/1997	5.25			43.09
	48.34	5/13/1997	3.41			44.93
	48.34	6/20/1997	5.91			42.43
	48.34	6/25/1997	3.11			45.23
	48.34	7/1/1997	4.91			43.43
	48.34	7/24/1997	7.90			40.44
	48.34	8/16/1997	8.91			39.43
	48.34	8/22/1997	9.65			38.69
	48.34	9/25/1997	6.96			41.38
	48.34	10/22/1997	5.50			42.84
	48.34	11/25/1997	5.55			42.79
	48.34	12/19/1997	5.10			43.24
	48.34	1/20/1998	3.58			44.76
	48.34	3/3/1998	3.37			44.97
	48.34	3/18/1998	3.16			45.18
	48.34	4/24/1998	7.54			40.8
	48.34	5/21/1998	7.50			40.84
	48.34	7/30/1998	8.44			39.9
	48.34	8/25/1998	7.56			40.78
	48.34	9/21/1998	5.28			43.06
	48.34	10/26/1998	6.96			41.38
	48.34	11/23/1998	5.11			43.23
	48.34	1/29/1999	4.21			44.13
	48.34	2/26/1999	4.32			44.02
	48.34	3/16/1999	4.16			44.18
	48.34	4/29/1999	4.33			44.01
	48.34	6/1/1999	4.39			43.95
	48.34	7/30/1999	5.88			42.46
	48.34	8/27/1999	4.57			43.77
	48.34	9/27/1999	10.48			37.86
	48.34	10/29/1999	11.61			36.73
	48.34	12/29/1999	10.11			38.23
	48.34	2/4/2000	13.22			35.12
	48.34	2/25/2000	9.14			39.2
	48.34	3/27/2000	8.06			40.28
	48.34	4/7/2000	7.64			40.7
	48.34	5/31/2000	7.70			40.64
	48.34	6/1/2000	7.66			40.68
	48.34	7/28/2000	7.71			40.63
	48.34	8/30/2000	10.59			37.75
	48.34	9/19/2000	12.29			36.05
	48.34	10/27/2000	9.09			39.25
	48.34	11/21/2000	9.11			39.23
	48.34	5/1/2001	7.26			41.08
	48.34	10/1/2001	7.57			40.77
	48.34	3/11/2002	7.40			40.94
	48.34	9/23/2002	4.60			43.74
	48.34	3/10/2003	2.89			45.45
	48.34	9/23/2003	3.74			44.6
	48.34	3/15/2004	3.27			45.07
	48.34	9/13/2004	9.03			39.31
	48.34	7/18/2005	3.94			44.4
	48.34	1/4/2006	9.13			39.21
	48.34	7/27/2006	3.30			45.04
	48.34	3/7/2007	2.62			45.72

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-03	48.34	7/27/2007	3.74			44.6
	48.34	1/30/2008	2.85			45.49
	48.34	7/16/2008	7.96			40.38
	48.34	2/4/2009	7.18			41.16
	48.34	7/24/2009	7.63			40.71
	48.34	1/8/2010	5.06			43.28
	48.34	7/12/2010	3.86			44.48
	48.34	1/12/2011	3.71			44.63
	48.34	7/12/2011	6.42			41.92
	48.34	1/26/2012	--			
	48.34	7/9/2012	4.06			44.28
	48.34	1/7/2013	5.09			43.25
	48.34	7/22/2013	8.24			40.1
	48.34	1/7/2014	8.09			40.25
	48.34	7/15/2014	8.78			39.56
	48.34	1/5/2015	7.06			41.28
	48.34	2/11/2018	5.29			43.05
	48.34	3/11/2018	5.72			42.62
	48.34	5/14/2018	5.61			42.73
	48.34	7/2/2018	5.93			42.41
	48.34	1/3/2019	5.03			43.31
	48.34	7/9/2019	5.57			42.77
	48.34	1/8/2020	3.06			45.28
MW-04	49.85	9/2/1993	8.57			41.28
	49.85	12/21/1993	5.42			44.43
	49.85	3/24/1994	5.85			44
	49.85	6/22/1994	6.77			43.08
	49.85	9/28/1994	8.18			41.67
	49.85	10/13/1994	8.93			40.92
	49.85	1/24/1995	4.72			45.13
	49.85	4/11/1995	4.57			45.28
	49.85	7/11/1995	6.47			43.38
	49.85	1/23/1996	7.85			42
	49.85	7/19/1996	9.62			40.23
	49.85	9/17/1996	10.09			39.76
	49.85	10/31/1996	7.93			41.92
	49.85	11/22/1996	10.62			39.23
	49.85	12/27/1996	8.06			41.79
	49.85	1/22/1997	6.07			43.78
	49.85	2/21/1997	4.86			44.99
	49.85	3/25/1997	5.16			44.69
	49.85	4/23/1997	6.25			43.6
	49.85	4/24/1997	6.45			43.4
	49.85	5/13/1997	5.07			44.78
	49.85	6/20/1997	6.69			43.16
	49.85	6/25/1997	4.68			45.17
	49.85	7/1/1997	5.91			43.94
	49.85	7/24/1997	8.61			41.24
	49.85	8/16/1997	9.62			40.23
	49.85	8/22/1997	10.35			39.5
	49.85	9/25/1997	8.13			41.72
	49.85	10/22/1997	7.23			42.62
	49.85	11/25/1997	7.25			42.6
	49.85	12/19/1997	6.76			43.09
	49.85	1/20/1998	5.40			44.45
	49.85	3/3/1998	5.00			44.85
	49.85	3/18/1998	4.82			45.03
	49.85	4/24/1998	8.63			41.22
	49.85	5/21/1998	9.30			40.55
	49.85	7/30/1998	10.19			39.66
	49.85	8/25/1998	9.05			40.8
	49.85	9/21/1998	7.05			42.8
	49.85	10/26/1998	8.12			41.73
	49.85	11/23/1998	6.01			43.84
	49.85	1/29/1999	5.19			44.66
	49.85	2/26/1999	5.22			44.63
	49.85	3/16/1999	6.21			43.64
	49.85	4/29/1999	6.33			43.52

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-04	49.85	6/1/1999	6.39			43.46
	49.85	7/30/1999	7.79			42.06
	49.85	8/27/1999	6.51			43.34
	49.85	9/27/1999	11.32			38.53
	49.85	10/29/1999	12.21			37.64
	49.85	12/29/1999	11.52			38.33
	49.85	2/4/2000	14.33			35.52
	49.85	2/25/2000	10.63			39.22
	49.85	3/27/2000	9.38			40.47
	49.85	4/7/2000	9.09			40.76
	49.85	5/31/2000	9.13			40.72
	49.85	6/1/2000	9.10			40.75
	49.85	7/28/2000	9.18			40.67
	49.85	8/30/2000	12.17			37.68
	49.85	9/19/2000	13.39			36.46
	49.85	10/27/2000	10.69			39.16
	49.85	11/21/2000	9.61			40.24
	49.85	5/1/2001	8.41			41.44
	49.85	10/1/2001	8.68			41.17
	49.85	3/11/2002	5.41			44.44
	49.85	9/23/2002	5.29			44.56
	49.85	3/10/2003	4.36			45.49
	49.85	9/23/2003	5.28			44.57
	49.85	3/15/2004	4.80			45.05
	49.85	9/13/2004	9.80			40.05
	49.85	7/18/2005	5.84			44.01
	49.85	1/4/2006	10.48			39.37
	49.85	7/27/2006	5.30			44.55
	49.85	3/7/2007	4.10			45.75
	49.85	7/27/2007	5.36			44.49
	49.85	1/29/2008	4.18			45.67
	49.85	7/16/2008	8.66			41.19
	49.85	2/4/2009	8.93			40.92
	49.85	7/24/2009	9.27			40.58
	49.85	1/8/2010	6.34			43.51
	49.85	7/12/2010	5.02			44.83
	49.85	1/12/2011	5.26			44.59
	49.85	7/12/2011	8.06			41.79
	49.85	1/26/2012	--			
	49.85	7/9/2012	3.74			46.11
	49.85	1/7/2013	4.62			45.23
	49.85	7/22/2013	7.59			42.26
	49.85	1/7/2014	7.16			42.69
	49.85	7/15/2014	7.62			42.23
	49.85	1/5/2015	6.12			43.73
	49.85	8/10/2015	4.26			45.59
	49.85	1/13/2016	3.92			45.93
	49.85	7/6/2016	4.31			45.54
	49.85	1/12/2017	4.67			45.18
	49.85	7/6/2017	5.12			44.73
	49.85	9/5/2017	5.01			44.84
	49.85	2/11/2018	5.12			44.73
	49.85	3/11/2018	5.67			44.18
	49.85	5/14/2018	6.06			43.79
	49.85	7/2/2018	6.42			43.43
	49.85	1/3/2019	5.52			44.33
	49.85	7/9/2019	6.02			43.83
	49.85	1/8/2020	4.64			45.21
MW-05	49.24	9/2/1993	4.90			44.34
	49.24	12/21/1993	2.21			47.03
	49.24	3/24/1994	2.30			46.94
	49.24	6/22/1994	2.80			46.44
	49.24	9/28/1994	3.90			45.34
	49.24	10/13/1994	5.05			44.19
	49.24	1/24/1995	1.36			47.88
	49.24	4/11/1995	3.90			45.34
	49.24	7/11/1995	5.33			43.91
	49.24	1/23/1996	7.42			41.82

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-05	49.24	7/19/1996	8.61			40.63
	49.24	9/17/1996	9.01			40.23
	49.24	10/31/1996	7.84			41.4
	49.24	11/22/1996	9.68			39.56
	49.24	12/27/1996	7.66			41.58
	49.24	1/22/1997	5.89			43.35
	49.24	2/21/1997	4.45			44.79
	49.24	3/25/1997	4.65			44.59
	49.24	4/23/1997	5.53			43.71
	49.24	4/24/1997	5.68			43.56
	49.24	5/13/1997	4.39			44.85
	49.24	6/20/1997	5.67			43.57
	49.24	6/25/1997	3.97			45.27
	49.24	7/1/1997	5.06			44.18
	49.24	7/24/1997	7.46			41.78
	49.24	8/16/1997	8.57			40.67
	49.24	8/22/1997	9.20			40.04
	49.24	9/25/1997	7.28			41.96
	49.24	10/22/1997	6.70			42.54
	49.24	11/25/1997	6.70			42.54
	49.24	12/19/1997	6.26			42.98
	49.24	1/20/1998	5.05			44.19
	49.24	3/4/1998	4.54			44.7
	49.24	3/18/1998	4.36			44.88
	49.24	4/24/1998	7.67			41.57
	49.24	5/21/1998	8.80			40.44
	49.24	7/30/1998	9.90			39.34
	49.24	8/25/1998	8.86			40.38
	49.24	9/21/1998	6.59			42.65
	49.24	10/26/1998	7.77			41.47
	49.24	11/23/1998	5.79			43.45
	49.24	1/29/1999	4.88			44.36
	49.24	2/26/1999	4.96			44.28
	49.24	3/16/1999	5.81			43.43
	49.24	4/29/1999	5.91			43.33
	49.24	6/1/1999	5.99			43.25
	49.24	7/30/1999	7.00			42.24
	49.24	8/27/1999	6.13			43.11
	49.24	9/27/1999	10.17			39.07
	49.24	10/29/1999	11.65			37.59
	49.24	12/29/1999	10.90			38.34
	49.24	2/4/2000	13.77			35.47
	49.24	2/25/2000	9.46			39.78
	49.24	3/27/2000	8.62			40.62
	49.24	4/7/2000	8.20			41.04
	49.24	5/31/2000	8.26			40.98
	49.24	6/1/2000	8.21			41.03
	49.24	7/28/2000	8.26			40.98
	49.24	8/30/2000	11.33			37.91
	49.24	9/19/2000	12.33			36.91
	49.24	10/27/2000	9.94			39.3
	49.24	11/21/2000	9.21			40.03
	49.24	5/1/2001	7.47			41.77
	49.24	10/1/2001	7.79			41.45
	49.24	3/11/2002	4.92			44.32
	49.24	9/23/2002	4.76			44.48
	49.24	3/10/2003	3.77			45.47
	49.24	9/23/2003	4.61			44.63
	49.24	3/15/2004	4.22			45.02
	49.24	9/13/2004	8.58			40.66
	49.24	7/18/2005	5.61			43.63
	49.24	1/4/2006	9.76			39.48
	49.24	7/27/2006	4.85			44.39
	49.24	3/7/2007	5.94			43.3
	49.24	7/27/2007	4.53			44.71
	49.24	1/29/2008	3.71			45.53
	49.24	7/15/2008	7.77			41.47
	49.24	2/4/2009	8.33			40.91

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-05	49.24	7/24/2009	8.67			40.57
	49.24	1/8/2010	6.06			43.18
	49.24	7/12/2010	4.86			44.38
	49.24	1/12/2011	5.06			44.18
	49.24	7/12/2011	10.96			38.28
	49.24	2/2/2012	4.9			44.34
	49.24	7/9/2012	4.61			44.63
	49.24	1/7/2013	7.58			41.66
	49.24	7/22/2013	10.44			38.8
	49.24	1/7/2014	6.92			42.32
	49.24	7/16/2014	8.46			40.78
	49.24	1/5/2015	5.96			43.28
	49.24	8/10/2015	4.13			45.11
	49.24	1/13/2016	3.76			45.48
	49.24	7/7/2016	3.94			45.30
	49.24	1/12/2017	4.31			44.93
	49.24	7/6/2017	4.84			44.40
	49.24	9/5/2017	4.71			44.53
	49.24	2/11/2018	5.56			43.68
	49.24	3/11/2018	5.98			43.26
	49.24	5/14/2018	6.57			42.67
	49.24	7/2/2018	6.83			42.41
	49.24	1/3/2019	6.07			43.17
	49.24	7/9/2019	6.56			42.68
	49.24	1/7/2020	4.69			44.55
MW-07	48.86	9/2/1993	8.09			40.77
	48.86	12/21/1993	4.60			44.26
	48.86	3/24/1994	5.06			43.8
	48.86	6/22/1994	6.03			42.83
	48.86	9/28/1994	7.52			41.34
	48.86	10/13/1994	8.13			40.73
	48.86	1/24/1995	3.81			45.05
	48.86	4/11/1995	3.41			45.45
	48.86	7/11/1995	5.74			43.12
	48.86	1/23/1996	6.99			41.87
	48.86	7/19/1996	8.89			39.97
	48.86	9/17/1996	9.41			39.45
	48.86	10/31/1996	8.04			40.82
	48.86	11/22/1996	9.94			38.92
	48.86	12/27/1996	7.30			41.56
	48.86	1/22/1997	5.25			43.61
	48.86	2/21/1997	4.00			44.86
	48.86	3/25/1997	4.32			44.54
	48.86	4/23/1997	5.51			43.35
	48.86	4/24/1997	5.67			43.19
	48.86	5/13/1997	4.26			44.6
	48.86	6/20/1997	6.00			42.86
	48.86	6/25/1997	3.86			45
	48.86	7/1/1997	5.21			43.65
	48.86	7/24/1997	7.99			40.87
	48.86	8/16/1997	8.92			39.94
	48.86	8/22/1997	9.72			39.14
	48.86	9/25/1997	7.50			41.36
	48.86	10/22/1997	6.48			42.38
	48.86	11/25/1997	6.50			42.36
	48.86	12/19/1997	6.12			42.74
	48.86	1/20/1998	4.52			44.34
	48.86	3/4/1998	4.14			44.72
	48.86	3/18/1998	3.94			44.92
	48.86	4/24/1998	7.85			41.01
	48.86	5/21/1998	8.61			40.25
	48.86	7/30/1998	9.54			39.32
	48.86	8/25/1998	8.63			40.23
	48.86	9/21/1998	6.34			42.52
	48.86	10/26/1998	7.56			41.3
	48.86	11/23/1998	5.91			42.95
	48.86	1/29/1999	4.71			44.15
	48.86	2/26/1999	4.76			44.1

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-07	48.86	3/16/1999	5.32			43.54
	48.86	4/29/1999	5.41			43.45
	48.86	6/1/1999	5.49			43.37
	48.86	7/30/1999	6.98			41.88
	48.86	8/27/1999	5.61			43.25
	48.86	9/27/1999	10.64			38.22
	48.86	10/29/1999	11.56			37.3
	48.86	12/29/1999	9.90			38.96
	48.86	2/4/2000	14.21			34.65
	48.86	2/25/2000	8.86			40
	48.86	3/27/2000	8.62			40.24
	48.86	4/7/2000	8.15			40.71
	48.86	5/31/2000	8.21			40.65
	48.86	6/1/2000	8.22			40.64
	48.86	7/28/2000	8.29			40.57
	48.86	8/30/2000	11.55			37.31
	48.86	9/19/2000	12.65			36.21
	48.86	10/27/2000	10.00			38.86
	48.86	11/21/2000	9.46			39.4
	48.86	5/1/2001	7.64			41.22
	48.86	10/1/2001	8.00			40.86
	48.86	3/11/2002	4.56			44.3
	48.86	9/23/2002	4.69			44.17
	48.86	3/10/2003	3.52			45.34
	48.86	9/23/2003	4.70			44.16
	48.86	3/15/2004	3.89			44.97
	48.86	9/13/2004	9.04			39.82
	48.86	7/18/2005	5.27			43.59
	48.86	1/4/2006	9.91			38.95
	48.86	7/27/2006	4.60			44.26
	48.86	1/23/2007	3.46			45.4
	48.86	3/7/2007	3.82			45.04
	48.86	7/27/2007	4.94			43.92
	48.86	1/29/2008	3.39			45.47
	48.86	7/16/2008	7.94			40.92
	48.86	1/22/2009	7.49			41.37
	48.86	7/24/2009	NM			
	48.86	1/8/2010	4.02			44.84
	48.86	7/12/2010	4.72			44.14
	48.92	1/12/2011	4.56			44.36
	48.92	7/12/2011	10.91			38.01
	48.92	1/27/2012	3.86			45.06
	48.92	7/10/2013	10.62			38.30
	48.92	1/8/2014	6.42			42.50
	48.92	7/3/2014	7.61			41.31
	48.92	1/7/2015	3.46			45.46
	48.92	8/10/2015	5.01			43.91
	48.91	1/12/2016	3.09			45.82
	48.91	7/7/2016	6.72			42.19
	48.91	1/12/2017	5.81			43.10
	48.91	7/12/2017	7.71			41.20
	48.91	1/3/2018	7.87			41.04
	48.91	7/19/2018	6.93			41.98
	48.91	1/3/2019	7.32			41.59
	48.91	7/1/2019	3.93			44.98
	48.91	1/13/2020	4.29			44.62
MW-08	49.33	9/2/1993	8.18			41.19
	49.33	12/21/1993	5.02			44.35
	49.33	3/24/1994	5.53			43.84
	49.33	6/22/1994	6.38			42.99
	49.33	9/28/1994	7.72			41.65
	49.33	10/13/1994	8.43			40.94
	49.33	1/24/1995	4.15			45.22
	49.33	4/11/1995	4.02			45.35
	49.33	7/11/1995	5.95			43.42
	49.33	1/23/1996	7.20			42.17
	49.33	7/19/1996	9.06			40.31
	49.33	9/17/1996	9.51			39.86

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-08	49.33	10/31/1996	7.99			41.38
	49.33	11/22/1996	9.98			39.39
	49.33	12/27/1996	7.24			42.13
	49.33	1/22/1997	5.25			44.12
	49.33	2/21/1997	4.21			45.16
	49.33	3/25/1997	4.48			44.89
	49.33	4/23/1997	5.61			43.76
	49.33	4/24/1997	5.76			43.61
	49.33	5/13/1997	4.45			44.92
	49.33	6/20/1997	6.09			43.28
	49.33	6/25/1997	4.56			44.81
	49.33	7/1/1997	5.06			44.31
	49.33	7/24/1997	7.97			41.4
	49.33	8/16/1997	8.05			41.32
	49.33	8/22/1997	9.73			39.64
	49.33	9/25/1997	7.57			41.8
	49.33	10/22/1997	6.43			42.94
	49.33	11/25/1997	6.48			42.89
	49.33	12/19/1997	5.22			44.15
	49.33	1/20/1998	4.70			44.67
	49.33	3/4/1998	4.38			44.99
	49.33	3/18/1998	4.18			45.19
	49.33	4/24/1998	8.00			41.37
	49.33	5/21/1998	8.45			40.92
	49.33	7/30/1998	9.33			40.04
	49.33	8/25/1998	8.46			40.91
	49.33	9/21/1998	6.31			43.06
	49.33	10/26/1998	7.66			41.71
	49.33	11/23/1998	5.96			43.41
	49.33	1/29/1999	4.80			44.57
	49.33	2/26/1999	4.89			44.48
	49.33	3/16/1999	5.45			43.92
	49.33	4/29/1999	5.66			43.71
	49.33	6/1/1999	5.66			43.71
	49.33	7/30/1999	7.20			42.17
	49.33	8/27/1999	5.85			43.52
	49.33	9/27/1999	10.78			38.59
	49.33	10/29/1999	11.76			37.61
	49.33	12/29/1999	11.03			38.34
	49.33	2/4/2000	14.66			34.71
	49.33	2/25/2000	10.33			39.04
	49.33	3/27/2000	8.75			40.62
	49.33	4/7/2000	8.37			41
	49.33	5/31/2000	8.40			40.97
	49.33	6/1/2000	8.36			41.01
	49.33	7/28/2000	8.40			40.97
	49.33	8/30/2000	11.29			38.08
	49.33	9/19/2000	12.82			36.55
	49.33	10/27/2000	12.63			36.74
	49.33	11/21/2000	9.64			39.73
	49.33	5/1/2001	7.83			41.54
	49.33	10/1/2001	8.05			41.32
	49.33	3/11/2002	4.75			44.62
	49.33	9/23/2002	4.69			44.68
	49.33	3/10/2003	3.84			45.49
	49.33	9/23/2003	4.73			44.6
	49.33	3/15/2004	4.31			45.02
	49.33	9/13/2004	9.31			40.02
	49.33	7/18/2005	5.32			44.01
	49.33	1/4/2006	10.63			38.7
	49.33	7/27/2006	4.79			44.54
	49.33	1/22/2007	3.81			45.52
	49.33	3/7/2007	3.96			45.37
	49.33	7/27/2007	5.06			44.27
	49.33	1/29/2008	3.71			45.62
	49.33	7/16/2008	8.32			41.01
	49.33	1/22/2009	7.71			41.62
	49.33	7/24/2009	NM			

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-08	49.33	1/8/2010	4.17			45.16
	49.33	7/12/2010	4.96			44.37
	49.33	1/12/2011	5.32			44.01
	49.33	7/12/2011	11.24			38.09
	49.33	1/27/2012	4.68			44.65
	49.33	7/10/2013	11.07			38.26
	49.33	1/8/2014	6.87			42.46
	49.33	7/3/2014	8.16			41.17
	49.33	1/7/2015	3.82			45.51
	49.33	8/10/2015	5.06			44.27
	49.33	1/12/2016	3.87			45.46
	49.33	7/7/2016	6.44			42.89
	49.33	1/12/2017	5.82			43.51
	49.33	7/12/2017	7.92			41.41
	49.33	1/3/2018	8.02			41.31
	49.33	7/19/2018	7.22			42.11
	49.33	1/3/2019	7.52			41.81
	49.33	7/1/2019	3.98			45.35
	49.33	1/13/2020	4.45			44.88
MW-09	49.26	9/2/1993	7.43			41.86
	49.26	12/21/1993	4.89			44.4
	49.26	3/24/1994	4.92			44.37
	49.26	6/22/1994	5.51			43.78
	49.26	9/28/1994	6.90			42.39
	49.26	10/13/1994	7.66			41.63
	49.26	1/24/1995	4.10			45.19
	49.26	4/11/1995	3.74			45.55
	49.26	7/11/1995	5.08			44.21
	49.26	1/23/1996	7.09			42.2
	49.26	7/19/1996	8.27			41.02
	49.26	9/17/1996	8.58			40.71
	49.26	10/31/1996	7.27			42.02
	49.26	11/22/1996	9.17			40.12
	49.26	12/27/1996	7.05			42.24
	49.26	1/22/1997	5.42			43.87
	49.26	2/21/1997	4.09			45.2
	49.26	3/25/1997	4.17			45.12
	49.26	4/23/1997	5.05			44.24
	49.26	4/24/1997	5.21			44.08
	49.26	5/13/1997	4.16			45.13
	49.26	6/20/1997	5.32			43.97
	49.26	6/25/1997	3.80			45.49
	49.26	7/1/1997	4.57			44.72
	49.26	7/24/1997	7.03			42.26
	49.26	8/16/1997	8.26			41.03
	49.26	8/22/1997	8.67			40.62
	49.26	9/25/1997	6.99			42.3
	49.26	10/22/1997	6.10			43.19
	49.26	11/25/1997	6.12			43.17
	49.26	12/19/1997	5.62			43.67
	49.26	1/20/1998	4.60			44.69
	49.26	3/4/1998	4.15			45.14
	49.26	3/18/1998	4.02			45.27
	49.26	4/24/1998	7.32			41.97
	49.26	5/21/1998	8.10			41.19
	49.26	7/30/1998	9.12			40.17
	49.26	8/25/1998	8.41			40.88
	49.26	9/21/1998	6.11			43.18
	49.26	10/26/1998	7.61			41.68
	49.26	11/23/1998	5.43			43.86
	49.26	1/29/1999	4.60			44.69
	49.26	2/26/1999	4.68			44.61
	49.26	3/16/1999	5.46			43.83
	49.26	4/29/1999	5.66			43.63
	49.26	6/1/1999	5.66			43.63
	49.26	7/30/1999	7.11			42.18
	49.26	8/27/1999	5.86			43.43
	49.26	9/27/1999	9.81			39.48

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-09	49.26	10/29/1999	10.63			38.66
	49.26	12/29/1999	9.99			39.3
	49.26	2/4/2000	12.44			36.85
	49.26	2/25/2000	8.88			40.41
	49.26	3/27/2000	8.22			41.07
	49.26	4/7/2000	8.10			41.19
	49.26	5/31/2000	8.15			41.14
	49.26	6/1/2000	8.00			41.29
	49.26	7/28/2000	8.11			41.18
	49.26	8/30/2000	11.10			38.19
	49.26	9/19/2000	11.91			37.38
	49.26	10/27/2000	9.84			39.45
	49.26	11/21/2000	8.89			40.4
	49.26	5/1/2001	7.16			42.13
	49.26	10/1/2001	7.39			41.9
	49.26	3/11/2002	4.61			44.68
	49.26	9/23/2002	4.45			44.84
	49.26	3/10/2003	3.59			45.67
	49.26	9/23/2003	4.31			44.95
	49.26	3/15/2004	4.18			45.08
	49.26	9/13/2004	8.39			40.87
	49.26	7/18/2005	5.53			43.73
	49.26	1/4/2006	9.46			39.8
	49.26	7/27/2006	4.85			44.41
	49.26	3/7/2007	5.58			43.68
	49.26	7/27/2007	3.78			45.48
	49.26	1/29/2008	3.52			45.74
	49.26	7/15/2008	7.04			42.22
	49.26	2/4/2009	8.01			41.25
	49.26	7/24/2009	8.34			40.92
	49.26	1/8/2010	5.89			43.37
	49.26	7/12/2010	4.32			44.94
	49.26	1/12/2011	4.61			44.65
	49.26	7/12/2011	10.71			38.55
	49.26	1/26/2012	4.73			44.53
	49.26	7/9/2012	4.23			45.03
	49.26	1/7/2013	6.73			42.53
	49.26	7/22/2013	9.16			40.1
	49.26	1/7/2014	8.72			40.54
	49.26	7/16/2014	8.17			41.09
	49.26	1/5/2015	8.01			41.25
	49.26	8/10/2015	6.17			43.09
	49.26	1/13/2016	5.81			43.45
	49.26	7/6/2016	6.14			43.12
	49.26	1/12/2017	6.71			42.55
	49.26	7/6/2017	7.09			42.17
	49.26	9/5/2017	7.06			42.20
	49.26	2/11/2018	5.16			44.10
	49.26	3/11/2018	6.01			43.25
	49.26	5/14/2018	6.21			43.05
	49.26	7/2/2018	6.67			42.59
	49.26	1/3/2019	5.61			43.65
	49.26	7/9/2019	6.21			43.05
	49.26	1/7/2020	4.11			45.15
MW-10A	49.86	9/28/1994	8.69			41.21
	49.86	10/13/1994	9.36			40.54
	49.86	1/24/1995	4.62			45.28
	49.86	4/11/1995	4.60			45.3
	49.86	7/11/1995	7.00			42.9
	49.86	1/23/1996	7.74			42.16
	49.86	7/19/1996	9.98			39.92
	49.86	9/17/1996	10.54			39.36
	49.86	10/31/1996	7.94			41.96
	49.86	11/22/1996	10.82			39.08
	49.86	12/27/1996	7.81			42.09
	49.86	1/22/1997	5.45			44.45
	49.86	2/21/1997	4.63			45.27
	49.86	3/25/1997	5.01			44.89

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-10A	49.86	4/23/1997	6.39			43.51
	49.86	4/24/1997	6.58			43.32
	49.86	5/13/1997	4.93			44.97
	49.86	6/20/1997	7.08			42.82
	49.86	6/25/1997	4.58			45.32
	49.86	7/1/1997	6.13			43.77
	49.86	7/24/1997	9.11			40.79
	49.86	8/16/1997	10.10			39.8
	49.86	8/22/1997	10.81			39.09
	49.86	9/25/1997	8.47			41.43
	49.86	10/22/1997	7.02			42.88
	49.86	11/25/1997	7.05			42.85
	49.86	12/19/1997	6.89			43.01
	49.86	1/20/1998	5.10			44.8
	49.86	3/3/1998	4.87			45.03
	49.86	3/18/1998	4.65			45.25
	49.86	4/24/1998	8.84			41.06
	49.86	5/21/1998	9.10			40.8
	49.86	7/30/1998	10.23			39.67
	49.86	8/25/1998	9.11			40.79
	49.86	9/21/1998	6.82			43.08
	49.86	10/26/1998	8.19			41.71
	49.86	11/23/1998	6.12			43.78
	49.86	1/29/1999	5.61			44.29
	49.86	2/26/1999	5.69			44.21
	49.86	3/16/1999	5.91			43.99
	49.86	4/29/1999	6.11			43.79
	49.86	6/1/1999	6.10			43.8
	49.86	7/30/1999	7.70			42.2
	49.86	8/27/1999	6.31			43.59
	49.86	9/27/1999	11.73			38.17
	49.86	10/29/1999	12.69			37.21
	49.86	12/29/1999	12.00			37.9
	49.86	2/4/2000	14.30			35.6
	49.86	2/25/2000	11.44			38.46
	49.86	3/27/2000	9.57			40.33
	49.86	4/7/2000	9.27			40.63
	49.86	5/31/2000	9.31			40.59
	49.86	6/1/2000	9.10			40.8
	49.86	7/28/2000	9.30			40.6
	49.86	8/30/2000	12.09			37.81
	49.86	9/19/2000	13.70			36.2
	49.86	10/27/2000	10.69			39.21
	49.86	11/21/2000	10.49			39.41
	49.86	5/1/2001	8.64			41.26
	49.86	10/1/2001	8.93			40.97
	49.86	3/11/2002	5.30			44.6
	49.86	9/23/2002	5.19			44.71
	49.86	3/10/2003	4.43			45.43
	49.86	9/23/2003	5.31			44.55
	49.86	3/15/2004	4.69			45.17
	49.86	9/13/2004	10.30			39.56
	49.86	7/18/2005	5.57			44.29
	49.86	1/4/2006	9.68			40.18
	49.86	7/27/2006	5.01			44.85
	49.86	1/23/2007	4.29			45.57
	49.86	3/7/2007	4.13			45.73
	49.86	7/27/2007	6.03			43.83
	49.86	1/28/2008	4.22			45.64
	49.86	7/16/2008	9.31			40.55
	49.86	1/22/2009	8.27			41.59
	49.86	7/24/2009	NM			
	49.86	1/8/2010	4.64			45.22
	49.86	7/12/2010	5.23			44.63
	49.82	1/12/2011	5.72			44.10
	49.82	7/12/2011	12.07			37.75
	49.82	7/13/2011	11.96			37.86
	49.82	1/27/2012	4.88			44.94

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-10A	49.82	7/10/2013	12.07			37.75
	49.82	1/8/2014	7.33			42.49
	49.82	7/2/2014	8.92			40.90
	49.82	1/7/2015	4.26			45.56
	49.82	8/10/2015	6.02			43.80
	49.83	1/12/2016	4.41			45.42
	49.83	7/7/2016	7.36			42.47
	49.83	1/12/2017	6.69			43.14
	49.83	7/12/2017	8.23			41.60
	49.83	1/3/2018	8.63			41.20
	49.83	7/18/2018	7.97			41.86
	49.83	1/3/2019	8.09			41.74
	49.83	7/1/2019	4.69			45.14
	49.83	1/14/2020	4.68			45.15
MW-10B	49.94	9/28/1994	8.77			41.2
	49.94	10/13/1994	9.45			40.52
	49.94	1/24/1995	4.72			45.25
	49.94	4/11/1995	4.72			45.25
	49.94	7/11/1995	7.13			42.84
	49.94	1/23/1996	7.84			42.13
	49.94	7/19/1996	10.27			39.7
	49.94	9/17/1996	10.64			39.33
	49.94	10/31/1996	8.01			41.96
	49.94	11/22/1996	10.93			39.04
	49.94	12/27/1996	7.99			41.98
	49.94	1/22/1997	5.72			44.25
	49.94	2/21/1997	4.78			45.19
	49.94	3/25/1997	5.13			44.84
	49.94	4/23/1997	6.52			43.45
	49.94	4/24/1997	6.71			43.26
	49.94	5/13/1997	5.09			44.88
	49.94	6/20/1997	7.21			42.76
	49.94	6/25/1997	4.71			45.26
	49.94	7/1/1997	6.27			43.7
	49.94	7/24/1997	9.15			40.82
	49.94	8/16/1997	10.19			39.78
	49.94	8/22/1997	10.92			39.05
	49.94	9/25/1997	8.69			41.28
	49.94	10/22/1997	7.18			42.79
	49.94	11/25/1997	7.21			42.76
	49.94	12/19/1997	6.56			43.41
	49.94	1/20/1998	5.25			44.72
	49.94	3/3/1998	5.00			44.97
	49.94	3/18/1998	4.79			45.18
	49.94	4/24/1998	8.95			41.02
	49.94	5/21/1998	9.30			40.67
	49.94	7/30/1998	10.30			39.67
	49.94	8/25/1998	9.20			40.77
	49.94	9/21/1998	7.06			42.91
	49.94	10/26/1998	8.31			41.66
	49.94	11/23/1998	6.25			43.72
	49.94	1/29/1999	5.71			44.26
	49.94	2/26/1999	5.76			44.21
	49.94	3/16/1999	6.05			43.92
	49.94	4/29/1999	6.10			43.87
	49.94	6/1/1999	6.10			43.87
	49.94	7/30/1999	7.61			42.36
	49.94	8/27/1999	6.33			43.64
	49.94	9/27/1999	11.90			38.07
	49.94	10/29/1999	12.60			37.37
	49.94	12/29/1999	12.10			37.87
	49.94	2/4/2000	14.29			35.68
	49.94	2/25/2000	11.15			38.82
	49.94	3/27/2000	9.67			40.3
	49.94	4/7/2000	9.32			40.65
	49.94	5/31/2000	9.38			40.59
	49.94	6/1/2000	9.21			40.76
	49.94	7/28/2000	9.33			40.64

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-10B	49.94	8/30/2000	12.11			37.86
	49.94	9/19/2000	13.77			36.2
	49.94	10/27/2000	10.63			39.34
	49.94	11/21/2000	10.64			39.33
	49.94	5/1/2001	8.75			41.22
	49.94	10/1/2001	9.12			40.85
	49.94	3/11/2002	5.47			44.5
	49.94	9/23/2002	5.40			44.57
	49.94	3/10/2003	4.59			45.35
	49.94	9/23/2003	5.58			44.36
	49.94	3/15/2004	5.78			44.16
	49.94	9/13/2004	10.41			39.53
	49.94	7/18/2005	5.97			43.97
	49.94	1/4/2006	10.75			39.19
	49.94	7/27/2006	5.73			44.21
	49.94	1/23/2007	4.45			45.49
	49.94	3/7/2007	4.61			45.33
	49.94	7/27/2007	6.15			43.79
	49.94	1/28/2008	4.44			45.5
	49.94	7/16/2008	9.42			40.52
	49.94	1/22/2009	8.39			41.55
	49.94	7/24/2009	NM			
	49.94	1/8/2010	4.91			45.03
	49.94	7/12/2010	5.33			44.61
	49.95	1/12/2011	5.96			43.99
	49.95	7/13/2011	12.07			37.88
	49.95	1/27/2012	5.02			44.93
	49.95	7/10/2013	12.18			37.77
	49.95	1/8/2014	7.46			42.49
	49.95	7/2/2014	8.96			40.99
	49.95	1/7/2015	4.46			45.49
	49.95	8/10/2015	6.14			43.81
	49.96	1/12/2016	4.64			45.32
	49.96	7/7/2016	7.62			42.34
	49.96	1/12/2017	6.57			43.39
	49.96	7/12/2017	8.33			41.63
	49.96	1/3/2018	8.71			41.25
	49.96	7/18/2018	8.04			41.92
	49.96	1/3/2019	8.16			41.80
	49.96	7/1/2019	4.82			45.14
	49.96	1/14/2020	4.92			45.04
MW-11A	50.05	9/28/1994	8.66			41.38
	50.05	10/13/1994	9.35			40.69
	50.05	1/24/1995	4.88			45.16
	50.05	4/11/1995	4.81			45.23
	50.05	7/11/1995	6.67			43.37
	50.05	1/23/1996	8.01			42.03
	50.05	7/19/1996	10.09			39.95
	50.05	9/17/1996	10.56			39.48
	50.05	10/31/1996	8.16			41.88
	50.05	11/22/1996	10.98			39.06
	50.05	12/27/1996	8.21			41.83
	50.05	1/22/1997	6.06			43.98
	50.05	2/21/1997	4.98			45.06
	50.05	3/25/1997	5.32			44.72
	50.05	4/23/1997	6.59			43.45
	50.05	4/24/1997	6.77			43.27
	50.05	5/13/1997	5.31			44.73
	50.05	6/20/1997	7.15			42.89
	50.05	6/25/1997	4.88			45.16
	50.05	7/1/1997	6.29			43.75
	50.05	7/24/1997	9.12			40.92
	50.05	8/16/1997	10.11			39.93
	50.05	8/22/1997	10.82			39.22
	50.05	9/25/1997	8.70			41.34
	50.05	10/22/1997	7.40			42.64
	50.05	11/25/1997	7.41			42.63
	50.05	12/19/1997	6.10			43.94

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-11A	50.05	1/20/1998	5.49			44.55
	50.05	3/3/1998	5.16			44.88
	50.05	3/18/1998	4.96			45.08
	50.05	4/24/1998	8.98			41.06
	50.05	5/21/1998	9.40			40.64
	50.05	7/30/1998	10.56			39.48
	50.05	8/25/1998	9.32			40.72
	50.05	9/21/1998	7.28			42.76
	50.05	10/26/1998	8.43			41.61
	50.05	11/23/1998	6.41			43.63
	50.05	1/29/1999	5.31			44.73
	50.05	2/26/1999	5.39			44.65
	50.05	3/16/1999	6.32			43.72
	50.05	4/29/1999	6.51			43.53
	50.05	6/1/1999	6.57			43.47
	50.05	7/30/1999	8.00			42.04
	50.05	8/27/1999	6.79			43.25
	50.05	9/27/1999	11.73			38.31
	50.05	10/29/1999	12.81			37.23
	50.05	12/29/1999	12.11			37.93
	50.05	2/4/2000	14.33			35.71
	50.05	2/25/2000	11.10			38.94
	50.05	3/27/2000	9.66			40.38
	50.05	4/7/2000	9.40			40.64
	50.05	5/31/2000	9.50			40.54
	50.05	6/1/2000	9.30			40.74
	50.05	7/28/2000	9.47			40.57
	50.05	8/30/2000	12.44			37.6
	50.05	9/19/2000	13.74			36.3
	50.05	10/27/2000	11.01			39.03
	50.05	11/21/2000	10.69			39.35
	50.05	5/1/2001	8.78			41.26
	50.05	10/1/2001	9.12			40.93
	50.05	3/11/2002	5.59			44.45
	50.05	9/23/2002	5.60			44.44
	50.05	3/10/2003	4.66			45.39
	50.05	9/23/2003	5.73			44.32
	50.05	3/15/2004	4.99			45.06
	50.05	9/13/2004	10.28			39.77
	50.05	7/18/2005	6.66			43.39
	50.05	1/5/2006	10.85			39.2
	50.05	7/27/2006	5.02			45.03
	50.05	1/23/2007	4.54			45.51
	50.05	3/7/2007	4.26			45.79
	50.05	7/27/2007	6.09			43.96
	50.05	1/28/2008	4.46			45.59
	50.05	7/16/2008	9.25			40.8
	50.05	1/22/2009	8.57			41.48
	50.05	7/24/2009	NM			
	50.05	1/8/2010	4.97			45.08
	50.05	7/12/2010	5.51			44.54
	50.07	1/12/2011	6.21			43.86
	50.07	7/12/2011	12.02			38.05
	50.07	1/27/2012	5.31			44.76
	50.07	7/10/2013	12.01			38.06
	50.07	1/8/2014	7.46			42.61
	50.07	7/2/2014	9.02			41.05
	50.07	1/7/2015	4.58			45.49
	50.07	8/10/2015	6.11			43.96
	50.16	1/12/2016	4.71			45.45
	50.16	7/7/2016	7.61			42.55
	50.16	1/12/2017	8.47			41.69
	50.16	7/12/2017	8.46			41.70
	50.16	1/3/2018	8.94			41.22
	50.16	7/18/2018	8.09			42.07
	50.16	1/3/2019	8.48			41.68
	50.16	7/1/2019	5.06			45.10
	50.16	1/14/2020	5.11			45.05

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-11B	50.18	9/28/1994	8.92			41.27
	50.18	10/13/1994	9.59			40.6
	50.18	1/24/1995	5.04			45.15
	50.18	4/11/1995	5.01			45.18
	50.18	7/11/1995	7.23			42.96
	50.18	1/23/1996	8.20			41.99
	50.18	7/19/1996	8.92			41.27
	50.18	9/17/1996	10.83			39.36
	50.18	10/31/1996	9.34			40.85
	50.18	11/22/1996	11.23			38.96
	50.18	12/27/1996	8.45			41.74
	50.18	1/22/1997	6.28			43.91
	50.18	2/21/1997	5.16			45.03
	50.18	3/25/1997	5.51			44.68
	50.18	4/23/1997	6.81			43.38
	50.18	4/24/1997	6.99			43.2
	50.18	5/13/1997	5.46			44.73
	50.18	6/20/1997	7.40			42.79
	50.18	6/25/1997	5.06			45.13
	50.18	7/1/1997	6.52			43.67
	50.18	7/24/1997	9.36			40.83
	50.18	8/16/1997	10.36			39.83
	50.18	8/22/1997	11.11			39.08
	50.18	9/25/1997	8.96			41.23
	50.18	10/22/1997	7.61			42.58
	50.18	11/25/1997	7.63			42.56
	50.18	12/19/1997	7.11			43.08
	50.18	1/20/1998	5.70			44.49
	50.18	3/3/1998	5.35			44.84
	50.18	3/18/1998	5.14			45.05
	50.18	4/24/1998	9.19			41
	50.18	5/21/1998	9.61			40.58
	50.18	7/30/1998	10.72			39.47
	50.18	8/25/1998	9.48			40.71
	50.18	9/21/1998	7.49			42.7
	50.18	10/26/1998	8.57			41.62
	50.18	11/23/1998	6.32			43.87
	50.18	2/26/1999	5.32			44.87
	50.18	3/16/1999	6.49			43.7
	50.18	4/29/1999	6.66			43.53
	50.18	6/1/1999	6.66			43.53
	50.18	7/30/1999	8.12			42.07
	50.18	8/27/1999	6.88			43.31
	50.18	9/27/1999	12.04			38.15
	50.18	10/29/1999	13.00			37.19
	50.18	12/29/1999	12.33			37.86
	50.18	2/4/2000	15.61			34.58
	50.18	2/25/2000	11.49			38.7
	50.18	3/27/2000	9.93			40.26
	50.18	4/7/2000	9.54			40.65
	50.18	5/31/2000	9.61			40.58
	50.18	6/1/2000	9.51			40.68
	50.18	7/28/2000	9.60			40.59
	50.18	8/30/2000	12.76			37.43
	50.18	9/19/2000	13.97			36.22
	50.18	10/27/2000	11.23			38.96
	50.18	11/21/2000	10.88			39.31
	50.18	5/1/2001	5.97			44.22
	50.18	10/1/2001	9.33			40.86
	50.18	3/11/2002	5.80			44.39
	50.18	9/23/2002	5.79			44.4
	50.18	3/10/2003	4.85			45.33
	50.18	9/23/2003	5.95			44.23
	50.18	3/15/2004	5.16			45.02
	50.18	9/13/2004	10.53			39.65
	50.18	7/18/2005	5.45			44.73
	50.18	1/4/2006	11.01			39.17
	50.18	7/27/2006	5.26			44.92

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-11B	50.18	1/23/2007	4.13			46.05
	50.18	3/7/2007	4.42			45.76
	50.18	7/27/2007	6.29			43.89
	50.18	1/28/2008	4.69			45.49
	50.18	7/16/2008	9.49			40.69
	50.18	1/22/2009	8.72			41.46
	50.18	7/24/2009	NM			
	50.18	1/8/2010	5.15			45.03
	50.18	7/12/2010	5.67			44.51
	50.23	1/12/2011	6.37			43.86
	50.23	7/12/2011	12.23			38.00
	50.23	1/27/2012	5.38			44.85
	50.23	7/10/2013	12.22			38.01
	50.23	1/8/2014	7.82			42.41
	50.23	7/2/2014	9.14			41.09
	50.23	1/7/2015	4.79			45.44
	50.23	8/10/2015	6.27			43.96
	50.24	1/12/2016	4.99			45.25
	50.24	7/7/2016	7.59			42.65
	50.24	1/12/2017	8.54			41.70
	50.24	7/12/2017	8.49			41.75
	50.24	1/3/2018	9.04			41.20
	50.24	7/18/2018	8.24			42.00
	50.24	1/3/2019	8.57			41.67
	50.24	7/1/2019	5.21			45.03
	50.24	1/14/2020	5.3			44.94
MW-12A	49.96	3/25/1997	5.52			44.44
	49.96	4/23/1997	6.51			43.45
	49.96	4/24/1997	6.66			43.3
	49.96	5/13/1997	5.47			44.49
	49.96	6/20/1997	6.81			43.15
	49.96	9/25/1997	8.08			41.88
	49.96	10/22/1997	7.10			42.86
	49.96	11/25/1997	7.12			42.84
	49.96	12/19/1997	6.96			43
	49.96	1/20/1998	5.69			44.27
	49.96	3/4/1998	4.52			45.44
	49.96	3/18/1998	5.28			44.68
	49.96	4/24/1998	8.70			41.26
	49.96	5/21/1998	9.10			40.86
	49.96	8/25/1998	10.05			39.91
	49.96	9/21/1998	7.11			42.85
	49.96	10/26/1998	9.11			40.85
	49.96	11/23/1998	6.01			43.95
	49.96	1/29/1999	5.44			44.52
	49.96	2/26/1999	5.52			44.44
	49.96	3/16/1999	6.21			43.75
	49.96	4/29/1999	6.38			43.58
	49.96	6/1/1999	6.31			43.65
	49.96	7/30/1999	7.88			42.08
	49.96	8/27/1999	6.56			43.4
	49.96	9/27/1999	11.61			38.35
	49.96	10/29/1999	12.79			37.17
	49.96	11/18/1999	13.18			36.78
	49.96	12/29/1999	12.03			37.93
	49.96	2/4/2000	15.43			34.53
	49.96	2/25/2000	11.34			38.62
	49.96	3/27/2000	9.22			40.74
	49.96	4/7/2000	8.80			41.16
	49.96	5/31/2000	8.84			41.12
	49.96	6/1/2000	8.81			41.15
	49.96	7/28/2000	8.87			41.09
	49.96	8/30/2000	11.76			38.2
	49.96	9/19/2000	13.22			36.74
	49.96	10/27/2000	10.54			39.42
	49.96	11/21/2000	10.16			39.8
	49.96	5/1/2001	8.60			41.36
	49.96	10/1/2001	8.73			41.23

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-12A	49.96	3/11/2002	6.01			43.95
	49.96	9/23/2002	5.87			44.09
	49.96	3/10/2003	5.37			44.59
	49.96	9/23/2003	5.96			44
	49.96	3/15/2004	5.54			44.42
	49.96	9/13/2004	10.30			39.66
	49.96	7/18/2005	7.01			42.95
	49.96	1/4/2006	10.57			39.39
	49.96	7/27/2006	6.60			43.36
	49.96	3/7/2007	6.94			43.02
	49.96	7/27/2007	5.79			44.17
	49.96	1/30/2008	5.29			44.67
	49.96	7/15/2008	9.19			40.77
	49.96	2/4/2009	8.81			41.15
	49.96	7/24/2009	9.13			40.83
	49.96	1/8/2010	5.47			44.49
	49.96	7/12/2010	9.72			40.24
	49.96	1/12/2011	5.59			44.37
	49.96	7/12/2011	12.46			37.5
	49.96	1/26/2012	5.78			44.18
	49.96	7/9/2012	5.96			44
	49.96	1/7/2013	9.04			40.92
	49.96	7/22/2013	11.64			38.32
	49.96	1/7/2014	7.38			42.58
	49.96	7/16/2014	9.82			40.14
	49.96	1/5/2015	6.46			43.50
	49.96	8/10/2015	5.26			44.70
	49.96	1/13/2016	4.67			45.29
	49.96	7/6/2016	4.96			45.00
	49.96	1/12/2017	5.67			44.29
	49.96	7/6/2017	6.03			43.93
	49.96	9/5/2017	5.86			44.10
	49.96	2/11/2018	6.48			43.48
	49.96	3/11/2018	7.12			42.84
	49.96	5/14/2018	8.92			41.04
	49.96	1/3/2019	8.37			41.59
	49.96	7/9/2019	8.02			41.94
	49.96	1/7/2020	6.04			43.92
MW-12B	50.02	3/25/1997	5.60			44.42
	50.02	4/23/1997	6.64			43.38
	50.02	4/24/1997	6.74			43.28
	50.02	5/13/1997	5.55			44.47
	50.02	6/20/1997	7.01			43.01
	50.02	9/25/1997	8.32			41.7
	50.02	10/22/1997	7.25			42.77
	50.02	11/25/1997	7.29			42.73
	50.02	12/19/1997	6.86			43.16
	50.02	1/20/1998	5.88			44.14
	50.02	3/4/1998	5.64	44.08	1.72	44.38
	50.02	3/18/1998	5.38	44.07	1.73	44.64
	50.02	4/9/1998	7.87		0.98	42.15
	50.02	4/16/1998	8.31		1.35	41.71
	50.02	4/24/1998	8.72	43.82	1.98	41.3
	50.02	5/8/1998	NM		0.50	
	50.02	5/12/1998	NM		0.50	
	50.02	5/21/1998	10.48			39.54
	50.02	5/25/1998	NM		1.00	
	50.02	6/9/1998	NM		1.00	
	50.02	6/16/1998	NM		1.20	
	50.02	6/26/1998	NM		1.50	
	50.02	7/2/1998	NM		1.50	
	50.02	7/10/1998	NM		2.00	
	50.02	7/14/1998	NM		2.00	
	50.02	7/23/1998	NM		2.00	
	50.02	8/5/1998	NM		2.00	
	50.02	8/13/1998	NM		2.00	
	50.02	8/18/1998	NM		2.00	
	50.02	8/25/1998	10.22			39.8

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-12B	50.02	9/15/1998	NM		2.00	
	50.02	9/21/1998	7.73			42.29
	50.02	9/30/1998	NM		4.00	
	50.02	10/8/1998	NM		4.00	
	50.02	10/16/1998	NM		4.00	
	50.02	10/26/1998	8.88			41.14
	50.02	11/6/1998	NM		4.00	
	50.02	11/13/1998	NM		1.49	
	50.02	11/19/1998	NM		4.00	
	50.02	11/23/1998	6.11			43.91
	50.02	12/16/1998	NM		4.00	
	50.02	1/7/1999	NM		4.00	
	50.02	1/15/1999	NM		4.00	
	50.02	1/22/1999	NM		4.00	
	50.02	1/26/1999	NM		4.00	
	50.02	1/29/1999	5.70			44.32
	50.02	2/4/1999	NM		4.00	
	50.02	2/9/1999	NM		3.00	
	50.02	2/26/1999	5.83	39.95	5.85	44.19
	50.02	3/16/1999	6.30	43.60	2.20	43.72
	50.02	4/29/1999	6.44	38.90	6.90	43.58
	50.02	5/21/1999	7.40	36.90	8.90	42.62
	50.02	5/27/1999	7.38	36.90	8.90	42.64
	50.02	6/1/1999	6.40	37.90	7.90	43.62
	50.02	6/10/1999	7.36	36.90	8.90	42.66
	50.02	7/30/1999	7.98			42.04
	50.02	8/27/1999	6.61	38.90	6.90	43.41
	50.02	9/27/1999	11.71	42.34	3.46	38.31
	50.02	10/29/1999	12.76	41.84	3.96	37.26
	50.02	11/18/1999	13.22			36.8
	50.02	12/29/1999	12.01	41.84	3.96	38.01
	50.02	2/4/2000	13.22	41.84	3.96	36.8
	50.02	2/25/2000	11.44	41.84	3.96	38.58
	50.02	3/27/2000	NM			
	50.02	4/7/2000	8.73	41.81	3.99	41.29
	50.02	5/31/2000	8.77	41.81	3.99	41.25
	50.02	6/1/2000	8.73	41.81	3.99	41.29
	50.02	7/28/2000	8.77	41.89	3.91	41.25
	50.02	8/30/2000	11.66	41.82	3.98	38.36
	50.02	9/19/2000	13.33	40.89	4.91	36.69
	50.02	10/27/2000	11.75	41.80	4.00	38.27
	50.02	11/21/2000	10.64	43.48	2.32	39.38
	50.02	5/1/2001	8.71	43.46	2.34	41.31
	50.02	10/1/2001	8.37		15.00	41.65
	50.02	3/14/2002	6.37	36.99	8.81	43.65
	50.02	9/23/2002	6.10	40.03	5.77	43.92
	50.02	3/10/2003	5.45			44.57
	50.02	9/24/2003	6.29	39.85	5.95	43.73
	50.02	3/15/2004	5.63			44.39
	50.02	9/13/2004	10.44	38.72	7.08	39.58
	50.02	7/18/2005	7.14	38.40	7.40	42.88
	50.02	1/4/2006	10.75	35.98	9.82	39.27
	50.02	7/27/2006	6.07	35.74	10.06	43.95
	50.02	3/7/2007	6.96	34.60	11.20	43.06
	50.02	7/27/2007	5.36	33.45	12.35	44.66
	50.02	1/31/2008	5.75	33.34	12.46	44.27
	50.02	7/15/2008	9.38	38.88	6.92	40.64
	50.02	2/4/2009	8.89	38.14	7.66	41.13
	50.02	7/24/2009	9.18	38.51	7.29	40.84
	50.02	1/8/2010	6.81	37.46	8.34	43.21
	50.02	5/27/2010	7.29	39.5	6.30	42.73
	50.02	6/28/2010	7.39	44.1	1.70	42.63
	50.02	7/12/2010	7.47	44.25	1.55	42.55
	50.02	8/31/2010	7.26	45.42	0.38	42.76
	50.02	1/12/2011	7.01	45.39	0.41	43.01
	50.02	7/12/2011	10.09	45.39	0.41	39.93
	50.02	3/8/2012	6.87	40.2	5.60	43.15
	50.02	7/9/2012	7.16	40.1	5.70	42.86

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-12B	50.02	1/7/2013	9.17	39.86	5.94	40.85
	50.02	7/22/2013	11.16	39.04	6.76	38.86
	50.02	1/7/2014	11.34	45.12	0.68	38.68
	50.02	7/15/2014	10.59	44.89	0.91	39.43
	50.02	1/5/2015	10.06	44.91	1.29	39.96
	50.02	8/10/2015	7.39	46.1	0.10	42.63
	50.02	1/13/2016	6.06	45.79	0.41	43.96
	50.02	7/6/2016	6.29	45.72	0.48	43.73
	50.02	1/12/2017	7.02	45.81	0.39	43.00
	50.02	7/6/2017	7.01	45.71	1.89	43.01
	50.02	9/5/2017	7.03	45.6	2.00	42.99
	50.02	2/7/2018	7.13	45.87	0.33	42.89
	50.02	3/11/2018	7.42	45.96	0.24	42.6
	50.02	5/14/2018	8.59	45.91	0.29	41.43
	50.02	1/3/2019	7.96	45.87	0.33	42.06
	50.02	7/9/2019	6.67	45.06	1.14	43.35
	50.02	1/8/2020	5.66	27.12	19.08	44.36
MW-12C	50.14	5/13/1997	39.34			10.8
	50.14	6/20/1997	38.94			11.2
	50.14	9/25/1997	36.70			13.44
	50.14	10/22/1997	36.09			14.05
	50.14	11/25/1997	36.13			14.01
	50.14	12/19/1997	35.34			14.8
	50.14	1/20/1998	32.60			17.54
	50.14	3/4/1998	31.56			18.58
	50.14	3/18/1998	31.64			18.5
	50.14	4/24/1998	31.06			19.08
	50.14	5/21/1998	38.20			11.94
	50.14	8/25/1998	31.00			19.14
	50.14	9/21/1998	29.86			20.28
	50.14	10/26/1998	30.12			20.02
	50.14	11/23/1998	28.38			21.76
	50.14	1/29/1999	27.61			22.53
	50.14	2/26/1999	27.69			22.45
	50.14	3/16/1999	28.00			22.14
	50.14	4/29/1999	28.21			21.93
	50.14	6/1/1999	28.20			21.94
	50.14	7/30/1999	29.80			20.34
	50.14	8/27/1999	28.41			21.73
	50.14	9/27/1999	29.20			20.94
	50.14	10/29/1999	29.78			20.36
	50.14	11/18/1999	30.17			19.97
	50.14	12/29/1999	29.09			21.05
	50.14	2/4/2000	29.66			20.48
	50.14	2/25/2000	30.32			19.82
	50.14	3/27/2000	28.91			21.23
	50.14	4/7/2000	27.40			22.74
	50.14	5/31/2000	27.44			22.7
	50.14	6/1/2000	27.43			22.71
	50.14	7/28/2000	27.45			22.69
	50.14	8/30/2000	33.61			16.53
	50.14	9/19/2000	30.03			20.11
	50.14	10/27/2000	33.94			16.2
	50.14	11/21/2000	29.12			21.02
	50.14	5/1/2001	26.85			23.29
	50.14	10/1/2001	26.85			23.29
	50.14	3/11/2002	25.59			24.55
	50.14	9/23/2002	26.57			23.57
	50.14	3/10/2003	24.85			25.29
	50.14	9/23/2003	26.06			24.08
	50.14	3/15/2004	24.31			25.83
	50.14	9/13/2004	26.15			23.99
	50.14	7/18/2005	26.23			23.91
	50.14	1/4/2006	22.26			27.88
	50.14	7/27/2006	25.28			24.86
	50.14	3/7/2007	23.78			26.36
	50.14	7/27/2007	22.05			28.09
	50.14	1/30/2008	22.69			27.45

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-12C	50.14	7/15/2008	24.41			25.73
	50.14	2/4/2009	24.59			25.55
	50.14	7/24/2009	24.91			25.23
	50.14	1/8/2010	23.03			27.11
	50.14	7/12/2010	23.91			26.23
	50.14	1/12/2011	23.76			26.38
	50.14	7/12/2011	25.98			24.16
	50.14	1/26/2012	25.76			24.38
	50.14	7/9/2012	24.59			25.55
	50.14	1/7/2013	26.04			24.1
	50.14	7/22/2013	27.09			23.05
	50.14	1/7/2014	26.52			23.62
	50.14	7/16/2014	25.15			24.99
	50.14	1/5/2015	26.01			24.13
	50.14	8/10/2015	24.26			25.88
	50.14	1/13/2016	23.83			26.31
	50.14	7/6/2016	24.13			26.01
	50.14	1/12/2017	24.49			25.65
	50.14	7/6/2017	24.88			25.26
	50.14	9/5/2017	24.84			25.30
	50.14	2/11/2018	25.13			25.01
	50.14	3/11/2018	24.04			26.1
	50.14	4/14/2018	25.96			24.18
	50.14	1/3/2019	25.34			24.8
	50.14	7/9/2019	23.73			26.41
	50.14	1/7/2020	24.61			25.53
MW-13	50.65	3/25/1997	9.43			41.22
	50.65	4/23/1997	9.87			40.78
	50.65	4/24/1997	9.92			40.73
	50.65	5/13/1997	9.30			41.35
	50.65	6/20/1997	10.11			40.54
	50.65	9/25/1997	10.75			39.9
	50.65	10/22/1997	10.09			40.56
	50.65	11/25/1997	10.11			40.54
	50.65	12/19/1997	10.01			40.64
	50.65	1/20/1998	9.32			41.33
	50.65	3/4/1998	9.23			41.42
	50.65	3/18/1998	8.90			41.75
	50.65	4/24/1998	10.74			39.82
	50.65	5/21/1998	12.11			38.54
	50.65	8/25/1998	12.00			38.56
	50.65	9/21/1998	10.13			40.43
	50.65	10/26/1998	11.15			39.41
	50.65	11/23/1998	9.22			41.34
	50.65	1/29/1999	8.00			42.65
	50.65	2/26/1999	8.11			42.54
	50.65	3/16/1999	9.51			41.14
	50.65	4/29/1999	9.79			40.86
	50.65	6/1/1999	9.70			40.95
	50.65	7/30/1999	11.01			39.64
	50.65	8/27/1999	9.96			40.69
	50.65	9/27/1999	12.84			37.81
	50.65	10/29/1999	13.88			36.77
	50.65	11/17/1999	14.00			36.65
	50.65	12/29/1999	13.08			37.57
	50.65	2/4/2000	15.61			35.04
	50.65	2/25/2000	12.17			38.48
	50.65	3/27/2000	10.95			39.7
	50.65	4/7/2000	10.51			40.14
	50.65	5/31/2000	10.57			40.08
	50.65	6/1/2000	10.51			40.14
	50.65	7/28/2000	10.54			40.11
	50.65	8/30/2000	13.63			37.02
	50.65	9/19/2000	14.57			36.08
	50.65	10/27/2000	11.11			39.54
	50.65	11/21/2000	11.44			39.21
	50.65	5/1/2001	10.70			39.95
	50.65	10/1/2001	10.31			40.34

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-13	50.65	3/11/2002	9.62			41.03
	50.65	9/23/2002	9.17			41.48
	50.65	3/10/2003	9.17			41.48
	50.65	9/23/2003	9.14			41.51
	50.65	3/15/2004	9.30			41.35
	50.65	9/13/2004	11.98			38.67
	50.65	7/18/2005	10.25			40.4
	50.65	1/4/2006	12.03			38.62
	50.65	7/27/2006	8.82			41.83
	50.65	3/7/2007	9.95			40.7
	50.65	7/27/2007	8.90			41.75
	50.65	1/30/2008	8.85			41.8
	50.65	7/15/2008	10.89			39.76
	50.65	2/4/2009	10.59			40.06
	50.65	7/23/2009	11.07			39.58
	50.65	1/8/2010	9.22			41.43
	50.65	7/12/2010	11.12			39.53
	50.65	1/12/2011	8.89			41.76
	50.65	7/12/2011	12.96			37.69
	50.65	1/26/2012	9.31			41.34
	50.65	7/9/2012	9.14			41.51
	50.65	1/7/2013	10.68			39.97
	50.65	7/22/2013	12.13			38.52
	50.65	1/7/2014	10.13			40.52
	50.65	7/16/2014	11.04			39.61
	50.65	1/5/2015	9.34			41.31
	50.65	8/10/2015	7.67			42.98
	50.65	1/13/2016	7.01			43.64
	50.65	7/6/2016	7.39			43.26
	50.65	1/12/2017	7.81			42.84
	50.65	7/6/2017	7.96			42.69
	50.65	9/5/2017	9.01			41.64
	50.65	2/11/2018	9.58			41.07
	50.65	3/11/2018	10.09			40.56
	50.65	5/14/2018	10.96			39.69
	50.65	1/3/2019	10.52			40.13
	50.65	7/9/2019	10.63			40.02
	50.65	1/7/2020	9.42			41.23
MW-14	50.66	3/25/1997	7.71			42.95
	50.66	4/23/1997	8.31			42.35
	50.66	4/24/1997	8.34			42.32
	50.66	5/13/1997	7.83			42.83
	50.66	6/20/1997	8.64			42.02
	50.66	9/25/1997	9.95			40.71
	50.66	10/22/1997	8.89			41.77
	50.66	11/25/1997	8.86			41.8
	50.66	12/19/1997	8.62			42.04
	50.66	1/20/1998	8.08			42.58
	50.66	3/4/1998	7.72			42.94
	50.66	3/18/1998	7.66			43
	50.66	4/24/1998	9.75			40.91
	50.66	5/21/1998	11.00			39.66
	50.66	8/25/1998	12.00			38.66
	50.66	9/21/1998	9.41			41.25
	50.66	10/26/1998	11.10			39.56
	50.66	11/23/1998	8.08			42.58
	50.66	1/29/1999	7.10			43.56
	50.66	2/26/1999	7.21			43.45
	50.66	3/16/1999	8.74			41.92
	50.66	4/29/1999	8.93			41.73
	50.66	6/1/1999	8.92			41.74
	50.66	7/30/1999	10.44			40.22
	50.66	8/27/1999	9.21			41.45
	50.66	9/27/1999	12.56			38.1
	50.66	10/29/1999	13.56			37.1
	50.66	11/17/1999	13.63			37.03
	50.66	12/29/1999	12.88			37.78
	50.66	2/4/2000	14.22			36.44

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-14	50.66	2/25/2000	11.73			38.93
	50.66	3/27/2000	10.54			40.12
	50.66	4/7/2000	10.14			40.52
	50.66	5/31/2000	10.17			40.49
	50.66	6/1/2000	10.13			40.53
	50.66	7/28/2000	10.17			40.49
	50.66	8/30/2000	13.22			37.44
	50.66	9/19/2000	14.27			36.39
	50.66	10/27/2000	11.56			39.1
	50.66	11/21/2000	11.17			39.49
	50.66	5/1/2001	9.71			40.95
	50.66	10/1/2001	10.64			40.02
	50.66	3/11/2002	8.45			42.21
	50.66	9/23/2002	7.90			42.76
	50.66	3/10/2003	8.59			42.07
	50.66	9/23/2003	7.70			42.96
	50.66	3/15/2004	7.96			42.7
	50.66	9/13/2004	11.05			39.61
	50.66	7/18/2005	9.55			41.11
	50.66	1/4/2006	11.83			38.83
	50.66	7/27/2006	7.80			42.86
	50.66	3/7/2007	8.96			41.7
	50.66	7/27/2007	8.01			42.65
	50.66	1/30/2008	7.66			43
	50.66	7/15/2008	10.41			40.25
	50.66	2/4/2009	10.27			40.39
	50.66	7/23/2009	10.67			39.99
	50.66	1/8/2010	8.24			42.42
	50.66	7/12/2010	10.54			40.12
	50.66	1/12/2011	18.09			32.57
	50.66	7/12/2011	12.93			37.73
	50.66	1/26/2012	8.57			42.09
	50.66	7/9/2012	8.61			42.05
	50.66	1/7/2013	10.46			40.2
	50.66	7/22/2013	11.91			38.75
	50.66	1/7/2014	9.39			41.27
	50.66	7/16/2014	10.58			40.08
	50.66	1/5/2015	8.79			41.87
	50.66	8/10/2015	6.34			44.32
	50.66	1/13/2016	5.79			44.87
	50.66	7/6/2016	6.06			44.60
	50.66	1/12/2017	6.59			44.07
	50.66	7/6/2017	6.92			43.74
	50.66	9/5/2017	6.83			43.83
	50.66	2/11/2018	8.66			42.00
	50.66	3/11/2018	8.99			41.67
	50.66	5/14/2018	10.09			40.57
	50.66	1/3/2019	9.37			41.29
	50.66	7/9/2019	9.57			41.09
	50.66	1/7/2020	8.39			42.27
MW-15A	50.41	3/25/1997	8.22			42.19
	50.41	4/23/1997	8.28			42.13
	50.41	4/24/1997	8.51			41.9
	50.41	5/13/1997	8.06			42.35
	50.41	6/20/1997	8.64			41.77
	50.41	9/25/1997	9.75			40.66
	50.41	10/22/1997	9.09			41.32
	50.41	11/25/1997	9.13			41.28
	50.41	12/19/1997	8.89			41.52
	50.41	1/20/1998	8.35			42.06
	50.41	3/4/1998	8.09			42.32
	50.41	3/18/1998	7.98			42.43
	50.41	4/24/1998	9.57			40.84
	50.41	5/21/1998	11.10			39.31
	50.41	8/25/1998	11.78			38.63
	50.41	9/21/1998	9.59			40.82
	50.41	10/26/1998	10.69			39.72
	50.41	11/23/1998	8.46			41.95

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-15A	50.41	1/29/1999	7.11			43.3
	50.41	2/26/1999	7.23			43.18
	50.41	3/16/1999	9.17			41.24
	50.41	4/29/1999	9.29			41.12
	50.41	6/1/1999	9.29			41.12
	50.41	7/30/1999	10.83			39.58
	50.41	8/27/1999	9.39			41.02
	50.41	9/27/1999	12.02			38.39
	50.41	10/29/1999	13.11			37.3
	50.41	11/17/1999	13.44			36.97
	50.41	12/29/1999	12.49			37.92
	50.41	2/4/2000	15.71			34.7
	50.41	2/25/2000	11.34			39.07
	50.41	3/27/2000	10.66			39.75
	50.41	4/7/2000	10.20			40.21
	50.41	5/31/2000	10.23			40.18
	50.41	6/1/2000	10.22			40.19
	50.41	7/28/2000	10.23			40.18
	50.41	8/30/2000	13.34			37.07
	50.41	9/19/2000	14.01			36.4
	50.41	10/27/2000	11.77			38.64
	50.41	11/21/2000	11.09			39.32
	50.41	5/1/2001	9.85			40.56
	50.41	10/1/2001	9.73			40.68
	50.41	3/11/2002	8.81			41.6
	50.41	9/23/2002	8.21			42.2
	50.41	3/10/2003	7.76			42.65
	50.41	9/23/2003	7.87			42.54
	50.41	3/15/2004	7.94			42.47
	50.41	9/13/2004	10.72			39.69
	50.41	7/18/2005	9.33			41.08
	50.41	1/4/2006	11.66			38.75
	50.41	7/27/2006	7.92			42.49
	50.41	3/7/2007	9.19			41.22
	50.41	7/27/2007	7.88			42.53
	50.41	1/30/2008	8.02			42.39
	50.41	7/15/2008	10.26			40.15
	50.41	2/4/2009	10.59			39.82
	50.41	7/23/2009	11.01			39.4
	50.41	1/8/2010	8.64			41.77
	50.41	7/12/2010	10.81			39.6
	50.41	1/12/2011	8.77			41.64
	50.41	7/12/2011	12.78			37.63
	50.41	1/26/2012	9.29			41.12
	50.41	7/9/2012	5.92			44.49
	50.41	1/7/2013	10.77			39.64
	50.41	7/22/2013	12.21			38.2
	50.41	1/7/2014	9.85			40.56
	50.41	7/16/2014	10.65			39.76
	50.41	1/5/2015	9.07			41.34
	50.41	8/10/2015	6.49			43.92
	50.41	1/13/2016	5.79			44.62
	50.41	7/6/2016	6.21			44.20
	50.41	1/12/2017	6.82			43.59
	50.41	7/6/2017	7.47			42.94
	50.41	9/5/2017	7.43			42.98
	50.41	2/11/2018	8.89			41.52
	50.41	3/11/2018	9.23			41.18
	50.41	5/14/2018	10.18			40.23
	50.41	1/3/2019	9.41			41
	50.41	7/9/2019	9.03			41.38
	50.41	1/7/2020	8.57			41.84
MW-15B	50.20	1/26/2012	10.13			40.07
	50.20	7/9/2012	8.32			41.88
	50.20	1/7/2013	10.71			39.49
	50.20	7/22/2013	11.97			38.23
	50.20	1/7/2014	9.81			40.39
	50.20	7/15/2014	10.36			39.84

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-15B	50.20	1/5/2015	9.26			40.94
	50.20	8/10/2015	7.29			42.91
	50.20	1/13/2016	6.81			43.39
	50.20	7/6/2016	7.56			42.64
	50.20	1/12/2017	8.09			42.11
	50.20	7/6/2017	8.61			41.59
	50.20	9/5/2017	8.56			41.64
	50.20	2/11/2018	8.74			41.46
	50.20	3/11/2018	9.09			41.11
	50.20	5/14/2018	9.91			40.29
	50.20	1/3/2019	9.4			40.8
	50.20	7/9/2019	9.23			40.97
	50.20	1/7/2020	8.39			41.81
MW-15C	50.01	5/13/1997	33.46			16.55
	50.01	6/20/1997	34.18			15.83
	50.01	9/25/1997	33.77			16.24
	50.01	10/22/1997	32.89			17.12
	50.01	11/25/1997	32.95			17.06
	50.01	12/19/1997	32.01			18
	50.01	1/20/1998	29.90			20.11
	50.01	3/4/1998	28.56			21.45
	50.01	3/18/1998	28.53			21.48
	50.01	4/24/1998	28.46			21.55
	50.01	5/21/1998	35.00			15.01
	50.01	8/25/1998	29.30			20.71
	50.01	9/21/1998	28.15			21.86
	50.01	10/26/1998	28.11			21.9
	50.01	11/23/1998	26.50			23.51
	50.01	1/29/1999	25.44			24.57
	50.01	2/26/1999	25.51			24.5
	50.01	3/16/1999	26.11			23.9
	50.01	4/29/1999	26.33			23.68
	50.01	6/1/1999	26.39			23.62
	50.01	7/30/1999	27.99			22.02
	50.01	8/27/1999	26.51			23.5
	50.01	9/27/1999	27.46			22.55
	50.01	10/29/1999	28.26			21.75
	50.01	11/17/1999	28.55			21.46
	50.01	12/29/1999	27.61			22.4
	50.01	2/4/2000	28.11			21.9
	50.01	2/25/2000	28.23			21.78
	50.01	3/27/2000	27.45			22.56
	50.01	4/7/2000	26.11			23.9
	50.01	5/31/2000	26.13			23.88
	50.01	6/1/2000	26.03			23.98
	50.01	7/28/2000	26.14			23.87
	50.01	8/30/2000	29.11			20.9
	50.01	9/19/2000	28.67			21.34
	50.01	10/27/2000	27.64			22.37
	50.01	11/21/2000	27.56			22.45
	50.01	5/1/2001	25.24			24.77
	50.01	10/1/2001	25.40			24.61
	50.01	3/11/2002	24.17			25.84
	50.01	9/23/2002	25.35			24.66
	50.01	3/10/2003	23.52			26.49
	50.01	9/23/2003	24.88			25.13
	50.01	3/15/2004	22.97			27.04
	50.01	9/13/2004	24.80			25.21
	50.01	7/18/2005	25.17			24.84
	50.01	1/4/2006	26.23			23.78
	50.01	7/27/2006	24.31			25.7
	50.01	3/7/2007	22.76			27.25
	50.01	7/27/2007	21.03			28.98
	50.01	1/30/2008	21.80			28.21
	50.01	7/15/2008	23.63			26.38
	50.01	2/4/2009	23.73			26.28
	50.01	7/23/2009	23.96			26.05
	50.01	1/8/2010	21.88			28.13

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-15C	50.01	7/12/2010	23.08			26.93
	50.01	1/12/2011	23.04			26.97
	50.01	7/12/2011	25.09			24.92
	50.01	1/26/2012	24.37			25.64
	50.01	7/9/2012	24.41			25.6
	50.01	1/7/2013	25.21			24.8
	50.01	7/22/2013	26.10			23.91
	50.01	1/7/2014	25.26			24.75
	50.01	7/16/2014	24.15			25.86
	50.01	1/5/2015	25.34			24.67
	50.01	8/10/2015	22.74			27.27
	50.01	1/13/2016	21.92			28.09
	50.01	7/6/2016	22.26			27.75
	50.01	1/12/2017	22.69			27.32
	50.01	7/6/2017	23.31			26.70
	50.01	9/5/2017	23.29			26.72
	50.01	2/11/2018	23.63			26.38
	50.01	3/11/2018	22.47			27.54
	50.01	5/14/2018	23.33			26.68
	50.01	1/3/2019	23.87			26.14
	50.01	7/9/2019	22.38			27.63
	50.01	1/7/2020	23.12			26.89
MW-16	51.51	3/25/1997	7.41			44.1
	51.51	4/23/1997	8.44			43.07
	51.51	4/24/1997	8.52			42.99
	51.51	5/13/1997	8.29			43.22
	51.51	6/20/1997	8.41			43.1
	51.51	9/25/1997	10.71			40.8
	51.51	10/22/1997	9.53			41.98
	51.51	11/25/1997	9.55			41.96
	51.51	12/19/1997	9.10			42.41
	51.51	1/20/1998	8.60			42.91
	51.51	3/4/1998	8.13			43.38
	51.51	3/18/1998	8.59			42.92
	51.51	4/24/1998	9.96			41.55
	51.51	5/21/1998	11.43			40.08
	51.51	7/30/1998	12.56			38.95
	51.51	8/25/1998	11.53			39.98
	51.51	9/21/1998	9.81			41.7
	51.51	10/26/1998	10.44			41.07
	51.51	11/23/1998	8.98			42.53
	51.51	1/29/1999	7.12			44.39
	51.51	2/26/1999	7.23			44.28
	51.51	3/16/1999	10.06			41.45
	51.51	4/29/1999	10.16			41.35
	51.51	6/1/1999	10.16			41.35
	51.51	7/30/1999	11.76			39.75
	51.51	8/27/1999	10.33			41.18
	51.51	9/27/1999	11.79			39.72
	51.51	10/29/1999	12.93			38.58
	51.51	11/17/1999	13.71			37.8
	51.51	12/29/1999	12.20			39.31
	51.51	2/4/2000	15.11			36.4
	51.51	2/25/2000	11.10			40.41
	51.51	3/27/2000	11.48			40.03
	51.51	4/7/2000	11.09			40.42
	51.51	5/31/2000	11.11			40.4
	51.51	6/1/2000	11.00			40.51
	51.51	7/28/2000	11.11			40.4
	51.51	8/30/2000	13.10			38.41
	51.51	9/19/2000	14.83			36.68
	51.51	10/27/2000	11.66			39.85
	51.51	11/21/2000	11.29			40.22
	51.51	5/1/2001	9.92			41.59
	51.51	10/1/2001	9.93			41.58
	51.51	3/11/2002	9.12			42.39
	51.51	9/23/2002	8.65			42.86
	51.51	3/10/2003	7.74			43.77

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-16	51.51	9/23/2003	8.48			43.03
	51.51	3/15/2004	8.09			43.42
	51.51	9/13/2004	10.38			41.13
	51.51	7/18/2005	10.42			41.09
	51.51	1/4/2006	12.48			39.03
	51.51	7/27/2006	9.37			42.14
	51.51	3/7/2007	9.66			41.85
	51.51	7/27/2007	7.85			43.66
	51.51	1/31/2008	8.42	25.40	3.40	43.09
	51.51	7/15/2008	10.16			41.35
	51.51	2/5/2009	11.93			39.58
	51.51	7/23/2009	12.67			38.84
	51.51	1/8/2010	8.66			42.85
	51.51	7/12/2010	10.31			41.2
	51.51	1/12/2011	9.89			41.62
	51.51	7/12/2011	12.98			38.53
	51.51	1/26/2012	9.92			41.59
	51.51	7/9/2012	9.68			41.83
	51.51	1/7/2013	11.41			40.1
	51.51	7/22/2013	12.39			39.12
	51.51	1/7/2014	12.02			39.49
	51.51	7/15/2014	9.69			41.82
	51.51	1/5/2015	11.07			40.44
	51.51	8/10/2015	9.42			42.09
MW-17	50.92	3/25/1997	9.97			40.95
	50.92	4/23/1997	10.41			40.51
	50.92	4/24/1997	10.51			40.41
	50.92	5/13/1997	10.32			40.6
	50.92	6/20/1997	11.07			39.85
	50.92	9/25/1997	12.39			38.53
	50.92	10/22/1997	11.19			39.73
	50.92	11/25/1997	11.21			39.71
	50.92	12/19/1997	11.01			39.91
	50.92	1/20/1998	10.25			40.67
	50.92	3/4/1998	9.93			40.99
	50.92	3/18/1998	9.94			40.98
	50.92	4/9/1998	11.32			39.6
	50.92	4/16/1998	11.52			39.4
	50.92	4/24/1998	11.80			39.12
	50.92	5/8/1998	NM			
	50.92	5/12/1998	NM			
	50.92	5/21/1998	13.30			37.62
	50.92	5/25/1998	NM			
	50.92	6/9/1998	NM			
	50.92	6/16/1998	NM			
	50.92	6/26/1998	NM			
	50.92	7/2/1998	NM			
	50.92	7/10/1998	NM			
	50.92	7/14/1998	NM			
	50.92	7/23/1998	NM			
	50.92	8/5/1998	NM			
	50.92	8/13/1998	NM			
	50.92	8/25/1998	13.78			37.14
	50.92	9/15/1998	NM			
	50.92	9/21/1998	11.49			39.43
	50.92	9/30/1998	NM			
	50.92	10/8/1998	NM			
	50.92	10/16/1998	NM			
	50.92	10/26/1998	12.22			38.7
	50.92	11/6/1998	NM			
	50.92	11/13/1998	NM			
	50.92	11/19/1998	NM			
	50.92	11/23/1998	10.21			40.71
	50.92	12/16/1998	NM			
	50.92	1/7/1999	NM			
	50.92	1/15/1999	NM			
	50.92	1/22/1999	NM			
	50.92	1/26/1999	NM			

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-17	50.92	1/29/1999	10.88			40.04
	50.92	2/4/1999	NM			
	50.92	2/9/1999	NM			
	50.92	2/26/1999	10.93			39.99
	50.92	3/16/1999	11.18			39.74
	50.92	4/29/1999	11.00			39.92
	50.92	5/21/1999	11.25			39.67
	50.92	5/27/1999	11.31			39.61
	50.92	6/1/1999	11.07			39.85
	50.92	6/10/1999	11.28			39.64
	50.92	7/30/1999	12.67			38.25
	50.92	8/27/1999	11.27			39.65
	50.92	9/27/1999	14.67			36.25
	50.92	10/29/1999	15.11			35.81
	50.92	11/17/1999	16.08			34.84
	50.92	12/29/1999	14.43			36.49
	50.92	2/4/2000	17.21			33.71
	50.92	2/25/2000	13.63			37.29
	50.92	3/27/2000	13.08	32.60	0.70	37.84
	50.92	4/7/2000	12.63	32.30	1.00	38.29
	50.92	5/31/2000	12.67	32.30	1.00	38.25
	50.92	6/1/2000	12.61	32.30	1.00	38.31
	50.92	7/28/2000	12.69	32.30	1.00	38.23
	50.92	8/30/2000	15.56			35.36
	50.92	9/19/2000	16.24	32.20	1.10	34.68
	50.92	10/27/2000	14.10			36.82
	50.92	11/21/2000	13.12			37.8
	50.92	5/1/2001	11.82	32.44	0.86	39.1
	50.92	10/1/2001	12.55	32.30	1.00	38.37
	50.92	3/14/2002	10.91	31.79	1.51	40.01
	50.92	9/23/2002	10.48			40.44
	50.92	3/10/2003	9.76			41.16
	50.92	9/24/2003	10.59	32.85	0.45	40.33
	50.92	3/15/2004	10.15			40.77
	50.92	9/13/2004	13.09			37.83
	50.92	7/18/2005	12.06	32.90	0.40	38.86
	50.92	1/4/2006	13.90	32.90	0.40	37.02
	50.92	7/27/2006	10.71	33.28	0.02	40.21
	50.92	3/7/2007	10.91	33.00	0.30	40.01
	50.92	7/27/2007	9.33	33.02	0.28	41.59
	50.92	1/31/2008	10.00	31.17	2.13	40.92
	50.92	7/15/2008	12.95	33.08	0.23	37.97
	50.92	2/4/2009	12.64	Trace	Trace	38.28
	50.92	1/8/2010	10.62			40.3
	50.92	7/12/2010	12.96			37.96
	50.92	7/12/2010	12.96			37.96
	50.92	1/12/2011	11.06			39.86
	50.92	7/12/2011	14.93			35.99
	50.92	1/26/2012	11.2			39.72
	50.92	7/9/2012	11.02			39.9
	50.92	1/7/2013	13.14			37.78
	50.92	7/22/2013	14.62			36.3
	50.92	1/7/2014	12.36			38.56
	50.92	7/15/2014	12.54			38.38
	50.92	1/5/2015	11.71			39.21
	50.92	8/10/2015	9.61			41.31
	50.92	1/13/2016	9.02			41.90
	50.92	7/6/2016	9.47			41.45
	50.92	1/12/2017	10.06			40.86
	50.92	7/6/2017	10.62			40.30
	50.92	9/5/2017	10.51			40.41
	50.92	2/11/2018	10.76			40.16
	50.92	3/11/2018	11.21			39.71
	50.92	5/14/2018	12.21			38.71
	50.92	1/3/2019	11.72			39.2
	50.92	7/9/2019	11.66			39.26
	50.92	1/7/2020	8.23			42.69
MW-17C	50.17	3/15/2004	22.75			27.42

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-17C	50.17	9/13/2004	24.56			25.61
	50.17	7/18/2005	25.02			25.15
	50.17	1/4/2006	26.07			24.1
	50.17	7/27/2006	24.15			26.02
	50.17	3/7/2007	22.51			27.66
	50.17	7/27/2007	20.93			29.24
	50.17	1/30/2008	21.74			28.43
	50.17	7/15/2008	23.65			26.52
	50.17	2/4/2009	23.72			26.45
	50.17	7/23/2009	24.08			26.09
	50.17	1/8/2010	21.98			28.19
	50.17	7/12/2010	23.03			27.14
	50.17	1/12/2011	23.16			27.01
	50.17	7/12/2011	25.11			25.06
	50.17	1/26/2012	24.27			25.9
	50.17	7/9/2012	24.32			25.85
	50.17	1/7/2013	24.76			25.41
	50.17	7/22/2013	25.89			24.28
	50.17	1/7/2014	25.06			25.11
	50.17	7/15/2014	23.98			26.19
	50.17	1/5/2015	24.62			25.55
	50.17	8/10/2015	22.47			27.70
	50.17	1/13/2016	21.81			28.36
	50.17	7/6/2016	22.16			28.01
	50.17	1/12/2017	22.67			27.50
	50.17	7/6/2017	23.09			27.08
	50.17	9/5/2017	23.01			27.16
	50.17	2/11/2018	23.11			27.06
	50.17	3/11/2018	22.21			27.96
	50.17	5/14/2018	23.02			27.15
	50.17	1/3/2019	22.71			27.46
	50.17	7/9/2019	22.14			28.03
	50.17	1/7/2020	23.21			26.96
MW-18A	51.57	3/25/1997	15.41			36.16
	51.57	4/23/1997	15.80			35.77
	51.57	5/13/1997	14.92			36.65
	51.57	6/20/1997	16.02			35.55
	51.57	9/25/1997	15.15			36.42
	51.57	10/22/1997	16.38			35.19
	51.57	11/25/1997	16.37			35.2
	51.57	12/19/1997	16.11			35.46
	51.57	1/20/1998	15.49			36.08
	51.57	3/4/1998	15.19			36.38
	51.57	3/18/1998	14.28			37.29
	51.57	4/24/1998	17.53			34.04
	51.57	5/21/1998	18.41			33.16
	51.57	7/30/1998	18.59			32.98
	51.57	8/25/1998	16.95			34.62
	51.57	9/21/1998	16.39			35.18
	51.57	10/26/1998	15.77			35.8
	51.57	11/23/1998	16.26			35.31
	51.57	1/29/1999	17.02			34.55
	51.57	2/26/1999	17.11			34.46
	51.57	4/29/1999	16.01			35.56
	51.57	6/1/1999	16.11			35.46
	51.57	7/30/1999	17.55			34.02
	51.57	8/27/1999	16.39			35.18
	51.57	9/27/1999	19.13			32.44
	51.57	10/29/1999	20.50			31.07
	51.57	11/17/1999	21.63			29.94
	51.57	12/29/1999	19.83			31.74
	51.57	2/4/2000	23.71			27.86
	51.57	2/25/2000	18.80			32.77
	51.57	3/27/2000	17.98			33.59
	51.57	4/7/2000	17.61			33.96
	51.57	5/31/2000	17.65			33.92
	51.57	6/1/2000	17.60			33.97
	51.57	7/28/2000	17.67			33.9

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-18A	51.57	8/30/2000	20.30			31.27
	51.57	9/19/2000	19.54			32.03
	51.57	10/27/2000	18.75			32.82
	51.57	11/21/2000	16.52			35.05
	51.57	5/1/2001	17.91	27.85	7.94	33.66
	51.57	10/1/2001	17.47			34.1
	51.57	3/11/2002	16.68			34.89
	51.57	9/23/2002	15.30			36.27
	51.57	3/10/2003	15.77			35.8
	51.57	9/23/2003	25.08			26.49
	51.57	3/15/2004	15.58			35.99
	51.57	9/13/2004	18.32			33.25
	51.57	7/18/2005	14.88			36.69
	51.57	1/4/2006	17.96			33.61
	51.57	7/27/2006	14.15			37.42
	51.57	3/7/2007	17.32			34.25
	51.57	7/27/2007	15.22			36.35
	51.57	1/30/2008	15.63			35.94
	51.57	7/15/2008	17.43			34.14
	51.57	2/5/2009	18.67			32.9
	51.57	7/23/2009	19.03			32.54
	51.57	1/8/2010	16.51			35.06
	51.57	7/12/2010	18.11			33.46
	51.57	1/12/2011	15.82			35.75
	51.57	7/12/2011	19.02			32.55
	51.57	1/26/2012	16.9			34.67
	51.57	7/9/2012	15.06			36.51
	51.57	1/7/2013	18.39			33.18
	51.57	7/22/2013	18.74			32.83
	51.57	1/7/2014	18.06			33.51
	51.57	7/16/2014	18.14			33.43
	51.57	1/5/2015	17.39			34.18
	51.57	8/10/2015	15.02			36.55
	51.57	1/13/2016	14.36			37.21
	51.57	7/6/2016	14.71			36.86
	51.57	1/12/2017	15.09			36.48
	51.57	7/6/2017	15.59			35.98
	51.57	9/5/2017	15.49			36.08
	51.57	2/11/2018	16.62			34.95
	51.57	3/11/2018	17.12			34.45
	51.57	5/14/2018	17.71			33.86
	51.57	1/3/2019	17.52			34.05
	51.57	7/9/2019	17.51			34.06
	51.57	1/7/2020	17.71			33.86
MW-18C	51.47	5/13/1997	29.45			22.02
	51.47	6/20/1997	30.37			21.1
	51.47	9/25/1997	31.53			19.94
	51.47	10/22/1997	30.71			20.76
	51.47	11/25/1997	30.75			20.72
	51.47	12/19/1997	30.10			21.37
	51.47	1/20/1998	28.30			23.17
	51.47	3/4/1998	27.03			24.44
	51.47	3/18/1998	26.81			24.66
	51.47	4/9/1998	27.04			24.43
	51.47	4/16/1998	27.03			24.44
	51.47	4/24/1998	27.25			24.22
	51.47	5/8/1998	NM			
	51.47	5/12/1998	NM			
	51.47	5/21/1998	27.68			23.79
	51.47	5/25/1998	NM			
	51.47	6/9/1998	NM			
	51.47	6/16/1998	NM			
	51.47	6/26/1998	NM			
	51.47	7/2/1998	NM			
	51.47	7/10/1998	NM			
	51.47	7/14/1998	NM			
	51.47	7/23/1998	NM			
	51.47	7/30/1998	28.40			23.07

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-18C	51.47	8/5/1998	NM			
	51.47	8/13/1998	NM			
	51.47	8/25/1998	28.88			22.59
	51.47	9/15/1998	NM			
	51.47	9/21/1998	27.94			23.53
	51.47	9/30/1998	NM			
	51.47	10/8/1998	NM			
	51.47	10/16/1998	NM			
	51.47	10/26/1998	27.62			23.85
	51.47	11/6/1998	NM			
	51.47	11/11/1998	26.85		0.67	24.62
	51.47	11/19/1998	NM			
	51.47	11/23/1998	26.21			25.26
	51.47	12/16/1998	NM			
	51.47	1/7/1999	NM			
	51.47	1/15/1999	NM			
	51.47	1/22/1999	NM			
	51.47	1/26/1999	NM			
	51.47	1/29/1999	25.36			26.11
	51.47	2/4/1999	NM			
	51.47	2/9/1999	NM			
	51.47	2/26/1999	25.41			26.06
	51.47	4/29/1999	26.33			25.14
	51.47	5/21/1999	25.75			25.72
	51.47	5/27/1999	25.76			25.71
	51.47	6/1/1999	26.38			25.09
	51.47	6/10/1999	25.68			25.79
	51.47	7/30/1999	25.61			25.86
	51.47	8/27/1999	26.51			24.96
	51.47	9/27/1999	27.28			24.19
	51.47	10/29/1999	27.95			23.52
	51.47	11/17/1999	28.42			23.05
	51.47	12/29/1999	27.26			24.21
	51.47	2/4/2000	27.84			23.63
	51.47	2/25/2000	27.83			23.64
	51.47	3/27/2000	27.48			23.99
	51.47	4/7/2000	25.80			25.67
	51.47	5/31/2000	25.83			25.64
	51.47	6/1/2000	25.81			25.66
	51.47	7/28/2000	25.86			25.61
	51.47	8/30/2000	28.42			23.05
	51.47	9/19/2000	28.77	80.44	0.97	22.7
	51.47	10/27/2000	28.69			22.78
	51.47	11/21/2000	27.67			23.8
	51.47	5/1/2001	25.20			26.27
	51.47	10/1/2001	25.59			25.8
	51.47	3/14/2002	24.35			27.12
	51.47	9/25/2002	25.45			26.02
	51.47	3/10/2003	23.60			27.87
	51.47	9/24/2003	25.15			26.32
	51.47	3/15/2004	24.23			27.24
	51.47	9/13/2004	25.12	78.22	1.70	26.35
	51.47	7/18/2005	25.50	66.20	0.30	25.97
	51.47	1/4/2006	26.71			24.76
	51.47	7/27/2006	24.80			26.67
	51.47	3/7/2007	23.11			28.36
	51.47	7/27/2007	24.80			26.67
	51.47	1/30/2008	22.64			28.83
	51.47	7/15/2008	24.43			27.04
	51.47	2/5/2009	24.34			27.13
	51.47	7/23/2009	24.61			26.86
	51.47	1/8/2010	22.56			28.91
	51.47	7/12/2010	23.77			27.7
	51.47	1/12/2011	24.03			27.44
	51.47	7/12/2011	25.87			25.6
	51.47	1/26/2012	26.82			24.65
	51.47	7/9/2012	24.82			26.65
	51.47	1/7/2013	25.61			25.86

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-18C	51.47	7/22/2013	26.76			24.71
	51.47	1/7/2014	25.68			25.79
	51.47	7/16/2014	24.60			26.87
	51.47	1/5/2015	25.02			26.45
	51.47	8/10/2015	23.41			28.06
	51.47	1/13/2016	22.76			28.71
	51.47	7/6/2016	23.12			28.35
	51.47	1/12/2017	23.73			27.74
	51.47	7/6/2017	24.13			27.34
	51.47	9/5/2017	24.08			27.39
	51.47	2/11/2018	23.7			27.77
	51.47	3/11/2018	22.88			28.59
	51.47	5/14/2018	23.47			28.00
	51.47	1/3/2019	23.01			28.46
	51.47	7/9/2019	23.08			28.39
	51.47	1/7/2020	23.54			27.93
MW-19C	53.05	11/23/1998	28.84			24.21
	53.05	1/29/1999	28.21			24.84
	53.05	2/26/1999	28.28			24.77
	53.05	3/16/1999	28.31			24.74
	53.05	4/29/1999	28.56			24.49
	53.05	6/1/1999	28.48			24.57
	53.05	7/30/1999	30.00			23.05
	53.05	8/27/1999	28.61			24.44
	53.05	9/27/1999	29.72			23.33
	53.05	10/29/1999	30.46			22.59
	53.05	11/17/1999	30.76			22.29
	53.05	12/29/1999	29.44			23.61
	53.05	2/4/2000	30.22			22.83
	53.05	2/25/2000	29.93			23.12
	53.05	3/27/2000	29.80			23.25
	53.05	4/7/2000	28.40			24.65
	53.05	5/31/2000	28.44			24.61
	53.05	6/1/2000	28.33			24.72
	53.05	7/28/2000	28.37			24.68
	53.05	8/30/2000	29.99			23.06
	53.05	9/19/2000	30.97			22.08
	53.05	10/27/2000	28.49			24.56
	53.05	11/21/2000	29.88			23.17
	53.05	5/1/2001	27.61	71.55	3.56	25.44
	53.05	10/1/2001	27.84			25.21
	53.05	3/11/2002	26.68			26.37
	53.05	9/23/2002	27.66			25.39
	53.05	3/10/2003	25.77			27.28
	53.05	9/23/2003	27.21			25.84
	53.05	3/15/2004	25.36			27.69
	53.05	9/13/2004	27.20			25.85
	53.05	7/18/2005	27.71			25.34
	53.05	1/4/2006	28.78			24.27
	53.05	7/27/2006	26.91			26.14
	53.05	3/7/2007	25.22			27.83
	53.05	7/27/2007	23.71			29.34
	53.05	1/31/2008	24.57			28.48
	53.05	7/15/2008	26.38			26.67
	53.05	2/4/2009	26.44			26.61
	53.05	7/23/2009	26.81			26.24
	53.05	1/9/2010	24.47			28.58
	53.05	7/12/2010	25.67			27.38
	53.05	1/12/2011	25.86			27.19
	53.05	7/12/2011	27.81			25.24
	53.05	1/26/2012	26.74			26.31
	53.05	7/9/2012	27.26			25.79
	53.05	1/7/2013	27.73			25.32
	53.05	7/22/2013	28.58			24.47
	53.05	1/7/2014	27.71			25.34
	53.05	7/15/2014	26.65			26.40
	53.05	1/5/2015	27.34			25.71
	53.05	8/10/2015	25.21			27.84

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-19C	53.05	1/13/2016	24.68			28.37
	53.05	7/6/2016	NM			
	53.05	2/11/2018	21.74			31.31
	53.05	3/11/2018	24.74			28.31
	53.05	5/14/2018	25.72			27.33
	53.05	1/3/2019	25.03			28.02
	53.05	7/9/2019	24.58			28.47
	53.05	1/8/2020	25.71			27.34
MW-20A	50.43	11/23/1998	8.31			42.116
	50.43	1/29/1999	8.70			41.726
	50.43	2/26/1999	8.81			41.616
	50.43	3/16/1999	9.26			41.166
	50.43	4/29/1999	9.33			41.096
	50.43	6/1/1999	9.30			41.126
	50.43	7/30/1999	10.91			39.516
	50.43	8/27/1999	9.56			40.866
	50.43	9/27/1999	10.79			39.636
	50.43	10/29/1999	11.96			38.466
	50.43	11/17/1999	13.06			37.366
	50.43	12/29/1999	11.11			39.316
	50.43	2/4/2000	14.89			35.536
	50.43	2/25/2000	10.33			40.096
	50.43	3/27/2000	10.79			39.636
	50.43	4/7/2000	10.41			40.016
	50.43	5/31/2000	10.46			39.966
	50.43	6/1/2000	10.41			40.016
	50.43	7/28/2000	10.47			39.956
	50.43	8/30/2000	12.56			37.866
	50.43	9/19/2000	13.68			36.746
	50.43	10/27/2000	11.01			39.416
	50.43	11/21/2000	10.64			39.786
	50.43	5/1/2001	9.40			41.03
	50.43	10/1/2001	10.42			40.01
	50.43	3/11/2002	8.59			41.836
	50.43	9/23/2002	8.51			41.916
	50.43	3/10/2003	7.42			43.006
	50.43	9/23/2003	7.95			42.476
	50.43	3/15/2004	7.72			42.706
	50.43	9/13/2004	10.22			40.206
	50.43	7/18/2005	9.88			40.546
	50.43	1/4/2006	11.72			38.706
	50.43	7/27/2006	8.59			41.836
	50.43	3/7/2007	8.91			41.516
	50.43	7/27/2007	7.63			42.796
	50.43	1/30/2008	7.91			42.516
	50.43	7/15/2008	10.05			40.376
	50.43	2/4/2009	10.18			40.246
	50.43	7/23/2009	10.47			39.956
	50.43	1/9/2010	8.23			42.196
	50.43	7/12/2010	10.62			39.806
	50.43	1/12/2011	8.76			41.666
	50.43	7/12/2011	12.53			37.896
	50.43	1/26/2012	11.61			38.816
	50.43	7/9/2012	9.18			41.246
	50.43	1/7/2013	10.66			39.766
	50.43	7/22/2013	12.17			38.256
	50.43	1/7/2014	11.62			38.806
	50.43	7/15/2014	9.83			40.60
	50.43	1/5/2015	11.09			39.34
	50.43	8/10/2015	9.34			41.09
	50.43	7/6/2017	8.12			42.31
	50.43	9/6/2017	8.06			42.37
	50.43	2/11/2018	9.22			41.21
	50.43	3/11/2018	9.03			41.396
	50.43	5/14/2018	9.89			40.536
	50.43	1/3/2019	9.26			41.17
	50.43	7/9/2019	9.04			41.386
	50.43	1/7/2020	9.06			41.366

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-20A	50.43					50.426
	50.43					50.426
	50.43					50.426
MW-21C	49.05	11/23/1998	27.83			21.223
	49.05	1/29/1999	27.11			21.943
	49.05	2/26/1999	27.26			21.793
	49.05	3/16/1999	27.42			21.633
	49.05	4/29/1999	27.99			21.063
	49.05	6/1/1999	27.80			21.253
	49.05	7/30/1999	29.00			20.053
	49.05	8/27/1999	27.99			21.063
	49.05	9/27/1999	28.43			20.623
	49.05	10/29/1999	29.12			19.933
	49.05	11/18/1999	29.25			19.803
	49.05	12/29/1999	10.89			38.163
	49.05	2/4/2000	28.94			20.113
	49.05	2/25/2000	11.43			37.623
	49.05	3/27/2000	28.13			20.923
	49.05	4/7/2000	26.79			22.263
	49.05	5/31/2000	26.83			22.223
	49.05	6/1/2000	26.83			22.223
	49.05	7/28/2000	26.88			22.173
	49.05	8/30/2000	29.91			19.143
	49.05	9/19/2000	29.15			19.903
	49.05	10/27/2000	30.21			18.843
	49.05	11/21/2000	28.33			20.723
	49.05	5/1/2001	26.01			23.04
	49.05	10/1/2001	26.05			23
	49.05	3/11/2002	24.80			24.253
	49.05	9/23/2002	25.50			23.553
	49.05	3/10/2003	23.82			25.233
	49.05	9/23/2003	25.08			23.973
	49.05	3/15/2004	23.48			25.573
	49.05	9/13/2004	25.44			23.613
	49.05	7/18/2005	25.33			23.723
	49.05	1/4/2006	26.44			22.613
	49.05	7/27/2006	24.55			24.503
	49.05	3/7/2007	22.91			26.143
	49.05	7/27/2007	21.29			27.763
	49.05	1/29/2008	22.09			26.963
	49.05	7/15/2008	23.31			25.743
	49.05	2/4/2009	24.03			25.023
	49.05	7/24/2009	24.29			24.763
	49.05	1/9/2010	21.89			27.163
	49.05	7/12/2010	23.01			26.043
	49.05	1/12/2011	23.21			25.843
	49.05	7/12/2011	25.09			23.963
	49.05	1/26/2012	24.48			24.573
	49.05	7/9/2012	23.39			25.663
	49.05	1/7/2013	25.17			23.883
	49.05	7/22/2013	26.49			22.563
	49.05	1/7/2014	25.94			23.113
	49.05	7/15/2014	24.61			24.44
	49.05	1/5/2015	25.31			23.74
	49.05	8/10/2015	23.37			25.68
	49.05	1/13/2016	22.71			26.34
	49.05	7/6/2016	23.04			26.01
	49.05	1/12/2017	23.59			25.46
	49.05	7/6/2017	24.02			25.03
	49.05	9/5/2017	23.96			25.09
	49.05	2/11/2018	24.08			24.97
	49.05	3/11/2018	23.07			25.98
	49.05	5/14/2018	23.97			25.08
	49.05	1/3/2019	23.17			25.88
	49.05	7/9/2019	23.11			25.943
	49.05	1/7/2020	23.46			25.59
MW-22A	46.07	11/23/1998	NM			
	46.07	1/29/1999	2.10			43.969

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-22A	46.07	2/26/1999	2.21			43.859
	46.07	3/16/1999	2.65			43.419
	46.07	4/29/1999	2.71			43.359
	46.07	6/1/1999	2.68			43.389
	46.07	7/30/1999	4.12			41.949
	46.07	8/27/1999	2.81			43.259
	46.07	9/27/1999	8.53			37.539
	46.07	10/29/1999	10.23			35.839
	46.07	11/18/1999	9.92			36.149
	46.07	12/29/1999	9.56			36.509
	46.07	2/4/2000	12.31			33.759
	46.07	2/25/2000	8.72			37.349
	46.07	3/27/2000	6.30			39.769
	46.07	4/7/2000	6.03			40.039
	46.07	5/31/2000	6.12			39.949
	46.07	6/1/2000	6.00			40.069
	46.07	7/28/2000	6.13			39.939
	46.07	8/30/2000	9.09			36.979
	46.07	9/19/2000	10.12			35.949
	46.07	10/27/2000	8.64			37.429
	46.07	11/21/2000	7.69			38.379
	46.07	5/1/2001	5.15			40.92
	46.07	10/1/2001	5.49			40.58
	46.07	3/11/2002	2.34			43.729
	46.07	9/23/2002	2.11			43.959
	46.07	3/10/2003	1.68			44.389
	46.07	9/23/2003	2.30			43.769
	46.07	3/15/2004	2.05			44.019
	46.07	9/14/2004	6.89			39.179
	46.07	7/18/2005	3.65			42.419
	46.07	1/6/2006	7.29			38.779
	46.07	7/27/2006	1.65			44.419
	46.07	3/7/2007	NM			
	46.07	7/27/2007	2.84			43.229
	46.07	1/29/2008	1.05			45.019
	46.07	7/14/2008	5.33			40.739
	46.07	2/3/2009	5.24			40.829
	46.07	7/23/2009	5.91			40.159
	46.07	1/9/2010	1.32			44.749
	46.07	7/12/2010	6.52			39.549
	46.07	1/12/2011	3.21			42.859
	46.07	7/11/2011	8.39			37.679
	46.07	1/27/2012	0.98			45.089
	46.07	7/10/2012	1.74			44.326
	46.07	1/8/2013	3.09			42.979
	46.07	7/22/2013	NM			
	46.07	1/7/2014	3.81			42.26
	46.07	7/15/2014	3.22			42.85
	46.07	1/5/2015	NM			
	46.07	8/10/2015	NM			
	46.07	1/13/2016	NM			
	46.07	7/6/2016	NM			
	46.07	1/12/2017	NM			
	46.07	7/6/2017	NM			
	46.07	9/5/2017	NM	REPLACED		
MW-22AR	45.56	2/11/2018	3.43			42.13
	45.56	3/11/2018	2.24			43.32
	45.56	5/14/2018	4.41			41.15
	45.56	7/2/2018	4.48			41.08
	45.56	1/3/2019	3.67			41.89
	45.56	7/9/2019	3.96			41.60
	45.56	2/10/2020	1.55			44.01
MW-22B	45.86	11/23/1998	2.25			43.606
	45.86	1/29/1999	2.28			43.576
	45.86	2/26/1999	2.34			43.516
	45.86	3/16/1999	2.42			43.436
	45.86	4/29/1999	2.56			43.296

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-22B	45.86	6/1/1999	2.60			43.256
	45.86	7/30/1999	4.31			41.546
	45.86	8/27/1999	2.83			43.026
	45.86	9/27/1999	8.45			37.406
	45.86	10/29/1999	10.11			35.746
	45.86	11/18/1999	9.75			36.106
	45.86	12/29/1999	9.43			36.426
	45.86	2/4/2000	12.56			33.296
	45.86	2/25/2000	8.63			37.226
	45.86	3/27/2000	6.00			39.856
	45.86	4/7/2000	5.64			40.216
	45.86	5/31/2000	5.69			40.166
	45.86	6/1/2000	5.61			40.246
	45.86	7/28/2000	5.67			40.186
	45.86	8/30/2000	8.57			37.286
	45.86	9/19/2000	9.94			35.916
	45.86	10/27/2000	7.03			38.826
	45.86	11/21/2000	7.63			38.226
	45.86	5/1/2001	4.93			40.93
	45.86	10/1/2001	5.40			40.46
	45.86	3/11/2002	1.75			44.106
	45.86	9/23/2002	2.11			43.746
	45.86	3/10/2003	1.02			44.836
	45.86	9/23/2003	2.99			42.866
	45.86	3/15/2004	1.20			44.656
	45.86	9/14/2004	NM			
	45.86	7/18/2005	NM			
	45.86	1/6/2006	7.05			38.806
	45.86	7/27/2006	1.58			44.276
	45.86	3/7/2007	NM			
	45.86	7/27/2007	2.85			43.006
	45.86	1/29/2008	0.85			45.006
	45.86	7/14/2008	5.45			40.406
	45.86	2/3/2009	4.78			41.076
	45.86	7/23/2009	5.39			40.466
	45.86	1/9/2010	3.27			42.586
	45.86	7/12/2010	6.21			39.646
	45.86	1/12/2011	0.37			45.486
	45.86	7/11/2011	8.32			37.536
	45.86	1/27/2012	0.06			45.796
	45.86	7/10/2012	1.27			44.586
	45.86	1/8/2013	NM			
	45.86	7/22/2013	NM			
	45.86	1/7/2014	4.14			41.716
	45.86	7/15/2014	3.79			42.07
	45.86	1/5/2015	3.87			41.99
	45.86	8/10/2015	2.62			43.24
	45.86	1/13/2016	2.09			43.77
	45.86	7/6/2016	NM			
	45.86	1/12/2017	NM			
	45.86	7/6/2017	NM			
	45.86	9/5/2017	NM	REPLACED		
MW-22BR	45.71	2/11/2018	4.14			41.57
	45.71	3/12/2018	3.29			42.42
	45.71	5/14/2018	5.27			40.44
	45.71	7/2/2018	5.39			40.32
	45.71	1/3/2019	4.29			41.42
	45.71	7/9/2019	4.41			41.3
	45.71	2/10/2020	1.44			44.27
MW-23C	51.91	11/23/1998	27.41			24.504
	51.91	1/29/1999	26.80			25.114
	51.91	2/26/1999	26.88			25.034
	51.91	3/16/1999	26.93			24.984
	51.91	4/29/1999	27.09			24.824
	51.91	6/1/1999	27.00			24.914
	51.91	7/30/1999	29.55			22.364
	51.91	8/27/1999	27.29			24.624

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-23C	51.91	9/27/1999	28.40			23.514
	51.91	10/29/1999	29.11			22.804
	51.91	11/17/1999	29.49			22.424
	51.91	12/29/1999	28.46			23.454
	51.91	2/4/2000	28.96			22.954
	51.91	2/25/2000	28.96			22.954
	51.91	3/27/2000	28.61			23.304
	51.91	4/7/2000	27.10			24.814
	51.91	5/31/2000	27.15			24.764
	51.91	6/1/2000	27.11			24.804
	51.91	7/28/2000	27.15			24.764
	51.91	8/30/2000	29.96			21.954
	51.91	9/19/2000	29.77			22.144
	51.91	10/27/2000	28.44			23.474
	51.91	11/21/2000	28.61			23.304
	51.91	5/1/2001	26.26			25.65
	51.91	10/1/2001	26.50		0.60	25.41
	51.91	3/11/2002	25.33			26.584
	51.91	9/23/2002	26.43			25.484
	51.91	3/10/2003	24.53			27.384
	51.91	9/23/2003	25.95			25.964
	51.91	3/15/2004	24.15			27.764
	51.91	9/13/2004	25.97			25.944
	51.91	7/18/2005	26.46			25.454
	51.91	1/4/2006	27.53			24.384
	51.91	3/7/2007	23.96			27.954
	51.91	7/27/2007	22.41			29.504
	51.91	1/31/2008	23.22	75.98	1.71	28.694
	48.89[1]	2/4/2009	22.11	72.05	1.47	26.78
	48.89[1]	7/23/2009	22.93	73.01	0.51	25.961
	48.89[1]	1/9/2010	20.29	71.8	1.72	28.601
	48.89[1]	5/27/2010	22.81	71.5	2.02	26.081
	48.89[1]	6/28/2010	22.93	72.15	1.37	25.961
	48.89[1]	7/12/2010	21.41	72.4	1.12	27.481
	48.89[1]	8/31/2010	21.61	72.65	0.87	27.281
	48.89[1]	1/12/2011	21.7	71.25	1.45	27.191
	48.89	7/12/2011	23.11	70.65	2.05	25.782
	48.89	1/26/2012	22.81	71.57	1.13	26.082
	48.89	7/9/2012	22.31	71.45	1.25	26.582
	48.89	1/7/2013	23.32	71.06	1.64	25.572
	48.89	7/22/2013	24.38			24.512
	48.89	1/7/2014	23.51	70.8	2.30	25.38
	48.89	7/15/2014	24.06	70.96	2.14	24.83
	48.89	1/5/2015	22.47	71.72	1.08	26.42
	48.89	8/10/2015	19.34	72.17	0.63	29.55
	48.89	1/13/2016	23.16	71.91	0.89	25.73
	48.89	7/6/2016	23.09	71.56	1.24	25.80
	48.89	1/12/2017	23.74	71.81	0.99	25.15
	54.16	7/6/2017	23.61	77.27	0.53	30.55
	54.16	9/5/2017	23.67	77.29	0.51	30.49
	54.16	2/7/2018	23.86	77.46	0.34	30.30
	54.16	3/11/2018	23.99	77.41	0.39	30.17
	54.16	5/14/2018	25.02	77.49	0.31	29.14
	54.16	1/3/2019	24.29	77.31	0.49	29.87
	54.16	7/9/2019	24.42	76.99	0.81	29.74
	54.16	1/9/2020	26.59	75.3	1.50	27.57
MW-24A	45.79	3/27/2000	7.87			37.92
	45.79	4/7/2000	7.63			38.16
	45.79	5/31/2000	7.65			38.14
	45.79	6/1/2000	7.43			38.36
	45.79	7/28/2000	7.60			38.19
	45.79	8/30/2000	10.44			35.35
	45.79	9/19/2000	10.57			35.22
	45.79	10/27/2000	NM			NM
	45.79	11/21/2000	7.09			38.7
	45.79	5/1/2001	6.72			39.07
	45.79	10/1/2001	7.81			37.98
	45.79	3/11/2002	3.91			41.88

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-24A	45.79	9/23/2002	5.04			40.75
	45.79	3/10/2003	2.76			43.03
	45.79	9/23/2003	4.66			41.13
	45.79	3/15/2004	3.10			42.69
	45.79	9/14/2004	8.24			37.55
	45.79	7/18/2005	6.03			39.76
	45.79	1/6/2006	8.93			36.86
	45.79	7/27/2006	4.21			41.58
	45.79	3/7/2007	3.86			41.93
	45.79	1/30/2008	NM			NM
MW-24AR	45.65	2/5/2009	5.18			40.47
	45.65	7/23/2009	7.36			38.29
	45.65	1/9/2010	3.72			41.93
	45.65	7/12/2010	4.29			41.36
	45.65	1/13/2011	3.58			42.07
	45.65	7/11/2011	6.38			39.27
	45.65	1/27/2012	4.59			41.06
	45.65	7/10/2012	4.38			41.27
	45.65	1/8/2013	5.59			40.06
	45.65	7/23/2013	10.14	71.06		35.51
	45.65	1/8/2014	7.11			38.54
	45.65	1/5/2015	NM			NM
	45.65	7/6/2016	NM			NM
MW-24B	46.06	3/27/2000	11.91			34.15
	46.06	4/7/2000	11.60			34.46
	46.06	5/31/2000	11.63			34.43
	46.06	6/1/2000	11.51			34.55
	46.06	7/28/2000	11.69			34.37
	46.06	8/30/2000	13.91			32.15
	46.06	9/19/2000	14.72			31.34
	46.06	10/27/2000	12.44			33.62
	46.06	11/21/2000	11.38			34.68
	46.06	5/1/2001	10.71			35.35
	46.06	10/1/2001	11.75			34.31
	46.06	3/11/2002	9.01			37.05
	46.06	9/23/2002	9.69			36.37
	46.06	3/10/2003	7.83			38.23
	46.06	9/23/2003	8.98			37.08
	46.06	3/15/2004	7.33			38.73
	46.06	9/14/2004	9.24			36.82
	46.06	7/18/2005	9.54			36.52
	46.06	1/6/2006	11.86			34.2
	46.06	7/27/2006	10.50			35.56
	46.06	3/7/2007	8.88			37.18
	46.06	7/27/2007	9.85			36.21
	46.06	1/28/2008	7.37			38.69
	46.06	7/14/2008	11.41			34.65
	46.06	2/3/2009	11.18			34.88
	46.06	7/23/2009	12.26			33.8
	46.06	1/9/2010	9.89			36.17
	46.06	7/12/2010	12.82			33.24
	46.06	1/13/2011	11.1			34.96
	46.06	7/11/2011	14.09			31.97
	46.06	1/27/2012	11.36			34.7
	46.06	7/10/2012	10.49			35.57
	46.06	1/8/2013	12.96			33.1
	46.06	7/23/2013	8.49			37.57
	46.06	1/5/2015	NM			NM
MW-24C	46.05	3/27/2000	25.77			20.28
	46.05	4/7/2000	24.27			21.78
	46.05	5/31/2000	24.30			21.75
	46.05	6/1/2000	24.22			21.83
	46.05	7/28/2000	24.26			21.79
	46.05	8/30/2000	27.34			18.71
	46.05	9/19/2000	26.59			19.46
	46.05	10/27/2000	27.64			18.41
	46.05	11/21/2000	25.43			20.62
	46.05	5/1/2001	23.90			22.15

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-24C	46.05	10/1/2001	23.71			22.34
	46.05	3/11/2002	22.40			23.65
	46.05	9/23/2002	23.04			23.01
	46.05	3/10/2003	21.71			24.34
	46.05	9/23/2003	23.04			23.01
	46.05	3/15/2004	21.45			24.6
	46.05	9/14/2004	22.45			23.6
	46.05	7/18/2005	22.19			23.86
	46.05	1/6/2006	23.57			22.48
	46.05	7/27/2006	22.61			23.44
	46.05	3/7/2007	21.07			24.98
	46.05	7/27/2007	19.62			26.43
	46.05	1/28/2008	19.43			26.62
	46.05	7/14/2008	20.63			25.42
	46.05	2/3/2009	21.68			24.37
	46.05	7/23/2009	23.07			22.98
	46.05	1/9/2010	20.46			25.59
	46.05	7/12/2010	20.44			25.61
	46.05	1/13/2011	20.26			25.79
	46.05	7/11/2011	21.59			24.46
	46.05	1/27/2012	21.23			24.82
	46.05	7/10/2012	20.81			25.24
	46.05	1/8/2013	22.42			23.63
	46.05	7/23/2013	23.81			22.24
	46.05	1/5/2015	NM			
MW-25A	44.65	3/27/2000	9.15			35.5
	44.65	4/7/2000	8.79			35.86
	44.65	5/31/2000	8.81			35.84
	44.65	6/1/2000	8.86			35.79
	44.65	7/28/2000	8.84			35.81
	44.65	8/30/2000	11.43			33.22
	44.65	9/19/2000	11.12			33.53
	44.65	10/27/2000	10.09			34.56
	44.65	11/21/2000	8.10			36.55
	44.65	5/1/2001	8.94			35.71
	44.65	10/1/2001	8.81			35.84
	44.65	3/11/2002	7.23			37.42
	44.65	9/23/2002	5.65			39
	44.65	3/10/2003	5.84			38.81
	44.65	9/23/2003	5.35			39.3
	44.65	3/15/2004	5.75			38.9
	44.65	9/14/2004	7.00			37.65
	44.65	7/18/2005	6.42			38.23
	44.65	1/6/2006	9.29			35.36
	44.65	7/27/2006	5.10			39.55
	44.65	3/7/2007	4.76			39.89
	44.65	7/27/2007	4.22			40.43
	44.65	1/28/2008	4.25			40.4
	44.65	7/14/2008	8.59			36.06
	44.65	2/3/2009	8.90			35.75
	44.65	7/23/2009	8.71			35.94
	44.65	1/9/2010	6.84			37.81
	44.65	7/12/2010	7.78			36.87
	44.65	1/12/2011	6.26			38.39
	44.65	7/11/2011	10.22			34.43
	44.65	1/27/2012	5.24			39.41
	44.65	7/10/2012	4.56			40.09
	44.65	1/8/2013	8.62			36.03
	44.65	7/23/2013	9.37			35.28
	44.65	1/8/2014	8.92			35.73
	44.65	7/16/2014	8.61			36.04
	44.65	1/5/2015	8.71			35.94
	44.65	8/10/2015	6.94			37.71
	44.65	1/13/2016	6.07			38.58
	44.65	7/6/2016	6.62			38.03
	44.65	1/12/2017	6.98			37.67
	44.65	7/6/2017	7.31			37.34
	44.65	9/5/2017	7.16			37.49

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-25A	44.65	2/11/2018	5.71			38.94
	44.65	3/12/2018	6.06			38.59
	44.65	5/14/2018	7.49			37.16
	44.65	1/3/2019	6.84			37.81
	44.65	7/9/2019	6.77			37.88
	44.65	1/7/2020	8.01			36.64
MW-25C	44.49	3/27/2000	19.92			24.57
	44.49	4/7/2000	19.50			24.99
	44.49	5/31/2000	19.56			24.93
	44.49	6/1/2000	19.51			24.98
	44.49	7/28/2000	19.54			24.95
	44.49	8/30/2000	22.14			22.35
	44.49	9/19/2000	21.30	66.73	0.90	23.19
	44.49	10/27/2000	20.63			23.86
	44.49	11/21/2000	27.63			16.86
	44.49	5/1/2001	18.14			26.35
	44.49	10/1/2001	18.29		0.40	26.2
	44.49	3/14/2002	17.39	64.32	4.13	27.1
	44.49	9/23/2002	17.81	61.41	6.00	26.68
	44.49	3/10/2003	16.73			27.76
	44.49	9/23/2003	22.35			22.14
	44.49	3/15/2004	16.15			28.34
	44.49	9/14/2004	17.00	60.14	2.56	27.49
	44.49	7/18/2005	15.57			28.92
	44.49	1/6/2006	18.49			26
	44.49	7/27/2006	15.32	60.64	2.03	29.17
	44.49	3/7/2007	15.87	59.82	2.18	28.62
	44.49	7/27/2007	14.25	60.61	1.04	30.24
	44.49	1/28/2008	14.91	60.88	0.67	29.58
	44.49	7/14/2008	17.24	60.95	0.60	27.25
	44.49	2/3/2009	15.97	TRACE	TRACE	28.52
	44.49	7/23/2009	16.39			28.1
	44.49	1/9/2010	13.68	61.45	0.65	30.81
	44.49	5/27/2010	16.09			28.4
	44.49	6/28/2010	16.26			28.23
	44.49	7/12/2010	16.05			28.44
	44.49	8/31/2010	16.21			28.28
	44.49	1/12/2011	16.29			28.2
	44.49	7/11/2011	18.81			25.68
	44.49	1/27/2012	17.29			27.2
	44.49	7/10/2012	16.53			27.96
	44.49	1/8/2013	18.34			26.15
	44.49	7/23/2013	18.74			25.75
	44.49	1/8/2014	18.23			26.26
	44.49	7/16/2014	18.66			25.83
	44.49	1/5/2015	17.81			26.68
	44.49	8/10/2015	16.09			28.40
	44.49	1/13/2016	15.61			28.88
	44.49	7/6/2016	16.02			28.47
	44.49	1/12/2017	16.64			27.85
	44.49	7/5/2017	16.84			27.65
	44.49	9/5/2017	16.81			27.68
	44.49	2/11/2018	15.27			29.22
	44.49	3/12/2018	15.63			28.86
	44.49	5/14/2018	16.02			28.47
	44.49	1/3/2019	15.29			29.2
	44.49	7/9/2019	15.86			28.63
	44.49	1/7/2020	16.72			27.77
MW-26A	44.62	3/27/2000	7.40			37.22
	44.62	4/7/2000	6.99			37.63
	44.62	5/31/2000	7.10			37.52
	44.62	6/1/2000	7.00			37.62
	44.62	7/28/2000	7.11			37.51
	44.62	8/30/2000	9.69			34.93
	44.62	9/19/2000	11.43			33.19
	44.62	10/27/2000	8.11			36.51
	44.62	11/21/2000	8.24			36.38
	44.62	5/1/2001	6.01			38.61

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-26A	44.62	10/1/2001	6.34			38.28
	44.62	3/11/2002	4.05			40.57
	44.62	9/23/2002	4.29			40.33
	44.62	3/10/2003	2.84			41.78
	44.62	9/23/2003	4.84			39.78
	44.62	3/15/2004	3.30			41.32
	44.62	9/14/2004	6.80			37.82
	44.62	7/18/2005	6.72			37.9
	44.62	1/6/2006	9.34			35.28
	44.62	7/27/2006	4.42			40.2
	44.62	3/7/2007	4.70			39.92
	44.62	7/27/2007	3.98			40.64
	44.62	1/29/2008	2.37			42.25
	44.62	7/14/2008	7.87			36.75
	44.62	2/3/2009	6.89			37.73
	44.62	7/23/2009	7.88			36.74
	44.62	1/9/2010	4.31			40.31
	44.62	7/12/2010	8.12			36.5
	44.62	1/13/2011	2.38			42.24
	44.62	7/11/2011	10.27			34.35
	44.62	1/27/2012	3.09			41.53
	44.62	7/10/2012	2.77			41.85
	44.62	1/8/2013	7.27			37.35
	44.62	7/23/2013	9.72			34.9
	44.62	1/8/2014	6.33			38.29
	44.62	7/16/2014	7.64			36.98
	44.62	1/5/2015	5.74			38.88
	44.62	8/10/2015	4.03			40.59
	44.62	1/13/2016	3.41			41.21
	44.62	7/6/2016	3.72			40.90
	44.62	1/12/2017	4.92			39.70
	44.62	7/5/2017	5.34			39.28
	44.62	9/5/2017	5.27			39.35
	44.62	2/11/2018	4.43			40.19
	44.62	3/12/2018	4.77			39.85
	44.62	5/14/2018	6.61			38.01
	44.62	1/3/2019	6.06			38.56
	44.62	7/9/2019	6.31			38.31
	44.62	1/7/2020	4.78			39.84
MW-27A	44.90	5/1/2001	6.41			38.49
	44.90	10/1/2001	5.31			39.59
	44.90	3/11/2002	4.21			40.69
	44.90	9/23/2002	3.31			41.59
	44.90	3/10/2003	4.05			40.85
	44.90	9/23/2003	3.24			41.66
	44.90	3/15/2004	2.99			41.91
	44.90	9/14/2004	5.09			39.81
	44.90	7/18/2005	4.45			40.45
	44.90	1/6/2006	4.55			40.35
	44.90	7/27/2006	4.26			40.64
	44.90	3/7/2007	3.01			41.89
	44.90	7/27/2007	2.12			42.92
	44.90	1/28/2008	1.88			43.16
	44.90	7/14/2008	4.57			40.47
	44.90	2/3/2009	4.27			40.77
	44.90	7/23/2009	4.36			40.68
	44.90	1/9/2010	3.69			41.35
	44.90	7/12/2010	5.31			39.73
	44.90	1/12/2011	3.76			41.28
	44.90	7/12/2011	6.72			38.32
	44.90	1/26/2012				NM
	44.90	7/10/2012	well covered			NM
	44.90	1/7/2013	well covered			NM
	44.90	7/23/2013	NM			NM
	44.90	8/10/2015	NM			NM
	44.90	2/11/2018	4.21			40.69
	44.90	3/12/2018	4.59			40.31
	44.90	5/14/2018	5.06			39.84

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-27A	44.90	1/3/2019	NM			NM
	44.90	7/9/2019	7.21			37.69
	44.90	1/8/2020	7.22			37.68
MW-27C	45.04	5/1/2001	17.82			27.22
	45.04	10/1/2001	17.82			27.22
	45.04	3/11/2002	16.36			28.68
	45.04	9/23/2002	16.49			28.55
	45.04	3/10/2003	18.68			26.36
	45.04	9/23/2003	16.89			28.15
	45.04	3/15/2004	14.35			30.69
	45.04	9/14/2004	14.49			30.55
	45.04	7/18/2005	16.12			28.92
	45.04	1/6/2006	18.07			26.97
	45.04	7/27/2006	17.13			27.91
	45.04	3/7/2007	15.47			29.57
	44.90	7/27/2007	14.85			30.05
	45.04	1/28/2008	14.31			30.73
	45.04	7/14/2008	17.51			27.53
	45.04	2/3/2009	15.76			29.28
	45.04	7/23/2009	16.38			28.66
	45.04	1/9/2010	14.82			30.22
	45.04	7/12/2010	16.12			28.92
	45.04	1/12/2011	15.84			29.2
	45.04	7/11/2011	18.17			26.87
	45.04	1/27/2012	17.14			27.9
	45.04	7/10/2012	16.56			28.48
	45.04	1/8/2013	17.04			28
	45.04	7/23/2013	18.61			26.43
	45.04	1/8/2014	18.12			26.92
	45.04	7/16/2014	16.94			28.10
	45.04	1/5/2015	17.74			27.30
	45.04	8/10/2015	15.71			29.33
	45.04	1/13/2016	15.04			30.00
	45.04	7/6/2016	15.32			29.72
	45.04	1/12/2017	15.91			29.13
	45.04	7/5/2017	16.39			28.65
	45.04	9/5/2017	16.36			28.68
	45.04	2/11/2018	16.59			28.45
	45.04	3/12/2018	16.97			28.07
	45.04	5/14/2018	15.89			29.15
	45.04	1/3/2019	14.32			30.72
	45.04	7/9/2019	15.61			29.43
	45.04	1/8/2020	16.93			28.11
MW-28A	43.86	5/1/2001	7.45			36.41
	43.86	10/1/2001	8.26			35.6
	43.86	3/11/2002	4.90			38.96
	43.86	9/23/2002	5.71			38.15
	43.86	3/10/2003	3.11			40.75
	43.86	9/23/2003	5.81			38.05
	43.86	9/14/2004	9.34			34.52
	43.86	7/18/2005	7.52			36.34
	43.86	1/6/2006	9.32			34.54
	43.86	7/27/2006	5.54			38.32
	43.86	3/7/2007	5.06			38.8
	43.86	7/27/2007	2.86			41
	43.86	1/29/2008	2.61			41.25
	43.86	7/14/2008	8.74			35.12
	43.86	2/3/2009	8.36			35.5
	43.86	7/23/2009	8.94			34.92
	43.86	1/9/2010	4.54			39.32
	43.86	7/12/2010	8.66			35.2
	43.86	1/12/2011	3.87			39.99
	43.86	7/11/2011	11.43			32.43
	43.86	1/27/2012	2.66			41.2
	43.86	7/10/2012	4.52			39.34

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-28A	43.86	1/8/2013	8.11			35.75
	43.86	7/23/2013	10.78			33.08
	43.86	1/8/2014	7.71			36.15
	43.86	7/16/2014	8.19			35.67
	43.86	1/5/2015	7.21			36.65
	43.86	8/10/2015	5.72			38.14
	43.86	1/13/2016	5.09			38.77
	43.86	7/6/2016	5.42			38.44
	43.86	1/12/2017	5.89			37.97
	43.86	7/5/2017	6.13			37.73
	43.86	9/5/2017	6.06			37.80
	43.86	2/11/2018	5.31			38.55
	43.86	3/12/2018	5.61			38.25
	43.86	5/14/2018	6.02			37.84
	43.86	1/3/2019	5.41			38.45
	43.86	7/9/2019	6.52			37.34
	43.86	1/7/2020	6.68			37.18
MW-28C	43.96	5/1/2001	17.14			26.82
	43.96	10/1/2001	17.51			26.45
	43.96	3/11/2002	16.29			27.67
	43.96	9/23/2002	17.75			26.21
	43.96	3/10/2003	15.84			28.12
	43.96	9/23/2003	17.48			26.48
	43.96	3/15/2004	15.56			28.4
	43.96	9/14/2004	17.20			26.76
	43.96	7/18/2005	16.60			27.36
	43.96	1/6/2006	17.61			26.35
	43.96	7/27/2006	17.73			26.23
	43.96	3/7/2007	15.59			28.37
	43.96	7/27/2007	12.90			31.06
	43.96	1/29/2008	14.35			29.61
	43.96	7/14/2008	16.26			27.7
	43.96	2/3/2009	16.03			27.93
	43.96	7/23/2009	16.53			27.43
	43.96	1/9/2010	14.89			29.07
	43.96	7/12/2010	15.89			28.07
	43.96	1/12/2011	18.37			25.59
	43.96	7/11/2011	18.16			25.8
	43.96	1/27/2012	16.12			27.84
	43.96	7/10/2012	16.79			27.17
	43.96	1/8/2013	17.62			26.34
	43.96	7/23/2013	18.87			25.09
	43.96	1/8/2014	17.59			26.37
	43.96	7/16/2014	16.98			26.98
	43.96	1/5/2015	16.84			27.12
	43.96	8/10/2015	14.39			29.57
	43.96	1/13/2016	13.72			30.24
	43.96	7/6/2016	14.03			29.93
	43.96	1/12/2017	14.64			29.32
	43.96	7/5/2017	14.88			29.08
	43.96	9/5/2017	14.89			29.07
	43.96	2/11/2018	17.33			26.63
	43.96	3/12/2018	14.73			29.23
	43.96	5/14/2018	16.59			27.37
	43.96	1/3/2019	15.88			28.08
	43.96	7/9/2019	15.03			28.93
	43.96	1/7/2020	15.56			28.4
MW-29A	46.59	5/1/2001	5.01			41.58
	46.59	10/1/2001	5.38			41.21
	46.59	3/11/2002	1.51			45.08
	46.59	9/23/2002	1.65			44.94
	46.59	3/10/2003	1.42			45.17
	46.59	9/23/2003	1.50			45.09
	46.59	3/15/2004	1.85			44.74
	46.59	9/14/2004	6.35			40.24
	46.59	7/18/2005	3.12			43.47
	46.59	1/6/2006	6.57			40.02

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-29A	46.59	7/27/2006	1.44			45.15
	46.59	3/7/2007	1.95			44.64
	46.59	7/27/2007	2.49			44.1
	46.59	1/28/2008	1.28			45.31
	46.59	7/14/2008	4.14			42.45
	46.59	2/3/2009	3.50			43.09
	46.59	7/23/2009	4.09			42.5
	46.59	1/9/2010	1.76			44.83
	46.59	7/12/2010	3.62			42.97
	46.59	1/13/2011	3.07			43.52
	46.59	7/11/2011	7.14			39.45
	46.59	7/10/2012	4.17			42.42
	46.59	1/8/2013	4.91			41.68
	46.59	7/23/2013	--			--
	Plugged					NM
MW-29B	46.26	5/1/2001	19.01			27.25
	46.26	10/1/2001	19.41			26.85
	46.26	3/11/2002	18.04			28.22
	46.26	9/23/2002	18.82			27.44
	46.26	3/10/2003	17.21			29.05
	46.26	9/23/2003	18.09			28.17
	46.26	3/15/2004	17.10			29.16
	46.26	9/14/2004	17.76			28.5
	46.26	7/18/2005	18.11			28.15
	46.26	1/6/2006	18.83			27.43
	46.26	7/27/2006	18.41			27.85
	46.26	3/7/2007	17.21			29.05
	46.26	7/27/2007	15.49			30.77
	46.26	1/28/2008	15.32			30.94
	46.26	7/14/2008	18.23			28.03
	46.26	2/3/2009	17.72			28.54
	46.26	7/23/2009	16.19			30.07
	46.26	1/9/2010	16.02			30.24
	46.26	7/12/2010	19.29			26.97
	46.26	1/13/2011	17.73			28.53
	46.26	7/11/2011	20.06			26.2
	46.26	7/10/2012	9.71			36.55
	46.26	1/8/2013	9.92			36.34
	Plugged					
MW-29C	46.46	5/1/2001	25.51			20.95
	46.46	10/1/2001	25.04			21.42
	46.46	3/11/2002	23.51			22.95
	46.46	9/23/2002	24.10			22.36
	46.46	3/10/2003	22.71			23.75
	46.46	9/23/2003	23.48			22.98
	46.46	3/15/2004	22.24			24.22
	46.46	9/14/2004	24.12			22.34
	46.46	7/18/2005	23.75			22.71
	46.46	1/6/2006	25.12			21.34
	46.46	7/27/2006	23.35			23.11
	46.46	3/7/2007	22.38			24.08
	46.46	7/27/2007	20.42			26.04
	46.46	1/28/2008	21.08			25.38
	46.46	7/14/2008	22.38			24.08
	46.46	2/3/2009	22.86			23.6
	46.46	7/23/2009	22.81			23.65
	46.46	1/9/2010	20.71			25.75
	46.46	7/12/2010	21.32			25.14
	46.46	1/13/2011	20.39			26.07
	46.46	7/11/2011	23.17			23.29
	46.46	7/10/2012	20.69			25.77
	46.46	1/8/2013	21.27			25.19
	46.46	7/23/2013	--			--
	Plugged					
MW-30A	50.45	3/15/2004	9.71			40.74
	50.45	9/13/2004	12.76			37.69
	50.45	7/18/2005	11.80			38.65
	50.45	1/4/2006	13.52			36.93

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-30A	50.45	7/27/2006	10.45			40
	50.45	3/7/2007	10.98			39.47
	50.45	7/27/2007	9.49			40.96
	50.45	1/30/2008	9.62			40.83
	50.45	7/15/2008	12.52			37.93
	50.45	2/4/2009	13.01			37.44
	50.45	7/23/2009	13.71			36.74
	50.45	1/9/2010	10.87			39.58
	50.45	7/12/2010	12.61			37.84
	50.45	1/12/2011	10.06			40.39
	50.45	7/12/2011	14.76			35.69
	50.45	1/26/2012	10.78			39.67
	50.45	7/9/2012	11.13			39.32
	50.45	1/8/2013	12.91			37.54
	50.45	7/23/2013	14.16			36.29
	50.45	1/8/2014	13.81			36.64
	50.45	7/15/2014	12.10			38.35
	50.45	1/5/2015	13.22			37.23
	50.45	8/10/2015	12.16	Plugged and Abandoned		38.29
MW-31A	52.08	3/15/2004	10.97			41.11
	52.08	9/13/2004	13.00			39.08
	52.08	7/18/2005	13.05			39.03
	52.08	1/4/2006	14.77			37.31
	52.08	7/27/2006	11.83			40.25
	52.08	3/7/2007	12.43			39.65
	52.08	7/27/2007	10.83			41.25
	52.08	1/31/2008	10.99			41.09
	52.08	7/15/2008	13.68			38.4
	52.08	2/4/2009	14.23			37.85
	52.08	7/23/2009	14.73			37.35
	52.08	1/9/2010	12.31			39.77
	52.08	7/12/2010	14.06			38.02
	52.08	1/12/2011	11.62			40.46
	52.08	7/12/2011	15.92			36.16
	52.08	1/26/2012	12.24			39.84
	52.08	7/9/2012	12.79			39.29
	52.08	1/8/2013	14.14			37.94
	52.08	7/23/2013	16.24			35.84
	52.08	1/8/2014	15.96			36.12
	52.08	7/15/2014	13.19			38.89
	52.08	1/5/2015	15.16			36.92
	52.08	8/10/2015	12.76	Plugged and Abandoned		39.32
MW-32A	43.77	3/15/2004	1.00			42.77
	43.77	9/14/2004	6.03	29.00	3.48	37.74
	43.77	7/18/2005	5.82	26.56	5.92	37.95
	43.77	1/6/2006	6.93	24.92	7.57	36.84
	43.77	7/27/2006	12.96	25.71	6.74	30.81
	43.77	3/7/2007	4.03	25.26	7.19	39.74
	43.77	7/27/2007	1.95	30.76	1.70	41.82
	43.77	1/28/2008	2.18			41.59
	43.77	7/14/2008	6.14	26.25	6.20	37.63
	43.77	2/3/2009	5.71	26.29	6.16	38.06
	43.77	7/23/2009	6.29	26.51	5.94	37.48
	43.77	1/9/2010	3.55	25.41	7.04	40.22
	43.77	5/27/2010	5.86	26.2	6.25	37.91
	43.77	6/28/2010	6.02	29.1	3.35	37.75
	43.77	7/12/2010	6.12	29.45	3.00	37.65
	43.77	8/31/2010	5.43	30.67	1.78	38.34
	43.77	1/13/2011	2.63	29.15	3.30	41.14
	43.77	7/11/2011	5.92	28.82	3.63	37.85
	Plugged					37.85
MW-32AR	44.56	1/27/2012	3.22			41.34
	44.56	7/10/2012	3.73			40.83
	44.56	1/8/2013	6.64			37.92
	44.56	7/23/2013	9.42			35.14
	44.56	1/8/2014	5.64			38.92
	44.56	7/16/2014	6.74			37.82
	44.56	1/5/2015				

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-32AR	44.56	8/10/2015	3.18			41.38
	44.56	1/13/2016	2.66			41.90
	44.56	7/6/2016	3.14			41.42
	44.56	1/12/2017	3.67			40.89
	44.56	7/5/2017	4.16			40.40
	44.56	9/6/2017	4.03			40.53
	44.56	2/11/2018	4.06			40.50
	44.56	3/12/2018	5.02			39.54
	44.56	5/14/2018	5.91			38.65
	44.56	1/3/2019	5.42			39.14
	44.56	7/9/2019	6.41			38.15
	44.56	1/8/2020	3.88			40.68
MW-32B	44.41	1/27/2012	3.11	30.52	5.77	41.3
	44.41	7/10/2012	3.81	30.16	6.13	40.6
	44.41	1/8/2013	6.34	30.02	6.38	38.07
	44.41	7/23/2013	7.14			37.27
	44.41	1/8/2014	6.72	34.82	1.58	37.69
	44.41	7/16/2014	6.72	34.29	2.11	37.69
	44.41	1/5/2015	6.02	35.77	0.63	38.39
	44.41	8/10/2015	4.41	36.09	0.31	40.00
	44.41	1/13/2016	3.61	36.07	0.33	40.80
	44.41	7/6/2016	3.91	35.96	0.44	40.50
	44.41	1/12/2017	4.83	36.02	0.38	39.58
	44.41	7/5/2017	4.86	36.13	0.27	39.55
	44.41	9/6/2017	4.78	36.24	3.67	39.63
	44.41	2/7/2018	5.16	36.21	0.19	39.25
	44.41	3/12/2018	5.41	36.13	0.27	39.00
	44.41	5/15/2018	6.47	36.21	0.19	37.94
	44.41	1/3/2019	6.09	36.29	0.11	38.32
	44.41	7/9/2019	5.61	35.89	0.51	38.8
	44.41	1/8/2020	2.71			41.7
MW-33A	44.25	3/15/2004	3.90			40.35
	44.25	9/14/2004	7.85			36.4
	44.25	7/18/2005	6.35			37.9
	44.25	1/6/2006	8.00			36.25
	44.25	7/27/2006	4.73			39.52
	44.25	3/7/2007	5.22			39.03
	44.25	7/27/2007	3.48			40.77
	44.25	1/29/2008	3.34			40.91
	44.25	7/14/2008	7.42	25.19	0.03	36.83
	44.25	2/3/2009	7.28			36.97
	44.25	7/23/2009	7.63			36.62
	44.25	1/9/2010	4.79			39.46
	44.25	7/12/2010	7.61			36.64
	44.25	1/13/2011	3.19			41.06
	44.25	7/11/2011	9.87			34.38
	44.25	1/27/2012	2.69			41.56
	44.25	7/10/2012	3.86			40.39
	44.25	1/8/2013	6.76			37.49
	44.25	7/23/2013	9.83			34.42
	44.25	1/8/2014	6.71			37.54
	44.25	7/16/2014	7.09			37.16
	44.25	1/5/2015	5.02			39.23
	44.25	8/10/2015	4.09			40.16
	44.25	1/13/2016	3.51			40.74
	44.25	7/6/2016	3.89			40.36
	44.25	1/12/2017	5.01			39.24
	44.25	7/5/2017	5.59			38.66
	44.25	9/6/2017	5.51			38.74
	44.25	2/11/2018	4.38			39.87
	44.25	3/12/2018	4.86			39.39
	44.25	5/14/2018	6.42			37.83
	44.25	1/3/2019	5.77			38.48
	44.25	7/9/2019	5.09			39.16
	44.25	1/20/2020	4.41			39.84
MW-33B	44.35	3/7/2007	4.21			40.04
	44.35	7/27/2007	3.72			40.53
	44.35	1/29/2008	2.37	39.12	3.37	41.88

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-33B	44.35	7/14/2008	5.74	37.44	5.05	38.51
	44.35	2/3/2009	9.28	36.91	5.58	34.97
	44.35	7/23/2009	NM			NM
	44.35	1/9/2010	4.61	35.21	7.28	39.74
	44.35	5/27/2010	6.82			37.53
	44.35	6/28/2010	6.91			37.44
	44.35	7/12/2010	7.02			37.33
	44.35	8/31/2010	7.22			37.13
	44.35	1/13/2011	3.11	29.7	0.30	41.24
	44.35	7/11/2011	10.19	29.75	0.25	34.16
	44.35	1/5/2015	NM			NM
MW-33BR	44.35	1/27/2012	4.07			40.28
	44.35	7/10/2012	2.59			41.76
	44.35	1/8/2013	3.86			40.49
	44.35	7/23/2013	9.68			34.67
	44.35	1/8/2014	7.41			36.94
	44.35	7/16/2014	6.72			37.63
	44.35	1/5/2015	5.22			39.13
	44.35	8/10/2015	3.96			40.39
	44.35	1/13/2016	3.22			41.13
	44.35	7/6/2016	3.71			40.64
	44.35	1/12/2017	4.74			39.61
	44.35	7/5/2017	5.19			39.16
	44.35	9/6/2017	4.99			39.36
	44.35	2/11/2018	4.74			39.61
	44.35	3/12/2018	5.19			39.16
	44.35	5/14/2018	6.03			38.32
	44.35	1/3/2019	5.18			39.17
	44.35	7/9/2019	5.92			38.43
	44.35	1/8/2020	5.06			39.29
MW-34C	45.31	3/15/2004	17.40			27.91
	45.31	9/14/2004	18.82			26.49
	45.31	7/18/2005	19.41	65.29	7.19	25.9
	45.31	1/6/2006	20.54	65.27	8.38	24.77
	45.31	7/27/2006	18.55	63.84	8.61	26.76
	45.31	4/9/2007	16.34	62.06	10.39	28.97
	45.31	7/27/2007	NM			
	45.31	1/29/2008	16.32			28.99
	45.31	7/15/2008	18.13	43.49	29.01	27.18
	45.31	2/5/2009	18.08	61.79	10.71	27.23
	45.31	7/23/2009	NM			
	45.31	1/9/2010	16.41	69.20	3.30	28.9
	45.31	7/12/2010	NM			
	45.31	1/12/2011	16.41	64.90		28.9
	45.31	7/11/2011	19.08	65.26		26.23
	45.31	2/8/2012	18.41			26.9
	45.31	7/10/2012	NM			
	45.31	1/8/2013	NM			
	45.31	7/23/2013	NM			
MW-34CR	46.47	7/16/2014	19.17			27.30
	46.47	1/5/2015	19.01			27.46
	46.47	8/10/2015	17.39			29.08
	46.47	1/13/2016	15.99			30.48
	46.47	7/6/2016	16.06			30.41
	46.47	1/12/2017	16.94			29.53
	46.47	7/5/2017	17.01			29.46
	46.47	9/6/2017	17.11			29.36
	46.47	2/11/2018	18.19			28.28
	46.47	3/12/2018	18.52			27.95
	46.47	5/14/2018	18.26			28.21
	46.47	1/3/2019	18.26			28.21
	46.47	7/9/2019	NM			damaged
	46.47	3/31/2020	17.49			28.98
MW-35A	44.75	3/7/2007	3.49			41.82
	44.75	7/27/2007	3.05			42.26
	44.75	1/29/2008	1.82			43.49
	44.75	7/14/2008	6.21			39.1
	44.75	2/3/2009	5.54			39.77

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-35A	44.75	7/23/2009	5.76			39.55
	44.75	1/9/2010	4.14			41.17
	44.75	7/12/2010	6.04			39.27
	44.75	1/13/2011	2.46			42.85
	44.75	7/11/2011	8.44			36.87
	44.75	1/27/2012	1.35			43.96
	44.75	7/10/2012	2.33			42.98
	44.75	1/8/2013	5.37			39.94
	44.75	7/23/2013	9.18			36.13
	44.75	1/8/2014	5.06			40.25
	44.75	7/15/2014	6.51			38.24
	44.75	1/5/2015	4.22			40.53
	44.75	8/10/2015	3.68			41.07
	44.75	1/13/2016	3.08			41.67
	44.75	7/6/2016	3.34			41.41
	44.75	1/12/2017	3.87			40.88
	44.75	7/5/2017	4.41			40.34
	44.75	9/6/2017	NM			
	44.75	2/11/2018	3.69			41.06
	44.75	3/11/2018	4.06			40.69
	44.75	5/14/2018	8.71			36.04
	44.75	1/3/2019	8.06			36.69
	44.75	7/9/2019	7.92			36.83
	44.75	1/8/2020	4.41			40.34
MW-35B	44.83	3/7/2007	3.31			41.52
	44.83	7/27/2007	3.29			41.54
	44.83	1/29/2008	1.95			42.88
	44.83	7/14/2008	6.40			38.43
	44.83	2/3/2009	5.79			39.04
	44.83	7/23/2009	6.42			38.41
	44.83	1/9/2010	3.51			41.32
	44.83	7/12/2010	6.39			38.44
	44.83	1/13/2011	2.96			41.87
	44.83	7/11/2011	8.67			36.16
	44.83	1/27/2012	1.59			43.24
	44.83	7/10/2012	2.74			42.09
	44.83	1/8/2013	6.09			38.74
	44.83	7/23/2013	9.22			35.61
	44.83	1/8/2014	5.31			39.52
	44.83	7/15/2014	6.75			38.08
	44.83	1/5/2015	4.81			40.02
	44.83	8/10/2015	3.97			40.86
	44.83	1/13/2016	3.26			41.57
	44.83	7/6/2016	3.57			41.26
	44.83	1/12/2017	4.06			40.77
	44.83	7/5/2017	4.66			40.17
	44.83	9/6/2017	NM			
	44.83	2/11/2018	4.06			40.77
	44.83	3/11/2018	4.31			40.52
	44.83	5/14/2018	6.11			38.72
	44.83	1/3/2019	5.33			39.5
	44.83	7/9/2019	5.62			39.21
	44.83	1/8/2020	4.67			40.16
MW-36A	44.53	3/7/2007	8.71			35.82
	44.53	7/27/2007	6.54			37.99
	44.53	1/29/2008	5.59			38.94
	44.53	7/14/2008	9.33			35.2
	44.53	2/3/2009	10.69			33.84
	44.53	7/23/2009	12.03			32.5
	44.53	1/9/2010	9.23			35.3
	44.53	7/12/2010	9.14			35.39
	44.53	1/13/2011	8.62			35.91
	44.53	7/11/2011	12.16			32.37
	44.53	1/27/2012	6.82			37.71
	44.53	7/10/2012	6.68			37.85
	44.53	1/8/2013	7.61			36.92
	44.53	7/23/2013	11.36			33.17
	44.53	1/8/2014	9.23			35.3

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-36A	44.53	7/16/2014	8.62			35.91
	44.53	1/5/2015	8.67			35.86
	44.53	8/10/2015	6.47			38.06
	44.53	1/13/2016	5.79			38.74
	44.53	7/6/2016	6.13			38.40
	44.53	1/12/2017	6.58			37.95
	44.53	7/5/2017	7.01			37.52
	44.53	9/6/2017	6.92			37.61
	44.53	2/11/2018	7.77			36.76
	44.53	3/11/2018	8.06			36.47
	44.53	5/14/2018	8.92			35.61
	44.53	1/3/2019	8.22			36.31
	44.53	7/9/2019	8.32			36.21
	44.53	1/7/2020	8.83			35.7
MW-36B	44.07	7/12/2010	1.32			42.75
	44.07	1/13/2011	9.71			34.36
	44.07	7/11/2011	11.57			32.5
	44.07	1/27/2012	0.46			43.61
	44.07	7/10/2012	6.64			37.43
	44.07	1/8/2013	6.71			37.36
	44.07	7/23/2013	9.39			34.68
	44.07	1/8/2014	4.09			39.98
	44.07	7/16/2014	3.61			40.46
	44.07	1/5/2015	3.21			40.86
	44.07	8/10/2015	1.46			42.61
	44.07	1/13/2016	1.06			43.01
	44.07	7/6/2016	4.06			40.01
	44.07	1/12/2017	4.59			39.48
	44.07	7/5/2017	4.72			39.35
	44.07	9/6/2017	4.41			39.66
	44.07	2/11/2018	0.32			43.75
	44.07	3/11/2018	1.81			42.26
	44.07	5/14/2018	1.62			42.45
	44.07	1/3/2019	1.09			42.98
	44.07	7/9/2019	1.86			42.21
	44.07	1/7/2020	0.39			43.68
MW-36D	44.33	7/12/2010	85.39			-41.06
	44.33	1/13/2011	85.03			-40.7
	44.33	7/11/2011	85.33			-41
	44.33	1/27/2012	85.62			-41.29
	44.33	7/10/2012	85.17			-40.84
	44.33	1/8/2013	85.37			-41.04
	44.33	7/23/2013	85.93			-41.6
	44.33	1/8/2014	85.32			-40.99
	44.33	7/16/2014	84.77			-40.44
	44.33	1/5/2015	85.01			-40.68
	44.33	8/10/2015	84.67			-40.34
	44.33	1/13/2016	84.29			-39.96
	44.33	7/6/2016	84.42			-40.09
	44.33	1/12/2017	84.73			-40.40
	44.33	7/5/2017	84.89			-40.56
	44.33	9/6/2017	84.86			-40.53
	44.33	2/11/2018	82.59			-38.26
	44.33	3/11/2018	82.77			-38.44
	44.33	5/14/2018	83.09			-38.76
	44.33	1/3/2019	82.51			-38.18
	44.33	7/9/2019	82.91			-38.58
	44.33	1/7/2020	82.06			-37.73
MW-38A	46.39	3/7/2007	3.26			43.13
	46.39	7/27/2007	3.08			43.31
	46.39	1/29/2008	1.85			44.54
	46.39	7/14/2008	5.84			40.55
	46.39	2/3/2009	5.15			41.24
	46.39	7/23/2009	5.06			41.33
	46.39	1/9/2010	2.27			44.12
	46.39	7/12/2010	6.42			39.97
	46.39	1/13/2011	1.76			44.63
	46.39	7/11/2011	8.16			38.23

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-38A	46.39	1/27/2012	1.8			44.59
	46.39	7/10/2012	2.52			43.87
	46.39	1/8/2013	4.62			41.77
	46.39	7/23/2013	8.34			38.05
	46.39	1/8/2014	4.77			41.62
	46.39	7/15/2014	6.20			40.19
	46.39	1/5/2015	4.16			42.23
	46.39	8/10/2015	3.61			42.78
	46.39	1/13/2016	3.02			43.37
	46.39	7/6/2016	3.42			42.97
	46.39	1/12/2017	4.01			42.38
	46.39	7/5/2017	4.21			42.18
	46.39	9/6/2017	4.12			42.27
	46.39	2/11/2018	2.61			43.78
	46.39	3/11/2018	4.12			42.27
	46.39	5/14/2018	5.41			40.98
	46.39	1/3/2019	4.66			41.73
	46.39	7/9/2019	4.13			42.26
	46.39	1/8/2020	1.51			44.88
MW-38B	45.51	3/15/2004	1.07			44.44
	45.51	9/14/2004	6.10			39.41
	45.51	7/18/2005	2.41			43.1
	45.51	1/6/2006	6.33			39.18
	45.51	7/27/2006	1.27			44.24
	45.51	3/7/2007	2.38			43.13
	45.51	7/27/2007	2.25			43.26
	45.51	1/29/2008	0.61			44.9
	45.51	7/14/2008	4.86			40.65
	45.51	2/3/2009	4.33			41.18
	45.51	7/23/2009	4.47			41.04
	45.51	1/9/2010	1.44			44.07
	45.51	7/12/2010	5.72			39.79
	45.51	1/13/2011	0.68			44.83
	45.51	7/11/2011	7.82			37.69
	45.51	1/27/2012	0.85			44.66
	45.51	7/10/2012	0.74			44.77
	45.51	1/8/2013	3.97			41.54
	45.51	7/23/2013	7.51			38
	45.51	1/8/2014	3.47			42.04
	45.51	7/15/2014	5.50			40.01
	45.51	1/5/2015	3.07			42.44
	45.51	8/10/2015	2.17			43.34
	45.51	1/13/2016	2.41			43.10
	45.51	7/6/2016	2.96			42.55
	45.51	1/12/2017	3.81			41.70
	45.51	7/5/2017	4.07			41.44
	45.51	9/6/2017	3.91			41.60
	45.51	2/11/2018	2.02			43.49
	45.51	3/11/2018	3.22			42.29
	45.51	5/14/2018	4.62			40.89
	45.51	1/3/2019	3.79			41.72
	45.51	7/9/2019	3.26			42.25
	45.51	1/8/2020	3.79			41.72
MW-39B	49.58	3/15/2004	5.48			44.1
	49.58	9/13/2004	10.02			39.56
	49.58	7/18/2005	7.21			42.37
	49.58	1/4/2006	10.37			39.21
	49.58	7/27/2006	6.08			43.5
	49.58	3/7/2007	6.91			42.67
	49.58	7/27/2007	5.74			43.84
	49.58	1/30/2008	6.34			43.24
	49.58	7/15/2008	8.96			40.62
	49.58	2/4/2009	8.60			40.98
	49.58	7/24/2009	9.13			40.45
	49.58	1/8/2010	5.61			43.97
	49.58	7/12/2010	9.31			40.27
	49.58	1/12/2011	5.64			43.94
	49.58	7/12/2011	11.97			37.61

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-39B	49.58	1/26/2012	5.84			43.74
	49.58	7/9/2012	5.77			43.81
	49.58	1/7/2013	8.68			40.9
	49.58	7/22/2013	11.17			38.41
	49.58	1/7/2014	7.23			42.35
	49.58	7/16/2014	9.46			40.12
	49.58	1/5/2015	6.71			42.87
	49.58	8/10/2015	4.82			44.76
	49.58	1/13/2016	4.17			45.41
	49.58	7/6/2016	4.26			45.32
	49.58	1/12/2017	5.61			43.97
	49.58	7/5/2017	5.87			43.71
	49.58	9/6/2017	5.66			43.92
	49.58	2/11/2018	6.09			43.49
	49.58	3/11/2018	7.04			42.54
	49.58	5/14/2018	8.73			40.85
	49.58	1/3/2019	7.97			41.61
	49.58	7/9/2019	7.47			42.11
	49.58	1/7/2020	6.02			43.56
MW-40B	49.59	3/15/2004	5.46			44.13
	49.59	9/13/2004	9.72			39.87
	49.59	7/18/2005	7.19			42.4
	49.59	1/4/2006	10.25			39.34
	49.59	7/27/2006	6.18			43.41
	49.59	3/7/2007	6.81			42.78
	49.59	7/27/2007	5.00			44.59
	49.59	1/30/2008	5.23			44.36
	49.59	7/15/2008	8.76			40.83
	49.59	2/4/2009	8.57			41.02
	49.59	7/24/2009	9.06			40.53
	49.59	1/8/2010	5.37			44.22
	49.59	7/12/2010	9.17			40.42
	49.59	1/12/2011	5.81			43.78
	49.59	7/12/2011	11.46			38.13
	49.59	1/26/2012	5.68			43.91
	49.59	7/9/2012	5.74			43.85
	49.59	1/7/2013	8.63			40.96
	49.59	7/22/2013	11.06			38.53
	49.59	1/7/2014	7.24			42.35
	49.59	7/16/2014	9.27			40.32
	49.59	1/5/2015	7.02			42.57
	49.59	8/10/2015	5.02			44.57
	49.59	1/13/2016	4.39			45.20
	49.59	7/6/2016	4.67			44.92
	49.59	1/12/2017	5.22			44.37
	49.59	7/5/2017	5.77			43.82
	49.59	9/6/2017	5.71			43.88
	49.59	2/11/2018	6.21			43.38
	49.59	3/11/2018	6.82			42.77
	49.59	5/14/2018	8.44			41.15
	49.59	1/3/2019	7.91			41.68
	49.59	7/9/2019	7.23			42.36
	49.59	1/7/2020	6.17			43.42
MW-41B	49.37	3/15/2004	4.66			44.71
	49.37	9/13/2004	9.76	35.01	9.80	39.61
	49.37	7/18/2005	5.96	32.23	12.58	43.41
	49.37	1/4/2006	10.03	32.21	12.60	39.34
	49.37	7/27/2006	5.65	29.55	15.26	43.72
	49.37	3/7/2007	4.41	29.13	15.68	44.96
	49.37	7/27/2007	5.27	12.00	32.81	44.1
	49.37	2/22/2008	5.04	25.14	19.67	44.7
	49.37	7/15/2008	8.87	25.09	19.72	40.5
	49.37	2/4/2009	8.93	23.79	21.02	40.44
	49.37	7/24/2009	9.46	23.91	20.90	39.91
	49.37	1/8/2010	5.92	23.65	21.16	43.45
	49.37	5/27/2010	6.13	25.45	19.36	43.24
	49.37	6/28/2010	6.21	38.2	6.61	43.16
	49.37	7/12/2010	6.32	38.45	6.36	43.05

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-41B	49.37	8/31/2010	6.26	39.22	5.59	43.11
	49.37	1/12/2011	6.02	39.6	5.21	43.35
	49.37	7/12/2011	8.86	39.75	5.06	40.51
	49.37	3/8/2012	6.31	20.67	24.14	43.06
	49.37	7/9/2012	8.23			41.14
	49.37	1/7/2013	9.09	41.13	3.68	40.28
	49.37	7/22/2013	10.31	39.29	5.52	39.06
	49.37	1/7/2014	9.06	39.17	5.64	40.31
	49.37	7/15/2014	8.62	37.86	6.95	40.75
	49.37	1/5/2015	8.26	39.02	5.79	41.11
	49.37	8/10/2015	6.01	40.39	4.42	43.36
	49.37	1/13/2016	5.51	39.91	4.90	43.86
	49.37	7/6/2016	5.72	40.01	4.80	43.65
	49.37	1/12/2017	6.39	40.56	4.25	42.98
	49.37	7/6/2017	6.34	40.57	4.24	43.03
	49.37	9/6/2017	6.36	40.62	4.19	43.01
	49.37	2/7/2018	6.97	40.76	4.05	42.40
	49.37	3/11/2018	7.21	40.63	4.18	42.16
	49.37	5/14/2018	8.71	40.82	3.99	40.66
	49.37	7/2/2018	8.97	40.96	3.85	40.4
	49.37	1/3/2019	8.22	40.83	3.98	41.15
	49.37	7/9/2019	7.57	40.86	1.74	41.8
	49.37	8/1/2019	7.46	39.42	5.39	41.91
	49.37	1/8/2020	4.2	40.34	2.26	45.17
MW-42B	50.52	3/7/2007	7.31			43.21
	50.52	7/27/2007	5.74			44.78
	50.52	1/30/2008	6.62			43.9
	50.52	7/15/2008	8.73			41.79
	50.52	2/4/2009	9.32			41.2
	50.52	7/24/2009	9.61			40.91
	50.52	1/8/2010	6.02			44.5
	50.52	7/12/2010	7.13			43.39
	50.52	1/12/2011	6.33			44.19
	50.52	7/12/2011	11.76			38.76
	50.52	1/26/2012	6.62			43.9
	50.52	7/9/2012	6.81			43.71
	50.52	1/7/2013	9.23			41.29
	50.52	7/22/2013	11.08			39.44
	50.52	1/7/2014	8.02			42.5
	50.52	7/15/2014	7.37			43.15
	50.52	1/5/2015	7.31			43.21
	50.52	8/10/2015	5.67			44.85
	50.52	1/13/2016	4.92			45.60
	50.52	7/6/2016	5.36			45.16
	50.52	1/12/2017	5.94			44.58
	50.52	7/6/2017	6.27			44.25
	50.52	9/6/2017	6.39			44.13
	50.52	2/11/2018	6.84			43.68
	50.52	3/11/2018	7.12			43.40
	50.52	5/14/2018	8.76			41.76
	50.52	7/2/2018	8.99			41.53
	50.52	1/3/2019	8.02			42.50
	50.52	7/9/2019	7.42			43.1
	50.52	1/7/2020	6.97			43.55
MW-44A	45.11	3/7/2007	10.86			34.25
	45.11	7/27/2007	7.46			37.65
	45.11	1/30/2008	8.44			36.67
	45.11	7/14/2008	10.75			34.36
	45.11	2/3/2009	12.55			32.56
	45.11	7/23/2009	12.76			32.35
	45.11	1/9/2010	10.23			34.88
	45.11	7/12/2010	11.24			33.87
	45.11	1/12/2011	9.63			35.48
	45.11	7/11/2011	12.59			32.52
	45.11	1/27/2012	9.27			35.84
	45.11	7/10/2012	10.11			35
	45.11	1/8/2013	11.01			34.1
	45.11	7/23/2013	12.24			32.87

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-44A	45.11	1/8/2014	11.91			33.2
	45.11	7/16/2014	11.32			33.79
	45.11	1/5/2015	11.27			33.84
	45.11	8/10/2015	9.71			35.40
	45.11	1/13/2016	9.11			36.00
	45.11	7/6/2016	9.26			35.85
	45.11	1/12/2017	9.71			35.40
	45.11	7/5/2017	10.06			35.05
	45.11	9/6/2017	9.94			35.17
	45.11	2/11/2018	8.79			36.32
	45.11	3/11/2018	9.83			35.28
	45.11	5/14/2018	9.91			35.20
	45.11	1/3/2019	9.23			35.88
	45.11	7/9/2019	8.67			36.44
	45.11	1/8/2020	10.18			34.93
MW-44C	45.03	3/15/2004	17.54			27.49
	45.03	9/14/2004	18.35			26.68
	45.03	7/18/2005	18.90	64.77	5.35	26.13
	45.03	1/6/2006	20.03	66.50	5.37	25
	45.03	7/27/2006	18.47	63.35	6.75	26.56
	45.03	3/7/2007	16.02	62.30	7.75	29.01
	45.03	7/27/2007	14.83	65.45	5.50	30.2
	45.03	1/29/2008	15.95			29.08
	45.03	7/14/2008	17.91	64.95	6.18	27.12
	45.03	2/3/2009	16.72	64.15	6.98	28.31
	45.03	7/23/2009	17.12	64.05	6.75	27.91
	45.03	1/9/2010	15.57	63.81	6.99	29.46
	45.03	5/27/2010	16.67	64.7	6.10	28.36
	45.03	6/28/2010	16.77	67.85	2.95	28.26
	45.03	7/12/2010	16.91	70.35	0.45	28.12
	45.03	8/31/2010	16.89	70.63	0.17	28.14
	45.03	1/12/2011	16.77	70.05	0.75	28.26
	45.03	7/11/2011	19.31	70.05	0.75	25.72
	45.03	1/27/2012	17.91	63.88	6.92	27.12
	45.03	7/10/2012	17.61	63.7	7.10	27.42
	45.03	1/8/2013	19.02	62.94	7.86	26.01
	45.03	7/23/2013	20.36	70.26	0.54	24.67
	45.03	1/8/2014	19.67	70.42	0.38	25.36
	45.03	7/16/2014	18.72	69.31	1.49	26.31
	45.03	1/5/2015	18.67	69.82	0.98	26.36
	45.03	8/10/2015	16.31	70.29	0.51	28.72
	45.03	1/13/2016	16.26	69.93	0.87	28.77
	45.03	7/6/2016	16.47	69.71	1.09	28.56
	45.03	1/12/2017	17.22	70.11	0.69	27.81
	45.03	7/5/2017	17.33	70.34	0.46	27.70
	45.03	9/6/2017	17.36	70.43	-0.87	27.67
	45.03	2/8/2018	17.77	70.34	0.46	27.26
	45.03	5/15/2018	NM			
	45.13	1/4/2019	18.42	70.41	0.39	26.71
	45.13	7/9/2019	18.27			26.86
	45.13	1/8/2020	16.81			28.32
MW-45C	44.73	3/15/2004	17.15			27.58
	44.73	9/14/2004	17.82	61.66	9.02	26.91
	44.73	7/18/2005	18.38	60.76	9.89	26.35
	44.73	1/6/2006	19.51	62.87	8.87	25.22
	44.73	7/27/2006	17.92	61.64	8.94	26.81
	44.73	3/7/2007	15.95	60.81	9.79	28.78
	44.73	7/27/2007	14.38			30.35
	44.73	1/29/2008	14.86	61.39	9.46	29.87
	44.73	7/14/2008	17.22	61.25	9.88	27.51
	44.73	2/3/2009	17.00	61.24	9.61	27.73
	44.73	7/23/2009	17.46	61.30	9.55	27.27
	44.73	1/9/2010	14.98	61.56	9.29	29.75
	44.73	5/27/2010	16.31	61.1	9.75	28.42
	44.73	6/28/2010	16.42	63.45	7.40	28.31
	44.73	7/12/2010	16.61	68.8	2.05	28.12
	44.73	8/31/2010	16.46	69.62	1.23	28.27
	44.73	1/12/2011	16.31	69.1	1.75	28.42

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-45C	44.73	7/11/2011	18.29	69.3	1.55	26.44
	44.73	3/8/2012	16.31	70.6	0.25	28.42
	44.73	7/10/2012	20.69	70.21	0.64	24.04
	44.73	1/8/2013	21.39	69.91	0.69	23.34
	44.73	7/23/2013	22.72	70.39	0.21	22.01
	44.73	1/8/2014	22.13	70.35	0.25	22.6
	44.73	7/16/2014	21.32	69.91	0.69	23.41
	44.73	1/5/2015	20.19	70.55	0.05	24.54
	44.73	8/10/2015	18.61			26.12
	44.73	1/13/2016	17.49			27.24
	44.73	7/6/2016	17.62			27.11
	44.73	1/12/2017	18.22			26.51
	44.73	7/5/2017	17.96			26.77
	44.73	9/6/2017	18.16			26.57
	44.73	2/8/2018	18.62	70.6	0.00	26.11
	44.73	3/11/2018	18.83			25.9
	44.73	5/15/2018	19.61			25.12
	44.73	1/4/2019	19.02			25.71
	44.73	7/9/2019	18.39			26.34
	44.73	1/7/2020	16.24			28.49
MW-46C	44.94	3/15/2004	16.16	ND	ND	28.78
	44.94	9/14/2004	17.97	ND	ND	26.97
	44.94	7/18/2005	18.50	69.05	3.78	26.44
	44.94	1/13/2006	19.66	70.20	3.22	25.28
	44.94	7/27/2006	17.96	68.89	3.90	26.98
	44.94	3/7/2007	16.01	69.32	3.43	28.93
	44.94	7/27/2007	14.54	69.31	3.59	30.4
	44.94	1/30/2008	15.68	70.81	2.00	29.26
	44.94	7/14/2008	17.38	69.97	2.84	27.56
	44.94	2/3/2009	16.78	69.28	3.53	28.16
	44.94	7/23/2009	17.59	69.35	3.55	27.35
	44.94	1/9/2010	14.53	68.74	4.16	30.41
	44.94	5/27/2010	16.26	69.4	3.50	28.68
	44.94	6/28/2010	16.39	70.85	2.05	28.55
	44.94	7/12/2010	16.29	72.25	0.65	28.65
	44.94	8/31/2010	16.13	72.46	0.44	28.81
	44.94	1/12/2011	15.96	71.75	1.15	28.98
	44.94	7/11/2011	18.07	71.65	1.25	26.87
	44.94	1/26/2012	16.54	ND	ND	28.4
	44.94	7/10/2012	20.34	72.8	0.10	24.6
	44.94	1/8/2013	21.18	71.31	1.59	23.76
	44.94	7/23/2013	21.96	72.16	0.74	22.98
	44.94	1/8/2014	21.81	72.55	0.35	23.13
	44.94	7/16/2014	20.86	71.39	1.51	24.08
	44.94	1/5/2015	20.47	72.06	0.84	24.47
	44.94	8/10/2015	18.39	72.42	0.48	26.55
	44.94	1/13/2016	18.24	72.59	0.31	26.70
	44.94	7/6/2016	18.54	72.49	0.41	26.40
	44.94	1/12/2017	19.27	72.46	0.44	25.67
	44.94	7/5/2017	19.12	72.34	0.56	25.82
	44.94	9/6/2017	19.29	72.34	0.56	25.65
	44.94	2/8/2018	19.96	72.46	0.44	24.98
	44.94	3/11/2018	20.04	72.32	0.58	24.90
	44.94	5/15/2018	21.02	72.59	0.31	23.92
	44.94	1/4/2019	20.49	72.46	0.44	24.45
	44.94	7/9/2019	18.72			26.22
	44.94	1/7/2020	16.34			28.6
MW-47A	43.92	3/20/2020	9.26			34.66
MW-47C	45.61	7/27/2007	16.62			28.99
	45.61	1/29/2008	16.04			29.57
	45.61	7/14/2008	18.15			27.46
	45.61	2/4/2009	18.39			27.22
	45.61	7/23/2009	18.61			27
	45.61	1/9/2010	16.46			29.15
	45.61	7/12/2010	18.33			27.28
	45.61	1/12/2011	17.86			27.75
	45.61	7/11/2011	19.94			25.67
	45.61	1/26/2012	18.77			26.84

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-47C	45.61	7/9/2012	18.17			27.44
	45.61	1/8/2013	19.47			26.14
	45.61	7/23/2013	20.61			25
	45.61	1/8/2014	19.57			26.04
	45.61	7/16/2014	19.02			26.59
	45.61	1/5/2015	19.07			26.54
	45.61	8/10/2015	17.41			28.20
	45.61	1/13/2016	16.83			28.78
	45.61	7/6/2016	17.01			28.60
	45.61	1/12/2017	17.59			28.02
	45.52	7/5/2017	NM			
	45.52	9/6/2017	NM			
	45.52	1/7/2020	17.28			28.24
MW-48C	44.68	3/15/2004	17.31			27.37
	44.68	9/14/2004	18.60			26.08
	44.68	7/18/2005	19.17			25.51
	44.68	1/6/2006	20.33			24.35
	44.68	7/27/2006	18.73			25.95
	44.68	3/7/2007	16.52			28.16
	44.68	7/27/2007	15.22			29.46
	44.68	1/29/2008	16.32			28.36
	44.68	7/14/2008	17.63			27.05
	44.68	2/4/2009	17.97			26.71
	44.68	7/24/2009	18.39			26.29
	44.68	1/9/2010	15.81			28.87
	44.68	7/12/2010	17.42			27.26
	44.68	1/12/2011	17.52			27.16
	44.68	7/11/2011	19.58			25.1
	44.68	1/26/2012	18.52			26.16
	44.68	7/9/2012	17.12			27.56
	44.68	1/8/2013	18.26			26.42
	44.68	7/23/2013	20.17			24.51
	44.68	1/8/2014	19.19			25.49
	44.68	7/16/2014	18.38			26.30
	44.68	1/5/2015	18.76			25.92
	44.68	8/10/2015	16.34			28.34
	44.68	1/13/2016	15.72			28.96
	44.68	7/6/2016	16.16			28.52
	44.68	1/12/2017	16.71			27.97
	44.68	7/5/2017	17.17			27.51
	44.68	9/6/2017	17.15			27.53
	44.68	2/11/2018	17.36			27.32
	44.68	3/11/2018	16.74			27.94
	44.68	5/14/2018	17.33			27.35
	44.68	1/4/2019	16.67			28.01
	44.68	7/9/2019	18.23			26.45
	44.68	1/7/2020	17.09			27.59
MW-49A	46.18	3/7/2007	12.91			33.27
	46.18	7/27/2007	8.86			37.32
	46.18	1/31/2008	12.02			34.16
	46.18	7/15/2008	12.99			33.19
	46.18	2/4/2009	13.29			32.89
	46.18	7/24/2009	13.71			32.47
	46.18	1/9/2010	11.07			35.11
	46.18	7/12/2010	11.62			34.56
	46.18	1/12/2011	10.82			35.36
	46.18	7/11/2011	12.31			33.87
	46.18	1/26/2012	9.48			36.7
	46.18	7/9/2012	9.79			36.39
	46.18	1/8/2013	11.31			34.87
	46.18	7/23/2013	11.92			34.26
	46.18	1/8/2014	11.56			34.62
	46.18	7/16/2014	10.57			35.61
	46.18	1/5/2015	16.12			30.06
	46.18	8/10/2015	9.61			36.57
	46.18	1/13/2016	9.34			36.84
	46.18	7/6/2016	9.57			36.61
	46.18	1/12/2017	10.03			36.15
	46.18	7/5/2017	10.32			35.86
	46.18	9/6/2017	10.24			35.94
	46.18	2/11/2018	10.29			35.89

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-49A	46.18	3/11/2018	10.56			35.62
	46.18	5/14/2018	12.34			33.84
	46.18	1/4/2019	11.81			34.37
	46.18	7/9/2019	11.21			34.97
	46.18	1/7/2020	11.12			35.06
MW-49B	46.22	2/4/2009	11.65			34.57
	46.22	7/24/2009	11.93			34.29
	46.22	1/9/2010	9.73			36.49
	46.22	7/12/2010	11.36			34.86
	46.22	1/12/2011	8.04			38.18
	46.22	7/11/2011	12.29			33.93
	46.22	1/26/2012	10.74			35.48
	46.22	7/9/2012	7.38			38.84
	46.22	1/8/2013	11.27	33.56	1.19	34.95
	46.22	7/23/2013	11.83	33.91	0.84	34.39
	46.22	1/8/2014	11.24			34.98
	46.22	7/16/2014	9.62			36.60
	46.22	1/5/2015	10.74			35.48
	46.22	8/10/2015	8.17			38.05
	46.22	1/13/2016	7.74			38.48
	46.22	7/6/2016	8.02			38.20
	46.22	1/12/2017	8.46			37.76
	46.22	7/5/2017	8.72			37.50
	46.22	9/6/2017	8.67			37.55
	46.22	2/11/2018	10.03			36.19
	46.22	3/11/2018	10.64			35.58
	46.22	5/14/2018	13.27			32.95
	46.22	1/4/2019	12.59			33.63
	46.22	7/9/2019	12.02	34.62	0.24	34.2
	46.22	1/7/2020	11.51	20.09	12.96	34.71
MW-50A	46.96	3/7/2007	8.16			38.8
	46.96	7/27/2007	4.70			42.26
	46.96	1/31/2008	5.68			41.28
	46.96	7/16/2008	7.99			38.97
	46.96	2/4/2009	9.31			37.65
	46.96	7/24/2009	9.49			37.47
	46.96	1/9/2010	7.02			39.94
	46.96	7/12/2010	8.74			38.22
	46.96	1/12/2011	5.61			41.35
	46.96	7/11/2011	9.86			37.1
	46.96	1/26/2012	7.21			39.75
	46.96	7/9/2012	4.63			42.33
	46.96	1/8/2013	5.91			41.05
	46.96	7/23/2013	7.13			39.83
	46.96	1/8/2014	6.71			40.25
	46.96	7/16/2014	6.29			40.67
	46.96	1/5/2015	6.22			40.74
	46.96	8/10/2015	5.01			41.95
	46.96	1/13/2016	4.06			42.90
	46.96	7/6/2016	4.71			42.25
	46.96	1/12/2017	5.21			41.75
	46.96	7/5/2017	5.63			41.33
	46.96	9/6/2017	5.51			41.45
	46.96	2/11/2018	4.39			42.57
	46.96	3/11/2018	4.81			42.15
	46.96	5/15/2018	5.27			41.69
	46.96	1/3/2019	4.62			42.34
	46.96	7/9/2019	4.21			42.75
	46.96	1/7/2020	7.09			39.87
MW-50B	45.89	3/12/2020	8.37			37.52
MW-51A	47.80	3/7/2007	6.96			40.84
	47.80	7/27/2007	5.45			42.35
	47.80	1/31/2008	5.92			41.88
	47.80	7/15/2008	NM			
	47.80	2/4/2009	9.98			37.82
	47.80	7/24/2009	10.34			37.46
	47.80	1/9/2010	7.83			39.97
	47.80	7/12/2010	9.16			38.64
	47.80	1/12/2011	8.56			39.24
	47.80	7/11/2011	12.74			35.06
	47.80	1/26/2012	7.33			40.47

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-51A	47.80	7/9/2012	7.26			40.54
	47.80	1/8/2013	7.62			40.18
	47.80	7/23/2013	10.54			37.26
	47.80	1/8/2014	10.21			37.59
	47.80	7/16/2014	8.51			39.29
	47.80	1/5/2015	9.87			39.29
	47.80	8/10/2015	7.96			39.84
	47.80	1/13/2016	7.13			40.67
	47.80	7/6/2016	7.29			40.51
	47.80	1/12/2017	7.63			40.17
	47.80	7/5/2017	7.74			40.06
	47.80	9/6/2017	7.63			40.17
	47.80	2/11/2018	5.92			41.88
	47.80	3/12/2018	6.41			41.39
	47.80	5/15/2018	7.16			40.64
	47.80	1/4/2019	6.67			41.13
	47.80	7/9/2019	6.29			41.51
	47.80	1/7/2020	8.47			39.33
MW-51C	47.48	7/16/2014	22.21			25.27
	47.48	1/5/2015	NM			
	47.48	8/10/2015	18.79			28.69
	47.48	1/13/2016	18.06			29.42
	47.48	7/6/2016	18.26			29.22
	47.48	1/12/2017	18.68			28.80
	47.48	7/5/2017	19.12			28.36
	47.48	9/6/2017	19.02			28.46
	47.48	2/11/2018	17.63			29.85
	47.48	3/12/2018	18.03			29.45
	47.48	5/15/2018	20.83			26.65
	47.48	1/3/2019	20.17			27.31
	47.48	7/9/2019	20.39			27.09
	47.48	1/7/2020	20.34			27.14
MW-52A	51.91	3/7/2007	13.66			38.25
	51.91	7/27/2007	11.76			40.15
	51.91	1/31/2008	12.60			39.31
	51.91	7/15/2008	14.42			37.49
	51.91	2/5/2009	15.52			36.39
	51.91	7/23/2009	16.39			35.52
	51.91	1/9/2010	12.57			39.34
	51.91	7/12/2010	14.19			37.72
	51.91	1/12/2011	9.06			42.85
	51.91	7/12/2011	16.53			35.38
	51.91	1/26/2012	12.99			38.92
	51.91	7/9/2012	12.43			39.48
	51.91	1/7/2013	14.94			36.97
	51.91	7/22/2013	16.29			35.62
	51.91	1/7/2014	16.01			35.9
	51.91	7/15/2014	15.39			36.52
	51.91	1/5/2015	15.37			36.54
	51.91	8/10/2015	13.61			38.30
	51.91	1/13/2016	12.96			38.95
	51.91	7/6/2016	NM			NM
MW-53C	45.49	3/7/2007	16.12			29.37
	45.49	7/27/2007	14.55			30.94
	45.49	1/29/2008	15.12			30.37
	45.49	7/14/2008	16.86			28.63
	45.49	2/3/2009	16.69			28.8
	45.49	7/23/2009	17.62			27.87
	45.49	1/9/2010	15.19			30.3
	45.49	7/12/2010	15.71			29.78
	45.49	1/12/2011	16.58			28.91
	45.49	7/11/2011	18.61			26.88
	45.49	1/27/2012	17.54			27.95
	45.49	7/10/2012	17.73			27.76
	45.49	1/8/2013	18.14			27.35
	45.49	7/23/2013	19.28			26.21
	45.49	1/8/2014	21.12			24.37
	45.49	7/16/2014	17.37			28.12
	45.49	1/5/2015	20.71			24.78
	45.49	8/10/2015	18.72			26.77
	45.49	1/13/2016	18.06			27.43

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-53C	45.49	7/6/2016	18.42			27.07
	45.49	1/12/2017	18.89			26.60
	45.49	7/5/2017	19.16			26.33
	45.49	9/6/2017	19.13			26.36
	45.49	2/11/2018	16.43			29.06
	45.49	3/11/2018	15.54			29.95
	45.49	5/14/2018	16.56			28.93
	45.49	1/4/2019	15.93			29.56
	45.49	7/9/2019	15.86			29.63
	45.49	1/7/2020	16.72			28.77
MW-58B	43.59	3/11/2020	13.42			30.17
MW-54C	44.99	3/7/2007	15.74			29.25
	44.99	7/27/2007	14.63			30.36
	44.99	1/28/2008	15.28			29.71
	44.99	7/14/2008	16.68			28.31
	44.99	2/3/2009	16.87			28.12
	44.99	7/23/2009	17.84			27.15
	44.99	1/9/2010	15.46			29.53
	44.99	7/12/2010	16.49			28.5
	44.99	1/12/2011	16.46			28.53
	44.99	7/11/2011	18.23			26.76
	44.99	1/27/2012	17.42			27.57
	44.99	7/10/2012	17.36			27.63
	44.99	1/8/2013	17.81			27.18
	44.99	7/23/2013	18.89			26.1
	44.99	1/8/2014	18.14			26.85
	44.99	7/16/2014	17.49			27.50
	44.99	1/5/2015	17.86			27.13
	44.99	8/10/2015	16.02			28.97
	44.99	1/13/2016	15.33			29.66
	44.99	7/6/2016	15.66			29.33
	44.99	1/12/2017	16.17			28.82
	44.99	7/5/2017	16.61			28.38
	44.99	9/6/2017	16.59			28.40
	44.99	2/11/2018	15.4			29.59
	44.99	3/11/2018	15.68			29.31
	44.99	5/14/2018	16.31			28.68
	44.99	1/4/2019	15.71			29.28
	44.99	7/9/2019	15.27			29.72
	44.99	1/7/2020	15.59			29.4
MW-55A	52.01	2/4/2009	13.79			38.22
	52.01	7/23/2009	14.06			37.95
	52.01	1/9/2010	10.83			41.18
	52.01	7/12/2010	12.72			39.29
	52.01	1/12/2011	10.13			41.88
	52.01	7/12/2011	15.18			36.83
	52.01	1/26/2012	11.71			40.3
	52.01	7/9/2012	12.29			39.72
	52.01	1/7/2013	13.34			38.67
	52.01	7/22/2013	14.19			37.82
	52.01	1/7/2014	12.73			39.28
	52.01	7/15/2014	11.30			40.71
	52.01	1/5/2015	12.51			39.50
	52.01	8/10/2015	10.79			41.22
MW-55B	52.04	1/26/2012	13.28			38.76
	52.04	7/9/2012	13.93			38.11
	52.04	1/7/2013	13.73			38.31
	52.04	7/22/2013	14.59			37.45
	52.04	1/7/2014	12.89			39.15
	52.04	7/15/2014	12.49			39.55
	52.04	1/5/2015	12.41			39.63
	52.04	8/10/2015	10.19			41.85
MW-57A	47.72	2/5/2009	12.73		0.00	34.99
	47.72	7/23/2009	12.91		0.00	34.81
	47.72	1/9/2010	9.78		0.00	37.94
	47.72	7/12/2010	8.56	24.55	2.55	39.16
	47.72	1/12/2011	9.83	22.76	4.14	37.89
	47.72	7/12/2011	13.88	22.79	4.11	33.84
	47.72	1/26/2012	10.54	22.78	4.12	37.18
	47.72	7/9/2012	9.72	22.65	4.25	38
	47.72	1/7/2013	10.61	22.14	4.76	37.11

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-57A	47.72	7/22/2013	13.21	23.05	3.85	34.51
	47.72	1/7/2014	11.79	26.15	0.75	35.93
	47.72	7/15/2014	10.42	26.09	0.81	37.30
	47.72	1/5/2015	10.13	26.75	0.15	37.59
	47.72	8/10/2015	7.46	26.9	0.00	40.26
	47.72	7/6/2016	7.39			40.33
	47.72	1/12/2017	8.07			39.65
	47.72	7/6/2017	8.41			39.31
	47.72	9/6/2017	8.46			39.26
	47.72	2/7/2018	8.98			38.74
	47.72	3/11/2018	9.24			38.48
	47.72	5/14/2018	9.67			38.05
	47.72	1/4/2019	9.52			38.2
	47.72	7/9/2019	10.11			37.61
	47.72	1/8/2020	14.46			33.26
MW-57B	50.90	1/26/2012	28.83	42.51	0.44	22.07
	50.90	7/9/2012	27.93	42.45	0.50	22.97
	50.90	1/7/2013	28.63	41.36	1.59	22.27
	50.90	7/22/2013	16.34	41.67	1.28	34.56
	50.90	1/7/2014	15.04			35.86
	50.90	7/15/2014	15.71			35.19
	50.90	1/5/2015	14.32			36.58
	50.90	8/10/2015	12.42			38.48
	50.90	7/6/2016	12.44			38.46
	50.90	1/12/2017	13.24			37.66
	50.90	7/6/2017	13.57			37.33
	50.90	9/6/2017	13.79			37.11
	50.90	2/7/2018	12.42			38.48
	50.90	3/11/2018	12.62			38.28
	50.90	5/14/2018	13.29			37.61
	50.90	1/4/2019	13.03			37.87
	50.90	7/9/2019	13.71			37.19
	50.90	1/8/2020	13.73			37.17
MW-58A	47.76	2/5/2009	14.55			33.21
	47.76	7/23/2009	14.04			33.72
	47.76	1/9/2010	12.29			35.47
	47.76	7/12/2010	14.03			33.73
	47.76	1/12/2011	11.88			35.88
	47.76	7/12/2011	16.16			31.6
	47.76	1/26/2012	12.26			35.5
	47.76	7/9/2012	11.62			36.14
	47.76	1/7/2013	11.91			35.85
	47.76	7/22/2013	13.71			34.05
	47.76	1/7/2014	13.26			34.5
	47.76	7/15/2014	13.06			34.70
	47.76	1/5/2015	13.06			34.70
	47.76	8/10/2015	11.29			36.47
	47.76	7/6/2016	7.46			40.30
	47.76	1/12/2017	8.04			39.72
	47.76	7/6/2017	8.39			39.37
	47.76	9/6/2017	8.33			39.43
	47.76	2/11/2018	6.47			41.29
	47.76	3/11/2018	12.71			35.05
	47.76	5/14/2018	12.94			34.82
	47.76	1/4/2019	12.29			35.47
	47.76	7/9/2019	12.29			35.47
	47.76	1/7/2020	13.17			34.59
MW-59A	44.18	2/5/2009	10.71			33.47
	44.18	7/23/2009	9.96			34.22
	44.18	1/9/2010	8.62			35.56
	44.18	7/12/2010	9.97			34.21
	44.18	1/12/2011	8.06			36.12
	44.18	7/11/2011	10.54			33.64
	44.18	1/26/2012	6.36			37.82
	44.18	7/9/2012	7.63			36.55
	44.18	1/8/2013	9.09			35.09
	44.18	7/23/2013	9.76			34.42
	44.18	1/8/2014	9.34			34.84
	44.18	7/16/2014	9.17			35.01
	44.18	1/5/2015	8.71			35.47
	44.18	8/10/2015	5.76			38.42

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-59A	44.18	1/13/2016	5.01			39.17
	44.18	7/6/2016	5.26			38.92
	44.18	1/12/2017	5.81			38.37
	44.18	7/5/2017	6.14			38.04
	44.18	9/6/2017	6.09			38.09
	44.18	2/11/2018	6.26			37.92
	44.18	3/12/2018	9.13			35.05
	44.18	5/14/2018	8.81			35.37
	44.18	1/4/2019	8.12			36.06
	44.18	7/9/2019	8.92			35.26
	44.18	1/8/2020	9.21			34.97
MW-59B	44.36	7/12/2010	7.43			36.93
	44.36	1/12/2011	6.89			37.47
	44.36	7/11/2011	11.03			33.33
	44.36	1/26/2012	4.44			39.92
	44.36	7/9/2012	7.48			36.88
	44.36	1/8/2013	9.36			35
	44.36	7/23/2013	9.94			34.42
	44.36	1/8/2014	9.52			34.84
	44.36	7/16/2014	8.67			35.69
	44.36	1/5/2015	8.92			35.44
	44.36	8/10/2015	5.91			38.45
	44.36	1/13/2016	5.22			39.14
	44.36	7/6/2016	5.39			38.97
	44.36	1/12/2017	5.97			38.39
	44.36	7/5/2017	6.27			38.09
	44.36	9/6/2017	6.06			38.30
	44.36	2/11/2018	7.59			36.77
	44.36	3/12/2018	9.61			34.75
	44.36	5/14/2018	9.09			35.27
	44.36	1/4/2019	8.27			36.09
	44.36	7/9/2019	9.06			35.3
	44.36	1/8/2020	9.17			35.19
MW-59D	44.22	2/5/2009	84.17			-39.95
	44.22	7/23/2009	83.53			-39.31
	44.22	1/9/2010	81.73			-37.51
	44.22	7/12/2010	82.16			-37.94
	44.22	1/12/2011	82.83			-38.61
	44.22	7/11/2011	82.89			-38.67
	44.22	1/26/2012	82.93			-38.71
	44.22	7/9/2012	82.36			-38.14
	44.22	1/8/2013	82.81			-38.59
	44.22	7/23/2013	83.04			-38.82
	44.22	1/8/2014	83.14			-38.92
	44.22	7/16/2014	82.67			-38.45
	44.22	1/5/2015	82.07			-37.85
	44.22	8/10/2015	81.77			-37.55
	44.22	1/13/2016	81.03			-36.81
	44.22	7/6/2016	81.62			-37.40
	44.22	1/12/2017	82.09			-37.87
	44.22	7/5/2017	82.17			-37.95
	44.22	9/6/2017	82.16			-37.94
	44.22	2/11/2018	81.09			-36.87
	44.22	3/12/2018	81.17			-36.95
	44.22	5/14/2018	81.79			-37.57
	44.22	1/4/2019	81.02			-36.8
	44.22	7/9/2019	81.31			-37.09
	44.22	1/8/2020	83.06			-38.84
MW-60A	46.79	2/4/2009	9.56			37.23
	46.79	7/23/2009	9.71			37.08
	46.79	1/9/2010	7.72			39.07
	46.79	7/12/2010	8.61			38.18
	46.79	1/12/2011	5.82			40.97
	46.79	7/11/2011	9.86			36.93
	46.79	1/26/2012	4.34			42.45
	46.79	7/9/2012	5.42			41.37
	46.79	1/8/2013	6.91			39.88
	46.79	7/23/2013	10.42			36.37
	46.79	1/8/2014	8.06			38.73
	46.79	7/16/2014	7.29			39.50
	46.79	1/5/2015	7.39			39.40

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-60A	46.79	8/10/2015	6.32			40.47
	46.79	1/13/2016	5.67			41.12
	46.79	7/6/2016	6.13			40.66
	46.79	1/12/2017	--			
	46.79	9/6/2017	NM			
	46.79	2/11/2018	3.49			43.30
	46.79	3/12/2018	3.71			43.08
	46.79	5/14/2018	5.19			41.60
	46.79	1/4/2019	4.33			42.46
	46.79	7/9/2019	5.52			41.27
MW-60AR	45.43	3/20/2020	8.03			37.4
MW-60B	45.38	3/17/2020	24.91			20.47
MW-61A	44.67	2/3/2009	8.35			36.32
	44.67	7/23/2009	8.47			36.2
	44.67	1/9/2010	6.49			38.18
	44.67	7/12/2010	8.09			36.58
	44.67	1/12/2011	6.56			38.11
	44.67	7/11/2011	9.67			35
	44.67	1/26/2012	2.48			42.19
	44.67	7/9/2012	4.55			40.12
	44.67	1/8/2013	6.72			37.95
	44.67	7/23/2013	9.16			35.51
	44.67	1/8/2014	7.04			37.63
	44.67	7/16/2014	6.34			38.33
	44.67	1/5/2015	6.52			38.15
	44.67	8/10/2015	4.02			40.65
	44.67	1/13/2016	3.34			41.33
	44.67	7/6/2016	3.97			40.70
	44.67	1/12/2017	4.34			40.33
	44.67	7/5/2017	4.47			40.20
	44.67	9/6/2017	4.39			40.28
	44.67	2/11/2018	5.52			39.15
	44.67	3/12/2018	6.62			38.05
	44.67	5/14/2018	6.27			38.40
	44.67	1/4/2019	5.58			39.09
	44.67	7/9/2019	6.96			37.71
	44.67	1/8/2020	4.87			39.8
MW-61B	43.43	3/17/2020	8.31			35.12
MW-62B	48.16	2/4/2009	6.99			41.17
	48.16	7/24/2009	7.39			40.77
	48.16	1/8/2010	5.13			43.03
	48.16	7/12/2010	5.79			42.37
	48.16	1/12/2011	4.21			43.95
	48.16	7/12/2011	11.06			37.1
	48.16	1/26/2012	3.18			44.98
	48.16	7/9/2012	4.87			43.29
	48.16	1/8/2013	5.92			42.24
	48.16	7/23/2013	7.01			41.15
	48.16	1/8/2014	6.52			41.64
	48.16	7/15/2014	6.06			42.10
	48.16	1/5/2015	6.02			42.14
	48.16	8/10/2015	4.16			44.00
	48.16	1/13/2016	3.64			44.52
	48.16	7/6/2016	4.09			44.07
	48.16	1/12/2017	4.71			43.45
	48.16	7/6/2017	5.09			43.07
	48.16	9/6/2017	4.71			43.45
	48.16	2/11/2018	4.12			44.04
	48.16	3/11/2018	5.37			42.79
	48.16	5/14/2018	6.81			41.35
	48.16	7/2/2018	6.92			41.24
	48.16	1/4/2019	6.03			42.13
	48.16	7/9/2019	4.34			43.82
	48.16	1/8/2020	3.09			45.07
MW-63B	44.48	2/5/2009	31.54			12.94
	44.48	7/23/2009	9.52			34.96
	44.48	1/9/2010	1.34			43.14
	44.48	7/12/2010	5.71			38.77
	44.48	1/13/2011	7.13			37.35
	44.48	7/11/2011	4.21			40.27
	44.48	1/27/2012	2.96			41.52

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-63B	44.48	7/10/2012	1.32			43.16
	44.48	1/8/2013	8.54			35.94
	44.48	7/23/2013	9.43			35.05
	44.48	1/8/2014	7.72			36.76
	44.48	7/16/2014	7.03			37.45
	44.48	1/5/2015	7.09			37.39
	44.48	8/10/2015	5.34			39.14
	44.48	1/13/2016	4.69			39.79
	44.48	7/6/2016	5.01			39.47
	44.48	1/12/2017	5.84			38.64
	44.48	7/5/2017	6.19			38.29
	44.48	9/6/2017	6.12			38.36
	44.48	2/11/2018	5.31			39.17
	44.48	3/11/2018	6.39			38.09
	44.48	5/14/2018	7.19			37.29
	44.48	1/4/2019	6.47			38.01
	44.48	7/9/2019	3.96			40.52
	44.48	1/7/2020	4.34			40.14
MW-64A	48.31	2/4/2009	9.02			39.29
	48.31	7/24/2009	9.13			39.18
	48.31	1/9/2010	6.52			41.79
	48.31	7/12/2010	6.82			41.49
	48.31	1/12/2011	4.77			43.54
	48.31	7/12/2011	8.17			40.14
	48.31	1/26/2012	4.81			43.5
	48.31	7/9/2012	5.93			42.38
	48.31	1/7/2013	7.03			41.28
	48.31	7/22/2013	8.79			39.52
	48.31	1/7/2014	8.39			39.92
	48.31	7/15/2014	7.72			40.59
	48.31	1/5/2015	7.79			40.52
	48.31	8/10/2015	5.71			42.60
	48.31	1/13/2016	5.06			43.25
	48.31	7/6/2016	5.67			42.64
	48.31	1/12/2017	6.07			42.24
	48.31	7/6/2017	6.27			42.04
	48.31	9/6/2017	6.16			42.15
	48.31	2/11/2018	5.46			42.85
	48.31	3/12/2018	5.83			42.48
	48.31	5/14/2018	6.39			41.92
	48.31	1/4/2019	5.39			42.92
	44.55	7/9/2019	5.09			39.46
	44.55	1/8/2020	4.91			39.64
MW-65D	44.55	2/5/2009	86.72			-42.17
	44.55	7/23/2009	86.47			-41.92
	44.55	1/9/2010	84.39			-39.84
	44.55	7/12/2010	84.39			-39.84
	44.55	1/12/2011	83.96			-39.41
	44.55	7/11/2011	85.81			-41.26
	44.55	1/27/2012	85.76			-41.21
	44.55	1/8/2013	85.81			-41.26
	44.55	7/23/2013	85.83			-41.28
	44.55	1/8/2014	85.78			-41.23
	44.55	7/16/2014	84.91			-40.36
	44.55	1/5/2015	85.31			-40.76
	44.55	8/10/2015	85.06			-40.51
	44.55	1/13/2016	84.81			-40.26
	44.55	7/6/2016	85.09			-40.54
	44.55	1/12/2017	85.52			-40.97
	44.55	7/5/2017	85.72			-41.17
	44.55	9/6/2017	85.7			-41.15
	44.55	2/11/2018	83.42			-38.87
	44.55	3/12/2018	83.28			-38.73
	44.55	5/14/2018	83.74			-39.19
	44.55	1/4/2019	83.03			-38.48
	44.55	7/9/2019	82.71			-38.16
	44.55	1/8/2020	83.29			-38.74
MW-66D	46.51	2/5/2009	86.18			-39.67
	46.51	7/23/2009	85.82			-39.31
	46.51	1/9/2010	84.02			-37.51
	46.51	7/12/2010	84.86			-38.35

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-66D	46.51	1/12/2011	NM			
	46.51	7/11/2011	84.93			-38.42
	46.51	1/26/2012	84.88			-38.37
	46.51	7/9/2012	85.02			-38.51
	46.51	1/8/2013	86.09			-39.58
	46.51	7/23/2013	86.42			-39.91
	46.51	1/8/2014	86.09			-39.58
	46.51	7/16/2014	85.26			-38.75
	46.51	1/5/2015	85.42			-38.91
	46.51	8/10/2015	85.21			-38.70
	46.51	1/13/2016	84.71			-38.20
	46.51	7/6/2016	84.86			-38.35
	46.51	1/12/2017	85.26			-38.75
	46.51	7/5/2017	85.66			-39.15
	46.51	9/6/2017	85.67			-39.16
	46.51	2/11/2018	83.28			-36.77
	46.51	3/12/2018	83.37			-36.86
	46.51	5/14/2018	84.06			-37.55
	46.51	1/4/2019	83.36			-36.85
	46.51	7/9/2019	82.99			-36.48
	46.51	1/8/2020	81.26			-34.75
MW-67B	43.93	7/12/2010	5.76			38.17
	43.93	1/13/2011	10.62			33.31
	43.93	7/11/2011	17.64			26.29
	43.93	1/27/2012	9.87			34.06
	43.93	7/10/2012	11.19			32.74
	43.93	1/8/2013	11.72			32.21
	43.93	7/23/2013	10.69			33.24
	43.93	1/8/2014	10.64			33.29
	43.93	7/16/2014	11.22			32.71
	43.93	1/5/2015	10.22			33.71
	43.93	1/13/2016	6.17			37.76
	43.93	7/6/2016	6.39			37.54
	43.93	1/12/2017	7.04			36.89
	43.93	7/5/2017	7.14			36.79
	43.93	9/6/2017	6.97			36.96
	43.93	2/11/2018	8.89			35.04
	43.93	3/12/2018	9.13			34.80
	43.93	5/14/2018	10.16			33.77
	43.93	1/4/2019	9.42			34.51
	43.93	7/9/2019	9.09			34.84
	43.93	1/7/2020	9.02			34.91
MW-68A	43.24	05/29/219	5.33			37.91
	43.24	7/9/2019	5.01			38.23
	43.24	1/7/2020	4.28			38.96
MW-68B	44.63	1/27/2012	1.16			43.47
	44.63	7/10/2012	3.82			40.81
	44.63	1/8/2013	6.76			37.87
	44.63	7/23/2013	10.33			34.3
	44.63	1/8/2014	5.82			38.81
	44.63	7/16/2014	7.41			37.22
	44.63	1/5/2015	4.32			40.31
	44.63	8/10/2015	3.56			41.07
	44.63	1/13/2016	2.86			41.77
	44.63	7/6/2016	3.07			41.56
	44.63	1/12/2017	3.86			40.77
	44.63	7/5/2017	3.97			40.66
	44.63	9/6/2017	3.84			40.79
	44.63	2/11/2018	3.07			41.56
	44.63	3/12/2018	4.24			40.39
	44.63	5/14/2018	6.46			38.17
	44.63	1/4/2019	5.82			38.81
	44.63	7/9/2019	5.78			38.85
	44.63	1/7/2020	4.82	34.21	3.24	39.81
MW-68C	44.80	7/12/2010	16.52			28.28
	44.80	1/13/2011	16.92			27.88
	44.80	7/11/2011	19.34			25.46
	44.80	1/27/2012	17.66			27.14
	44.80	7/10/2012	17.96			26.84
	44.80	1/8/2013	19.39			25.41
	44.80	7/23/2013	19.87			24.93

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-68C	44.80	1/8/2014	19.29			25.51
	44.80	7/16/2014	18.39			26.41
	44.80	1/5/2015	18.71			26.09
	44.80	8/10/2015	16.29			28.51
	44.80	1/13/2016	15.74			29.06
	44.80	7/6/2016	15.94			28.86
	44.80	1/12/2017	16.54			28.26
	44.80	7/5/2017	17.02			27.78
	44.80	9/6/2017	17.01			27.79
	44.80	2/11/2018	16.21			28.59
	44.80	3/12/2018	16.88			27.92
	44.80	5/14/2018	17.35			27.45
	44.80	1/4/2019	16.74			28.06
	44.80	7/9/2019	16.39			28.41
	44.80	1/8/2020	16.54			28.26
MW-69A	45.71	7/12/2010	11.81			33.9
	45.71	1/12/2011	11.16			34.55
	45.71	7/11/2011	NM			
	45.71	1/26/2012	10.44			35.27
	45.71	7/9/2012	4.21			41.5
	45.71	1/8/2013	5.31			40.4
	45.71	7/23/2013	7.34			38.37
	45.71	1/8/2014	7.02			38.69
	45.71	7/16/2014	6.34			39.37
	45.71	1/5/2015	6.71			39.00
	45.71	8/10/2015	3.61			42.10
	45.71	1/13/2016	2.91			42.80
	45.71	7/6/2016	3.79			41.92
	45.71	1/12/2017	4.34			41.37
	45.71	7/5/2017	4.59			41.12
	45.71	9/6/2017	4.43			41.28
	45.71	2/11/2018	11.21			34.50
	45.71	3/11/2018	12.58			33.13
	45.71	5/14/2018	11.34			34.37
	45.71	1/4/2019	10.61			35.1
	45.71	7/9/2019	9.71			36
MW-70B	44.86	1/27/2012	6.51	34.26	1.21	38.35
	44.86	7/10/2012	6.06	34.17	1.30	38.8
	44.86	1/8/2013	6.67	34.02	1.68	38.19
	44.86	7/23/2013	8.22	34.07	1.63	36.64
	44.86	1/8/2014	7.89	35.51	0.14	36.97
	44.86	7/16/2014	6.16	34.71	0.94	38.70
	44.86	1/5/2015	7.07	35.26	0.39	37.79
	44.86	8/10/2015	5.26	35.49	0.16	39.60
	44.86	1/13/2016	4.96	35.39	0.26	39.90
	44.86	7/6/2016	5.34	35.31	0.34	39.52
	44.86	1/12/2017	6.17	35.09	0.56	38.69
	44.86	7/5/2017	6.39	35.14	0.51	38.47
	44.86	9/6/2017	6.56	35.34	0.31	38.30
	44.86	2/8/2018	6.42	35.31	0.34	38.44
	44.86	3/12/2018	6.69	35.21	0.44	38.17
	44.86	5/15/2018	7.52	35.39	0.26	37.34
	44.86	1/4/2019	6.96	35.31	0.34	37.9
	44.86	7/9/2019	6.57	35.01	0.64	38.29
MW-70C	43.41	3/12/2020	16.04			27.37
MW-71B	44.59	1/27/2012	7.08			37.51
	44.59	7/10/2012	8.16			36.43
	44.59	1/8/2013	4.09			40.5
	44.59	7/23/2013	8.61			35.98
	44.59	1/8/2014	16.36			28.23
	44.59	7/16/2014	16.02			28.57
	44.59	1/5/2015	15.83			28.76
	44.59	8/10/2015	13.76			30.83
	44.59	1/13/2016	13.09			31.50
	44.59	7/6/2016	13.31			31.28
	44.59	1/12/2017	13.94			30.65
	44.59	7/5/2017	14.34			30.25
	44.59	9/6/2017	14.21			30.38
	44.59	1/25/2018	0.76			43.83
	44.59	3/12/2018	1.61			42.98
	44.59	5/14/2018	2.26			42.33

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-71B	44.59	1/4/2019	1.58			43.01
	44.59	7/9/2019	0.62			43.97
	44.59	1/8/2020	1.12			43.47
MW-72B	51.97	1/26/2012	38.76			13.21
	51.97	7/9/2012	27.27			24.7
	51.97	1/7/2013	20.08			31.89
	51.97	7/22/2013	18.39			33.58
	51.97	1/7/2014	17.31			34.66
	51.97	7/15/2014	16.91			35.06
	51.97	1/5/2015	16.74			35.23
	51.97	8/10/2015	14.59			37.38
	51.97	1/13/2016	13.93			38.04
	51.97	7/6/2016	NM			
	51.97	2/11/2018	12.26			39.71
	51.97	3/12/2018	19.71			32.26
	51.97	5/14/2018	20.92			31.05
	51.97	1/4/2019	20.13			31.84
	51.97	7/9/2019	15.28			36.69
	51.97	1/8/2020	14.81			37.16
MW-73B	51.42	1/26/2012	25.48			25.94
	51.42	7/9/2012	25.03			26.39
	51.42	1/7/2013	26.11			25.31
	51.42	7/22/2013	26.87			24.55
	51.42	1/7/2014	26.19			25.23
	51.42	7/15/2014	25.14			26.28
	51.42	1/5/2015	25.81			25.61
	51.42	8/10/2015	22.46			28.96
			Plugged and Abandoned			
MW-74B	47.58	1/26/2012	7.63			39.95
	47.58	7/9/2012	7.15			40.43
	47.58	1/8/2013	9.62			37.96
	47.58	7/23/2013	11.72			35.86
	47.58	1/8/2014	9.59			37.99
	47.58	7/16/2014	9.01			38.57
	47.58	1/5/2015	9.07			38.51
	47.58	8/10/2015	7.36			40.22
	47.58	1/13/2016	6.86			40.72
	47.58	7/6/2016	7.39			40.19
	47.58	1/12/2017	7.84			39.74
	47.58	7/5/2017	8.17			39.41
	47.58	9/6/2017	8.02			39.56
	47.58	2/11/2018	6.91			40.67
	47.58	3/12/2018	7.22			40.36
	47.58	5/15/2018	8.33			39.25
	47.58	1/4/2019	7.62			39.96
	47.58	7/9/2019	8.59			38.99
	47.58	1/8/2020	8.29			39.29
MW-75B	46.78	1/26/2012	9.07	35.26	1.84	37.71
	46.78	7/9/2012	9.32	35.2	1.90	37.46
	46.78	1/8/2013	10.16	34.13	2.97	36.62
	46.78	7/23/2013	9.74	35.71	1.39	37.04
	46.78	1/8/2014	10.13	36.72	0.43	36.65
	46.78	7/16/2014	11.41	35.71	1.44	35.37
	46.78	1/5/2015	11.33	36.79	0.36	35.45
	46.78	8/10/2015	8.86	37.07	0.08	37.92
	46.78	1/13/2016	7.81	36.84	0.31	38.97
	46.78	7/6/2016	7.8	36.53	0.62	38.98
	46.78	1/12/2017	8.04	36.36	0.79	38.74
	46.78	7/5/2017	8.04	36.36	0.79	38.74
	46.78	9/6/2017	8.22	36.47	3.15	38.56
	46.78	2/8/2018	8.17	36.91	2.71	38.61
	46.78	3/12/2018	8.37	36.94	2.68	38.41
	46.78	5/15/2018	9.22	37.03	2.59	37.56
	46.78	1/4/2019	9.28	36.96	2.66	37.5
	46.78	7/9/2019	8.89			37.89
	46.78	1/8/2020	8.52	33.52	3.73	38.26
	46.32	3/12/2020	5.40			40.92
MW-76C	47.84	7/16/2014	22.68			25.16
	47.84	1/5/2015	23.41			24.43
	47.84	8/10/2015	21.19			26.65
	47.84	1/13/2016	20.81			27.03

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-76C	47.84	7/6/2016	21.09			26.75
	47.84	1/12/2017	21.67			26.17
	47.84	7/5/2017	21.99			25.85
	47.84	9/6/2017	21.93			25.91
	47.84	2/11/2018	20.74			27.10
	47.84	3/12/2018	21.02			26.82
	47.84	5/15/2018	21.46			26.38
	47.84	1/4/2019	20.67			27.17
	47.84	7/9/2019	20.18			27.66
	47.84	1/7/2020	20.68			27.16
MW-77A	49.05	7/16/2014	6.62			42.43
	49.05	1/5/2015	6.27			42.78
	49.05	8/10/2015	4.34			44.71
	49.05	1/13/2016	3.96			45.09
	49.05	7/6/2016	4.29			44.76
	49.05	1/12/2017	4.73			44.32
	49.05	7/5/2017	4.91			44.14
	49.05	9/6/2017	4.78			44.27
	49.05	2/11/2018	7.62			41.43
	49.05	3/12/2018	8.09			40.96
	49.05	5/15/2018	7.06			41.99
	49.05	1/4/2019	6.34			42.71
	49.05	7/9/2019	6.11			42.94
	49.05	1/7/2020	6.81			42.24
MW-78A	48.68	7/16/2014	8.02	28.72	1.38	40.66
	48.68	1/5/2015	9.17	21.17	8.93	39.51
	48.68	8/10/2015	7.34	23.71	6.39	41.34
	48.68	1/13/2016	6.63	21.77	3.58	42.05
	48.68	7/6/2016	6.71	21.97	3.38	41.97
	48.68	1/12/2017	7.42	22.74	2.61	41.26
	48.68	7/5/2017	7.79	23.59	1.76	40.89
	48.68	9/6/2017	7.81	23.48	6.19	40.87
	48.68	2/11/2018	8.29	23.97	1.38	40.39
	48.68	3/12/2018	8.46	23.91	1.44	40.22
	48.68	5/15/2018	9.28	24.07	1.28	39.4
	48.68	1/4/2019	8.78	24.39	0.96	39.9
	48.68	7/9/2019	9.17	24.67	0.68	39.51
	48.68	1/8/2020	7.96	24.9	0.45	40.72
MW-79A	48.95	7/16/2014	7.26			41.69
	48.95	1/5/2015	5.29			43.66
	48.95	8/10/2015	3.71			45.24
	48.95	1/13/2016	3.06			45.89
	48.95	7/6/2016	3.76			45.19
	48.95	1/12/2017	4.06			44.89
	48.95	7/5/2017	4.31			44.64
	48.95	9/6/2017	4.16			44.79
	48.95	2/11/2018	10.82			38.13
	48.95	3/12/2018	11.26			37.69
	48.95	5/15/2018	9.46			39.49
	48.95	1/4/2019	8.8			40.15
	48.95	7/9/2019	9.68			39.27
	48.95	1/8/2020	9.81			39.14
MW-80B	47.11	7/16/2014	5.29			41.82
	47.11	1/5/2015	6.17			40.94
	47.11	8/10/2015	4.33			42.78
	47.11	1/13/2016	3.96			43.15
	47.11	7/6/2016	4.56			42.55
	47.11	1/12/2017	5.06			42.05
	47.11	7/5/2017	5.34			41.77
	47.11	9/6/2017	5.26			41.85
	47.11	2/11/2018	11.34			35.77
	47.11	3/11/2018	11.77			35.34
	47.11	5/15/2018	11.36			35.75
	47.11	1/4/2019	10.71			36.4
	47.11	7/9/2019	11.02			36.09
	47.11	1/7/2020	10.87			36.24
MW-81B	46.77	7/16/2014	6.47			40.30
	46.77	1/5/2015	7.06			39.71
	46.77	8/10/2015	5.22			41.55
	46.77	1/13/2016	4.77			42.00
MW-81B	46.77	7/6/2016	5.16			41.61

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
	46.77	1/12/2017	5.72			41.05
	46.77	7/5/2017	5.96			40.81
	46.77	9/6/2017	5.71			41.06
	46.77	2/11/2018	7.04			39.73
	46.77	3/11/2018	7.51			39.26
	46.77	5/15/2018	8.23			38.54
	46.77	1/4/2019	7.67			39.1
	46.77	7/9/2019	7.91			38.86
	46.77	1/7/2020	7.12			39.65
MW-82B	44.64	2/11/2018	2.53			42.11
	44.64	3/11/2018	3.44			41.20
	44.64	5/14/2018	5.61			39.03
	44.64	1/4/2019	4.83			39.81
	44.64	7/9/2019	4.03			40.61
	44.64	1/8/2020	2.67			41.97
MW-83B	45.33	2/11/2018	4.06			41.27
	45.33	3/11/2018	4.69			40.64
	45.33	5/14/2018	7.47			37.86
	45.33	7/19/2018	5.87			39.46
	45.33	1/4/2019	6.82			38.51
	45.33	7/9/2019	6.11			39.22
	45.33	1/8/2020	5.33			40
MW-83C	45.42	2/11/2018	17.52			27.90
	45.42	3/11/2018	16.96			28.46
	45.42	5/14/2018	18.11			27.31
	45.42	1/4/2019	17.42			28.00
	45.42	7/9/2019	17.17			28.25
	45.42	1/8/2020	17.74			27.68
MW-84A	43.01	3/12/2020	4.19			38.82
MW-84B	44.50	2/11/2018	4.37			40.13
	44.50	3/11/2018	4.93			39.57
	44.50	5/14/2018	7.36			37.14
	44.50	7/19/2018	6.07			38.43
	44.50	1/4/2019	6.71			37.79
	44.50	7/9/2019	7.09			37.41
	44.50	1/7/2020	4.38			40.12
MW-85C	49.10	2/11/2018	22.51			26.59
	49.10	3/11/2018	22.77			26.33
	49.10	5/15/2018	22.61			26.49
	49.10	1/4/2019	21.92			27.18
	49.10	7/9/2019	21.78			27.32
	49.10	1/7/2020	22.70			26.4
MW-86C	46.61	2/11/2018	20.14			26.47
	46.61	3/11/2018	19.91			26.70
	46.61	5/15/2018	20.26			26.35
	46.61	1/4/2019	19.51			27.10
	46.61	7/9/2019	19.73			26.88
	46.61	1/8/2020	21.09			25.52
MW-87C	44.26	2/11/2018	15.86			28.40
	44.26	3/11/2018	16.29			27.97
	44.26	5/14/2018	16.26			28.00
	44.26	1/4/2019	15.52			28.74
	44.26	7/9/2019	15.83			28.43
	44.26	1/8/2020	15.79			28.47
MW-88A	49.83	3/17/2020	8.00			41.83
MW-88B	49.91	3/17/2020	7.82			42.09
MW-88C	51.17	2/11/2018	24.7			26.47
	51.17	3/11/2018	23.93			27.24
	51.17	5/14/2018	24.67			26.50
	51.17	1/4/2019	24.01			27.16
	51.17	7/9/2019	24.13			27.04
	51.17	1/7/2020	24.64			26.53
MW-89B	44.57	7/19/2018	6.78			37.79
	44.57	1/4/2019	8.21			36.36
	44.57	7/9/2019	7.74			36.83
	44.57	1/7/2020	6.24			38.33
MW-90B	44.39	7/19/2018	5.63			38.76
	44.39	1/4/2019	7.16			37.23
	44.39	7/9/2019	4.13			40.26
	44.39	1/7/2020	0.86			43.53
MW-91A	42.36	3/12/2020	5.21			37.15

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
MW-92B	43.25	3/12/2020	4.19			39.06
MW-93B	43.39	3/12/2020	4.06			39.33
MW-94A	43.55	3/12/2020	3.99			39.56
MW-95A	44.53	3/17/2020	3.88			40.65
MW-96B	45.36	3/17/2020	4.28			41.08
MW-97A	46.21	3/12/2020	5.20			41.01
MW-98A	46.69	3/12/2020	7.19			39.5
MW-98B	46.93	3/12/2020	8.30			38.63
MW-99C	43.67	3/11/2020	14.99			28.68
P-10	47.69	9/2/1993	6.87			40.85
	47.69	12/21/1993	3.32			44.4
	47.69	3/24/1994	3.88			43.84
	47.69	6/22/1994	4.98			42.74
	47.69	9/28/1994	6.38			41.34
	47.69	10/13/1994	7.07			40.65
	47.69	1/24/1995	2.67			45.05
	47.69	4/11/1995	2.59			45.13
	47.69	7/11/1995	4.69			43.03
	47.69	1/23/1996	5.84			41.88
	47.69	7/19/1996	10.04			37.68
	47.69	9/17/1996	8.34			39.38
	47.69	10/31/1996	6.97			40.75
	47.69	11/22/1996	8.84			38.88
	47.69	12/27/1996	6.20			41.52
	47.69	1/22/1997	4.10			43.62
	47.69	2/21/1997	2.86			44.86
	47.69	3/25/1997	3.19			44.53
	47.69	4/23/1997	4.42			43.3
	47.69	4/24/1997	4.57			43.15
	47.69	5/13/1997	3.14			44.58
	47.69	6/20/1997	4.94			42.78
	47.69	6/25/1997	2.74			44.98
	47.69	7/1/1997	4.13			43.59
	47.69	7/24/1997	7.91			39.81
	47.69	8/16/1997	7.86			39.86
	47.69	8/22/1997	8.67			39.05
	47.69	9/25/1997	6.54			41.18
	47.69	10/22/1997	5.36			42.36
	47.69	11/25/1997	5.36			42.36
	47.69	12/19/1997	4.72			43
	47.69	1/20/1998	3.40			44.32
	47.69	1/29/1998	3.11			44.61
	47.69	3/18/1998	2.84			44.88
	47.69	4/24/1998	6.80			40.92
	47.69	5/21/1998	7.35			40.37
	47.69	7/30/1998	8.23			39.49
	47.69	8/25/1998	7.34			40.38
	47.69	9/21/1998	5.25			42.47
	47.69	10/26/1998	6.11			41.61
	47.69	11/23/1998	4.10			43.62
	47.69	2/26/1999	3.21			44.51
	47.69	3/16/1999	4.21			43.51
	47.69	4/29/1999	4.53			43.19
	47.69	6/1/1999	4.53			43.19
	47.69	7/30/1999	6.00			41.72
	47.69	8/27/1999	4.72			43
	47.69	9/27/1999	9.58			38.14
	47.69	10/29/1999	10.61			37.11
	47.69	12/29/1999	11.55			36.17
	47.69	2/4/2000	13.71			34.01
	47.69	2/25/2000	10.44			37.28
	47.69	3/27/2000	7.53			40.19
	47.69	4/7/2000	7.09			40.63
	47.69	5/31/2000	7.14			40.58
	47.69	6/1/2000	7.11			40.61
	47.69	7/28/2000	7.15			40.57
	47.69	8/30/2000	10.15			37.57
	47.69	9/19/2000	11.56			36.16
	47.69	10/27/2000	8.66			39.06
	47.69	11/21/2000	9.64			38.08
P-10	47.69	5/1/2001	6.52			41.2

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
	47.69	10/1/2001	6.85			40.87
	47.69	3/11/2002	3.41			44.31
	47.69	9/23/2002	3.54			44.18
	47.69	3/10/2003	2.43			45.26
	47.69	9/23/2003	1.61			46.08
	47.69	3/15/2004	2.85			44.84
	47.69	9/13/2004	7.99			39.7
	47.69	7/18/2005	4.20			43.49
	47.69	1/4/2006	8.58			39.11
	47.69	7/27/2006	3.46			44.23
	47.69	1/23/2007	2.36			45.33
	47.69	3/7/2007	NM			
	47.69	7/27/2007	3.75			43.94
	47.69	1/29/2008	2.30			45.39
	47.69	7/16/2008	6.91			40.78
	47.69	1/22/2009	6.35			41.34
	47.69	7/23/2009	NM			
	47.69	1/8/2010	4.06			43.63
	47.69	7/12/2010	2.06			45.63
	47.73	1/12/2011	4.13			43.60
	47.73	7/12/2011	9.84			37.89
	47.73	1/27/2012	3.12			44.61
	47.73	7/10/2013	10.79			36.94
	47.73	1/8/2014	5.51			42.22
	47.73	7/2/2014	7.74			39.99
	47.73	1/7/2015	3.96			43.77
	47.73	8/10/2015	5.39			42.34
	47.71	1/12/2016	2.47			45.24
	47.71	7/6/2016	5.18			42.53
	47.71	1/12/2017	4.52			43.19
	47.71	7/12/2017	6.07			41.64
	47.71	1/3/2018	6.71			41.00
	47.71	7/19/2018	5.77			41.94
	47.71	1/3/2019	6.32			41.39
	47.71	7/1/2019	3.12			44.59
	47.71	1/13/2020	3.18			44.53
P-11	48.98	9/2/1993	7.87			41.15
	48.98	12/21/1993	4.57			44.45
	48.98	3/24/1994	5.04			43.98
	48.98	6/22/1994	6.19			42.83
	48.98	9/28/1994	7.40			41.62
	48.98	10/13/1994	8.14			40.88
	48.98	1/24/1995	3.90			45.12
	48.98	4/11/1995	3.77			45.25
	48.98	7/11/1995	5.69			43.33
	48.98	1/23/1996	6.81			42.21
	48.98	7/19/1996	7.81			41.21
	48.98	9/17/1996	9.15			39.87
	48.98	10/31/1996	7.52			41.5
	48.98	11/22/1996	9.46			39.56
	48.98	12/27/1996	6.64			42.38
	48.98	1/22/1997	4.70			44.32
	48.98	2/21/1997	3.88			45.14
	48.98	3/25/1997	4.09			44.93
	48.98	4/23/1997	5.27			43.75
	48.98	4/24/1997	5.41			43.61
	48.98	5/13/1997	4.12			44.9
	48.98	6/20/1997	5.79			43.23
	48.98	6/25/1997	3.83			45.19
	48.98	7/1/1997	5.01			44.01
	48.98	7/24/1997	7.56			41.46
	48.98	8/16/1997	8.74			40.28
	48.98	8/22/1997	9.37			39.65
	48.98	9/25/1997	7.24			41.78
	48.98	10/22/1997	5.98			43.04
	48.98	11/25/1997	6.00			43.02
	48.98	12/19/1997	5.52			43.5
	48.98	1/20/1998	4.30			44.72
	48.98	3/4/1998	4.08			44.94
	48.98	3/18/1998	3.92			45.1
P-11	48.98	4/24/1998	7.61			41.41

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
	48.98	5/21/1998	8.10			40.92
	48.98	7/30/1998	9.21			39.81
	48.98	8/25/1998	8.44			40.58
	48.98	9/21/1998	5.91			43.11
	48.98	10/26/1998	7.59			41.43
	48.98	11/23/1998	5.41			43.61
	48.98	1/29/1999	4.11			44.91
	48.98	2/26/1999	4.22			44.8
	48.98	3/16/1999	4.96			44.06
	48.98	4/29/1999	5.15			43.87
	48.98	6/1/1999	5.15			43.87
	48.98	7/30/1999	6.66			42.36
	48.98	8/27/1999	5.23			43.79
	48.98	9/27/1999	10.49			38.53
	48.98	10/29/1999	11.91			37.11
	48.98	12/29/1999	11.12			37.9
	48.98	2/4/2000	12.13			36.89
	48.98	2/25/2000	10.46			38.56
	48.98	3/27/2000	8.32			40.7
	48.98	4/7/2000	7.91			41.11
	48.98	5/31/2000	7.96			41.06
	48.98	6/1/2000	7.93			41.09
	48.98	7/28/2000	7.97			41.05
	48.98	8/30/2000	10.88			38.14
	48.98	9/19/2000	12.32			36.7
	48.98	10/27/2000	10.94			38.08
	48.98	11/21/2000	9.77			39.25
	48.98	5/1/2001	7.48			41.54
	48.98	10/1/2001	7.74			41.28
	48.98	3/11/2002	4.51			44.51
	48.98	9/23/2002	4.46			44.56
	48.98	3/10/2003	3.69			45.29
	48.98	9/23/2003	4.54			44.44
	48.98	3/15/2004	4.51			44.47
	48.98	9/13/2004	9.14			39.84
	48.98	7/18/2005	5.27			43.71
	48.98	1/4/2006	9.56			39.42
	48.98	7/27/2006	4.54			44.44
	48.98	3/7/2007	NM			
	48.98	7/27/2007	4.61			44.37
	48.98	1/30/2008	2.71			46.27
	48.98	7/15/2008	7.93			41.05
	48.98	2/4/2009	7.82			41.16
	48.98	7/24/2009	7.74			41.24
	48.98	1/8/2010	5.67			43.31
	48.98	7/12/2010	6.78			42.2
	48.98	1/12/2011	4.21			44.77
	48.98	7/12/2011	11.51			37.47
	48.98	1/26/2012	4.25			44.73
	48.98	1/7/2013	7.96			41.02
	48.98	7/22/2013	10.96			38.02
	48.98	1/7/2014	6.52			42.46
	48.98	7/16/2014	8.87			40.11
	48.98	1/5/2015	5.61			43.37
	48.98	8/10/2015	3.86			45.12
	48.98	1/13/2016	3.26			45.72
	48.98	7/6/2016	3.74			45.24
	48.98	1/12/2017	4.36			44.62
	48.98	7/6/2017	4.62			44.36
	48.98	9/6/2017	4.62			44.36
	48.98	2/11/2018	5.09			43.89
	48.98	3/11/2018	5.54			43.44
	48.98	5/14/2018	7.14			41.84
	48.98	7/2/2018	7.28			41.7
	48.98	1/4/2019	6.43			42.55
	48.98	7/9/2019	5.31			43.67
	48.98	1/7/2020	4.26			44.72
P-12	48.78	9/2/1993	7.02			41.8
	48.78	12/21/1993	4.30			44.52
	48.78	3/24/1994	4.45			44.37
P-12	48.78	6/22/1994	5.06			43.76

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
	48.78	9/28/1994	6.46			42.36
	48.78	10/13/1994	7.19			41.63
	48.78	1/24/1995	3.63			45.19
	48.78	4/11/1995	3.25			45.57
	48.78	7/11/1995	4.62			44.2
	48.78	1/23/1996	6.62			42.2
	48.78	7/19/1996	8.64			40.18
	48.78	9/17/1996	8.12			40.7
	48.78	10/31/1996	6.81			42.01
	48.78	11/22/1996	8.70			40.12
	48.78	12/27/1996	6.57			42.25
	48.78	1/22/1997	4.93			43.89
	48.78	2/21/1997	3.61			45.21
	48.78	3/25/1997	3.70			45.12
	48.78	4/23/1997	4.58			44.24
	48.78	4/24/1997	4.74			44.08
	48.78	5/13/1997	3.69			45.13
	48.78	6/20/1997	4.86			43.96
	48.78	6/25/1997	3.35			45.47
	48.78	7/1/1997	4.11			44.71
	48.78	7/24/1997	6.58			42.24
	48.78	8/16/1997	7.80			41.02
	48.78	8/22/1997	8.22			40.6
	48.78	9/25/1997	6.54			42.28
	48.78	10/22/1997	5.66			43.16
	48.78	11/25/1997	5.70			43.12
	48.78	12/19/1997	5.13			43.69
	48.78	1/20/1998	4.15			44.67
	48.78	3/4/1998	3.78			45.04
	48.78	3/18/1998	3.61			45.21
	48.78	4/24/1998	6.90			41.92
	48.78	5/21/1998	7.80			41.02
	48.78	7/30/1998	8.15			40.67
	48.78	8/25/1998	8.31			40.51
	48.78	9/21/1998	5.64			43.18
	48.78	10/26/1998	7.66			41.16
	48.78	11/23/1998	5.65			43.17
	48.78	1/29/1999	4.20			44.62
	48.78	2/26/1999	4.31			44.51
	48.78	3/16/1999	4.99			43.83
	48.78	4/29/1999	5.10			43.72
	48.78	6/1/1999	5.10			43.72
	48.78	7/30/1999	6.75			42.07
	48.78	8/27/1999	5.34			43.48
	48.78	9/27/1999	9.36			39.46
	48.78	10/29/1999	10.11			38.71
	48.78	12/29/1999	9.44			39.38
	48.78	2/4/2000	12.10			36.72
	48.78	2/25/2000	8.63			40.19
	48.78	3/27/2000	7.76			41.06
	48.78	4/7/2000	7.35			41.47
	48.78	5/31/2000	7.39			41.43
	48.78	6/1/2000	7.34			41.48
	48.78	7/28/2000	7.37			41.45
	48.78	8/30/2000	10.66			38.16
	48.78	9/19/2000	11.45			37.37
	48.78	10/27/2000	10.94			37.88
	48.78	11/21/2000	8.93			39.89
	48.78	5/1/2001	6.70			42.12
	48.78	10/1/2001	6.93			41.89
	48.78	3/11/2002	4.15			44.67
	48.78	9/23/2002	3.90			44.92
	48.78	3/10/2003	3.13			45.65
	48.78	9/23/2003	3.86			44.92
	48.78	3/15/2004	NM			
	48.78	9/13/2004	7.93			40.85
	48.78	7/18/2005	5.06			43.72
	48.78	1/4/2006	8.98			39.8
	48.78	7/27/2006	4.35			44.43
	48.78	1/22/2007	3.19			45.59
P-12	48.78	3/7/2007	NM			

Table 1
GROUNDWATER MEASUREMENTS
Houston, TX - Wood Preserving Works

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
	48.78	7/27/2007	4.22			44.56
	48.78	1/29/2008	3.03			45.75
	48.78	7/16/2008	6.78			42
	48.78	1/22/2009	6.99			41.79
	48.78	7/24/2009	NM			
	48.78	1/8/2010	4.13			44.65
	48.78	7/12/2010	3.93			44.85
	48.80	1/12/2011	4.83			43.97
	48.80	7/12/2011	10.02			38.78
	48.80	1/27/2012	4.52			44.28
	48.80	7/9/2012	5.15			43.65
	48.80	7/10/2013	9.73			39.07
	48.80	1/8/2014	6.41			42.39
	48.80	7/2/2014	6.46			42.34
	48.80	1/7/2015	3.19			45.61
	48.80	8/10/2015	4.06			44.74
	48.76	1/12/2016	3.26			45.50
	48.76	7/6/2016	5.09			43.67
	48.76	1/12/2017	5.11			43.65
	48.76	7/12/2017	6.39			42.37
	48.76	1/3/2018	7.14			41.62
	48.76	7/19/2018	6.31			42.45
	48.76	1/3/2019	6.69			42.07
	48.76	7/1/2019	3.06			45.70
	48.76	1/14/2020	3.96			44.80
TW-41B	49.67	2/4/2009	8.44			41.23
	49.67	7/24/2009	8.34			41.33
	49.67	1/8/2010	4.86			44.81
	49.67	7/12/2010	6.12			43.55
	49.67	1/12/2011	5.17			44.5
	49.67	7/12/2011	12.02			37.65
	49.67	1/26/2012	5.27			44.4
	49.67	7/9/2012	6.23			43.44
	49.67	1/7/2013	8.54			41.13
	49.67	7/22/2013	11.53			38.14
	49.67	1/7/2014	7.32			42.35
	49.67	7/16/2014	9.65			40.02
	49.67	1/5/2015	NM			
	49.67	8/10/2015	4.96			44.71
	49.67	1/13/2016	4.13			45.54
	49.67	7/6/2016	4.31			45.36
	49.67	1/12/2017	4.93			44.74
	49.67	7/6/2017	5.32			44.35
	49.67	9/6/2017	5.26			44.41
	49.67	2/11/2018	5.86			43.81
	49.67	3/11/2018	6.69			42.98
	49.67	5/14/2018	8.67			41.00
	49.67	7/2/2018	8.87			40.8
	49.67	1/4/2019	7.97			41.7
	49.67	7/9/2019	8.22			41.45
	49.67	1/7/2020	5.52			44.15
TW-55A	49.67	7/9/2012	13.44			36.23
TW-56A	51.89	2/5/2009	17.48			34.41
	51.89	7/23/2009	17.17			34.72
	51.89	1/8/2010	14.53			37.36
	51.89	7/12/2010	15.78			36.11
	51.89	1/12/2011	14.09			37.8
	51.89	7/12/2011	17.89			34
	51.89	1/26/2012	15.06			36.83
	51.89	1/7/2013	16.92			34.97
	51.89	7/22/2013	18.12			33.77
	51.89	1/7/2014	NM			
	51.89	7/15/2014	16.05			35.84
	51.89	1/5/2015	NM			
	51.89	8/10/2015	6.39			45.50

Notes:
1. The surface completion for MW-23C was repaired and resurveyed in January/February 2009.
2. NM = Not Measured

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-01A 01/28/2008	MW-01A 01/28/2008 Duplicate	MW-01A 07/16/2008	MW-01A 07/16/2008 Duplicate	MW-01A 01/22/2009	MW-01A 01/22/2009 Duplicate	MW-01A 07/22/2009	MW-01A 07/22/2009 Duplicate	MW-01A 01/22/2010	MW-01A 01/22/2010 Duplicate	MW-01A 07/14/2010	MW-01A 07/14/2010 Duplicate
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*			<0.00052	<0.00052								
Benzene	*0.005*	*0.005*			<0.00025	<0.00025								
Chlorobenzene	*0.1*	*0.1*			<0.00047	<0.00047								
Ethylbenzene	*0.7*	*0.7*			<0.00025	<0.00025								
Methylene chloride	*0.005*	*0.005*			<0.00054	<0.00054								
Toluene	*1*	*1*			<0.00041	<0.00041								
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*			<0.00127	<0.00127								
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*	<0.00044	0.000563	0.0109	0.00224	0.0069	0.0016 J	0.0017 J	0.0019 J	0.0019 J	0.0018 J	<0.0009	0.0026 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	0.0415	0.0409	0.126	0.119	0.054	0.038	0.085	0.091	0.04	0.039	0.068	0.075
Acenaphthylene	*1.5*	*4.4*	0.00099	0.000933	0.00143	0.00135	<0.0007	<0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Anthracene	*7.3*	*22*	0.00129	0.00137	0.00267	0.00232	0.0012 J	<0.0007	0.0011 J	0.0014 J	<0.0006	<0.0006	0.0017 J	0.0022 J
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00022	0.0008 J	0.00137 J	0.00126 J	<0.0012	0.0015 J	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	0.00129	0.00211	0.00774	0.00163	0.0058	0.0018 J	<0.0007	<0.0007	0.0016 J	0.0014 J	0.0044 J	0.0067
Di-n-butylphthalate (DBP)	*2.4*	*7.3*												
Fluoranthene	*0.98*	*2.9*	0.00234	0.00233	0.00923	0.00836	0.0024 J	0.0013 J	0.0037 J	0.0039 J	0.0017 J	0.0015 J	0.004 J	0.0049 J
Fluorene	*0.98*	*2.9*	0.0162	0.0167	0.0659	0.0551	0.028	0.018	0.04	0.041	0.022	0.019	0.04	0.047
Naphthalene	*0.49*	*1.5*	<0.00044	<0.00038	0.0168	0.00312	<0.0008	<0.0008	0.0029 J	0.0031 J	0.0043 J	0.0036 J	<0.0006	<0.0006
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*	<0.00022	0.00035 J	0.00177	0.000783	0.001 J	<0.0007	<0.0005	<0.0005	<0.0005	<0.0005	0.0011 J	0.0025 J
Phenol	*7.3*	*22*												
Pyrene	*0.73*	*2.2*	0.00107	0.00108	0.00417	0.00375	0.001 J	<0.0009	0.0019 J	0.0021 J	<0.0005	<0.0005	0.0021 J	0.0026 J
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-01A 01/11/2011	MW-01A 07/13/2011	MW-01A 07/13/2011 Duplicate	MW-01A 01/31/2012	MW-01A 01/31/2012 Duplicate	MW-01A 07/11/2012	MW-01A 07/11/2012 Duplicate	MW-01A 01/09/2013	MW-01A 01/09/2013 Duplicate	MW-01A 07/11/2013	MW-01A 07/11/2013 Duplicate	MW-01A 01/08/2014
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*												
Benzene	*0.005*	*0.005*												
Chlorobenzene	*0.1*	*0.1*												
Ethylbenzene	*0.7*	*0.7*												
Methylene chloride	*0.005*	*0.005*												
Toluene	*1*	*1*												
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*												
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*	<0.0009	0.0068	0.0021 J	<0.0005	<0.0005	0.012	0.011	0.00125	0.00128	0.00193 J	0.0386 J	0.00222 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	0.07	0.1	0.092	0.029	0.028	0.084	0.083	0.117	0.119	0.098 J	0.132 J	<0.00037
Acenaphthylene	*1.5*	*4.4*	0.0011 J	0.0011 J	<0.0005	<0.0005	<0.0005	0.0017 J	0.002 J	0.00222	0.00189	0.00122	0.00137	<0.00093
Anthracene	*7.3*	*22*	0.0021 J	0.0029 J	0.0027 J	<0.0005	<0.0005	0.003 J	0.003 J	0.000285 J	0.00373 J	0.0022 J	0.00331 J	<0.003
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0033	0.003 J	0.0012 J	<0.0005	0.0013 J	<0.0005	<0.0005	0.00163	0.00162	<0.000356	<0.000356	0.000838 J
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	<0.0007	0.0054	0.0027 J	0.0045 J	0.0044 J	0.025	0.025	0.0141	0.0134	0.00264 J	0.0235 J	<0.00951
Di-n-butylphthalate (DBP)	*2.4*	*7.3*												
Fluoranthene	*0.98*	*2.9*	0.0025 J	0.0062	0.0059	0.0012 J	0.0012 J	0.0047 J	0.0045 J	0.00602	0.00537	0.00399	0.00456	<0.00257
Fluorene	*0.98*	*2.9*	0.039	0.056	0.051	0.0013 J	0.0013 J	0.041	0.043	0.0564	0.0556	0.0323 J	0.0545 J	<0.0369
Naphthalene	*0.49*	*1.5*	<0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00219	0.00245	0.0169 J	0.441 J	<0.0000741
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*	<0.0005	0.002 J	0.0011 J	<0.0005	<0.0005	0.0033 J	0.0031 J	0.00388 J	0.0012 J	0.00109 J	0.00928 J	<0.00175
Phenol	*7.3*	*22*												
Pyrene	*0.73*	*2.2*	0.0011 J	0.0028 J	0.0027 J	<0.0005	<0.0005	0.0021 J	0.0019 J	0.00261	0.00202	0.00165	0.00192	<0.0013
Metals														
Arsenic	*0.01*	*0.01*												

Notes:
1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-01A 01/08/2014 Duplicate	MW-01A 07/02/2014	MW-01A 07/02/2014 Duplicate	MW-01A 01/07/2015	MW-01A 01/07/2015 Duplicate	MW-01A 07/08/2015	MW-01A 07/08/2015 Duplicate	MW-01A 01/12/2016	MW-01A 01/12/2016 Duplicate	MW-01A 07/07/2016	MW-01A 07/07/2016 Duplicate	MW-01A 01/11/2017
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*												
Benzene	*0.005*	*0.005*												
Chlorobenzene	*0.1*	*0.1*												
Ethylbenzene	*0.7*	*0.7*												
Methylene chloride	*0.005*	*0.005*												
Toluene	*1*	*1*												
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*												
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*	0.0152 J	0.00865 J	0.0000828 J	0.0000693 J	0.000132 J	0.00063 J	0.0041 J	<0.000019	<0.000019	0.000019 J	0.000095 J	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	<0.000741	0.0848 J	0.0228 J	0.0594	0.0607	0.086	0.095	0.048	0.043	0.053	0.053	0.044 J
Acenaphthylene	*1.5*	*4.4*	<0.00144	0.00138 J	0.000638 J	0.00104	0.00102	0.0009	0.00099	0.0019	0.0018	0.00063	0.00069	0.00092
Anthracene	*7.3*	*22*	<0.00371	0.00326 J	0.00124 J	0.00139	0.00139	0.0018	0.0024	0.00052	0.00059	0.00096	0.001	0.00069
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00067 J	<0.000349	<0.000349	0.00533 J	0.00259 J	<0.0002	<0.000037	0.00042	0.0004	0.000083 J	0.0001 J	0.00031
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	<0.0168	0.0132 J	0.00131 J	0.000541	0.000602	0.0032 J	0.009 J	0.00065	0.00054	0.00072	0.00079	0.0011
Di-n-butylphthalate (DBP)	*2.4*	*7.3*		0.00012 J	0.000133 J									
Fluoranthene	*0.98*	*2.9*	<0.00345	0.0043 J	0.00141 J	0.00246	0.00235	0.0034	0.0038	0.0027	0.0034	0.0027	0.003	0.0021 J
Fluorene	*0.98*	*2.9*	<0.0432	0.0369 J	0.0113 J	0.0209	0.0217	0.038	0.045	0.0057	0.0042	0.014	0.014	0.01 J
Naphthalene	*0.49*	*1.5*	0.00172 J	0.074 J	0.00469 J	0.000121 J	0.000313 J	0.00083 J	0.0049 J	<0.00002	<0.00002	0.00002 J	0.00022 J	<0.00002
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*	<0.00451	0.00537 J	0.000426 J	0.000335 J	0.000326 J	0.0012 J	0.0041 J	0.000067 J	0.000075 J	0.000021 J	0.00027 J	0.000064 J
Phenol	*7.3*	*22*		<0.0000377	<0.0000377									
Pyrene	*0.73*	*2.2*	<0.00165	0.00204 J	0.000662 J	0.00105	0.00102	0.0015	0.0016	0.0011	0.0014	0.0011	0.0013	0.00095
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-01A 01/11/2017 Duplicate	MW-01A 07/13/2017	MW-01A 07/13/2017 Duplicate	MW-01A 01/04/2018	MW-01A 01/04/2018 Duplicate	MW-01A 07/18/2018	MW-01A 07/18/2018 Duplicate	MW-01A 01/07/2019	MW-01A 01/07/2019 Duplicate	MW-01A 07/02/2019	MW-01A 07/02/2019 Duplicate	MW-01A 01/14/2020
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*												
Benzene	*0.005*	*0.005*												
Chlorobenzene	*0.1*	*0.1*												
Ethylbenzene	*0.7*	*0.7*												
Methylene chloride	*0.005*	*0.005*												
Toluene	*1*	*1*												
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*												
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019	0.00018	0.000096 J	0.00024	0.00021	0.00014	0.00021	<0.000019	0.00074	0.00069	0.00019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	0.061 J	0.043	0.052	0.041	0.039	0.088	0.12	0.027	0.021	0.063	0.053	0.024
Acenaphthylene	*1.5*	*4.4*	0.00098	0.00055	0.00068	0.00086	0.00083	0.00078	0.00086	0.00069	0.00059	0.00071	0.00071	0.00084
Anthracene	*7.3*	*22*	0.00093	0.00076	0.00079	0.0012	0.0011	0.002	0.0023	0.00068	0.00046	0.00097	0.00096	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00026	0.00012 J	0.00029	<0.000072	<0.000085	<0.000037	<0.000037	<0.000037	<0.000037	<0.000037	<0.000079	<0.000037
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	0.001	0.0017	0.0027	0.0016	0.0015	0.01	0.015	0.0019	0.0014	0.0058	0.0054	0.0036
Di-n-butylphthalate (DBP)	*2.4*	*7.3*												
Fluoranthene	*0.98*	*2.9*	0.003 J	0.0025	0.0025	0.0032	0.0029	0.0038	0.0043	0.0018	0.0016	0.0013	0.0012	0.0011
Fluorene	*0.98*	*2.9*	0.015 J	0.014	0.014	0.018	0.017	0.04	0.05	0.0037	0.0027	0.019	0.016	0.0064
Naphthalene	*0.49*	*1.5*	<0.00002	0.00025	0.00053	<0.00002	<0.00002	0.00027	0.00042	<0.00002	<0.00002	0.00034	0.00034	0.00052
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*	0.000021 J	0.00029	0.00045	0.0004	0.00035	0.0021	0.0024	0.00029	<0.000021	0.00076	0.00067	<0.000021
Phenol	*7.3*	*22*												
Pyrene	*0.73*	*2.2*	0.0012	0.0011	0.001	0.0014	0.0014	0.0019	0.0022	0.00086	0.0007	0.00059	0.00055	0.00052
Metals														
Arsenic	*0.01*	*0.01*												

Notes:
1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-01A 01/14/2020 Duplicate	MW-02 01/28/2008	MW-02 07/16/2008	MW-02 01/22/2009	MW-02 07/22/2009	MW-02 01/22/2010	MW-02 07/14/2010	MW-02 01/11/2011	MW-02 07/13/2011	MW-02 01/30/2012	MW-02 07/10/2012	MW-02 01/09/2013
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*			<0.00052									
Benzene	*0.005*	*0.005*			<0.00025									
Chlorobenzene	*0.1*	*0.1*			<0.00047									
Ethylbenzene	*0.7*	*0.7*			<0.00025									
Methylene chloride	*0.005*	*0.005*			<0.00054									
Toluene	*1*	*1*			<0.00041									
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*			<0.00127									
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.00038	<0.00039	<0.0008	0.0025 J	<0.0009	<0.0009	<0.0009	0.0021 J	<0.0005	<0.0005	0.00318
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	0.018	0.017	0.0218	0.014	<0.0009	0.0073	0.018	0.0078	0.026	<0.0005	0.0088	0.0384
Acenaphthylene	*1.5*	*4.4*	0.00066	<0.00028	0.0003 J	<0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00057
Anthracene	*7.3*	*22*	<0.000014	0.000922	0.00042 J	<0.0007	<0.0006	<0.0006	<0.0006	<0.0006	<0.0005	<0.0005	<0.0005	0.00129
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.000074 J	0.00049 J	<0.00019	<0.0012	<0.0033	<0.0033	<0.0033	<0.0033	0.0021 J	<0.0005	<0.0005	0.000874
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	0.0021	0.0106	0.00673	<0.0007	<0.0007	<0.0007	<0.0007	<0.0007	0.0038 J	<0.0005	0.0043 J	0.0178
Di-n-butylphthalate (DBP)	*2.4*	*7.3*												
Fluoranthene	*0.98*	*2.9*	0.0012	0.0015	0.000961	<0.0006	0.0011 J	<0.0005	<0.0005	<0.0005	0.0012 J	<0.0005	<0.0005	0.00147
Fluorene	*0.98*	*2.9*	0.0038	0.0119	0.0103	0.0039 J	<0.0006	0.0037 J	0.011	0.0049 J	0.015	<0.0005	0.0043 J	0.0201
Naphthalene	*0.49*	*1.5*	<0.00002	0.000827	0.00118	<0.0008	0.012	<0.0006	<0.0006	<0.0006	0.0037 J	<0.0005	0.0033 J	0.0211
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*	<0.000021	0.000532	<0.00019	<0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00241
Phenol	*7.3*	*22*												
Pyrene	*0.73*	*2.2*	0.00059	0.000816	0.00045 J	<0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00087
Metals														
Arsenic	*0.01*	*0.01*												

Notes:
1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-02 07/11/2013	MW-02 01/08/2014	MW-02 07/02/2014	MW-02 01/07/2015	MW-02 07/07/2015	MW-02 01/12/2016	MW-02 07/07/2016	MW-02 01/11/2017	MW-02 07/13/2017	MW-02 01/04/2018	MW-02 07/18/2018	MW-02 01/07/2019
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*												
Benzene	*0.005*	*0.005*												
Chlorobenzene	*0.1*	*0.1*												
Ethylbenzene	*0.7*	*0.7*												
Methylene chloride	*0.005*	*0.005*												
Toluene	*1*	*1*												
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*												
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*	0.000897	<0.0000648	0.000509	0.000105 J	0.00013	0.000033 J	<0.000019	<0.000019	0.00093	0.0051	0.00038	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	0.0179	<0.0000741	0.00452	0.0026	0.001	0.0019	0.00058	0.0035	0.0064	0.015	0.0048	0.0016
Acenaphthylene	*1.5*	*4.4*	0.000335 J	<0.000101	0.0000979 J	0.0000892 J	<0.000015	0.000046 J	0.00019	<0.000015	<0.000015	0.00018	<0.000015	<0.000015
Anthracene	*7.3*	*22*	0.0013	<0.00131	0.000596	0.000153 J	0.000078 J	0.00011	0.000026 J	0.0001	0.00016	0.00036	0.0002	0.00012
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000356	<0.000343	<0.000349	0.000426 J	<0.00013	<0.00019	<0.000037	0.00011 J	<0.000037	<0.00016	<0.000038	<0.000063
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	0.00734	<0.000147	0.00301	0.000377 J	0.00075	0.0013	0.00036	0.0019	0.0023	0.0019	0.0016	0.00046
Di-n-butylphthalate (DBP)	*2.4*	*7.3*			<0.000104									
Fluoranthene	*0.98*	*2.9*	0.00069	<0.000307	0.000368 J	<0.0000693	<0.00001	0.00013	0.000052 J	0.00029	0.00025	0.00071	0.00019	0.00011
Fluorene	*0.98*	*2.9*	0.00986	<0.000255	0.00357	0.000681	0.00067	0.001	0.00032	0.0016	0.0041	0.0099	0.0029	0.00081
Naphthalene	*0.49*	*1.5*	0.00754	<0.0000741	0.00653	0.000472 J	0.0013	0.0002	0.00013	<0.00002	0.00047	0.00015	0.00025	<0.00002
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*	0.000776	<0.000122	0.000594	0.000162 J	0.00011	0.000093 J	0.000066 J	<0.000021	0.0005	0.0011	0.00035	0.000041 J
Phenol	*7.3*	*22*			<0.0000377									
Pyrene	*0.73*	*2.2*	0.000336 J	<0.000175	0.000201 J	<0.000109	<0.000019	0.000076 J	0.00003 J	0.00017	0.00011	0.00032	0.000082 J	0.000057 J
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-02 07/02/2019	MW-02 01/14/2020	MW-03 01/30/2008	MW-03 01/24/2018	MW-03 03/27/2018	MW-03 05/25/2018	MW-03 01/09/2019	MW-03 07/12/2019	MW-03 01/21/2020	MW-04 01/29/2008	MW-04 01/24/2018	MW-04 03/23/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*			<0.00052	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052	<0.0002	<0.0002
Benzene	*0.005*	*0.005*			<0.00025	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00025	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*			<0.00047	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*			<0.00025	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00025	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*			<0.00054	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.001	<0.001
Toluene	*1*	*1*			<0.00041	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00041	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*			<0.00127	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00127	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*			<0.00008	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00008	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*			<0.0003	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00029	<0.000041	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*			<0.0002	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.00019	<0.000059	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*			<0.0002	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.00019	<0.000043	<0.000042
2-Chloronaphthalene	*2*	*5.8*			<0.0004	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00038	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	0.00011	<0.000019	<0.0004	<0.000019	<0.000019	<0.000019	<0.000019	<0.000035	0.000045 J	<0.00038	0.00008 J	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*			<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*			<0.00025	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00024	<0.000048	<0.000047
Acenaphthene	*1.5*	*4.4*	0.0019	0.003	0.118	<0.000027	<0.000027	0.00021	<0.000027	<0.000027	0.000061 J	<0.00029	0.00013	<0.000027
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.0003	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.00029	<0.000015	<0.000015
Anthracene	*7.3*	*22*	0.000064 J	0.00011	0.00172	<0.000014	<0.000014	<0.000014	<0.000014	0.000055 J	0.000069 J	0.000739	<0.000014	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*			<0.0002	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00019	<0.000051	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*			<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.000024 J	<0.00019	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*			<0.0004	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00038	<0.000031	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00015	<0.000037	0.001 J	0.000083 J	<0.000037	<0.000037	<0.000037	<0.000037	0.00011 J	0.00029 J	0.00008 J	<0.000037
Chrysene	*0.91*	*2*			<0.0002	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00019	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	0.00041	0.00039	0.00415	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00029	0.000072 J	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*			<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.000029 J	<0.00019	0.00003 J	<0.00002
Fluoranthene	*0.98*	*2.9*	0.000071 J	0.00024	0.0125	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.000055 J	0.00045 J	<0.00001	<0.00001
Fluorene	*0.98*	*2.9*	0.00097	0.0017	0.058	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00019	0.000075 J	<0.00003
Naphthalene	*0.49*	*1.5*	0.00011	<0.00002	0.000872	<0.00002	<0.00002	<0.00002	<0.00002	<0.00029	<0.00024	<0.00038	0.0013	0.00055
Nitrobenzene	*0.049*	*0.15*			<0.0004	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00038	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*			<0.00025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00024	<0.000026	<0.000025
Pentachlorophenol	*0.001*	*0.001*			<0.0002	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.00019	<0.000081	<0.000079
Phenanthrene	*0.73*	*2.2*	0.000054 J	0.00011	0.000592	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.00037 J	<0.000021	0.000099 J
Phenol	*7.3*	*22*			<0.0002	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.00019	<0.000036	<0.000035
Pyrene	*0.73*	*2.2*	0.000037 J	0.00011	0.00538	<0.000019	<0.000019	<0.000019	<0.000019	0.00002 J	0.000036 J	<0.00019	0.00003 J	<0.000019
Metals														
Arsenic	*0.01*	*0.01*				0.000895 J	0.00242	0.00363	**0.0191**	0.000582 J	0.00207		0.00454	0.00092 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-04 05/25/2018	MW-04 01/09/2019	MW-04 07/12/2019	MW-04 01/21/2020	MW-05 01/29/2008	MW-05 07/27/2011	MW-05 02/02/2012	MW-05 07/25/2012	MW-05 02/05/2013	MW-05 08/01/2013	MW-05 01/15/2014	MW-05 07/29/2014
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.00025	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	<0.00025	<0.0011	<0.0011	<0.0005	<0.000137	<0.00011	<0.00019	<0.00011
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	<0.00041	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015
Vinyl chloride	*0.002*	*0.002*									<0.00011			
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	<0.00127	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	<0.00008	<0.00005	<0.00005	<0.00005	<0.000104	<0.000105	<0.000104	<0.000108
2,4-Dimethylphenol	*0.49*	*1.5*	0.00011 J	<0.00004	<0.00004	<0.00004	<0.00029	<0.00005	<0.00005	<0.00005	<0.000292	<0.000295	<0.000292	<0.000304
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000059	<0.000058	<0.000058	<0.000058	<0.00019	<0.00005	<0.00005	<0.00005	<0.000123	<0.000124	<0.000123	<0.000127
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.000042	<0.00019	<0.00006	<0.00006	<0.00006	<0.0000755	<0.0000762	<0.0000755	<0.0000784
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.00038	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000762	<0.0000755	<0.0000784
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019	<0.000059	0.00026	<0.00038	<0.00005	0.000085 J	<0.00005	0.000468 J	<0.0000667	0.000187 J	<0.0000686
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019	<0.00008	<0.00008	<0.00008	<0.000783	<0.00079	<0.000783	<0.000814
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.00024	<0.00005	<0.00005	<0.00005	<0.000528	<0.000533	<0.000528	<0.000549
Acenaphthene	*1.5*	*4.4*	0.00031	<0.000027	0.00052	0.00015	0.000545	0.0053	0.00034	<0.00005	<0.0000755	0.000521	0.000194 J	<0.0000784
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.000015	<0.00029	<0.00005	<0.00005	<0.00005	<0.0000566	<0.0000571	<0.0000566	<0.0000588
Anthracene	*7.3*	*22*	0.000054 J	0.000079 J	<0.000014	0.0001	0.000811	<0.00005	<0.00005	<0.00005	0.000621	0.000427 J	0.000411 J	0.000153 J
Benzo(a)anthracene	*0.0091*	*0.02*	<0.000051	<0.00005	<0.00005	<0.00005	<0.00019	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000762	<0.0000755	<0.0000784
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	0.000033 J	<0.00019	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000762	<0.0000755	<0.0000784
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00038	<0.00005	<0.00005	<0.00005	<0.000123	<0.000124	<0.000123	<0.000127
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	<0.000037	<0.000037	0.0018	0.00034 J	0.00047	<0.0001	0.00019 J	<0.000349	<0.000352	<0.000349	<0.000363
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	0.000034 J	<0.00019	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000762	<0.0000755	<0.0000784
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00002	<0.000058	0.000097 J	<0.00029	0.0022	0.00011 J	<0.00005	<0.0000755	0.0000828 J	0.000162 J	<0.0000784
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019	<0.00005	<0.00005	0.000065 J	<0.000104	<0.000105	<0.000104	<0.000108
Fluoranthene	*0.98*	*2.9*	<0.00001	<0.00001	<0.00001	0.00029	0.00047 J	0.00011 J	<0.00005	<0.00005	<0.000066	0.0000761 J	<0.000066	<0.0000686
Fluorene	*0.98*	*2.9*	0.000059 J	<0.00003	0.000053 J	0.000067 J	0.0002 J	0.0012	0.00012 J	<0.00005	<0.000066	0.000166 J	0.000176 J	<0.0000686
Naphthalene	*0.49*	*1.5*	<0.00002	<0.00002	<0.00053	0.0013	<0.00038	<0.00005	0.00087	<0.00005	0.00133	0.000573 J	0.000969 J	<0.000131
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.00038	<0.00005	<0.00005	<0.00005	<0.000104	<0.000105	<0.000104	<0.000108
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.00024	<0.00005	<0.00005	<0.00005	<0.0000943	<0.0000952	<0.0000943	<0.000098
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.000079	<0.000079	<0.000079	<0.00019	<0.00005	<0.00005	<0.00005	<0.000575	<0.000581	<0.000575	<0.000598
Phenanthrene	*0.73*	*2.2*	<0.000021	<0.000021	<0.000021	0.00017	0.00039 J	0.00013 J	<0.00005	<0.00005	0.000143 J	<0.0000571	0.000507	<0.0000588
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.000035	<0.000035	<0.00019	<0.00005	<0.00005	<0.00005	0.000193 J	<0.0000381	<0.0000377	<0.0000392
Pyrene	*0.73*	*2.2*	0.00011	<0.000019	0.00016	0.0002	0.00045 J	0.00014 J	<0.00005	<0.00005	<0.000104	0.000154 J	<0.000104	<0.000108
Metals														
Arsenic	*0.01*	*0.01*	0.00492	0.000963 J	**0.0127**	0.00223								

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-05 01/24/2018	MW-05 03/20/2018	MW-05 05/24/2018	MW-05 01/09/2019	MW-05 07/11/2019	MW-05 01/13/2020	MW-07 01/29/2008	MW-07 07/16/2008	MW-07 01/22/2009	MW-07 07/22/2009	MW-07 01/22/2010	MW-07 07/14/2010
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.00052				
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.00025				
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003		<0.00047				
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003		<0.00025				
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.00054				
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.00041				
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003		<0.00127				
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021						
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.00004	<0.000059	<0.00004						
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000059	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058						
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042						
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021						
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019	<0.000019	<0.000019	0.000087 J	<0.000019	<0.00038	<0.00039	<0.0008	<0.0009	<0.0009	<0.0009
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002						
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047						
Acenaphthene	*1.5*	*4.4*	<0.000027	<0.000027	0.00023	<0.000027	0.00043	<0.000027	<0.00028	<0.00029	<0.0008	<0.0009	<0.0009	<0.0009
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.00028	0.00044 J	<0.0007	<0.0005	<0.0005	<0.0005
Anthracene	*7.3*	*22*	0.000037 J	<0.000014	0.000045 J	<0.000014	0.000097 J	<0.000014	0.000516	0.000982	<0.0007	<0.0006	<0.0006	<0.0006
Benzo(a)anthracene	*0.0091*	*0.02*	<0.000051	<0.000051	<0.00005	<0.00005	<0.00005	<0.00005						
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002						
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003						
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00011 J	<0.000037	0.00013 J	<0.000037	<0.000037	<0.000037	<0.00019	<0.00019	<0.0012	<0.0033	<0.0033	0.0049 J
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021						
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00002	0.000024 J	<0.00002	0.000051 J	<0.00002	<0.00028	<0.00029	<0.0007	<0.0007	<0.0007	<0.0007
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	0.000033 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002						
Fluoranthene	*0.98*	*2.9*	0.000051 J	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00019	<0.00019	<0.0006	<0.0005	<0.0005	<0.0005
Fluorene	*0.98*	*2.9*	<0.00003	<0.00003	0.000039 J	<0.00003	0.000064 J	<0.00003	<0.00019	<0.00019	<0.0008	<0.0006	<0.0006	<0.0006
Naphthalene	*0.49*	*1.5*	0.0001	<0.00002	<0.00002	<0.00002	<0.00071	<0.00012	<0.00038	0.000675	<0.0008	<0.0006	<0.0006	<0.0006
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024						
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025						
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.00008	<0.000079	<0.000079	<0.000079	<0.000079						
Phenanthrene	*0.73*	*2.2*	0.000054 J	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00019	0.00036 J	<0.0007	<0.0005	<0.0005	<0.0005
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035						
Pyrene	*0.73*	*2.2*	0.000047 J	<0.000019	0.00019	<0.000019	0.00019	<0.000019	<0.00019	<0.00019	<0.0009	<0.0005	<0.0005	<0.0005
Metals														
Arsenic	*0.01*	*0.01*	0.00588	0.00255	0.00488	0.00387	**0.0171**	0.00146 J						

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-07 01/12/2011	MW-07 01/12/2011	MW-07 07/12/2011	MW-07 01/31/2012	MW-07 07/11/2012	MW-07 01/10/2013	MW-07 07/11/2013	MW-07 01/09/2014	MW-07 07/03/2014	MW-07 01/07/2015	MW-07 07/08/2015	MW-07 01/12/2016
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*												
Benzene	*0.005*	*0.005*												
Chlorobenzene	*0.1*	*0.1*												
Ethylbenzene	*0.7*	*0.7*												
Methylene chloride	*0.005*	*0.005*												
Toluene	*1*	*1*												
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*												
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*		<0.0009	<0.0005	<0.0005	<0.0005	<0.000066	<0.0000704	**R**	<0.000066	<0.0000693	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*		<0.0009	<0.0005	<0.0005	<0.0005	0.00181	<0.0000804	**R**	<0.0000755	<0.0000792	<0.000027	<0.000027
Acenaphthylene	*1.5*	*4.4*		<0.0005	<0.0005	<0.0005	<0.0005	0.00011 J	<0.0000603	**R**	<0.0000566	<0.0000594	<0.000015	<0.000015
Anthracene	*7.3*	*22*		<0.0006	<0.0005	<0.0005	<0.0005	0.000833	0.000749	**R**	0.000696	0.000271 J	0.00014	0.000085 J
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*		<0.0033	<0.0005	<0.0005	<0.0005	<0.000349	<0.000372	**R**	<0.000349	0.000944	<0.00024	0.00024
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*		<0.0007	<0.0005	<0.0005	<0.0005	<0.0000755	<0.0000804	**R**	<0.0000755	<0.0000792	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*									<0.000104			
Fluoranthene	*0.98*	*2.9*		<0.0005	<0.0005	<0.0005	<0.0005	<0.000066	<0.0000704	**R**	<0.000066	0.000189 J	<0.00001	<0.00001
Fluorene	*0.98*	*2.9*		<0.0006	<0.0005	<0.0005	<0.0005	0.000137 J	<0.0000704	**R**	<0.000066	0.0000792 J	<0.00003	<0.00003
Naphthalene	*0.49*	*1.5*		<0.0006	<0.0005	<0.0005	<0.0005	<0.0000755	0.000111 J	**R**	<0.0000755	<0.0000792	<0.00002	<0.00002
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*		<0.0005	<0.0005	<0.0005	<0.0005	<0.0000566	<0.0000603	**R**	<0.0000566	<0.0000594	<0.000021	<0.000021
Phenol	*7.3*	*22*									<0.0000377			
Pyrene	*0.73*	*2.2*		<0.0005	<0.0005	<0.0005	<0.0005	<0.000104	<0.000111	**R**	<0.000104	0.000142 J	<0.000019	<0.000019
Metals														
Arsenic	*0.01*	*0.01*												

Notes:
1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	***C/I Assessment Level***	MW-07 07/07/2016	MW-07 01/12/2017	MW-07 07/13/2017	MW-07 01/04/2018	MW-07 07/19/2018	MW-07 01/08/2019	MW-07 07/01/2019	MW-07 07/01/2019 Duplicate	MW-07 01/13/2020	MW-08 01/29/2008	MW-08 07/16/2008	MW-08 01/22/2009
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*											<0.00109	
Benzene	*0.005*	*0.005*											<0.00112	
Chlorobenzene	*0.1*	*0.1*											<0.0015	
Ethylbenzene	*0.7*	*0.7*											<0.00142	
Methylene chloride	*0.005*	*0.005*											<0.00122	
Toluene	*1*	*1*											<0.00138	
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*											<0.00302	
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	0.000023 J	0.000066 J	<0.00044	<0.0004	<0.0008
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.00033	<0.0003	<0.0008
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.00033	0.00044 J	<0.0007
Anthracene	*7.3*	*22*	0.000055 J	0.00025	<0.000014	0.00014	0.00036	<0.000014	0.00014	0.00029	<0.000014	0.00031 J	0.000669	<0.0007
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	0.00011 J	<0.000037	<0.000088	<0.000037	<0.000037	<0.000037	<0.000037	<0.000037	<0.00022	<0.0002	<0.0012
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.000057 J	<0.00033	<0.0003	<0.0007
Di-n-butylphthalate (DBP)	*2.4*	*7.3*												
Fluoranthene	*0.98*	*2.9*	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.0001	<0.00022	<0.0002	<0.0006
Fluorene	*0.98*	*2.9*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00022	<0.0002	<0.0008
Naphthalene	*0.49*	*1.5*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00025	0.00017	<0.00044	0.000654	<0.0008
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.00014	<0.00022	0.00036 J	<0.0007
Phenol	*7.3*	*22*												
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.00022	<0.0002	<0.0009
Metals														
Arsenic	*0.01*	*0.01*												

Notes:
1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	***C/I Assessment Level***	MW-08 07/22/2009	MW-08 01/22/2010	MW-08 07/14/2010	MW-08 01/12/2011	MW-08 01/12/2011 Duplicate	MW-08 07/12/2011	MW-08 01/31/2012	MW-08 07/11/2012	MW-08 01/10/2013	MW-08 07/11/2013	MW-08 01/09/2014	MW-08 07/03/2014
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*												
Benzene	*0.005*	*0.005*												
Chlorobenzene	*0.1*	*0.1*												
Ethylbenzene	*0.7*	*0.7*												
Methylene chloride	*0.005*	*0.005*												
Toluene	*1*	*1*												
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*												
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009	<0.0005	<0.0005	<0.0005	<0.000066	<0.0000686	<0.0000648	<0.000066
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	<0.0009	<0.0009	<0.0009	<0.0009	<0.0009	<0.0005	<0.0005	<0.0005	<0.0000755	<0.0000784	<0.0000741	<0.0000755
Acenaphthylene	*1.5*	*4.4*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0000566	<0.0000588	<0.0000556	<0.0000566
Anthracene	*7.3*	*22*	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0005	<0.0005	<0.0005	0.000439 J	0.000101 J	0.000494	<0.0000472
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0033	<0.0033	<0.0033	<0.0033	<0.0033	<0.0005	<0.0005	<0.0005	<0.000349	<0.000363	<0.000343	<0.000349
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	<0.0007	<0.0007	<0.0007	<0.0007	<0.0007	<0.0005	<0.0005	<0.0005	<0.0000755	<0.0000784	<0.0000741	<0.0000755
Di-n-butylphthalate (DBP)	*2.4*	*7.3*												<0.000104
Fluoranthene	*0.98*	*2.9*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000066	<0.0000686	<0.0000648	<0.000066
Fluorene	*0.98*	*2.9*	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0005	<0.0005	<0.0005	<0.000066	<0.0000686	<0.0000648	<0.000066
Naphthalene	*0.49*	*1.5*	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006	<0.0005	<0.0005	<0.0005	<0.0000755	<0.0000784	<0.0000741	<0.0000755
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0000566	<0.0000588	0.0000637 J	<0.0000566
Phenol	*7.3*	*22*												<0.0000377
Pyrene	*0.73*	*2.2*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000104	<0.000108	<0.000102	<0.000104
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-08 01/07/2015	MW-08 07/08/2015	MW-08 01/12/2016	MW-08 07/07/2016	MW-08 01/12/2017	MW-08 07/13/2017	MW-08 01/04/2018	MW-08 07/19/2018	MW-08 01/07/2019	MW-08 07/01/2019	MW-08 01/13/2020	MW-09 01/29/2008
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*												<0.00052
Benzene	*0.005*	*0.005*												<0.00025
Chlorobenzene	*0.1*	*0.1*												<0.00047
Ethylbenzene	*0.7*	*0.7*												<0.00025
Methylene chloride	*0.005*	*0.005*												<0.00054
Toluene	*1*	*1*												<0.00041
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*												<0.00127
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												<0.00008
2,4-Dimethylphenol	*0.49*	*1.5*												<0.00029
2,4-Dinitrotoluene	*0.0013*	*0.003*												<0.00019
2,6-Dinitrotoluene	*0.0013*	*0.003*												<0.00019
2-Chloronaphthalene	*2*	*5.8*												<0.00038
2-Methylnaphthalene	*0.098*	*0.29*	<0.0000693	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.00038
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												<0.00019
4-Nitrophenol	*0.049*	*0.15*												<0.00024
Acenaphthene	*1.5*	*4.4*	<0.0000792	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	0.00067	<0.000027	<0.000027	<0.000027	<0.00029
Acenaphthylene	*1.5*	*4.4*	<0.0000594	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.00029
Anthracene	*7.3*	*22*	0.000056 J	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	0.000045 J	0.000048 J	<0.000014	<0.000014	<0.00019
Benzo(a)anthracene	*0.0091*	*0.02*												<0.00019
Benzo(a)pyrene	*0.0002*	*0.0002*												<0.00019
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												<0.00038
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000366	<0.00013	<0.000037	<0.000037	0.00018 J	<0.000037	<0.000097	<0.000037	<0.000037	<0.000037	0.00021	0.00034 J
Chrysene	*0.91*	*2*												<0.00019
Dibenzofuran	*0.098*	*0.29*	<0.0000792	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00011	<0.00002	<0.00002	<0.00002	<0.00029
Di-n-butylphthalate (DBP)	*2.4*	*7.3*												<0.00019
Fluoranthene	*0.98*	*2.9*	<0.0000693	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.000031 J	<0.00001	<0.00001	<0.00001	0.00045 J
Fluorene	*0.98*	*2.9*	<0.0000693	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	0.00017	<0.00003	<0.00003	<0.00003	<0.00019
Naphthalene	*0.49*	*1.5*	<0.0000792	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00038
Nitrobenzene	*0.049*	*0.15*												<0.00038
N-Nitrosodiphenylamine	*0.19*	*0.42*												<0.00024
Pentachlorophenol	*0.001*	*0.001*												<0.00019
Phenanthrene	*0.73*	*2.2*	<0.0000594	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.000023 J	<0.000021	<0.000021	0.000046 J	0.000541
Phenol	*7.3*	*22*												<0.00019
Pyrene	*0.73*	*2.2*	<0.000109	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.00019
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-09 07/27/2011	MW-09 02/02/2012	MW-09 07/25/2012	MW-09 04/01/2013	MW-09 01/24/2018	MW-09 03/23/2018	MW-09 05/24/2018	MW-09 01/09/2019	MW-09 07/12/2019	MW-09 01/14/2020	MW-10A 01/28/2008	MW-10A 07/16/2008
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.001	<0.001	<0.0005	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.00052
Benzene	*0.005*	*0.005*	<0.001	<0.001	<0.0005	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.00025
Chlorobenzene	*0.1*	*0.1*	<0.001	<0.001	<0.0005	<0.00012	<0.0003	<0.0003	<0.0003	0.0041	<0.0003	<0.0003		<0.00047
Ethylbenzene	*0.7*	*0.7*	<0.0011	<0.0011	<0.0005	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003		<0.00025
Methylene chloride	*0.005*	*0.005*	<0.0013	<0.0013	<0.001	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.00054
Toluene	*1*	*1*	<0.001	<0.001	<0.0005	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.00041
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.0031	<0.0031	<0.0015	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003		<0.00127
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	<0.00005	<0.00005	<0.000106	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021		
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00005	<0.00005	<0.00005	<0.000298	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004		
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	<0.00005	<0.00005	<0.000125	<0.000059	<0.000058	<0.000058	<0.000059	<0.000058	<0.000058		
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	<0.00006	<0.00006	<0.0000769	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042		
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.00005	<0.00005	<0.0000769	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021		
2-Methylnaphthalene	*0.098*	*0.29*	<0.00005	<0.00005	<0.00005	0.000115 J	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.0004	<0.00038
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.000798	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002		
4-Nitrophenol	*0.049*	*0.15*	<0.00005	<0.00005	<0.00005	<0.000538	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047		
Acenaphthene	*1.5*	*4.4*	<0.00005	<0.00005	<0.00005	0.000188 J	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.0003	<0.00029
Acenaphthylene	*1.5*	*4.4*	<0.00005	<0.00005	<0.00005	<0.0000577	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.0003	<0.00029
Anthracene	*7.3*	*22*	0.00036	<0.00005	<0.00005	0.000471 J	<0.000014	0.00013	0.0001	0.000093 J	0.000061 J	<0.000014	<0.0002	<0.00019
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.0000769	<0.000051	<0.00005	<0.00005	<0.000051	<0.00005	<0.00005		
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00005	<0.00005	<0.00005	<0.0000769	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002		
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	<0.00005	<0.00005	<0.000125	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003		
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00018 J	<0.00032	0.00022	<0.000356	0.000082 J	<0.000037	0.00011 J	<0.000037	<0.000037	<0.000037	<0.0002	0.0002 J
Chrysene	*0.91*	*2*	<0.00005	<0.00005	<0.00005	<0.0000769	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021		
Dibenzofuran	*0.098*	*0.29*	<0.00005	<0.00005	<0.00005	0.000126 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0003	<0.00029
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00005	<0.00005	0.000074 J	0.000123 J	<0.00002	<0.00002	0.000031 J	<0.00002	<0.00002	<0.00002		
Fluoranthene	*0.98*	*2.9*	<0.00005	<0.00005	<0.00005	<0.0000673	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.0002	<0.00019
Fluorene	*0.98*	*2.9*	<0.00005	<0.00005	<0.00005	<0.0000673	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.0002	<0.00019
Naphthalene	*0.49*	*1.5*	<0.00005	<0.00005	<0.00005	0.00431 J	<0.00002	0.00039	0.00008 J	<0.00002	<0.00015	0.00011	<0.0004	<0.00038
Nitrobenzene	*0.049*	*0.15*	<0.00005	<0.00005	<0.00005	<0.000106	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024		
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.00005	<0.00005	<0.0000962	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025		
Pentachlorophenol	*0.001*	*0.001*	<0.00005	<0.00005	<0.00005	<0.000587	<0.00008	<0.000079	<0.000079	<0.00008	<0.000079	<0.000079		
Phenanthrene	*0.73*	*2.2*	<0.00005	<0.00005	<0.00005	<0.0000577	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0002	<0.00019
Phenol	*7.3*	*22*	<0.00005	<0.000098	<0.00005	<0.0000385	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035		
Pyrene	*0.73*	*2.2*	<0.00005	<0.00005	<0.00005	<0.000106	<0.000019	<0.000019	0.00004 J	<0.000019	<0.000019	<0.000019	<0.0002	<0.00019
Metals														
Arsenic	*0.01*	*0.01*					0.00104 J	0.0012 J	0.00085 J	0.00202	0.000901 J	0.0043		

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-10A 01/22/2009	MW-10A 07/22/2009	MW-10A 01/21/2010	MW-10A 07/13/2010	MW-10A 01/11/2011	MW-10A 07/13/2011	MW-10A 01/30/2012	MW-10A 07/10/2012	MW-10A 01/09/2013	MW-10A 07/11/2013	MW-10A 01/08/2014	MW-10A 07/15/2014
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*												
Benzene	*0.005*	*0.005*												
Chlorobenzene	*0.1*	*0.1*												
Ethylbenzene	*0.7*	*0.7*												
Methylene chloride	*0.005*	*0.005*												
Toluene	*1*	*1*												
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*												
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*	<0.0008	<0.0009	<0.0009	<0.0009	<0.0009	<0.0005	<0.0005	<0.0005	<0.0000667	0.00178	<0.0000648	0.00262 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	<0.0008	<0.0009	<0.0009	<0.0009	0.0017 J	<0.0005	<0.0005	0.0016 J	<0.0000762	0.0306	<0.0000741	0.0306
Acenaphthylene	*1.5*	*4.4*	<0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0000571	0.000385 J	<0.0000556	<0.000566
Anthracene	*7.3*	*22*	<0.0007	<0.0006	<0.0006	<0.0006	<0.0006	<0.0005	<0.0005	<0.0005	0.000468 J	0.00036 J	<0.0000463	<0.000472
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0012	<0.0033	<0.0033	<0.0033	<0.0033	<0.0005	<0.0005	<0.0005	0.00171	<0.000356	<0.000343	<0.00349
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	<0.0007	<0.0007	<0.0007	<0.0007	<0.0007	<0.0005	<0.0005	<0.0005	<0.0000762	0.00866	<0.0000741	0.00862
Di-n-butylphthalate (DBP)	*2.4*	*7.3*												
Fluoranthene	*0.98*	*2.9*	<0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0000667	0.000186 J	<0.0000648	<0.00066
Fluorene	*0.98*	*2.9*	<0.0008	<0.0006	<0.0006	<0.0006	<0.0006	<0.0005	<0.0005	<0.0005	<0.0000667	0.00631	<0.0000648	0.0111
Naphthalene	*0.49*	*1.5*	<0.0008	<0.0006	<0.0006	<0.0006	<0.0006	<0.0005	<0.0005	<0.0005	<0.0000762	0.199	<0.0000741	0.199
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*	<0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0000571	0.00221	<0.0000556	0.00442 J
Phenol	*7.3*	*22*												
Pyrene	*0.73*	*2.2*	<0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000105	<0.000106	<0.000102	<0.00104
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-10A 01/07/2015	MW-10A 07/07/2015	MW-10A 01/12/2016	MW-10A 07/07/2016	MW-10A 01/11/2017	MW-10A 07/13/2017	MW-10A 01/04/2018	MW-10A 07/18/2018	MW-10A 01/07/2019	MW-10A 07/02/2019	MW-10A 01/14/2020	MW-10B 01/28/2008
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*												
Benzene	*0.005*	*0.005*												
Chlorobenzene	*0.1*	*0.1*												
Ethylbenzene	*0.7*	*0.7*												
Methylene chloride	*0.005*	*0.005*												
Toluene	*1*	*1*												
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*												
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*	<0.0000693	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	0.00272	<0.000027	<0.000027	<0.000027	<0.000028	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	0.00011	0.0743
Acenaphthylene	*1.5*	*4.4*	0.000126 J	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	0.00122
Anthracene	*7.3*	*22*	0.000191 J	0.000069 J	<0.000014	0.000073 J	0.000057 J	<0.000014	<0.000014	<0.000014	0.000065 J	<0.000014	<0.000014	0.00432
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000366	<0.00088	<0.000096	0.000097 J	0.000088 J	<0.000037	<0.000057	<0.0001	<0.000089	<0.000037	<0.000037	<0.00019
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	0.000349 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.0255
Di-n-butylphthalate (DBP)	*2.4*	*7.3*												<0.00019
Fluoranthene	*0.98*	*2.9*	<0.0000693	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00371
Fluorene	*0.98*	*2.9*	0.000694	<0.00003	<0.00003	<0.00003	<0.000031	<0.00003	<0.00003	<0.00003	0.000038 J	<0.00003	<0.00003	0.0374
Naphthalene	*0.49*	*1.5*	0.000322 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.000043 J	<0.00002	0.0185
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*	0.000126 J	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	
Phenol	*7.3*	*22*												<0.00019
Pyrene	*0.73*	*2.2*	<0.000109	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	0.00146
Metals														
Arsenic	*0.01*	*0.01*												

Notes:
1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-10B 07/16/2008	MW-10B 01/22/2009	MW-10B 07/22/2009	MW-10B 01/21/2010	MW-10B 07/13/2010	MW-10B 01/11/2011	MW-10B 07/13/2011	MW-10B 01/30/2012	MW-10B 07/10/2012	MW-10B 01/09/2013	MW-10B 07/11/2013	MW-10B 10/14/2013
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00052											
Benzene	*0.005*	*0.005*	<0.00025											
Chlorobenzene	*0.1*	*0.1*	<0.00047											
Ethylbenzene	*0.7*	*0.7*	<0.00025											
Methylene chloride	*0.005*	*0.005*	<0.00054											
Toluene	*1*	*1*	<0.00041											
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.00127											
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*												
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	0.0975	0.096	<0.0009	0.052	0.069	0.096	0.054	0.1	0.054	0.12	0.977	
Acenaphthylene	*1.5*	*4.4*	0.00113	<0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0011 J	<0.0005	0.00108	0.00986	
Anthracene	*7.3*	*22*	0.00484	0.0043 J	0.0029 J	0.0025 J	0.0038 J	0.0068	0.0033 J	0.0057	0.0032 J	0.00546	0.0391	
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.0002 J	<0.0012	<0.0033	<0.0033	<0.0033	<0.0033	0.0013 J	<0.0005	<0.0005	<0.000349	<0.0037	
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	0.0392	0.035	0.023	0.018	0.025	0.037	0.019	0.038	0.02	0.0401	**0.302**	0.0334
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.0002	<0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000104	<0.011	
Fluoranthene	*0.98*	*2.9*	0.00397	0.0039 J	0.0022 J	0.0017 J	0.0026 J	0.0054	0.0023 J	0.0046 J	0.0028 J	0.00427	0.0274	
Fluorene	*0.98*	*2.9*	0.0457	0.051	<0.0006	0.031	0.041	0.059	0.032	0.06	0.031	0.0652	0.468	
Naphthalene	*0.49*	*1.5*	0.014	0.0028 J	0.0082	0.0037 J	0.056	0.075	0.0018 J	0.084	0.004 J	0.00399	0.207	
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*												
Phenol	*7.3*	*22*	<0.0002	<0.0015	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0000377	<0.0004	
Pyrene	*0.73*	*2.2*	0.00174	0.002 J	0.0013 J	<0.0005	0.001 J	0.0023 J	0.0011 J	0.002 J	0.0011 J	0.00146	0.0101	
Metals														
Arsenic	*0.01*	*0.01*												

Notes:
1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-10B 01/08/2014	MW-10B 07/15/2014	MW-10B 01/07/2015	MW-10B 01/29/2015	MW-10B 07/07/2015	MW-10B 01/12/2016	MW-10B 07/07/2016	MW-10B 01/11/2017	MW-10B 07/13/2017	MW-10B 01/04/2018	MW-10B 07/18/2018	MW-10B 01/07/2019
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*												
Benzene	*0.005*	*0.005*												
Chlorobenzene	*0.1*	*0.1*												
Ethylbenzene	*0.7*	*0.7*												
Methylene chloride	*0.005*	*0.005*												
Toluene	*1*	*1*												
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*												
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*												
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	<0.0000741	0.0777	0.166	0.0507	0.084	0.11	0.053	0.12	0.051	0.093	0.056	0.07
Acenaphthylene	*1.5*	*4.4*	<0.000536	<0.000566	0.00104	0.000597	0.00048	0.00054	0.00032	0.00065	0.00033	0.00068	0.00053	0.00059
Anthracene	*7.3*	*22*	<0.00107	0.00352 J	0.00702	0.00179	0.003	0.0057	0.0027	0.0056	0.0023	0.0052	0.0024	0.0041
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.000408 J	<0.00349	<0.000366	<0.000366	<0.00014	<0.000037	0.00025	0.00022	0.00028	<0.000059	<0.000064	0.00035
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	<0.00493	0.0258	0.0727	0.0129	0.032	0.049	0.019	0.052	0.021	0.048	0.021	0.028
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	0.000275 J	<0.00104	<0.000215	<0.000109	<0.000078	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	<0.000117	0.00211 J	0.00711	0.00117	0.0023	0.0045	0.0023	0.0047	0.0022	0.0053	0.0022	0.0038
Fluorene	*0.98*	*2.9*	<0.00429	0.0424	0.0975	0.0202	0.047	0.064	0.029	0.068	0.034	0.06	0.031	0.04
Naphthalene	*0.49*	*1.5*	0.0646	0.125	**0.556**	0.0247	0.077	0.1	0.0054	0.021	0.0033	0.0013	0.00074	0.00056
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*												
Phenol	*7.3*	*22*	<0.000037	<0.000377	<0.0000396	<0.0000396	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	<0.000102	<0.00104	0.00234	0.000392 J	0.00095	0.0024	0.0009	0.0022	0.00087	0.0019	0.00088	0.0018
Metals														
Arsenic	*0.01*	*0.01*												

Notes:
1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-10B 07/02/2019	MW-10B 01/14/2020	MW-11A 01/28/2008	MW-11A 07/16/2008	MW-11A 01/22/2009	MW-11A 07/22/2009	MW-11A 01/21/2010	MW-11A 07/13/2010	MW-11A 01/11/2011	MW-11A 07/12/2011	MW-11A 01/30/2012	MW-11A 07/10/2012
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*				<0.00052								
Benzene	*0.005*	*0.005*				<0.00025								
Chlorobenzene	*0.1*	*0.1*				<0.00047								
Ethylbenzene	*0.7*	*0.7*				<0.00025								
Methylene chloride	*0.005*	*0.005*				<0.00054								
Toluene	*1*	*1*				<0.00041								
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*				<0.00127								
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*			<0.00038	<0.0004	<0.0008	<0.0009	<0.0009	<0.0009	<0.0009	<0.0005	<0.0005	<0.0005
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	0.042	0.069	0.0346	0.02	0.0076	<0.0009	<0.0009	0.0028 J	<0.0009	<0.0005	<0.0005	<0.0005
Acenaphthylene	*1.5*	*4.4*	0.00031	0.00066	<0.00029	<0.0003	<0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Anthracene	*7.3*	*22*	0.0012	0.0028	0.000798	0.00054	<0.0007	<0.0006	<0.0006	<0.0006	<0.0006	<0.0005	<0.0005	<0.0005
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	0.0002	0.00028 J	<0.0002	<0.0012	<0.0033	<0.0033	<0.0033	<0.0033	<0.0005	<0.0005	<0.0005
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	0.013	0.022	0.00276	<0.0003	<0.0007	<0.0007	<0.0007	<0.0007	<0.0007	<0.0005	<0.0005	<0.0005
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002										
Fluoranthene	*0.98*	*2.9*	0.0012	0.0029	0.00338	0.00387	0.0012 J	0.0011 J	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Fluorene	*0.98*	*2.9*	0.018	0.036	0.0069	0.00089	<0.0008	<0.0006	<0.0006	<0.0006	<0.0006	<0.0005	<0.0005	<0.0005
Naphthalene	*0.49*	*1.5*	0.00023	0.0021	<0.00038	<0.0004	<0.0008	<0.0006	<0.0006	<0.0006	<0.0006	<0.0005	<0.0005	<0.0005
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*			0.00036 J	<0.0002	<0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Phenol	*7.3*	*22*	<0.000035	<0.000035										
Pyrene	*0.73*	*2.2*	0.00049	0.0013	0.00191	0.00184	<0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-11A 01/09/2013	MW-11A 07/11/2013	MW-11A 01/08/2014	MW-11A 07/02/2014	MW-11A 01/07/2015	MW-11A 07/07/2015	MW-11A 01/12/2016	MW-11A 07/07/2016	MW-11A 01/11/2017	MW-11A 07/12/2017	MW-11A 01/03/2018	MW-11A 07/18/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*												
Benzene	*0.005*	*0.005*												
Chlorobenzene	*0.1*	*0.1*												
Ethylbenzene	*0.7*	*0.7*												
Methylene chloride	*0.005*	*0.005*												
Toluene	*1*	*1*												
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*												
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*	<0.000066	<0.0000673	<0.0000648	<0.000066	<0.0000673	<0.000019	<0.000019	<0.000019	<0.00002	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	0.00175	0.000878	<0.0000741	0.00427	0.000471 J	0.00025	<0.000027	0.0001	<0.000028	<0.000027	<0.000027	0.0017
Acenaphthylene	*1.5*	*4.4*	<0.0000566	<0.0000577	<0.0001	0.000185 J	<0.0000577	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	*7.3*	*22*	0.000499	0.00044 J	<0.00125	0.00126	0.000399 J	0.00017	0.0001	0.00026	0.00021	<0.000014	<0.000014	0.00019
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000349	<0.000356	0.00046 J	0.00516	<0.000356	<0.00068	<0.000073	0.00038	0.00025	0.00017 J	<0.000073	0.0007
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	<0.0000755	<0.0000769	<0.0000741	0.000618	<0.0000769	0.00012	<0.00002	<0.00002	<0.000021	<0.00002	<0.00002	0.00027
Di-n-butylphthalate (DBP)	*2.4*	*7.3*				0.000109 J								
Fluoranthene	*0.98*	*2.9*	<0.000066	0.000221 J	<0.0000795	0.00215	<0.0000673	0.00028	<0.00001	0.00065	0.000049 J	0.00015	<0.00001	0.00023
Fluorene	*0.98*	*2.9*	<0.000066	<0.0000673	<0.0000648	0.00149	<0.0000673	0.00011	<0.00003	0.00013	<0.000031	<0.00003	<0.00003	0.00083
Naphthalene	*0.49*	*1.5*	<0.0000755	<0.0000769	<0.0000741	0.000343 J	<0.0000769	<0.00002	<0.00002	<0.00002	<0.000021	<0.00002	<0.00002	0.00012
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*	<0.0000566	<0.0000577	<0.0000556	0.000384 J	<0.0000577	<0.000021	<0.000021	<0.000021	0.000067 J	<0.000021	<0.000021	0.000086 J
Phenol	*7.3*	*22*				<0.0000377								
Pyrene	*0.73*	*2.2*	<0.000104	0.000115 J	<0.000102	0.00194	<0.000106	0.00023	<0.000019	0.00073	<0.00002	<0.000019	<0.000019	0.00022
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-11A 01/07/2019	MW-11A 07/02/2019	MW-11A 01/14/2020	MW-11B 01/28/2008	MW-11B 07/16/2008	MW-11B 01/22/2009	MW-11B 07/22/2009	MW-11B 01/21/2010	MW-11B 07/13/2010	MW-11B 01/11/2011	MW-11B 07/12/2011	MW-11B 01/30/2012
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*					<0.00052							
Benzene	*0.005*	*0.005*					<0.00025							
Chlorobenzene	*0.1*	*0.1*					<0.00047							
Ethylbenzene	*0.7*	*0.7*					<0.00025							
Methylene chloride	*0.005*	*0.005*					<0.00054							
Toluene	*1*	*1*					<0.00041							
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*					<0.00127							
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019	<0.000019									
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	<0.000027	0.00025	<0.000027	0.0649	0.12	0.072	0.12	0.048	0.11	0.039	0.084	0.025
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.00028	0.00126	<0.0007	0.0015 J	0.0013 J	<0.0005	0.0012 J	0.0012 J	0.0011 J
Anthracene	*7.3*	*22*	0.00013	0.000097 J	<0.000014	0.00236	0.00472	0.0022 J	0.0043 J	0.0011 J	0.0055	<0.0006	0.0054	<0.0005
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000075	<0.00007	<0.000037	0.00021 J	<0.00021	<0.0012	<0.0033	<0.0033	<0.0033	<0.0033	<0.0005	<0.0005
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00002	<0.00002	0.0273	0.0649	0.031	0.054	0.012	0.048	0.006	0.038	<0.0005
Di-n-butylphthalate (DBP)	*2.4*	*7.3*				<0.00019	<0.00021	<0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Fluoranthene	*0.98*	*2.9*	<0.00001	0.000018 J	<0.00001	0.00175	0.00383	0.0018 J	0.0036 J	0.0014 J	0.0046 J	0.0015 J	0.0046 J	0.0013 J
Fluorene	*0.98*	*2.9*	<0.00003	<0.00003	<0.00003	0.0297	0.0578	0.032	0.053	0.013	0.056	0.0038 J	0.046	<0.0005
Naphthalene	*0.49*	*1.5*	<0.00002	0.000041 J	<0.00002	0.0354	0.0772	<0.0008	0.048	<0.0006	0.0068	<0.0006	0.06	<0.0005
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*	<0.000021	<0.000021	<0.000021									
Phenol	*7.3*	*22*				<0.00019	<0.00021	<0.0015	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Pyrene	*0.73*	*2.2*	<0.000019	0.000031 J	<0.000019	0.000848	0.00163	<0.0009	0.002 J	<0.0005	0.0022 J	<0.0005	0.0024 J	<0.0005
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-11B 07/10/2012	MW-11B 01/09/2013	MW-11B 07/11/2013	MW-11B 01/08/2014	MW-11B 07/02/2014	MW-11B 01/07/2015	MW-11B 07/07/2015	MW-11B 01/12/2016	MW-11B 07/07/2016	MW-11B 01/11/2017	MW-11B 07/12/2017	MW-11B 01/03/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*												
Benzene	*0.005*	*0.005*												
Chlorobenzene	*0.1*	*0.1*												
Ethylbenzene	*0.7*	*0.7*												
Methylene chloride	*0.005*	*0.005*												
Toluene	*1*	*1*												
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*												
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*					0.0131							
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	0.1	0.0631	0.108	<0.00037	0.0953	0.0472	0.057	<0.000027	0.039	<0.000027	0.043	<0.000027
Acenaphthylene	*1.5*	*4.4*	0.0013 J	0.00136	0.00119	<0.00102	0.00166	0.00113	0.00065	<0.000015	0.00031	<0.000015	0.00032	<0.000015
Anthracene	*7.3*	*22*	0.0055	0.000168 J	0.00321	<0.00242	0.00375	0.000945	0.0025	0.00011	0.0018	0.00011	0.0022	0.0001
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0005	0.00195	<0.000356	0.000493 J	<0.000349	<0.000356	<0.00019	<0.00019	0.00018 J	0.00017 J	<0.000037	<0.0001
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	0.04	0.00352	0.0231	<0.0111	0.0199	0.00472	0.014	<0.00002	0.0082	0.000055 J	0.0055	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.0005	<0.000104	<0.000106	0.000317 J	0.000109 J	<0.000106	<0.000044	<0.00002	<0.00002	<0.00002	<0.00002	<0.000045
Fluoranthene	*0.98*	*2.9*	0.0053	0.00307	0.00383	<0.00267	0.00417	0.00201	0.0034	0.00011	0.0025	0.00021	0.0029	<0.00001
Fluorene	*0.98*	*2.9*	0.054	0.00205	0.0388	<0.0195	0.0339	0.00867	0.025	<0.00003	0.019	<0.00003	0.025	<0.00003
Naphthalene	*0.49*	*1.5*	0.004 J	<0.0000755	0.00535	0.000382 J	0.0135	<0.0000769	0.0021	<0.00002	0.0082	<0.00002	0.0019	<0.00002
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*					0.012							
Phenol	*7.3*	*22*	<0.0005	<0.0000377	<0.0000385	<0.000037	<0.0000377	<0.0000385	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	0.0024 J	0.00154	0.00196	<0.00126	0.00213	0.000935	0.0017	0.00032	0.0012	0.00013	0.0015	<0.000019
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-11B 07/18/2018	MW-11B 01/07/2019	MW-11B 07/02/2019	MW-11B 07/30/2019	MW-11B 10/17/2019	MW-11B 01/14/2020	MW-12A 01/30/2008	MW-12A 07/15/2008	MW-12A 02/04/2009	MW-12A 01/19/2010	MW-12A 06/22/2010	MW-12A 01/18/2011
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*							<0.00052	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005
Benzene	*0.005*	*0.005*							<0.00025	<0.00025	0.00073 J	<0.0005	<0.0005	<0.0005
Chlorobenzene	*0.1*	*0.1*							<0.00047	<0.00047	<0.0005	<0.0005	<0.0005	<0.0005
Ethylbenzene	*0.7*	*0.7*							0.00718	<0.00025	0.0059	0.0029 J	0.00056 J	0.0014 J
Methylene chloride	*0.005*	*0.005*							<0.00054	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005
Toluene	*1*	*1*							<0.00041	<0.00041	0.00079 J	<0.0005	<0.0005	<0.0005
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*							0.0105 J	<0.00127	0.012 J	0.0056 J	0.0026 J	0.0025 J
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*							<0.00008	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*							<0.0003	<0.00029	<0.00008	<0.00008	<0.00008	0.0001 J
2,4-Dinitrotoluene	*0.0013*	*0.003*							<0.0002	<0.00019	<0.00009	<0.00009	<0.00009	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*							<0.0002	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007
2-Chloronaphthalene	*2*	*5.8*							<0.0004	<0.00039	<0.00012	<0.0001	<0.0001	<0.0001
2-Methylnaphthalene	*0.098*	*0.29*							**0.174**	**0.332**	**0.22**	**0.15**	**0.15**	0.033
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*							<0.0002	<0.00049	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*							<0.00025	<0.00024	<0.00007	<0.00007	<0.00007	<0.00007
Acenaphthene	*1.5*	*4.4*	0.074	0.015	0.13			0.033	0.173	0.331	0.25	0.19	0.21	0.19
Acenaphthylene	*1.5*	*4.4*	0.00063	0.00054	0.0013			0.0016	<0.0003	0.00276	0.0036	0.0026	0.0019	0.0016
Anthracene	*7.3*	*22*	0.0037	0.00021	0.0045			<0.000014	0.0103	0.0137	0.0099	0.0093	0.011	0.012
Benzo(a)anthracene	*0.0091*	*0.02*							0.00028 J	0.00026 J	<0.00007	<0.00007	<0.00007	0.00082
Benzo(a)pyrene	*0.0002*	*0.0002*							<0.0002	<0.00019	<0.00008	<0.00008	<0.00008	**0.0003**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*							<0.0004	<0.00039	<0.00009	<0.00009	<0.00009	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	<0.000085	<0.00026			0.000095 J	0.0013 J	0.00033 J	0.00031	0.0006	<0.0002	0.00036
Chrysene	*0.91*	*2*							0.00024 J	0.00021 J	<0.00007	<0.00007	<0.00007	0.00074
Dibenzofuran	*0.098*	*0.29*	0.032	<0.00002	0.051			<0.00002	**0.125**	**0.212**	**0.18**	**0.14**	**0.18**	**0.15**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.00002			<0.00002	<0.0002	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007
Fluoranthene	*0.98*	*2.9*	0.0043	0.0025	0.005			0.0024	0.00693	0.0123	0.0061	0.0059	0.0064	0.0086
Fluorene	*0.98*	*2.9*	0.048	0.00015	0.061			0.00035	0.112	0.475	0.15	0.13	0.16	0.14
Naphthalene	*0.49*	*1.5*	0.34	<0.00002	**0.7**	**1.1**	**0.6**	<0.00002	**2.27**	**1.47**	**2.6**	**1.7**	**0.6**	0.22
Nitrobenzene	*0.049*	*0.15*							<0.0004	<0.00039	<0.00009	<0.00009	<0.00009	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*							<0.00025	<0.00024	<0.00009	<0.00009	<0.00009	<0.00009
Pentachlorophenol	*0.001*	*0.001*							<0.0002	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008
Phenanthrene	*0.73*	*2.2*							0.0833	0.372	0.1	0.087	0.091	0.061
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.000035			<0.000035	<0.0002	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007
Pyrene	*0.73*	*2.2*	0.0023	0.0017	0.0027			0.0023	0.00358	0.00518	0.0025	0.0029	0.0025	0.0044
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-12A 07/26/2011	MW-12A 02/01/2012	MW-12A 07/19/2012	MW-12A 02/05/2013	MW-12A 07/31/2013	MW-12A 01/14/2014	MW-12A 07/25/2014	MW-12A 01/23/2018	MW-12A 03/19/2018	MW-12A 05/16/2018	MW-12A 01/09/2019	MW-12A 07/11/2019
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.001	<0.001	<0.0025	<0.00014	<0.00014	<0.00014	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.001	<0.001	<0.0025	0.000237 J	0.0000957 J	0.00048 J	0.000122 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.001	<0.001	<0.0025	<0.00012	<0.00012	<0.00012	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	0.0015 J	0.0042 J	<0.0025	0.000521 J	0.000774 J	0.000257 J	0.000403 J	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.0013	<0.0013	**0.0087 J**	<0.00015	<0.00015	<0.00015	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.001	<0.001	<0.0025	<0.00015	<0.000166	<0.00015	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*				<0.00011			<0.00011					
Xylenes (total)	*10*	*10*	<0.0031	0.0048 J	<0.0075	0.00197 J	0.00217 J	0.00145 J	0.00165 J	0.0023	0.00076 J	0.00076 J	<0.0003	0.0006 J
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	<0.00005	<0.00005	<0.000104	<0.000105	**<0.00529**	<0.000107	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00005	<0.00005	0.000056 J	<0.000292	<0.000295	<0.0149	<0.000301	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	<0.00005	<0.00005	<0.000123	<0.000124	**<0.00625**	<0.000126	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	<0.00006	<0.00006	<0.0000755	<0.0000762	**<0.00385**	<0.0000777	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000762	<0.00385	<0.0000777	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	0.014	0.061	**0.17**	0.0477	**0.306**	0.0386	**0.121**	0.067	0.008	0.005	<0.000019	0.013
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.000783	<0.00079	**<0.0399**	<0.000806	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00005	<0.00005	<0.00005	<0.000528	<0.000533	<0.0269	<0.000544	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.038	0.13	0.2	0.253	0.428	0.342	0.292	0.26	0.23	0.17	<0.000027	0.19
Acenaphthylene	*1.5*	*4.4*	<0.00005	0.0015	0.0015	<0.0000566	<0.0000571	<0.00288	0.00225	<0.000015	0.0017	0.0015	<0.000015	0.0013
Anthracene	*7.3*	*22*	0.0017	0.028	0.023	0.0179	0.0222	0.0325	0.0179	0.016	0.019	0.014	<0.000014	0.0087
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	0.00011 J	0.000221 J	0.000226 J	<0.00385	0.000268 J	0.00016	0.00026	0.00011	<0.00005	0.00041
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000762	**<0.00385**	<0.0000777	<0.00002	<0.00002	<0.00002	<0.00002	0.00012
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	<0.00005	<0.00005	<0.000123	<0.000124	**<0.00625**	<0.000126	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00017 J	<0.00027	<0.00012	<0.000349	<0.000352	**<0.0178**	0.000679	<0.00011	0.0002 J	0.00013 J	<0.000037	0.00031
Chrysene	*0.91*	*2*	<0.00005	<0.00005	0.00013 J	0.000186 J	0.000231 J	<0.00385	0.000241 J	0.00015	0.00022	0.00011	<0.000021	0.00034
Dibenzofuran	*0.098*	*0.29*	0.025	**0.13**	**0.16**	**0.17**	**0.317**	**0.22**	**0.193**	**0.2**	**0.15**	**0.11**	0.000031 J	**0.14**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00005	<0.00005	<0.00005	<0.000104	<0.00024	<0.00529	0.000797	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	0.0017	0.0031	0.007	0.0111	0.0181	0.018 J	0.0132	0.013	0.0097	0.0084	<0.00001	0.0097
Fluorene	*0.98*	*2.9*	0.025	0.067	0.15	0.17	0.316	0.245	0.202	0.21	0.17	0.13	<0.00003	0.16
Naphthalene	*0.49*	*1.5*	0.05	**1.5**	0.36	0.0828 J	**0.661**	0.0338 J	0.075	0.012	0.0014	<0.0021	<0.00026	<0.0012
Nitrobenzene	*0.049*	*0.15*	<0.00005	<0.00005	<0.00005	<0.000104	<0.000105	<0.00529	<0.000107	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.00005	<0.00005	<0.0000943	<0.0000952	<0.00481	<0.0000971	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00005	<0.00005	<0.00005	<0.000575	<0.000581	**<0.0293**	<0.000592	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	0.015	0.078	0.12	0.13	0.234	0.192	0.162	0.13	0.13	0.093	<0.000021	0.063
Phenol	*7.3*	*22*	<0.00005	<0.00005	<0.00005	0.000101 J	<0.0000381	<0.00192	<0.0000388	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	0.00068	0.0026	0.0036	0.00515	0.00818	0.00759 J	0.00649	0.0064	0.0049	0.0042	<0.000019	0.0047
Metals														
Arsenic	*0.01*	*0.01*								**0.017**	0.00133 J	0.00093 J	0.00192 J	0.00192 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-12A 01/13/2020	MW-12B 01/31/2008 DNAPL	MW-12B 01/23/2020 DNAPL	MW-12C 01/30/2008	MW-12C 07/15/2008	MW-12C 02/04/2009	MW-12C 01/19/2010	MW-12C 06/22/2010	MW-12C 01/18/2011	MW-12C 07/26/2011	MW-12C 02/01/2012	MW-12C 07/19/2012
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.00052	<0.005	<0.00052	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005
Benzene	*0.005*	*0.005*	<0.0002	0.00344 J	**0.03**	<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.00047	<0.0075	<0.00047	<0.00047	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005
Ethylbenzene	*0.7*	*0.7*	<0.0003	0.0125	0.014 J	<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005
Methylene chloride	*0.005*	*0.005*	<0.001	<0.00054	**<0.025**	<0.00054	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001
Toluene	*1*	*1*	<0.0002	0.00515	<0.005	<0.00041	<0.00041	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005
Vinyl chloride	*0.002*	*0.002*			**<0.005**									
Xylenes (total)	*10*	*10*	<0.0003	0.0264	<0.0075	<0.00127	<0.00127	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.0008	**<0.0021**	<0.00008	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.0029	<0.004	<0.00031	<0.00032	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	**<0.0019**	**<0.0058**	<0.0002	<0.00021	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	**<0.0019**	**<0.0042**	<0.0002	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.0038	<0.0021	<0.00041	<0.00042	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	0.0023	**0.508**	**320 J**	<0.00041	<0.00042	0.00045	0.00024	0.00011 J	0.00012 J	0.000099 J	<0.00005	0.000086 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.0019	<0.002	<0.0002	<0.00053	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.0024	<0.0047	<0.00026	<0.00026	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Acenaphthene	*1.5*	*4.4*	0.28	0.336	**350**	<0.00031	<0.00032	0.00052	0.00019 J	<0.00009	0.00012 J	<0.00005	<0.00005	0.00011 J
Acenaphthylene	*1.5*	*4.4*	0.0012	0.0127	**5.7**	<0.00031	<0.00032	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Anthracene	*7.3*	*22*	0.0097	0.0267	**160**	<0.0002	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Benzo(a)anthracene	*0.0091*	*0.02*	0.00015	0.00746	**79**	<0.0002	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	**<0.0019**	**22**	<0.0002	**<0.00021**	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	**<0.0038**	**<0.003**	<0.00041	<0.00042	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00011 J	<0.0019	<0.0037	0.00114 J	<0.00021	0.0003	0.00077	<0.00099	<0.0002	0.0004	<0.0001	<0.00011
Chrysene	*0.91*	*2*	0.00015	0.00596	**64**	<0.0002	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Dibenzofuran	*0.098*	*0.29*	**0.23**	**0.204**	**320**	<0.00031	<0.00032	0.0004	0.00014 J	<0.00008	0.00011 J	<0.00005	<0.00005	0.000054 J
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.0019	<0.002	<0.0002	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Fluoranthene	*0.98*	*2.9*	0.0067	0.0508	**520**	<0.0002	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Fluorene	*0.98*	*2.9*	0.28	0.196	**420**	<0.0002	<0.00021	0.00037	0.00014 J	<0.00007	0.000099 J	0.000071 J	0.0001 J	0.000082 J
Naphthalene	*0.49*	*1.5*	<0.00051	**5.55**	**760**	0.000734	0.000833	0.003	0.0017	<0.00046	0.00099	0.00048	<0.00054	0.00052
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.0038	<0.0024	<0.00041	<0.00042	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.0024	<0.0025	<0.00026	<0.00026	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
Pentachlorophenol	*0.001*	*0.001*	<0.000079	**<0.0019**	**<0.0079**	<0.0002	<0.00021	<0.00008	<0.00008	<0.00008	0.00015 J	<0.00005	<0.00005	<0.00005
Phenanthrene	*0.73*	*2.2*	0.082	0.322	**1200**	<0.0002	<0.00021	0.00048	0.00015 J	<0.00007	0.00011 J	<0.00005	<0.00005	0.000059 J
Phenol	*7.3*	*22*	<0.000035	<0.0019	<0.0035	<0.0002	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Pyrene	*0.73*	*2.2*	0.0031	0.033	**330**	<0.0002	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Metals														
Arsenic	*0.01*	*0.01*	0.00134 J		**0.0491 J**									

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-12C 02/05/2013	MW-12C 07/31/2013	MW-12C 01/14/2014	MW-12C 07/25/2014	MW-12C 01/23/2018	MW-12C 03/19/2018	MW-12C 05/16/2018	MW-12C 01/09/2019	MW-12C 07/11/2019	MW-12C 01/13/2020	MW-13 01/30/2008	MW-13 07/15/2008
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00014	<0.00014	<0.00014	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052	<0.00052
Benzene	*0.005*	*0.005*	<0.00008	<0.00008	<0.00008	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00025	<0.00025
Chlorobenzene	*0.1*	*0.1*	<0.00012	<0.00012	<0.00012	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047	<0.00047
Ethylbenzene	*0.7*	*0.7*	<0.000145	<0.00011	<0.00011	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00025	<0.00025
Methylene chloride	*0.005*	*0.005*	<0.00015	<0.00015	<0.00015	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.00054
Toluene	*1*	*1*	<0.00015	<0.00015	<0.00015	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00041	<0.00041
Vinyl chloride	*0.002*	*0.002*	<0.00011			<0.00011								
Xylenes (total)	*10*	*10*	<0.00026	<0.00026	<0.00026	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00127	<0.00127
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000104	<0.000105	<0.000106	<0.000107	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00008	<0.00008
2,4-Dimethylphenol	*0.49*	*1.5*	<0.000292	<0.000295	<0.000298	<0.000301	<0.00004	<0.00004	<0.00004	<0.00004	0.00043	<0.00004	<0.00029	<0.00029
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000123	<0.000124	<0.000125	<0.000126	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.00019	<0.00019
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0000755	<0.0000762	<0.0000769	**0.209**	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.00019	<0.00019
2-Chloronaphthalene	*2*	*5.8*	<0.0000755	<0.0000762	<0.0000769	<0.0000777	0.000079 J	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00038	<0.00039
2-Methylnaphthalene	*0.098*	*0.29*	0.000146 J	0.000129 J	0.000164 J	<0.000146	0.000091 J	0.000092 J	0.000078 J	0.00039	0.00021	0.00018	<0.00038	<0.00039
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.000783	<0.00079	<0.000798	<0.000806	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019	<0.00049
4-Nitrophenol	*0.049*	*0.15*	<0.000528	<0.000533	<0.000538	<0.000544	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00024	<0.00024
Acenaphthene	*1.5*	*4.4*	<0.0000755	<0.0000762	<0.0000769	<0.000114	0.0002	0.0001	<0.000027	0.093	0.000071 J	0.00015	<0.00029	<0.00029
Acenaphthylene	*1.5*	*4.4*	<0.0000566	<0.0000571	<0.0000577	<0.0000583	<0.000015	0.00064	<0.000015	0.00082	<0.000015	<0.000015	<0.00029	<0.00029
Anthracene	*7.3*	*22*	0.0000745 J	<0.0000476	<0.0000481	<0.0000485	<0.000014	<0.000014	<0.000014	0.0084	0.00003 J	<0.000014	0.000955	0.000642
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0000755	<0.0000762	<0.0000769	<0.0000777	<0.00005	<0.00005	<0.00005	0.00014	<0.00005	<0.00005	<0.00019	<0.00019
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0000755	<0.0000762	<0.0000769	<0.0000777	<0.00002	<0.00002	<0.00002	0.000041 J	<0.00002	<0.00002	<0.00019	<0.00019
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.000123	<0.000124	<0.000125	<0.000126	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00038	<0.00039
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000349	<0.000352	<0.000356	<0.000359	<0.00009	0.00013 J	<0.000037	0.00011 J	<0.000037	<0.000037	0.00051 J	<0.00019
Chrysene	*0.91*	*2*	<0.0000755	<0.0000762	<0.0000769	<0.0000777	<0.000021	<0.000021	<0.000021	0.00013	<0.000021	<0.000021	<0.00019	<0.00019
Dibenzofuran	*0.098*	*0.29*	0.0000865 J	0.0000857 J	0.0000979 J	<0.000091	0.0001	<0.00002	0.000052 J	0.067	0.00007 J	0.00012	<0.00029	<0.00029
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.000104	<0.00011	<0.000106	<0.000107	0.000034 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019	<0.00019
Fluoranthene	*0.98*	*2.9*	<0.000066	<0.0000667	<0.0000673	<0.000068	<0.00001	<0.00001	<0.00001	0.0071	<0.00001	0.000091 J	0.00046 J	<0.00019
Fluorene	*0.98*	*2.9*	0.000149 J	0.000102 J	<0.0000673	<0.000068	<0.00003	<0.00003	0.000087 J	0.085	0.000052 J	0.00019	<0.00019	<0.00019
Naphthalene	*0.49*	*1.5*	0.000729	0.000585 J	<0.000853	<0.000598	0.00046	0.0003	<0.00061	<0.00017	<0.0031	0.0017	<0.00038	<0.00039
Nitrobenzene	*0.049*	*0.15*	<0.000104	<0.000105	<0.000106	<0.000107	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00038	<0.00039
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0000943	<0.0000952	<0.0000962	<0.0000971	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00024	<0.00024
Pentachlorophenol	*0.001*	*0.001*	<0.000575	<0.000581	<0.000587	<0.000592	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.00019	<0.00019
Phenanthrene	*0.73*	*2.2*	<0.0000566	<0.0000571	<0.0000872	<0.0000808	0.000069 J	<0.000021	0.000048 J	0.052	0.000039 J	0.00015	<0.00019	<0.00019
Phenol	*7.3*	*22*	<0.0000377	<0.0000381	<0.0000385	<0.0000388	<0.000035	<0.000035	<0.000035	<0.000035	0.0004	0.00012 J	<0.00019	<0.00019
Pyrene	*0.73*	*2.2*	<0.000104	<0.000105	<0.000106	<0.000107	<0.000019	<0.000019	<0.000019	0.0031	<0.000019	0.000068 J	<0.00019	<0.00019
Metals														
Arsenic	*0.01*	*0.01*					0.0025	0.00184 J	0.0017 J	0.000796 J	0.002	0.00195 J		

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-13 02/04/2009	MW-13 01/19/2010	MW-13 06/22/2010	MW-13 01/18/2011	MW-13 07/26/2011	MW-13 02/02/2012	MW-13 07/16/2012	MW-13 02/05/2013	MW-13 07/31/2013	MW-13 01/14/2014	MW-13 07/25/2014	MW-13 01/23/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.00014	<0.00014	<0.0002
Benzene	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	0.000401 J	<0.00012	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00011	<0.00011	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00015	<0.00015	<0.001
Toluene	*1*	*1*	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00015	<0.00015	<0.0002
Vinyl chloride	*0.002*	*0.002*								<0.00011			<0.00011	
Xylenes (total)	*10*	*10*	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00026	<0.00026	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.000104	<0.000107	<0.000212	<0.000107	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	**R**	<0.000301	<0.000596	<0.000301	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000123	<0.000126	<0.00025	<0.000126	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	0.00066	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000755	<0.0000777	<0.000154	<0.0000777	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000777	<0.000154	<0.0000777	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	<0.00007	0.00076	<0.00007	0.000075 J	0.00026	<0.00005	0.000063 J	<0.000066	<0.000068	0.000141 J	<0.000687	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	**R**	<0.000806	<0.0016	<0.000806	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	**R**	<0.000544	<0.00108	<0.000544	<0.000047
Acenaphthene	*1.5*	*4.4*	<0.00009	0.00011 J	<0.00009	<0.00009	0.00033	<0.00005	<0.00005	<0.0000755	<0.0000777	<0.000154	<0.000329	<0.000027
Acenaphthylene	*1.5*	*4.4*	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000566	0.0000715 J	<0.000115	<0.0000583	0.00003 J
Anthracene	*7.3*	*22*	0.0002	0.00043	<0.00007	<0.00007	0.00037	0.000068 J	0.00011 J	0.0011	0.000878	<0.00118	<0.000587	0.00047
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00014 J	<0.00005	<0.0000755	<0.0000777	<0.000154	<0.0000777	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	0.000073 J	<0.00005	<0.0000755	<0.0000777	<0.000154	<0.0000777	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000123	<0.000126	<0.00025	<0.000126	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00035	0.0016	<0.00044	<0.0002	0.00027	0.00043 J	<0.0001	<0.000349	<0.000359	<0.000712	<0.000359	<0.00011
Chrysene	*0.91*	*2*	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00017 J	<0.00005	<0.0000755	<0.0000777	<0.000154	<0.0000777	<0.000021
Dibenzofuran	*0.098*	*0.29*	<0.00008	0.00019 J	<0.00008	<0.00008	0.00034	0.000063 J	0.00019 J	<0.0000755	<0.0000777	<0.000154	<0.000257	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00007	<0.00007	0.0001 J	<0.00007	<0.00005	<0.00005	<0.00005	<0.000104	<0.000211	<0.000212	0.000122 J	<0.00002
Fluoranthene	*0.98*	*2.9*	<0.00007	<0.00007	<0.00007	<0.00007	0.000067 J	0.00015 J	0.00013 J	<0.000066	<0.000068	<0.000135	<0.000068	<0.00001
Fluorene	*0.98*	*2.9*	<0.00007	<0.00007	<0.00007	0.000072 J	0.00035	<0.00005	0.00012 J	<0.000066	<0.000068	<0.000135	<0.000188	<0.00003
Naphthalene	*0.49*	*1.5*	<0.0001	0.007	<0.0001	0.0005	0.00087	<0.00022	<0.00023	<0.0000755	<0.000226	<0.00126	0.0039	0.00014
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000104	<0.000107	<0.000212	<0.000107	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000943	<0.0000971	<0.000192	<0.0000971	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	**R**	<0.000592	**<0.00117**	<0.000592	<0.000079
Phenanthrene	*0.73*	*2.2*	<0.00007	0.00014 J	0.0002	<0.00007	0.00029	0.00015 J	0.00049	<0.0000566	<0.0000583	<0.000115	<0.000163	<0.000021
Phenol	*7.3*	*22*	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	**R**	<0.0000388	<0.0000769	<0.0000388	<0.000035
Pyrene	*0.73*	*2.2*	<0.00007	<0.00007	<0.00007	<0.00007	0.00011 J	0.0002 J	0.000089 J	<0.000104	<0.000107	<0.000212	<0.000107	<0.000019
Metals														
Arsenic	*0.01*	*0.01*												0.00303

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-13 03/18/2018	MW-13 05/15/2018	MW-13 01/08/2019	MW-13 07/11/2019	MW-13 01/14/2020	MW-14 01/30/2008	MW-14 07/15/2008	MW-14 02/04/2009	MW-14 02/04/2009 Duplicate	MW-14 01/19/2010	MW-14 01/19/2010 Duplicate	MW-14 06/22/2010
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047	<0.00047	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00041	<0.00041	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00127	<0.00127	<0.001	<0.001	<0.001	<0.001	<0.001
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00008	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.000063	<0.00004	<0.00029	<0.00029	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.00019	<0.00019	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.00019	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00038	<0.00038	<0.00012	<0.00012	<0.0001	<0.0001	<0.0001
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019	<0.000019	0.000077 J	0.000054 J	0.00047 J	0.000782	0.00075	0.00078	0.00064	0.0006	0.00049
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019	<0.00048	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00024	<0.00024	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
Acenaphthene	*1.5*	*4.4*	<0.000027	<0.000027	<0.000027	0.000066 J	0.00022	0.00223	0.000515	0.00047	0.0005	0.00043	0.00043	0.00041
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	0.000033 J	<0.000015	<0.00029	<0.00029	<0.00006	<0.00006	<0.00007	<0.00007	<0.00007
Anthracene	*7.3*	*22*	0.000039 J	0.000085 J	0.00039	0.00047	<0.000014	0.000678	<0.00019	<0.00007	<0.00007	<0.00007	0.00013 J	<0.00007
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00019	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00038	<0.00038	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.000078 J	0.00011 J	<0.000037	0.000054 J	<0.000037	0.0004 J	<0.00019	0.00081	0.0027	0.0054 J	0.00037 J	<0.00077
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00019	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00002	<0.00002	0.000039 J	0.00016	0.000491	0.000502	0.00045	0.00045	0.0004	0.00044	0.00037
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	0.000029 J	<0.00002	<0.00002	<0.00002	<0.00019	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
Fluoranthene	*0.98*	*2.9*	<0.00001	0.000015 J	<0.00001	0.000032 J	<0.00001	0.000506	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
Fluorene	*0.98*	*2.9*	<0.00003	<0.00003	<0.00003	0.000042 J	0.00016	<0.00019	<0.00019	<0.00007	0.00014 J	0.00013 J	0.0001 J	<0.00007
Naphthalene	*0.49*	*1.5*	<0.000083	<0.00002	<0.00022	<0.0011	0.00026	0.00222	0.00349	0.0032	0.0033	0.003	0.0026	0.0022
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00038	<0.00038	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00024	<0.00024	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.00019	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Phenanthrene	*0.73*	*2.2*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.000599	0.00061	0.00035	0.00039	0.00041	0.00043	0.00044
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.00019	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
Pyrene	*0.73*	*2.2*	<0.000019	0.00002 J	<0.000019	0.000084 J	<0.000019	<0.00019	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
Metals														
Arsenic	*0.01*	*0.01*	0.00984	**0.014**	**0.0602**	**0.0715**	**0.0642**							

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	C/I Assessment Level	MW-14 01/17/2011	MW-14 07/26/2011	MW-14 07/26/2011 Duplicate	MW-14 02/02/2012	MW-14 02/02/2012 Duplicate	MW-14 07/16/2012	MW-14 07/16/2012 Duplicate	MW-14 02/05/2013	MW-14 07/31/2013	MW-14 01/14/2014	MW-14 07/18/2014	MW-14 01/23/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00014	<0.00014	<0.00014	<0.00014	<0.0002
Benzene	*0.005*	*0.005*	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00012	<0.00012	<0.00012	<0.00012	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.0011	<0.0011	<0.0011	<0.0011	<0.0005	<0.0005	<0.00011	0.000123 J	<0.00011	<0.00011	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.0005	<0.0013	<0.0013	<0.0013	<0.0013	<0.001	<0.001	<0.00015	<0.00015	<0.00015	<0.00015	<0.001
Toluene	*1*	*1*	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00015	<0.00015	<0.00015	<0.00015	<0.0002
Vinyl chloride	*0.002*	*0.002*								<0.00011			<0.00011	
Xylenes (total)	*10*	*10*	<0.001	<0.0031	<0.0031	<0.0031	<0.0031	<0.0015	<0.0015	<0.00026	<0.00026	<0.00026	<0.00026	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000104	<0.000107	<0.000106	<0.000109	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00008	<0.00005	<0.00005	0.00005 J	0.0013 J	<0.00005	<0.00005	<0.000292	<0.000301	<0.000298	<0.000307	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000123	<0.000126	<0.000125	<0.000129	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.0000755	<0.0000777	<0.0000769	**0.0788**	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.0001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000777	<0.0000769	<0.0000792	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	0.00039	0.00034	0.00031	0.000064 J	0.00017 J	0.0003	0.00044	0.000402 J	0.000304 J	0.000321 J	0.000336 J	0.00019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.000783	<0.000806	<0.000798	<0.000822	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000528	**R**	<0.000538	<0.000554	<0.000047
Acenaphthene	*1.5*	*4.4*	0.00033	0.00032	0.00028	0.00005 J	0.00015 J	0.0003	0.00035	0.0006	0.000549	0.000943	0.000619	0.00019
Acenaphthylene	*1.5*	*4.4*	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000566	<0.0000583	<0.0000577	<0.0000594	<0.000015
Anthracene	*7.3*	*22*	<0.00007	<0.00005	0.000087 J	<0.00005	<0.00005	0.000069 J	<0.00005	0.000277 J	0.000198 J	<0.000179	0.000139 J	0.000067 J
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000777	<0.0000769	<0.0000792	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000777	<0.0000769	<0.0000792	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000123	<0.000126	<0.000125	<0.000129	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00029	0.00047	0.00065	<0.0001	<0.00013	0.00011 J	0.00011 J	<0.000349	<0.000359	<0.000356	0.000615	<0.000091
Chrysene	*0.91*	*2*	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000777	<0.0000769	<0.0000792	<0.000021
Dibenzofuran	*0.098*	*0.29*	0.0003	0.00031	0.00027	0.00012 J	0.00015 J	0.00032	0.00034	0.000467 J	0.000372 J	0.000443 J	0.000437 J	0.00024
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000104	<0.000179	<0.000106	<0.000109	<0.00002
Fluoranthene	*0.98*	*2.9*	<0.00007	<0.00005	<0.00005	0.00024	0.00031	0.000055 J	<0.00005	0.0000794 J	0.000274 J	0.0000744 J	<0.0000693	0.000028 J
Fluorene	*0.98*	*2.9*	0.000079 J	<0.00005	0.000065 J	<0.00005	<0.00005	0.000076 J	<0.00005	<0.000066	<0.000068	0.00008 J	0.0000901 J	<0.00003
Naphthalene	*0.49*	*1.5*	0.0024	0.0014	0.0012	0.00034 J	0.0014 J	<0.0015	<0.002	0.00211	0.00216 J	<0.00183	0.00143	0.00067
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00008 J	<0.000104	<0.000107	<0.000106	<0.000109	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00009	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000943	<0.0000971	<0.0000962	<0.000099	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000575	<0.000592	<0.000587	<0.000604	<0.000079
Phenanthrene	*0.73*	*2.2*	0.0003	0.00033	0.00032	0.00011 J	0.00014 J	0.00038	0.00039	0.000484	0.000662	<0.000591	0.000506	0.00035
Phenol	*7.3*	*22*	<0.00007	<0.00005	<0.00005	0.00005 J	0.00075 J	<0.00005	<0.00005	<0.0000377	0.000398 J	<0.0000385	<0.0000396	<0.000035
Pyrene	*0.73*	*2.2*	<0.00007	<0.00005	<0.00005	0.00029	0.00029	<0.00005	<0.00005	<0.000104	0.000164 J	<0.000106	<0.000109	<0.000019
Metals														
Arsenic	*0.01*	*0.01*												<0.0004

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-14 03/18/2018	MW-14 05/15/2018	MW-14 01/08/2019	MW-14 07/11/2019	MW-14 01/14/2020	MW-15A 01/30/2008	MW-15A 07/15/2008	MW-15A 02/04/2009	MW-15A 01/18/2010	MW-15A 06/23/2010	MW-15A 01/17/2011	MW-15A 07/13/2011
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.001
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.00161 J	<0.00025	0.0018 J	0.0016 J	0.0017 J	0.00074 J	0.0016 J
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047	<0.00047	<0.0005		<0.0005	<0.0005	<0.001
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00122 J	<0.00025	0.0019 J	0.0015 J	0.0017 J	<0.0005	0.0019 J
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00041	<0.00041	<0.0005	<0.0005	0.00055 J	<0.0005	<0.001
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0056 J	<0.00127	0.0039 J	0.0015 J	0.0047 J	<0.001	0.0038 J
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00008	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.00013	<0.00004	<0.0003	0.00042 J	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.0002	<0.0002	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.0002	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0004	<0.00041	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	<0.00014	<0.000019	<0.000019	0.00019	<0.000019	0.0127	**0.0995**	0.044	0.033	0.042	0.038	**0.14**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.00051	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00025	<0.00026	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005
Acenaphthene	*1.5*	*4.4*	0.00027	<0.000027	<0.000027	0.0001	0.000091 J	0.134	0.442	0.17	0.17	0.16	0.27	0.2
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.0003	<0.00031	0.0017	0.0015	0.00097	0.0011	0.00097
Anthracene	*7.3*	*22*	0.000052 J	<0.000014	0.000052 J	0.000089 J	<0.000014	0.00377	0.00432	0.003	0.0036	0.0049	0.0063	0.0053
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00023 J	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.0004	<0.00041	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	0.00014 J	<0.000037	<0.000037	<0.000037	<0.0002	<0.0002	0.0026	<0.00073	<0.00084	0.0016	<0.00012
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0002	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005
Dibenzofuran	*0.098*	*0.29*	<0.00025	<0.00002	<0.00002	0.000087 J	<0.00002	0.0239	**0.156**	0.047	0.043	0.048	0.05	0.078
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	0.000022 J	<0.00002	<0.00002	<0.0002	<0.0002	0.00029	0.00011 J	<0.00007	<0.00007	<0.00005
Fluoranthene	*0.98*	*2.9*	0.000025 J	<0.00001	<0.00001	0.000067 J	0.000064 J	0.00178	0.00183	0.0011	0.0015	0.002	0.0023	0.0021
Fluorene	*0.98*	*2.9*	0.000094 J	<0.00003	<0.00003	0.000069 J	0.000057 J	0.0394	0.18	0.059	0.06	0.062	0.076	0.092
Naphthalene	*0.49*	*1.5*	<0.00057	<0.00002	<0.00002	<0.002	<0.00002	0.00684	0.271	0.048	<0.0018	0.036	0.0023	0.087
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.0004	<0.00041	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00025	<0.00026	<0.00009	<0.00009	<0.00009	<0.00009	0.00055
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.0002	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005
Phenanthrene	*0.73*	*2.2*	0.00032	<0.000021	<0.000021	0.000059 J	<0.000021	0.0039	0.0229	0.0095	0.0074	0.012	0.019	0.036
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.000035	0.00019 J	<0.000035	<0.0002	<0.0002	<0.00007	<0.00007	0.0002	<0.00007	<0.00005
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019	<0.000019	0.000032 J	0.00006 J	0.00127	0.000664	0.00042	0.00062	0.00076	0.00095	0.00089
Metals														
Arsenic	*0.01*	*0.01*	<0.0004	<0.0004	0.000752 J	0.00133 J	0.00185 J							

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-15A 02/02/2012	MW-15A 07/19/2012	MW-15A 01/30/2013	MW-15A 07/30/2013	MW-15A 01/14/2014	MW-15A 07/17/2014	MW-15A 01/23/2018	MW-15A 03/18/2018	MW-15A 05/15/2018	MW-15A 01/08/2019	MW-15A 07/10/2019	MW-15A 01/14/2020
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.001	<0.0005	<0.00014	<0.00014	<0.00014	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	0.0012 J	0.0016 J	0.0016	0.0013	0.00106	0.00161	<0.0002	0.00051 J	0.0006 J	<0.0002	0.00074 J	0.00034 J
Chlorobenzene	*0.1*	*0.1*	<0.001	<0.0005	<0.00012	0.000121 J	<0.00012	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	0.0024 J	0.0012 J	0.00066 J	0.000799 J	0.000627 J	0.00101	<0.0003	<0.0003	<0.0003	<0.0003	0.00035 J	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.0013	<0.001	<0.00015	<0.00015	<0.00015	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.001	<0.0005	0.000221 J	0.000199 J	0.00034 J	0.000595 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	0.0073 J	0.0097 J	0.00417	0.00527	0.00337	0.00854	0.0018	<0.0003	<0.0003	0.0008 J	0.0026	0.00093 J
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	<0.00005	<0.000104	<0.000107	**<0.00529**	<0.000104	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.00036
2,4-Dimethylphenol	*0.49*	*1.5*	0.00059	0.00056	0.002	<0.000301	<0.0149	<0.000292	<0.00004	<0.00004	<0.00004	<0.00004	<0.00024	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	<0.00005	<0.000123	<0.000126	**<0.00625**	<0.000123	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	<0.00006	<0.0000755	<0.0000777	**<0.00385**	<0.0000755	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.00005	<0.0000755	<0.0000777	<0.00385	<0.0000755	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	0.001	0.046	0.00997	**0.124**	0.0475	0.059	0.0076	0.0016	0.0034	0.0098	0.0077	0.018
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.000783	<0.000806	**<0.0399**	<0.000783	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00005	<0.00005	<0.000528	<0.000544	<0.0269	<0.000528	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.13	0.13	0.141	0.332	0.3	0.205	0.13	0.099	0.1	0.1	0.11	0.14
Acenaphthylene	*1.5*	*4.4*	0.00071	0.0012	<0.0000566	<0.0000583	<0.00288	<0.0000566	0.002	0.0007	0.00069	<0.000015	0.00045	0.00066
Anthracene	*7.3*	*22*	0.0028	0.0046	0.00313	0.0085	0.0111 J	0.00642	0.0026	0.0024	0.0032	0.0025	0.0026	0.0048
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.0000755	<0.0000777	<0.00385	<0.0000755	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00005	<0.00005	<0.0000755	<0.0000777	**<0.00385**	<0.0000755	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	<0.00005	<0.000123	<0.000126	**<0.00625**	<0.000123	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0001	<0.0001	<0.000349	<0.000359	**<0.0178**	<0.000349	<0.000037	<0.000037	**0.0093**	<0.000037	<0.000037	<0.000037
Chrysene	*0.91*	*2*	<0.00005	<0.00005	<0.0000755	<0.0000777	<0.00385	<0.0000755	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	0.028	0.046	0.0416	**0.104**	0.0693	0.0572	0.029	0.024	0.018	0.023	0.035	0.036
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00005	<0.00005	<0.000104	0.000187 J	<0.00529	<0.000104	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	0.00094	0.0015	0.000885	0.00361	<0.00337	0.00257	0.002	0.0012	0.0016	0.0012	0.0018	0.0031
Fluorene	*0.98*	*2.9*	0.043	0.063	0.056	0.139	0.114	0.0822	0.041	0.036	0.029	0.038	0.054	0.065
Naphthalene	*0.49*	*1.5*	0.008	0.27	0.0501 J	**0.526**	0.326	0.248	0.0005	<0.00034	<0.00037	<0.00032	<0.0066	0.00022
Nitrobenzene	*0.049*	*0.15*	<0.00005	<0.00005	<0.000104	<0.000107	<0.00529	<0.000104	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.00005	<0.0000943	<0.0000971	<0.00481	<0.0000943	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00005	<0.00005	<0.000575	<0.000592	**<0.0293**	<0.000575	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	0.0056	0.014	0.00792	0.052	0.0375	0.0203	0.0046	0.0054	0.0074	0.009	0.0095	0.025
Phenol	*7.3*	*22*	<0.00005	<0.00005	<0.0000377	<0.0000388	<0.00192	<0.0000377	<0.000035	<0.000035	<0.000035	<0.000035	0.00039	<0.000035
Pyrene	*0.73*	*2.2*	0.00053	0.00084	0.000496	0.00154	<0.00529	0.00101	0.0009	0.00063	0.00078	0.00051	0.00075	0.0013
Metals														
Arsenic	*0.01*	*0.01*							**0.0264**	**0.0137**	**0.019**	**0.027**	**0.0251**	**0.0441**

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-15B 02/02/2012	MW-15B 07/19/2012	MW-15B 01/30/2013	MW-15B 07/30/2013	MW-15B 01/14/2014	MW-15B 07/17/2014	MW-15B 01/23/2018	MW-15B 03/18/2018	MW-15B 05/15/2018	MW-15B 01/08/2019	MW-15B 07/10/2019	MW-15B 01/14/2020
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.005	<0.0025	<0.00014	<0.00014	<0.00014	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.005	**0.0053 J**	0.0022	0.00484	0.00101	0.00292	<0.0002	<0.0002	0.00071 J	<0.0002	0.0023	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.005	<0.0025	<0.00012	0.000124 J	<0.00012	0.000136 J	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	0.02 J	0.014 J	0.00159	0.00399	0.00019 J	0.00903	<0.0003	<0.0003	0.001	<0.0003	0.0031	<0.0003
Methylene chloride	*0.005*	*0.005*	**<0.0065**	<0.005	<0.00015	<0.00015	<0.00015	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.005	<0.0025	<0.00015	0.000155 J	<0.00015	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.016	<0.0075	0.000356 J	0.00876	0.000876 J	0.00464	<0.0003	<0.0003	<0.0003	<0.0003	0.0025	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	<0.00005	<0.000104	<0.000107	<0.00106	<0.000104	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00043	<0.00005	<0.000292	<0.000301	<0.00298	<0.000292	<0.00004	<0.00004	<0.00004	<0.00004	<0.00016	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	<0.00005	<0.000123	<0.000126	<0.00125	<0.000123	<0.000059	<0.000058	<0.000059	<0.000059	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	<0.00006	<0.0000755	<0.0000777	<0.000769	<0.0000755	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.00005	<0.0000755	<0.0000777	<0.000769	<0.0000755	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	**0.29**	0.023	<0.000744	0.00327	0.00325 J	0.00622	<0.000019	<0.000019	0.00015	<0.000019	0.016	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.000783	<0.000806	**<0.00798**	<0.000783	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00005	<0.00005	<0.000528	<0.000544	<0.00538	<0.000528	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.17	0.075	0.0413	0.114	0.134	0.0653	<0.000027	<0.000027	0.012	0.0026	0.029	0.000073 J
Acenaphthylene	*1.5*	*4.4*	0.0011	0.0008	0.000987	<0.0000583	0.00148 J	<0.0000566	0.000059 J	<0.000015	0.00027	0.00015	0.00034	<0.000015
Anthracene	*7.3*	*22*	0.039	0.0071	0.00179	0.00581	0.00665	0.00517	0.00034	0.00016	0.00058	0.00023	0.0016	0.00011
Benzo(a)anthracene	*0.0091*	*0.02*	0.00016 J	0.00017 J	<0.0000755	0.000218 J	0.000868 J	0.00031 J	0.00017	<0.00005	0.00011	<0.000051	0.00016	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00005	<0.00005	<0.0000755	<0.0000777	**<0.000769**	<0.0000755	0.00007 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	<0.00005	<0.000123	<0.000126	**<0.00125**	<0.000123	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0001	<0.00018	<0.000349	<0.000359	<0.00356	0.000548	<0.00007	<0.000037	0.0001 J	<0.000037	<0.000037	0.000055 J
Chrysene	*0.91*	*2*	0.00019 J	0.00013 J	<0.0000755	0.000167 J	<0.000769	0.000228 J	0.00014	<0.000021	0.000098 J	<0.000021	0.00013	<0.000021
Dibenzofuran	*0.098*	*0.29*	**0.15**	0.052	0.0127	0.0589	0.0509	0.0272	0.0005	<0.00002	0.0025	0.00014	0.013	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00005	<0.00005	<0.000104	0.000187 J	<0.00106	<0.000104	<0.00002	<0.00002	0.000042 J	0.000022 J	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	0.012	0.0062	0.00101	0.00615	0.0131	0.00736	0.0027	<0.00001	0.0031	0.00045	0.0042	0.00011
Fluorene	*0.98*	*2.9*	0.084	0.036	0.011	0.0459	0.0443	0.0231	0.00017	<0.00003	0.0028	0.000055 J	0.01	0.000062 J
Naphthalene	*0.49*	*1.5*	**2.5**	**0.82**	0.0569 J	**0.943**	0.248	0.452	<0.00002	<0.00002	0.02	<0.00002	0.33	<0.00002
Nitrobenzene	*0.049*	*0.15*	<0.00005	<0.00005	<0.000104	<0.000107	<0.00106	<0.000104	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.00005	<0.0000943	<0.0000971	<0.000962	<0.0000943	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00005	<0.00005	<0.000575	<0.000592	**<0.00587**	<0.000575	<0.00008	<0.000079	<0.00008	<0.00008	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	0.08	0.052	0.00199	0.0376	0.0257	0.0204	0.00033	<0.000021	0.00016	<0.000021	0.0065	0.00005 J
Phenol	*7.3*	*22*	<0.00012	<0.00005	<0.0000377	<0.0000388	0.00141 J	0.00112	<0.000035	<0.000035	<0.000035	<0.000035	<0.00019	<0.000035
Pyrene	*0.73*	*2.2*	0.005	0.0031	0.000513	0.00291	0.00569	0.00406	0.0016	<0.000019	0.0017	0.00027	0.0018	0.00006 J
Metals														
Arsenic	*0.01*	*0.01*							0.00895	0.00329	**0.0111**	0.00244	**0.0133**	0.00343

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-15C 01/30/2008	MW-15C 07/15/2008	MW-15C 02/04/2009	MW-15C 01/18/2010	MW-15C 06/23/2010	MW-15C 01/17/2011	MW-15C 07/13/2011	MW-15C 02/02/2012	MW-15C 07/19/2012	MW-15C 01/30/2013	MW-15C 07/30/2013	MW-15C 01/14/2014
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00052	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.00014
Benzene	*0.005*	*0.005*	0.00109 J	<0.00025	0.00096 J	0.0012 J	0.001 J	0.00096 J	<0.001	<0.001	<0.0005	0.000951 J	0.000831 J	0.000863 J
Chlorobenzene	*0.1*	*0.1*	<0.00047	<0.00047	<0.0005		<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00012
Ethylbenzene	*0.7*	*0.7*	0.00135 J	<0.00025	0.00068 J	0.00058 J	<0.0005	<0.0005	<0.0011	0.0017 J	<0.0005	0.000408 J	0.000203 J	0.000275 J
Methylene chloride	*0.005*	*0.005*	<0.00054	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00015
Toluene	*1*	*1*	<0.00041	<0.00041	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	0.000323 J	0.000263 J	0.000305 J
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.00127	<0.00127	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	0.000604 J	0.000839 J	0.000581 J
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00008	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	**<0.0104**	<0.000107	<0.00106
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00029	<0.00032	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	**113**	<0.000301	<0.00298
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.0002	<0.00021	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	**<0.0123**	<0.000126	<0.00125
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0002	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	**<0.00755**	<0.0000777	<0.000769
2-Chloronaphthalene	*2*	*5.8*	<0.00039	<0.00042	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00755	<0.0000777	<0.000769
2-Methylnaphthalene	*0.098*	*0.29*	<0.00039	<0.00042	0.000084 J	<0.00007	<0.00007	<0.00007	<0.00005	0.000099 J	0.00022	**0.35**	<0.000068	<0.000673
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.0002	<0.00053	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	**<0.0783**	<0.000806	**<0.00798**
4-Nitrophenol	*0.049*	*0.15*	<0.00024	<0.00026	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	**<0.0528**	<0.000544	<0.00538
Acenaphthene	*1.5*	*4.4*	0.0293	0.103	0.034	0.0097	0.013	0.032	0.016	0.041	0.042	0.13	0.0574	0.0912
Acenaphthylene	*1.5*	*4.4*	<0.00029	0.000651	0.00052	0.00041	0.00062	0.0011	0.0012	0.0013	0.002	<0.00566	0.00268	<0.000577
Anthracene	*7.3*	*22*	<0.0002	0.000731	0.00078	0.00031	<0.00007	<0.00007	<0.00005	0.00021	0.00045	0.0191 J	0.0000945 J	<0.000481
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0002	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00755	<0.0000777	<0.000769
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0002	**<0.00021**	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	**<0.00755**	<0.0000777	**<0.000769**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00039	<0.00042	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	**<0.0123**	<0.000126	**<0.00125**
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00044 J	<0.00021	<0.0002	<0.00065	<0.00059	0.00044	<0.00057	<0.0001	<0.00012	**<0.0349**	<0.000359	<0.00356
Chrysene	*0.91*	*2*	<0.0002	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00755	<0.0000777	<0.000769
Dibenzofuran	*0.098*	*0.29*	0.0336	0.0904	0.034	0.0075	0.005	0.018	0.0046	0.027	0.021	**0.116**	0.0141	0.0317
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.0002	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.000059 J	<0.0104	<0.000107	<0.00106
Fluoranthene	*0.98*	*2.9*	0.000607	0.00103	0.0006	0.00029	0.0002 J	0.0003	0.00031	0.0016	0.00079	<0.0066	0.000634	0.00158 J
Fluorene	*0.98*	*2.9*	0.00328	0.00278	0.0027	0.0011	0.00071	0.0017	0.00074	0.0025	0.0014	0.0769	0.00159	0.00224 J
Naphthalene	*0.49*	*1.5*	0.00137	0.00195	0.0016	<0.00057	<0.00094	0.00091	<0.00046	0.0011	0.0018	**89.7**	<0.00122	<0.00182
Nitrobenzene	*0.049*	*0.15*	<0.00039	<0.00042	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0104	<0.000107	<0.00106
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00024	<0.00026	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00943	<0.0000971	<0.000962
Pentachlorophenol	*0.001*	*0.001*	<0.0002	<0.00021	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	**<0.0575**	<0.000592	**<0.00587**
Phenanthrene	*0.73*	*2.2*	<0.0002	0.00028 J	<0.00007	0.00014 J	<0.00007	<0.00007	0.00019 J	0.0015	0.00038	0.0868	0.000354 J	<0.000577
Phenol	*7.3*	*22*	<0.0002	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	**61.8**	<0.0000388	<0.000385
Pyrene	*0.73*	*2.2*	0.000542	0.00052	0.00027	0.00012 J	0.00011 J	0.00015 J	0.00018 J	0.00093	0.00046	<0.0104	0.00037 J	<0.00106
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-15C 07/17/2014	MW-15C 01/23/2018	MW-15C 03/18/2018	MW-15C 05/15/2018	MW-15C 01/08/2019	MW-15C 07/10/2019	MW-15C 01/14/2020	MW-16 01/31/2008	MW-16 07/15/2008	MW-16 02/05/2009	MW-16 01/18/2010	MW-16 06/23/2010
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052	<0.00052	<0.0025	<0.0025	<0.0025
Benzene	*0.005*	*0.005*	0.000781 J	0.00063 J	0.00053 J	0.00052 J	0.00058 J	0.0005 J	0.00059 J	**0.0383**	**0.11**	**0.048**	**0.031**	**0.058**
Chlorobenzene	*0.1*	*0.1*	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047	<0.00047	<0.0025		<0.0025
Ethylbenzene	*0.7*	*0.7*	0.000219 J	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.037	0.084	0.034	0.021 J	0.032
Methylene chloride	*0.005*	*0.005*	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.00054	<0.0025	<0.0025	**<0.0062**
Toluene	*1*	*1*	0.00019 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.00619	0.0382	0.0025 J	0.0034 J	0.01 J
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	0.000392 J	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.052	0.121	0.036 J	0.027 J	0.04 J
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000104	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00008	<0.0004	<0.0001	<0.0001	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	<0.000292	<0.00004	<0.00004	<0.00004	<0.00004	0.0052	<0.00004	<0.00029	<0.0016	0.0039	0.0025	0.0054
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000123	<0.000058	<0.000058	<0.000059	<0.000058	<0.000058	<0.000058	<0.00019	<0.0011	<0.00009	<0.00009	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0000755	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.00019	<0.0011	<0.00007	<0.00007	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.0000755	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00038	<0.0021	<0.00012	<0.0001	<0.0001
2-Methylnaphthalene	*0.098*	*0.29*	<0.000066	<0.000019	<0.000019	<0.000019	<0.000019	<0.00066	<0.000019	0.0747	**0.175**	**0.13**	0.079	0.04
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.000783	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019	**<0.0026**	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000528	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00024	<0.0013	<0.00007	<0.00007	<0.00007
Acenaphthene	*1.5*	*4.4*	0.0455	0.027	0.021	0.02	0.02	0.017	0.016	0.215	0.939	0.24	0.21	0.18
Acenaphthylene	*1.5*	*4.4*	0.00342	0.0027	0.002	0.0022	0.0014	0.0015	0.00089	<0.00029	0.0067	0.0044	0.0041	0.0031
Anthracene	*7.3*	*22*	0.000315 J	0.00047	0.000095 J	0.000067 J	0.00031	0.00064	0.00057	0.0151	0.0321	0.011	0.0084	0.0076
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0000755	<0.00005	<0.00005	<0.000051	<0.00005	<0.00005	<0.00005	<0.00019	<0.0011	0.00014 J	0.00011 J	<0.00007
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0000755	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019	**<0.0011**	<0.00008	<0.00008	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.000123	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00038	**<0.0021**	<0.00009	<0.00009	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.000526	<0.000067	<0.000037	0.000072 J	<0.000037	<0.000037	<0.000037	<0.00019	<0.0011	0.0005	<0.0012	<0.0014
Chrysene	*0.91*	*2*	<0.0000755	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.00036 J	<0.0011	0.00014 J	0.000088 J	<0.00007
Dibenzofuran	*0.098*	*0.29*	0.0102	0.0081	0.0029	0.0046	0.0053	0.0039	0.0045	**0.112**	**0.253**	**0.14**	**0.12**	0.091
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.000104	<0.00002	<0.00002	0.000037 J	<0.00002	<0.00002	<0.00002	<0.00019	<0.0011	0.00025	<0.00007	<0.00007
Fluoranthene	*0.98*	*2.9*	0.000763	0.00094	0.00054	0.00074	0.00075	0.00086	0.00066	0.00769	0.0142	0.0064	0.0037	0.0049
Fluorene	*0.98*	*2.9*	0.00135	0.001	0.00045	0.00064	0.00056	0.00097	0.00051	0.114	0.222	0.088	0.096	0.086
Naphthalene	*0.49*	*1.5*	<0.000748	0.00042	<0.00031	<0.00039	<0.00032	0.019	0.00024	**1.9**	**18.9**	**4.1**	**1.9**	**1.4**
Nitrobenzene	*0.049*	*0.15*	<0.000104	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00038	<0.0021	<0.00009	<0.00009	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0000943	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00024	<0.0013	<0.00009	<0.00009	<0.00009
Pentachlorophenol	*0.001*	*0.001*	<0.000575	<0.000079	<0.000079	<0.00008	<0.000079	<0.000079	<0.000079	<0.00019	**<0.0011**	<0.00008	<0.00008	<0.00008
Phenanthrene	*0.73*	*2.2*	<0.0000566	<0.000021	0.00019	0.00041	<0.000021	<0.00039	0.00008 J	0.0421	0.0743	0.04	0.038	0.042
Phenol	*7.3*	*22*	<0.0000377	<0.000035	<0.000035	<0.000035	<0.000035	<0.00026	<0.000035	<0.00019	0.0047	0.00022	0.00013 J	<0.00007
Pyrene	*0.73*	*2.2*	0.00043 J	0.00049	0.00035	0.00043	0.00041	0.00043	0.00038	0.00615	0.0114	0.004	0.0027	0.0025
Metals														
Arsenic	*0.01*	*0.01*		0.000738 J	0.000598 J	0.000777 J	0.000629 J	0.000889 J	0.000773 J					

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-16 01/18/2011	MW-16 07/14/2011	MW-16 02/01/2012	MW-16 07/16/2012	MW-16 01/30/2013	MW-17 01/31/2008	MW-17 07/15/2008	MW-17 02/04/2009	MW-17 01/18/2010	MW-17 06/23/2010	MW-17 01/17/2011	MW-17 07/13/2011
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0025	**<0.01**	**<0.01**	<0.0005	<0.00014	<0.00052	**<0.01**	<0.0005	<0.0025	<0.0025	<0.0025	<0.001
Benzene	*0.005*	*0.005*	**0.025 J**	**0.068**	**0.025 J**	**0.056**	**0.0376**	**0.545**	**0.448**	**0.65**	**0.59**	**0.65**	**0.31**	**0.45**
Chlorobenzene	*0.1*	*0.1*	<0.0025	<0.01	<0.01	<0.0005	0.00051 J	<0.00047	<0.0094	<0.0005		<0.0025	<0.0025	<0.001
Ethylbenzene	*0.7*	*0.7*	0.023 J	0.038 J	0.021 J	0.027	0.0211	0.193	0.142	0.26	0.26	0.2	0.21	0.21
Methylene chloride	*0.005*	*0.005*	<0.0025	**<0.013**	**<0.013**	<0.001	<0.00015	<0.00054	**<0.011**	<0.0005	<0.0025	**<0.0056**	<0.0025	<0.0013
Toluene	*1*	*1*	<0.0025	<0.01	<0.01	0.007	0.00095 J	0.909	0.728	**1.1**	1	0.88	0.97	0.85
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	0.025 J	<0.031	<0.031	0.034	0.0348	0.582	0.44	0.55	0.72	0.61	0.64	0.54
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0001	<0.00005	<0.00005	<0.00005	<0.000104	**<0.002**	**<0.008**	<0.0001	0.001 J	<0.001	<0.0001	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	0.0022 J	0.012	0.00077	0.0054	<0.000292	**11.7**	**13.4**	**2.6**	**3.7**	**13**	**3.9 J**	**2.7**
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.00005	<0.00005	<0.00005	<0.000123	**<0.0038**	**<0.021**	<0.00009	0.0009 J	<0.0009	<0.00009	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000755	**<0.0038**	**<0.021**	<0.00007	0.0007 J	<0.0007	<0.00007	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0076	<0.042	<0.00012	0.001 J	<0.001	<0.0001	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	0.038	0.082	0.034	0.045	0.0467 J	**0.42**	**0.582**	**0.27**	**0.56 J**	**0.39**	**0.97**	**0.75**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.00008	<0.000783	**<0.0038**	**<0.053**	<0.00008	0.0008 J	<0.0008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.00007	<0.00005	<0.00005	<0.00005	<0.000528	<0.0048	<0.026	<0.00007	0.0007 J	<0.0007	<0.00007	<0.00005
Acenaphthene	*1.5*	*4.4*	0.21	0.23	0.21	0.28	0.281	0.137	0.241	0.094	0.17 J	0.071	0.52	0.22
Acenaphthylene	*1.5*	*4.4*	0.0035	0.0032	0.0021	0.0028	<0.0000566	<0.0057	<0.032	0.0041	0.0067 J	0.003	0.008	0.0069
Anthracene	*7.3*	*22*	0.012	0.017	0.0034	0.017	0.0182 J	0.0115	0.022	0.0099	0.013 J	0.0075	0.12	0.014
Benzo(a)anthracene	*0.0091*	*0.02*	0.00017 J	0.00022	0.000059 J	0.00013 J	0.000339 J	<0.0038	**<0.021**	0.0004	0.0007 J	<0.0007	**0.033**	0.00047
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000755	**<0.0038**	**<0.021**	0.00014 J	**0.0008 J**	**<0.0008**	**0.0097**	**0.00027**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.00005	<0.00005	<0.00005	<0.000123	**<0.0076**	**<0.042**	<0.00009	**0.0009 J**	**<0.0009**	<0.00009	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0002	<0.00025	<0.0002	<0.0001	<0.000349	<0.0038	**<0.021**	<0.0002	0.002 J	<0.002	0.0022	<0.00044
Chrysene	*0.91*	*2*	0.00011 J	0.00019 J	0.000053 J	0.0001 J	0.000225 J	<0.0038	<0.021	0.00032	0.0007 J	<0.0007	0.025	0.00047
Dibenzofuran	*0.098*	*0.29*	**0.13**	**0.13**	0.098	**0.17**	**0.158**	**0.115**	**0.195**	0.079	**0.15 J**	0.065	**0.47**	**0.19**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00007	0.000099 J	<0.00005	<0.00005	<0.000104	<0.0038	<0.021	<0.00007	0.0007 J	<0.0007	<0.00007	<0.00005
Fluoranthene	*0.98*	*2.9*	0.0059	0.006	0.0021	0.0059	0.00836	0.0044	<0.021	0.0035	0.0037 J	0.0022	0.17	0.0039
Fluorene	*0.98*	*2.9*	0.12	0.14	0.085	0.15	0.147	0.0701	0.109	0.047	0.076 J	0.039	0.42	0.12
Naphthalene	*0.49*	*1.5*	**1.2**	**1.8**	**1.8**	**2.1**	**1.81**	**23.6**	**25.5**	**9.7**	**16**	**15**	**16**	**19**
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.00005	<0.00005	<0.00005	<0.000104	<0.0076	<0.042	<0.00009	0.0009 J	<0.0009	<0.00009	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000943	<0.0048	<0.026	<0.00009	0.0009 J	<0.0009	<0.00009	<0.00005
Pentachlorophenol	*0.001*	*0.001*	<0.00008	0.000061 J	<0.00005	<0.00005	<0.000575	**<0.0038**	**<0.021**	<0.00008	0.0008 J	<0.0008	<0.00008	<0.00005
Phenanthrene	*0.73*	*2.2*	0.045	0.058	0.042	0.07	0.0614	0.0502	0.099	0.038	0.06 J	0.033	**0.91**	0.078
Phenol	*7.3*	*22*	0.000074 J	0.000067 J	0.00015 J	0.000088 J	<0.0000377	**20.2**	**16.5**	5.5	**7.7**	**19**	3.6	3.1
Pyrene	*0.73*	*2.2*	0.0034	0.005	0.0017	0.0034	0.0059	0.0076	<0.021	0.002	0.0021 J	0.0012 J	0.12	0.0019
Metals														
Arsenic	*0.01*	*0.01*												

Notes:
1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	***C/I Assessment Level***	MW-17 02/01/2012	MW-17 07/12/2012	MW-17 02/14/2013	MW-17 02/14/2013 Duplicate	MW-17 04/01/2013	MW-17 04/01/2013 Duplicate	MW-17 07/30/2013	MW-17 01/13/2014	MW-17 07/17/2014	MW-17 01/30/2018	MW-17 03/18/2018	MW-17 05/16/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.005	<0.005			**<0.007**	**<0.007**	**<0.014**	**<0.007**	<0.0028	<0.0002	<0.0002	<0.002
Benzene	*0.005*	*0.005*	**0.24**	**0.46**			**0.435**	**0.41**	**0.174**	**0.324**	**0.576**	**0.47**	**0.55**	**0.61**
Chlorobenzene	*0.1*	*0.1*	<0.005	<0.005			<0.006	<0.006	<0.012	<0.006	<0.0024	<0.0003	<0.0003	<0.003
Ethylbenzene	*0.7*	*0.7*	0.23	0.21			0.217	0.22	0.279	0.251	0.209	0.26	0.19	0.23
Methylene chloride	*0.005*	*0.005*	**<0.0065**	**<0.01**			**<0.0075**	**<0.0075**	**0.115**	**<0.0075**	**0.0187 J**	<0.001	<0.001	**<0.01**
Toluene	*1*	*1*	0.74	0.81			0.878	0.861	0.68	0.931	0.93	0.97	0.83	0.82
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	0.63	0.69			0.702	0.672	0.698	0.724	0.641	0.81	0.47	0.77
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0005	<0.00005	**<0.038**	**<0.038**	**<0.0423**	**<0.0423**	**<0.00534**	**<0.0529**	**<0.00519**	<0.00021	<0.00021	<0.00021
2,4-Dimethylphenol	*0.49*	*1.5*	**3**	**4**	**7.93**	**7.03**	**11.3**	**10.4**	**3.19**	**6.75**	**13.9**	**4.3**	**7.7**	**4.2**
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.0005	<0.00005	**<0.032**	**<0.032**	**<0.05**	**<0.05**	**<0.00631**	**<0.0625**	**<0.00613**	<0.00058	<0.00058	<0.00059
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0006	<0.00006	**<0.029**	**<0.029**	**<0.0308**	**<0.0308**	**<0.00388**	**<0.0385**	**<0.00377**	<0.00042	<0.00042	<0.00042
2-Chloronaphthalene	*2*	*5.8*	<0.0005	<0.00005	<0.019	<0.019	<0.0308	<0.0308	<0.00388	<0.0385	<0.00377	<0.00021	<0.00021	<0.00021
2-Methylnaphthalene	*0.098*	*0.29*	**0.29**	**0.51**	**0.443**	**0.421**	**1.04**	**1.24**	**1.04**	**0.857**	**0.636**	**0.3**	**0.38**	**0.34**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.0008	<0.00008	**<0.016**	**<0.016**	**<0.319**	**<0.319**	**<0.0403**	**<0.399**	**<0.0392**	<0.0002	<0.0002	<0.0002
4-Nitrophenol	*0.049*	*0.15*	<0.0005	<0.00005	<0.033	<0.033	**<0.215**	**<0.215**	<0.0272	**<0.269**	<0.0264	<0.00047	<0.00047	0.0076 J
Acenaphthene	*1.5*	*4.4*	0.13	0.14	0.159	0.155	0.36	0.369	0.353	0.315	0.195	0.084	0.13	0.11
Acenaphthylene	*1.5*	*4.4*	0.0056	0.005	<0.016	<0.016	<0.0231	<0.0231	0.0147 J	<0.0288	<0.00283	0.0029	<0.00015	0.0041
Anthracene	*7.3*	*22*	0.0096	0.014	<0.044	<0.044	0.0192 J	0.0822 J	0.0233 J	0.0278 J	0.0202 J	0.0065	0.011	0.0094
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0005	0.00018 J	**<0.025**	**<0.025**	**<0.0308**	**<0.0308**	<0.00388	**<0.0385**	<0.00377	<0.0005	<0.0005	<0.00051
Benzo(a)pyrene	*0.0002*	*0.0002*	**<0.0005**	<0.00005	**<0.013**	**<0.013**	**<0.0308**	**<0.0308**	**<0.00388**	**<0.0385**	**<0.00377**	<0.0002	<0.0002	<0.0002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.0005	<0.00005	**<0.019**	**<0.019**	**<0.05**	**<0.05**	**<0.00631**	**<0.0625**	**<0.00613**	<0.0003	<0.0003	<0.0003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.001	0.00027	**<0.059**	**<0.059**	**<0.142**	**<0.142**	**<0.018**	**<0.178**	**<0.0175**	<0.00037	<0.00037	<0.00037
Chrysene	*0.91*	*2*	<0.0005	0.00011 J	<0.024	<0.024	<0.0308	<0.0308	<0.00388	<0.0385	<0.00377	<0.00021	<0.00021	<0.00021
Dibenzofuran	*0.098*	*0.29*	0.093	**0.13**	**0.133 J**	**0.128 J**	**0.275**	**0.234**	**0.253**	**0.211 J**	**0.148**	0.071	0.092	0.082
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.0005	<0.00005	<0.187	<0.187	<0.0423	<0.0423	<0.00534	<0.0529	<0.00519	<0.0002	<0.0002	<0.0002
Fluoranthene	*0.98*	*2.9*	0.0026	0.0034	<0.031	<0.031	<0.0269	<0.0269	0.00667 J	<0.0337	0.00429 J	0.0022	0.003	0.0022
Fluorene	*0.98*	*2.9*	0.059	0.082	0.0672 J	0.0489 J	0.146 J	0.0718 J	0.165	0.16 J	0.0943	0.04	0.057	0.051
Naphthalene	*0.49*	*1.5*	**10**	**14**	**15.3**	**13.8**	**25.2**	**25.6**	**25.8**	**21.3**	**15.4**	**7.4**	**12**	**8.1**
Nitrobenzene	*0.049*	*0.15*	<0.0005	<0.00005	<0.02	<0.02	<0.0423	<0.0423	<0.00534	**<0.0529**	<0.00519	<0.00024	<0.00024	<0.00024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0005	<0.00005	<0.033	<0.033	<0.0385	<0.0385	<0.00485	<0.0481	<0.00472	<0.00025	<0.00025	<0.00025
Pentachlorophenol	*0.001*	*0.001*	<0.0005	<0.00005	**<0.096**	**<0.096**	**<0.235**	**<0.235**	**<0.0296**	**<0.293**	**<0.0288**	<0.00079	<0.00079	<0.0008
Phenanthrene	*0.73*	*2.2*	0.042	0.063	0.0564 J	0.0534 J	0.124 J	0.0231 J	0.123	0.0993 J	0.0725	0.034	0.044	0.044
Phenol	*7.3*	*22*	3.7	6.1	**20.7**	**16.2**	**22.2**	**25.1**	1.54	6.46	**18.1**	7.1	**18**	6.5
Pyrene	*0.73*	*2.2*	0.0018 J	0.0018	<0.033	<0.033	<0.0423	<0.0423	<0.00534	<0.0529	<0.00519	0.0011	0.0015	0.0014
Metals														
Arsenic	*0.01*	*0.01*										**0.0444**	**0.0419**	**0.0415**

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-17 01/09/2019	MW-17 07/10/2019	MW-17 01/14/2020	MW-17C 01/30/2008	MW-17C 01/30/2008 Duplicate	MW-17C 07/15/2008	MW-17C 02/04/2009	MW-17C 01/18/2010	MW-17C 06/23/2010	MW-17C 01/17/2011	MW-17C 07/13/2011	MW-17C 02/01/2012
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.002	<0.0002	<0.0002	<0.00052	<0.00052	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.005
Benzene	*0.005*	*0.005*	**0.35**	**0.54**	<0.0002	**0.0565**	**0.0517**	**0.0426**	**0.03**	**0.0083**	**0.024**	**0.023**	**0.01**	**0.016 J**
Chlorobenzene	*0.1*	*0.1*	<0.003	<0.0003	<0.0003	<0.00047	<0.00047	<0.00047	<0.0005		<0.0005	<0.0005	<0.001	<0.005
Ethylbenzene	*0.7*	*0.7*	0.21	0.23	<0.0003	0.292	0.312	0.226	0.17	0.053	0.2	0.21	0.021	0.19
Methylene chloride	*0.005*	*0.005*	**<0.01**	<0.001	<0.001	<0.00054	<0.00054	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	**<0.0065**
Toluene	*1*	*1*	0.68	0.83	<0.0002	0.0137	0.014	0.0102	0.008	0.0042 J	0.0071	0.0081	0.0046 J	0.0067 J
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	0.66	0.78	<0.0003	0.485	0.485	0.353	0.25	0.046	0.33	0.42 J	0.029	0.22
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00021	<0.00021	<0.000021	<0.0008	**<0.04**	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	**1.9**	**5.9**	<0.00004	<0.0029	<0.14	0.00054 J	0.0028	0.044	0.0018	0.0035 J	**1.5**	<0.00005
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00058	<0.00058	<0.000058	**<0.0019**	**<0.096**	<0.00021	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00042	<0.00042	<0.000042	**<0.0019**	**<0.096**	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.00021	<0.00021	<0.000021	<0.0038	<0.19	<0.00042	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	**0.23**	**0.39**	<0.000019	**1.09**	**0.418**	0.0954	0.085	0.063	**0.099**	0.075	0.0073	0.062
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.0002	<0.0002	<0.00002	<0.0019	**<0.096**	<0.00053	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.00047	<0.00047	<0.000047	<0.0024	**<0.12**	<0.00026	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Acenaphthene	*1.5*	*4.4*	0.091	0.16	<0.000027	0.726	0.339	0.227	0.14	0.13	0.14	0.18	0.021	0.097
Acenaphthylene	*1.5*	*4.4*	0.0029	0.0042	<0.000015	<0.0029	<0.14	0.00251	0.0012	0.0013	0.0016	0.0017	0.00028	0.0011
Anthracene	*7.3*	*22*	0.0057	0.0092	<0.000014	0.178	<0.096	0.00985	0.0084	0.0057	0.0071	0.015	0.0016	0.0048
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0005	<0.0005	<0.00005	**0.0466**	**<0.096**	<0.00021	0.00018 J	0.00013 J	0.00016 J	0.0012	0.00017 J	0.000091 J
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0002	<0.0002	<0.00002	**0.0128**	**<0.096**	**<0.00021**	<0.00008	<0.00008	<0.00008	**0.00027**	<0.00005	<0.00005
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.0003	<0.0003	<0.00003	**<0.0038**	**<0.19**	<0.00042	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00037	<0.00037	<0.000037	<0.0019	**<0.096**	0.00021 J	<0.0002	<0.0039	<0.0018	0.0015	**<0.012**	<0.001
Chrysene	*0.91*	*2*	<0.00021	<0.00021	<0.000021	0.0428	<0.096	<0.00021	0.00017 J	0.00012 J	0.00017 J	0.001	<0.00005	0.00013 J
Dibenzofuran	*0.098*	*0.29*	0.072	**0.12**	<0.00002	**0.61**	**0.291**	**0.19**	**0.13**	**0.11**	**0.13**	**0.19**	0.021	0.096
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.0002	<0.0002	<0.00002	<0.0019	<0.096	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Fluoranthene	*0.98*	*2.9*	0.0015	0.0039	0.00011	0.322	<0.096	0.00845	0.007	0.0044	0.005	0.019	0.0018	0.002
Fluorene	*0.98*	*2.9*	0.043	0.06	<0.00003	0.422	0.167	0.0799	0.062	0.055	0.069	0.083	0.009	0.054
Naphthalene	*0.49*	*1.5*	**5.5**	**8.9**	<0.00002	**9.8**	**6.35**	**5.84**	**3.4**	**2.2**	**3.4**	**4.1**	0.37	**3.3**
Nitrobenzene	*0.049*	*0.15*	<0.00024	<0.00024	<0.000024	<0.0038	**<0.19**	<0.00042	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00025	<0.00025	<0.000025	<0.0024	<0.12	<0.00026	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005
Pentachlorophenol	*0.001*	*0.001*	<0.00079	<0.00079	<0.000079	**<0.0019**	**<0.096**	<0.00021	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005
Phenanthrene	*0.73*	*2.2*	0.028	0.045	<0.000021	**1.09**	0.316	0.104	0.078	0.058	0.08	0.076	0.014	0.0081
Phenol	*7.3*	*22*	2.2	**9.9**	<0.000035	<0.0019	<0.096	0.0349	0.0013	0.14	<0.00007	0.00078	0.025	0.00014 J
Pyrene	*0.73*	*2.2*	0.00081 J	0.0018	0.000066 J	0.19	<0.096	0.00445	0.0033	0.0028	0.0026	0.009	0.00098	0.0025
Metals														
Arsenic	*0.01*	*0.01*	**0.046**	**0.046**	0.00154 J									

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-17C 07/12/2012	MW-17C 02/14/2013	MW-17C 04/01/2013	MW-17C 07/30/2013	MW-17C 01/13/2014	MW-17C 07/17/2014	MW-17C 01/31/2018	MW-17C 03/18/2018	MW-17C 05/16/2018	MW-17C 01/10/2019	MW-17C 07/10/2019	MW-17C 01/15/2020
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005		<0.0014	<0.0014	<0.0007	<0.00014	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	**0.013**		**0.0114**	**0.0162**	**0.00939**	**0.0132**	**0.014**	**0.0067**	**0.0099**	**0.012**	**0.0097**	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0005		<0.0012	<0.0012	<0.0006	<0.00012	<0.0003	<0.0003	<0.0015	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	0.17		0.161	0.225	0.123	0.0374	0.042	0.16	0.12	0.027	0.027	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.001		0.00368 J	**0.00786 J**	<0.00075	<0.00015	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001
Toluene	*1*	*1*	0.0057		0.0049 J	0.00743 J	0.00471 J	0.0073	0.0097	0.0038	0.0069	0.0087	0.0073	<0.0002
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	0.21		0.217	0.27	0.141	0.0482	0.071	0.1	0.094	0.05	0.039	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	**<0.038**	<0.000106	**<0.0107**	**<0.0106**	**<0.00519**	<0.00021	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	0.039	0.0418 J	<0.000298	<0.0301	<0.0298	**7.09**	**0.59**	0.03	0.08	0.47	0.21	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	**<0.032**	<0.000125	**<0.0126**	**<0.0125**	**<0.00613**	<0.00058	<0.00058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	**<0.029**	<0.0000769	**<0.00777**	**<0.00769**	**<0.00377**	<0.00042	<0.00042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.019	<0.0000769	<0.00777	<0.00769	<0.00377	<0.00021	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	**0.1**	**0.173**	**0.176**	**0.151**	**0.144**	0.0203 J	0.094	**0.12**	**1.1**	0.025	0.026	0.000073 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	**<0.016**	<0.000798	**<0.0806**	**<0.0798**	**<0.0392**	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00005	<0.033	0.00502	**<0.0544**	**<0.0538**	<0.0264	0.0035 J	<0.00047	0.0017	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.14	0.194	0.216	0.239	0.218	0.0299	0.043	0.15	1.4	0.031	0.035	0.00023
Acenaphthylene	*1.5*	*4.4*	0.0018	<0.016	<0.0000577	<0.00583	<0.00577	<0.00283	0.00076 J	0.002	0.0017	0.00047	0.00037	<0.000015
Anthracene	*7.3*	*22*	0.008	<0.044	0.011	0.0144 J	0.0156 J	<0.00236	0.0017	0.01	0.0088	0.0012	0.0013	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*	0.00022	**<0.025**	0.00016 J	<0.00777	<0.00769	<0.00377	<0.0005	<0.0005	0.00011	0.000062 J	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00005	**<0.013**	<0.0000769	**<0.00777**	**<0.00769**	**<0.00377**	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	**<0.019**	<0.000125	**<0.0126**	**<0.0125**	**<0.00613**	<0.0003	<0.0003	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.0048	**<0.059**	0.00148	**<0.0359**	**0.0491 J**	**<0.0175**	0.005	0.0053	0.0018	0.00062	0.00056	<0.000037
Chrysene	*0.91*	*2*	0.00016 J	<0.024	0.000167 J	<0.00777	<0.00769	<0.00377	<0.00021	<0.00021	0.00011	0.000059 J	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	**0.14**	**0.16**	**0.185**	**0.199**	**0.184**	0.0255	0.039	**0.13**	**0.099**	0.027	0.027	0.000065 J
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00005	<0.187	<0.000106	<0.0107	<0.0106	<0.00519	<0.0002	<0.0002	0.000058 J	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	0.0048	<0.031	0.00784	0.00795 J	0.00707 J	<0.0033	0.00073 J	0.0056	0.0044	0.00078	0.0009	0.00034
Fluorene	*0.98*	*2.9*	0.066	0.0785 J	0.0989	0.103	0.0907	0.0118 J	0.019	0.066	0.06	0.012	0.014	0.000061 J
Naphthalene	*0.49*	*1.5*	**4**	**0.988**	**5.9**	**4.4**	**6.24**	**0.772**	**1.8**	**4.8**	**53**	**1.1**	**0.97**	0.00016
Nitrobenzene	*0.049*	*0.15*	<0.00005	<0.02	<0.000106	<0.0107	<0.0106	<0.00519	<0.00024	<0.00024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.033	<0.0000962	<0.00971	<0.00962	<0.00472	<0.00025	<0.00025	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00005	**<0.096**	<0.000587	**<0.0592**	**<0.0587**	**<0.0288**	<0.00079	<0.00079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	0.076	0.106 J	0.12	0.12	0.11	0.0122 J	0.014	0.071	0.07	0.01	0.01	<0.000021
Phenol	*7.3*	*22*	<0.0002	0.107 J	<0.0000385	<0.00388	<0.00385	**8.33**	0.0025	0.0036	0.00022	0.033	0.00073	<0.000035
Pyrene	*0.73*	*2.2*	0.0028	<0.033	0.00356	<0.0107	<0.0106	<0.00519	0.00031 J	0.0031	0.0025	0.00045	0.00046	0.00021
Metals														
Arsenic	*0.01*	*0.01*							0.00112 J	0.00688	0.00479	0.0013 J	0.000854 J	0.00184 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	***C/I Assessment Level***	MW-18A 01/30/2008	MW-18A 07/15/2008	MW-18A 02/05/2009	MW-18A 01/18/2010	MW-18A 06/24/2010	MW-18A 01/17/2011	MW-18A 07/13/2011	MW-18A 02/01/2012	MW-18A 07/11/2012	MW-18A 01/31/2013	MW-18A 07/29/2013	MW-18A 01/13/2014
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00052	<0.00052	<0.0025	<0.005	<0.0025	<0.0025	<0.005	<0.005	<0.005	**<0.007**	0.00405 J	**<0.014**
Benzene	*0.005*	*0.005*	**0.503**	**0.321**	**0.48**	**0.51**	**0.47**	**0.55**	**0.59**	**0.28**	**0.68**	**0.636**	**0.491**	**0.239**
Chlorobenzene	*0.1*	*0.1*	0.0167	0.0074	0.017 J	<0.005	<0.0025	<0.0025	<0.005	<0.005	<0.005	<0.006	<0.0012	<0.012
Ethylbenzene	*0.7*	*0.7*	0.555	0.153	0.52	0.48	0.54	0.55	0.39	0.55	0.3	0.316	0.398	0.637
Methylene chloride	*0.005*	*0.005*	<0.00054	<0.00054	<0.0025	<0.005	<0.0025	<0.0025	**<0.0065**	**<0.0065**	**<0.01**	**<0.0075**	**0.00976 J**	**<0.015**
Toluene	*1*	*1*	0.374	0.0718	0.23	0.32	0.45	0.35	0.23	0.21	0.21	0.154	0.239	0.0731 J
Vinyl chloride	*0.002*	*0.002*				**0.059**		**0.07**	**0.028**	**0.047**	**<0.005**	**0.0181 J**	**0.029**	**<0.011**
Xylenes (total)	*10*	*10*	1.13	0.292	0.98	1.2	1.2	1	0.73	1.1	0.51	0.519	0.991	1.27
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	**<0.008**	<0.0008	<0.0001	<0.0001	<0.0005	<0.0001	<0.00005	<0.0005	0.00005 J	<0.00108	**<0.0214**	**<0.0106**
2,4-Dimethylphenol	*0.49*	*1.5*	**12.5**	**2.17**	**1.9**	**4.5**	**7.9**	**9.6 J**	**11**	**5.8**	**9.4 J**	**11.8**	**6.29**	**2.95**
2,4-Dinitrotoluene	*0.0013*	*0.003*	**<0.02**	**<0.002**	<0.00009	<0.00009	<0.00045	<0.00009	<0.00005	<0.0005	0.00005 J	<0.00127	**<0.0252**	**<0.0125**
2,6-Dinitrotoluene	*0.0013*	*0.003*	**<0.02**	**<0.002**	<0.00007	<0.00007	<0.00035	<0.00007	<0.00006	<0.0006	0.00006 J	<0.000784	**<0.0155**	**<0.00769**
2-Chloronaphthalene	*2*	*5.8*	<0.041	<0.004	<0.00012	<0.0001	<0.0005	<0.0001	<0.00005	<0.0005	0.00005 J	<0.000784	<0.0155	<0.00769
2-Methylnaphthalene	*0.098*	*0.29*	**0.548**	**0.594**	**0.42**	**0.36**	**0.4**	**0.44**	**0.7**	**0.23**	**0.64 J**	**0.745**	**0.819**	**0.996**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	**<0.02**	**<0.005**	<0.00008	<0.00008	<0.0004	<0.00008	<0.00008	<0.0008	0.00008 J	**<0.00814**	**<0.161**	**<0.0798**
4-Nitrophenol	*0.049*	*0.15*	<0.026	<0.0025	<0.00007	<0.00007	<0.00035	<0.00007	<0.00005	<0.0005	0.00005 J	<0.00549	**<0.109**	**<0.0538**
Acenaphthene	*1.5*	*4.4*	0.343	0.466	0.19	0.23	0.25	0.24	0.36	0.15	0.3 J	0.464	0.493	0.553
Acenaphthylene	*1.5*	*4.4*	<0.031	0.0131	0.0092	0.0062	0.0095	0.0072	0.015	0.007	0.0067 J	0.0151	<0.0117	<0.00577
Anthracene	*7.3*	*22*	<0.02	0.0114	0.009	0.0069	0.0075	0.0073	0.013	0.0046	0.009 J	0.0204	0.0204 J	0.0226 J
Benzo(a)anthracene	*0.0091*	*0.02*	**<0.02**	<0.002	<0.00007	<0.00007	<0.00035	<0.00007	<0.00005	<0.0005	0.00005 J	<0.000784	**<0.0155**	<0.00769
Benzo(a)pyrene	*0.0002*	*0.0002*	**<0.02**	**<0.002**	<0.00008	<0.00008	**<0.0004**	<0.00008	<0.00005	**<0.0005**	0.00005 J	**<0.000784**	**<0.0155**	**<0.00769**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	**<0.041**	**<0.004**	<0.00009	<0.00009	<0.00045	<0.00009	<0.00005	<0.0005	0.00005 J	**<0.00127**	**<0.0252**	**<0.0125**
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	**<0.02**	<0.002	0.00033	<0.0002	<0.001	<0.0002	<0.0001	<0.0011	0.0001 J	<0.00363	**<0.0718**	**<0.0356**
Chrysene	*0.91*	*2*	<0.02	<0.002	<0.00007	<0.00007	<0.00035	<0.00007	<0.00005	<0.0005	0.00005 J	<0.000784	<0.0155	<0.00769
Dibenzofuran	*0.098*	*0.29*	**0.233**	**0.29**	**0.12**	**0.15**	**0.16**	**0.15**	**0.23**	0.075	**0.21 J**	**0.188**	**0.279**	**0.326**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.02	<0.002	<0.00007	<0.00007	<0.00035	<0.00007	<0.00005	<0.0005	0.00005 J	<0.00108	<0.0214	<0.0106
Fluoranthene	*0.98*	*2.9*	<0.02	0.0021	0.0026	0.0013	0.0013	0.0014	0.0018	0.0013 J	0.0016 J	<0.000686	<0.0136	<0.00673
Fluorene	*0.98*	*2.9*	0.155	0.182	0.089	0.096	0.11	0.094	0.18	0.057	0.14 J	0.136	0.214	0.268
Naphthalene	*0.49*	*1.5*	**7.93**	**7.43**	**3.3**	**4.3**	**6.1**	**5.9**	**7.3**	**3.6**	**7.8 J**	**9.29**	**11.8**	**11.4**
Nitrobenzene	*0.049*	*0.15*	<0.041	<0.004	<0.00009	<0.00009	<0.00045	<0.00009	<0.00005	<0.0005	0.00005 J	<0.00108	<0.0214	<0.0106
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.026	<0.0025	<0.00009	<0.00009	<0.00045	<0.00009	<0.00005	<0.0005	0.00005 J	<0.00098	<0.0194	<0.00962
Pentachlorophenol	*0.001*	*0.001*	**<0.02**	**<0.002**	<0.00008	<0.00008	<0.0004	<0.00008	<0.00005	<0.0005	0.00005 J	**<0.00598**	**<0.118**	**<0.0587**
Phenanthrene	*0.73*	*2.2*	0.118	0.12	0.078	0.067	0.082	0.063	0.098	0.042	0.083 J	0.101	0.144	0.19
Phenol	*7.3*	*22*	0.364	<0.002	0.005	0.043	0.0054	0.02	0.061	0.011	0.12 J	<0.000392	<0.00777	<0.00385
Pyrene	*0.73*	*2.2*	<0.02	<0.002	0.0013	0.00075	0.00063 J	0.00085	0.0011	0.00077 J	0.00081 J	<0.00108	<0.0214	<0.0106
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-18A 07/16/2014	MW-18A 01/25/2018	MW-18A 03/19/2018	MW-18A 05/16/2018	MW-18A 01/10/2019	MW-18A 07/10/2019	MW-18A 01/08/2020	MW-18C 01/30/2008	MW-18C 07/15/2008	MW-18C 02/05/2009	MW-18C 01/19/2010	MW-18C 06/24/2010
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	0.00482 J	<0.0002	<0.0002	<0.0002	<0.005	<0.0002	<0.005	<0.00052	<0.00052	<0.005	<0.005	<0.0025
Benzene	*0.005*	*0.005*	**0.483**	**0.19**	**0.22**	**0.17**	**1.2**	**0.16**	**0.41**	**1.34**	**0.964**	**1.4**	**1.5**	**1**
Chlorobenzene	*0.1*	*0.1*	<0.0024	0.0062	0.006	0.0066	<0.0075	0.0017	<0.0075	<0.00047	<0.00047	<0.005	<0.005	<0.0025
Ethylbenzene	*0.7*	*0.7*	0.692	0.36	0.36	0.43	0.34	0.28	0.32	0.304	0.178	0.26	0.21	0.13
Methylene chloride	*0.005*	*0.005*	**0.0138 J**	<0.001	<0.001	<0.001	**<0.025**	<0.001	**<0.025**	<0.00054	<0.00054	<0.005	<0.005	<0.0025
Toluene	*1*	*1*	0.416	0.074	0.068	0.042	0.92	0.057	0.11	**1.2**	0.691	1	0.96	0.72 J
Vinyl chloride	*0.002*	*0.002*	**0.02 J**	**0.0023**	0.002	**0.0021**	**<0.005**	0.0013	**<0.005**					
Xylenes (total)	*10*	*10*	1.3	0.97	0.79	0.91	1	0.47	0.5	1.1	0.624	1.1	1	1
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	**<0.00519**	<0.00021	<0.00021	<0.00021	<0.00021	<0.000021	<0.000021	**<0.04**	<0.0008	<0.0001	<0.0001	<0.0005
2,4-Dimethylphenol	*0.49*	*1.5*	**8.01**	0.023	0.12	**0.5**	0.0054	**0.72**	**1.8**	<0.15	<0.0031	0.084	0.0081	0.0078 J
2,4-Dinitrotoluene	*0.0013*	*0.003*	**<0.00613**	<0.00058	<0.00058	<0.00058	<0.00058	<0.000058	<0.000058	**<0.098**	**0.00636**	<0.00009	<0.00009	<0.00045
2,6-Dinitrotoluene	*0.0013*	*0.003*	**<0.00377**	<0.00042	<0.00042	<0.00042	<0.00042	<0.000042	<0.000042	**<0.098**	**<0.002**	<0.00007	<0.00007	<0.00035
2-Chloronaphthalene	*2*	*5.8*	<0.00377	<0.00021	<0.00021	<0.00021	<0.00021	<0.000021	<0.000021	<0.2	<0.0041	<0.00012	<0.0001	<0.0005
2-Methylnaphthalene	*0.098*	*0.29*	**0.589**	**0.33**	**0.34**	**0.22**	**0.1**	**0.47**	**0.36**	**0.894**	**0.674**	**0.95**	**0.46**	**0.2**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	**<0.0392**	<0.0002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	**<0.098**	**<0.0051**	<0.00008	<0.00008	<0.0004
4-Nitrophenol	*0.049*	*0.15*	<0.0264	<0.00047	<0.00047	<0.00047	<0.00047	<0.000047	0.0042	**<0.12**	<0.0026	<0.00007	<0.00007	<0.00035
Acenaphthene	*1.5*	*4.4*	0.352	0.25	0.23	0.24	0.048	0.3	0.33	0.293	0.251	0.18	0.17	0.082
Acenaphthylene	*1.5*	*4.4*	0.0155 J	0.0074	0.0092	0.009	0.0016	0.0056	0.0081	<0.15	0.00649	0.0036	0.0023	0.0015
Anthracene	*7.3*	*22*	0.0192 J	0.0061	0.0079	0.0077	0.0064	0.0063	0.0082	<0.098	0.0321	0.017	0.014	0.0076 J
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00377	<0.0005	<0.0005	<0.0005	<0.0005	<0.00005	<0.00005	**<0.098**	0.0025	0.00039	<0.00007	<0.00035
Benzo(a)pyrene	*0.0002*	*0.0002*	**<0.00377**	<0.0002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	**<0.098**	**<0.002**	0.00013 J	<0.00008	**<0.0004**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	**<0.00613**	<0.0003	<0.0003	<0.0003	<0.0003	<0.00003	<0.00003	**<0.2**	**<0.0041**	<0.00009	<0.00009	<0.00045
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	**<0.0175**	<0.00037	<0.00037	<0.00037	<0.00037	<0.000037	<0.00043	**<0.098**	<0.002	0.00023	<0.0002	<0.001
Chrysene	*0.91*	*2*	<0.00377	<0.00021	<0.00021	<0.00021	<0.00021	<0.000021	<0.000021	<0.098	0.0021	0.00033	<0.00007	<0.00035
Dibenzofuran	*0.098*	*0.29*	**0.204**	**0.16**	**0.15**	**0.14**	0.047	**0.19**	**0.2**	**0.263**	**0.23**	**0.16**	0.091	0.077
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00519	<0.0002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.098	<0.002	<0.00007	<0.00007	<0.00035
Fluoranthene	*0.98*	*2.9*	<0.0033	0.0021	0.0023	0.0017	0.002	0.0022	0.0023	<0.098	0.0169	0.0047	0.0035	0.0023
Fluorene	*0.98*	*2.9*	0.163	0.087	0.12	0.098	0.021	0.091	0.16	0.137	0.153	0.081	0.052	0.034
Naphthalene	*0.49*	*1.5*	**5.27**	**4.4**	**4.9**	**6.1**	**3.2**	**5.6**	**4.6**	**16.6**	**16.7**	**21**	**12**	**6.2**
Nitrobenzene	*0.049*	*0.15*	<0.00519	<0.00024	<0.00024	<0.00024	<0.00024	<0.000024	<0.000024	**<0.2**	<0.0041	<0.00009	<0.00009	<0.00045
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00472	<0.00025	<0.00025	<0.00025	<0.00025	<0.000025	<0.000025	<0.12	<0.0026	<0.00009	<0.00009	<0.00045
Pentachlorophenol	*0.001*	*0.001*	**<0.0288**	<0.00079	<0.00079	<0.00079	**0.014**	<0.000079	<0.000079	**<0.098**	**0.134**	**0.026**	**0.041**	**0.02**
Phenanthrene	*0.73*	*2.2*	0.114	0.066	0.08	0.082	0.024	0.075	0.1	0.213	0.177	0.076	0.052	0.032
Phenol	*7.3*	*22*	<0.00189	0.0019 J	<0.00035	<0.00035	0.0032	0.00048	0.0014	<0.098	0.0944	0.031	0.059	0.026
Pyrene	*0.73*	*2.2*	<0.00519	0.0011	0.0012	0.0008 J	0.0012	0.0011	0.0013	<0.098	0.01	0.0025	0.002	0.0012
Metals														
Arsenic	*0.01*	*0.01*		0.0043	**0.0239**	**0.0291**	0.0031	**0.0248**	**0.0236**					

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-18C 01/17/2011	MW-18C 07/13/2011	MW-18C 02/01/2012	MW-18C 07/11/2012	MW-18C 01/31/2013	MW-18C 07/29/2013	MW-18C 01/13/2014	MW-18C 07/16/2014	MW-18C 01/25/2018	MW-18C 03/19/2018	MW-18C 05/16/2018	MW-18C 01/10/2019
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0025	**<0.01**	<0.005	<0.005	**<0.007**	**<0.014**	**<0.007**	<0.0028	<0.0002	<0.0002	<0.002	<0.002
Benzene	*0.005*	*0.005*	**1.3**	**1.2**	**1.3**	**1.2**	**1.51**	**1.23**	**1.51**	**1.45**	**1.4**	**1.3**	**1.4**	**0.3**
Chlorobenzene	*0.1*	*0.1*	<0.0025	<0.01	<0.005	<0.005	<0.006	<0.012	<0.006	<0.0024	<0.0003	0.00052 J	<0.003	<0.003
Ethylbenzene	*0.7*	*0.7*	0.18	0.16	0.19	0.15	0.203	0.22	0.245	0.309	0.35	0.29	0.32	0.41
Methylene chloride	*0.005*	*0.005*	<0.0025	**<0.013**	**<0.0065**	**<0.01**	**<0.0075**	**0.0688 J**	**<0.0075**	**0.0161 J**	<0.001	<0.001	**<0.01**	**<0.01**
Toluene	*1*	*1*	0.83	0.8	0.83	0.72	0.962	0.899	**1.07**	0.986	**1.1**	0.96	0.9	0.03
Vinyl chloride	*0.002*	*0.002*	**<0.0025**	**<0.01**	**<0.005**	**<0.005**	**<0.0055**	**<0.011**	**<0.0055**	**<0.0022**	0.0018	**0.0026**	<0.002	<0.002
Xylenes (total)	*10*	*10*	1	0.9	0.82	0.84	1.01	0.881	1.02	1.36	1	0.93	1.1	0.69
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0001	<0.00005	<0.0005	<0.00005	**<0.0545**	**<0.00534**	**<0.0106**	**<0.00519**	<0.00021	<0.00021	<0.00021	<0.00021
2,4-Dimethylphenol	*0.49*	*1.5*	0.012 J	0.0031	0.01	<0.0021	<0.153	<0.015	<0.0298	0.0325	<0.0004	<0.0004	0.082	0.29
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.00005	<0.0005	<0.00005	**<0.0644**	**<0.00631**	**<0.0125**	**<0.00613**	<0.00058	<0.00058	<0.00058	<0.00059
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	<0.00006	<0.0006	<0.00006	**<0.0396**	**<0.00388**	**<0.00769**	**<0.00377**	<0.00042	<0.00042	<0.00042	<0.00042
2-Chloronaphthalene	*2*	*5.8*	<0.0001	<0.00005	<0.0005	<0.00005	<0.0396	<0.00388	<0.00769	<0.00377	<0.00021	<0.00021	<0.00021	<0.00021
2-Methylnaphthalene	*0.098*	*0.29*	**0.31**	**0.34**	**0.16**	**0.46**	**0.977**	**0.871**	**1.06**	**0.778**	**0.41**	**0.44**	**0.3**	**0.33**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.0008	<0.00008	**<0.411**	**<0.0403**	**<0.0798**	**<0.0392**	<0.0002	<0.0002	<0.0002	<0.0002
4-Nitrophenol	*0.049*	*0.15*	<0.00007	<0.00005	<0.0005	<0.00005	**<0.277**	<0.0272	**<0.0538**	<0.0264	<0.00047	<0.00047	<0.00047	<0.00047
Acenaphthene	*1.5*	*4.4*	0.14	0.12	0.062	0.13	0.32	0.265	0.317	0.246	0.15	0.16	0.15	0.21
Acenaphthylene	*1.5*	*4.4*	0.0019	0.0023	0.0018 J	0.0019	<0.0297	<0.00291	<0.00577	<0.00283	0.0025	0.0035	0.003	0.0075
Anthracene	*7.3*	*22*	0.015	0.013	0.012	0.008	0.0401 J	0.0284	0.0414 J	0.028	0.017	0.02	0.019	0.007
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00007	<0.00005	<0.0005	0.00014 J	**<0.0396**	<0.00388	<0.00769	<0.00377	0.0013	<0.0005	<0.0005	<0.00051
Benzo(a)pyrene	*0.0002*	*0.0002*	**0.00035**	0.00015 J	**<0.0005**	<0.00005	**<0.0396**	**<0.00388**	**<0.00769**	**<0.00377**	<0.0002	<0.0002	<0.0002	<0.0002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.00005	<0.0005	<0.00005	**<0.0644**	**<0.00631**	**<0.0125**	**<0.00613**	<0.0003	<0.0003	<0.0003	<0.0003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0002	<0.0001	<0.001	<0.0001	**<0.183**	**<0.018**	**<0.0356**	**<0.0175**	<0.00037	<0.00037	<0.00037	<0.00037
Chrysene	*0.91*	*2*	<0.00007	<0.00005	<0.0005	0.0001 J	<0.0396	<0.00388	<0.00769	<0.00377	0.0008 J	<0.00021	0.00038 J	<0.00021
Dibenzofuran	*0.098*	*0.29*	**0.13**	**0.11**	0.06	**0.14**	**0.288**	**0.225**	**0.276**	**0.207**	**0.14**	**0.15**	**0.13**	**0.13**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00007	<0.00005	<0.0005	<0.00005	<0.0545	<0.00534	<0.0106	<0.00519	<0.0002	<0.0002	<0.0002	<0.0002
Fluoranthene	*0.98*	*2.9*	0.0059	0.0042	0.0018 J	0.0023	<0.0347	0.00865 J	0.0191 J	0.00957 J	0.0096	0.0071	0.0058	0.0023
Fluorene	*0.98*	*2.9*	0.051	0.052	0.028	0.055	0.132 J	0.114	<0.00673	0.116	0.056	0.073	0.062	0.095
Naphthalene	*0.49*	*1.5*	**13**	**12**	**9.7**	**13**	**20.2 J**	**20.9**	**20.3**	**14.7**	**14**	**12**	**21**	**4.4**
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.00005	<0.0005	<0.00005	**<0.0545**	<0.00534	<0.0106	<0.00519	<0.00024	<0.00024	<0.00024	<0.00024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00009	<0.00005	<0.0005	<0.00005	<0.0495	<0.00485	<0.00962	<0.00472	<0.00025	<0.00025	<0.00025	<0.00025
Pentachlorophenol	*0.001*	*0.001*	**0.064**	**0.076 J**	**0.085**	**0.075**	**<0.302**	**<0.0296**	**0.188**	**0.164**	**0.024**	**0.041**	**0.037**	<0.0008
Phenanthrene	*0.73*	*2.2*	0.055	0.052	0.027	0.055	0.155 J	0.127	0.177	0.122	0.072	0.086	0.078	0.084
Phenol	*7.3*	*22*	0.043	0.048	0.027	0.075	0.0601 J	0.0205 J	0.0184 J	0.0285	0.0042	0.0067	<0.00035	<0.00035
Pyrene	*0.73*	*2.2*	0.0028	0.0017	0.001 J	0.0011	<0.0545	<0.00534	<0.0106	0.00571 J	0.0055	0.0049	0.0036	0.0012
Metals														
Arsenic	*0.01*	*0.01*									0.00467	0.00327	0.00342	**0.0257**

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	***C/I Assessment Level***	MW-18C 07/10/2019	MW-18C 01/08/2020	MW-19C 01/31/2008	MW-19C 07/15/2008	MW-19C 02/04/2009	MW-19C 01/18/2010	MW-19C 06/23/2010	MW-19C 01/18/2011	MW-19C 01/18/2011 Duplicate	MW-19C 07/14/2011	MW-19C 02/08/2012	MW-19C 07/12/2012
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.002	<0.00052	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005
Benzene	*0.005*	*0.005*	**1.2**	**1.1**	0.00398 J	<0.00025	<0.0005	**0.0056**	<0.0005	<0.0005	<0.0005	<0.001	0.005	<0.0005
Chlorobenzene	*0.1*	*0.1*	0.00052 J	<0.003	<0.00047	<0.00047	<0.0005		<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005
Ethylbenzene	*0.7*	*0.7*	0.32	0.31	<0.00025	<0.00025	<0.0005	0.0018 J	<0.0005	<0.0005	<0.0005	<0.0011	0.0031 J	<0.0005
Methylene chloride	*0.005*	*0.005*	<0.001	**<0.01**	<0.00054	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001
Toluene	*1*	*1*	1	0.97	0.00596	<0.00041	<0.0005	0.0076	<0.0005	<0.0005	<0.0005	<0.001	0.0085	<0.0005
Vinyl chloride	*0.002*	*0.002*	<0.0002	<0.002								<0.001	<0.001	<0.0005
Xylenes (total)	*10*	*10*	1	0.92	<0.00127	<0.00127	<0.001	0.0043 J	<0.001	<0.001	<0.001	<0.0031	0.0063 J	<0.0015
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.00008	0.00023 J	<0.0001	<0.0001	0.00024	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	0.0051	0.023	<0.00029	<0.00028	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	0.00016 J
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.00019	<0.00019	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.00019	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.00038	<0.00038	<0.00012	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	**0.28**	**0.31**	0.00132	<0.00038	0.00025	0.0017	0.000079 J	0.00015 J	0.00022	0.0012	<0.00005	<0.000053
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00019	<0.00047	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.00024	<0.00024	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Acenaphthene	*1.5*	*4.4*	0.058	0.093	0.000562	<0.00028	0.00022	0.001	0.00012 J	0.00015 J	0.0003	0.00067	0.0012	0.00017 J
Acenaphthylene	*1.5*	*4.4*	0.005	0.0026	<0.00029	<0.00028	<0.00006	0.00014 J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Anthracene	*7.3*	*22*	0.0056	0.02	<0.00019	<0.00019	<0.00007	0.0001 J	<0.00007	<0.00007	<0.00007	0.00015 J	<0.00005	<0.00005
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	0.0025	<0.00019	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	**0.00053**	<0.00019	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00038	<0.00038	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	<0.000037	<0.00019	0.00027 J	<0.0002	<0.0028	<0.00036	0.00026	0.00025	<0.00039	<0.00022	0.00014 J
Chrysene	*0.91*	*2*	<0.000021	0.0027	<0.00019	<0.00019	<0.00007	<0.00007	<0.00007	0.000072 J	0.000084 J	<0.00005	<0.00005	<0.00005
Dibenzofuran	*0.098*	*0.29*	0.054	0.085	0.00042 J	<0.00028	0.00017 J	0.00051	<0.00008	0.00013 J	0.0002 J	<0.0006	0.00014 J	<0.00011
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.00019	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00015 J
Fluoranthene	*0.98*	*2.9*	0.0019	0.013	<0.00019	0.00182	0.00015 J	0.00024	0.0021	0.0026 J	0.00062 J	0.0016	<0.00005	0.0018
Fluorene	*0.98*	*2.9*	0.024	0.043	0.00044 J	<0.00019	<0.00007	0.00032	0.00028	0.00032	0.00022	<0.00066	<0.00005	0.00033
Naphthalene	*0.49*	*1.5*	**9.9**	**14**	0.0613	0.000826	0.0077	0.09	<0.0015	0.0061 J	0.0084 J	0.014	0.00077	<0.00048
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.00038	<0.00038	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.00024	<0.00024	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
Pentachlorophenol	*0.001*	*0.001*	**0.034**	**0.023**	<0.00019	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	0.00028 J	<0.00005	<0.00005
Phenanthrene	*0.73*	*2.2*	0.026	0.065	<0.00019	<0.00019	<0.00007	0.00016 J	<0.00007	<0.00007	0.00014 J	<0.00053	<0.00005	<0.00005
Phenol	*7.3*	*22*	0.005	0.0062	<0.00019	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00024
Pyrene	*0.73*	*2.2*	0.0014	0.0066	0.00036 J	0.00117	<0.00007	0.0002	0.0012	0.0016 J	0.0004 J	0.0014	<0.00005	0.0014
Metals														
Arsenic	*0.01*	*0.01*	0.00358	0.00283										

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-19C 02/01/2013	MW-19C 07/30/2013	MW-19C 01/15/2014	MW-19C 07/17/2014	MW-19C 02/09/2018	MW-19C 03/18/2018	MW-19C 05/16/2018	MW-19C 01/24/2019	MW-19C 07/10/2019	MW-19C 01/09/2020	MW-20A 01/30/2008	MW-20A 07/14/2011
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00014	<0.00014	<0.00014	<0.00014	<0.0002	<0.0002	<0.002	<0.0002	<0.0002	<0.0002	<0.00052	<0.005
Benzene	*0.005*	*0.005*	0.000558 J	0.00427	0.00028 J	0.0000801 J	0.0013	0.0027	0.0041 J	0.0044	0.0004 J	0.00032 J	**0.0609**	**0.098**
Chlorobenzene	*0.1*	*0.1*	<0.00012	<0.00012	<0.00012	<0.00012	<0.0003	<0.0003	<0.003	<0.0003	<0.0003	<0.0003	<0.00047	<0.005
Ethylbenzene	*0.7*	*0.7*	0.000793 J	0.0114	0.000966 J	0.000783 J	0.00091 J	0.0025	<0.003	0.004	0.00096 J	0.00064 J	0.0965	0.077
Methylene chloride	*0.005*	*0.005*	<0.00015	<0.00015	<0.00015	<0.00015	<0.001	<0.001	**<0.01**	<0.001	<0.001	<0.001	<0.00054	**<0.0065**
Toluene	*1*	*1*	0.00171	0.0155	0.00136	0.000578 J	<0.0002	0.0018	0.0042 J	0.0057	0.00086 J	<0.0002	0.00716	<0.005
Vinyl chloride	*0.002*	*0.002*	<0.00011	<0.00011	<0.00011	<0.00011	<0.0002	<0.0002	<0.002	<0.0002	<0.0002	<0.0002		
Xylenes (total)	*10*	*10*	0.00151 J	0.0197	0.00207 J	0.00179 J	0.00095 J	0.0044	<0.003	0.0037	0.0022	0.0012	0.113	0.057 J
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00011	<0.000107	<0.000212	<0.000104	<0.000021	0.000099 J	0.000061 J	<0.000021	0.000082 J	0.000078 J	**<0.02**	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	0.00125	<0.000301	<0.000596	<0.000292	0.0028	<0.00038	<0.00004	<0.00032	<0.00056	<0.00004	0.134	0.3
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00013	<0.000126	<0.00025	<0.000123	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	**<0.039**	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00008	<0.0000777	<0.000154	<0.0000755	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	**<0.039**	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.00008	<0.0000777	<0.000154	<0.0000755	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.078	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	0.00084	0.000114 J	0.00142	0.000845	0.000093 J	0.00037	<0.000019	<0.000019	<0.000071	<0.000019	**0.204**	**0.42**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00083	<0.000806	<0.0016	<0.000783	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	**<0.039**	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.00056	<0.000544	<0.00108	<0.000528	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	**0.177**	<0.00005
Acenaphthene	*1.5*	*4.4*	<0.000608	0.00279	<0.000154	0.0007	0.0012	0.001	0.00035	0.00078	0.001	0.00099	0.113	0.2
Acenaphthylene	*1.5*	*4.4*	<0.00006	<0.0000583	<0.000115	<0.0000566	0.000069 J	<0.000015	<0.000015	<0.000015	0.00003 J	0.00005 J	<0.059	0.0017
Anthracene	*7.3*	*22*	0.000115 J	0.000269 J	<0.0000962	<0.0000472	0.000057 J	0.000065 J	<0.000014	0.000057 J	<0.000066	<0.00017	<0.039	0.0058
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00008	0.000111 J	<0.000154	<0.0000755	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00026	**<0.039**	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00008	<0.0000777	<0.000154	<0.0000755	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.0001	**<0.039**	<0.00005
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00013	<0.000126	<0.00025	<0.000123	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	**<0.078**	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00037	0.0012 J	<0.000712	0.000646	0.00019 J	0.0001 J	0.00016 J	0.000096 J	<0.000037	<0.000071	**<0.039**	<0.00033
Chrysene	*0.91*	*2*	<0.00008	<0.0000777	<0.000154	<0.0000755	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.00024	<0.039	<0.00005
Dibenzofuran	*0.098*	*0.29*	0.000367 J	0.000631	0.00116	0.000554	0.00045	0.00081	0.000035 J	<0.00002	<0.00057	0.00069	0.071	**0.14**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00011	0.000164 J	<0.000212	<0.000104	<0.00002	<0.00002	0.000031 J	<0.00002	<0.00002	0.000021 J	<0.039	<0.00005
Fluoranthene	*0.98*	*2.9*	0.00257	0.000309 J	0.00223	0.00169	0.000081 J	0.00064	0.00023	<0.00001	0.00056	0.0011	<0.039	0.0007
Fluorene	*0.98*	*2.9*	0.000605	<0.000068	0.000296 J	0.000485	0.000099 J	0.00037	0.00009 J	<0.00003	<0.00031	0.00047	0.045	0.11
Naphthalene	*0.49*	*1.5*	0.0264 J	<0.00196	0.0383	0.0198	0.0022	0.013	<0.00061	<0.00036	<0.0012	<0.00011	**4.75**	**7.7**
Nitrobenzene	*0.049*	*0.15*	<0.00011	<0.000107	<0.000212	<0.000104	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	**<0.078**	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0001	<0.0000971	<0.000192	<0.0000943	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.049	<0.00005
Pentachlorophenol	*0.001*	*0.001*	<0.00061	<0.000592	**<0.00117**	<0.000575	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	**<0.039**	<0.00005
Phenanthrene	*0.73*	*2.2*	0.000166 J	0.000201 J	<0.000265	<0.0000566	<0.000021	0.000051 J	<0.000021	<0.000021	<0.00014	<0.00045	<0.039	0.039
Phenol	*7.3*	*22*	0.00023 J	0.024	0.000724 J	0.00033 J	0.00071	0.00072	<0.000035	<0.00013	<0.00015	<0.000035	<0.039	<0.00005
Pyrene	*0.73*	*2.2*	0.00207	0.000233 J	0.00191	0.00178	0.000053 J	0.00076	0.00037	<0.000019	0.00064	0.0014	<0.039	0.0004
Metals														
Arsenic	*0.01*	*0.01*					0.00158 J	0.00107 J	0.00294	0.00149 J	0.00166 J	0.0014 J		

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-20A 02/01/2012	MW-20A 07/16/2012	MW-20A 01/30/2013	MW-20A 01/23/2018	MW-20A 03/19/2018	MW-20A 05/15/2018	MW-20A 01/08/2019	MW-20A 07/10/2019	MW-20A 01/14/2020	MW-21C 01/29/2008	MW-21C 01/29/2008 Duplicate	MW-21C 07/15/2008
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.005	<0.0005	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052	<0.00052	<0.00052
Benzene	*0.005*	*0.005*	**0.057**	**0.089**	**0.0746**	**0.053**	**0.05**	**0.062**	**0.024**	**0.013**	**0.02**	<0.00025	<0.00025	<0.00025
Chlorobenzene	*0.1*	*0.1*	<0.005	<0.0005	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047	<0.00047	<0.00047
Ethylbenzene	*0.7*	*0.7*	0.046	0.1	0.0619	0.05	0.027	0.045	0.024	0.0079	0.025	<0.00025	<0.00025	<0.00025
Methylene chloride	*0.005*	*0.005*	**<0.0065**	<0.001	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.00054	<0.00054
Toluene	*1*	*1*	<0.005	0.022	0.0028	0.0038	<0.0002	0.0055	0.00077 J	0.0011	<0.0002	<0.00041	<0.00041	<0.00041
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	0.028 J	0.088	0.0549	0.05	0.033	0.048	0.022	0.022	0.024	<0.00127	<0.00127	<0.00127
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0005	<0.00005	**<0.00519**	<0.00021	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00008	<0.00008	<0.00008
2,4-Dimethylphenol	*0.49*	*1.5*	0.076	0.1	0.119	0.049	0.072	0.06	0.0076	0.0035	0.0018	<0.00029	<0.00029	<0.0003
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.0005	<0.00005	**<0.00613**	<0.00058	<0.00059	<0.000058	<0.000058	<0.000058	<0.000058	<0.00019	<0.00019	<0.0002
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0006	<0.00006	**<0.00377**	<0.00042	<0.00042	<0.000042	<0.000042	<0.000042	<0.000042	<0.00019	<0.00019	<0.0002
2-Chloronaphthalene	*2*	*5.8*	<0.0005	<0.00005	<0.00377	<0.00021	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00038	<0.00038	<0.0004
2-Methylnaphthalene	*0.098*	*0.29*	0.064	**0.36**	**0.191**	**0.15**	**0.15**	**0.17**	0.069	0.072	0.075	<0.00038	<0.00038	<0.0004
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.0008	<0.00008	**<0.0392**	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019	<0.00019	<0.0005
4-Nitrophenol	*0.049*	*0.15*	<0.0005	<0.00005	<0.0264	<0.00047	<0.00047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00024	<0.00024	<0.00025
Acenaphthene	*1.5*	*4.4*	0.15	0.19	0.12	0.14	0.18	0.15	0.1	0.14	0.11	<0.00029	<0.00029	<0.0003
Acenaphthylene	*1.5*	*4.4*	0.0015 J	0.0015	<0.00283	0.0014	<0.00015	0.0013	0.00057	0.00078	0.00092	<0.00029	<0.00029	<0.0003
Anthracene	*7.3*	*22*	0.0044	0.0042	0.00589 J	0.021	0.022	0.0081	0.0058	0.0062	0.0075	0.000563	0.000562	<0.0002
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0005	<0.00005	<0.00377	<0.0005	<0.00051	<0.00005	<0.00005	<0.00005	<0.00005	<0.00019	<0.00019	<0.0002
Benzo(a)pyrene	*0.0002*	*0.0002*	**<0.0005**	<0.00005	**<0.00377**	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019	<0.00019	<0.0002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.0005	<0.00005	**<0.00613**	<0.0003	<0.0003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00038	<0.00038	<0.0004
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.001	<0.0001	**<0.0175**	<0.00037	<0.00037	<0.000037	<0.000037	<0.000037	<0.000037	**0.00888**	0.00052 J	<0.0002
Chrysene	*0.91*	*2*	<0.0005	<0.00005	<0.00377	<0.00021	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00019	<0.00019	<0.0002
Dibenzofuran	*0.098*	*0.29*	0.073	**0.15**	0.0799	0.097	**0.13**	0.081	0.067	0.077	0.079	<0.00029	<0.00029	<0.0003
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.0005	<0.00005	<0.00519	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019	<0.00019	<0.0002
Fluoranthene	*0.98*	*2.9*	0.00082 J	0.00061	<0.0033	0.00078 J	0.00095 J	0.00074	0.00041	0.00058	0.00067	0.00047 J	0.00046 J	<0.0002
Fluorene	*0.98*	*2.9*	0.06	0.11	0.0661	0.16	0.16	0.076	0.062	0.068	0.08	<0.00019	<0.00019	<0.0002
Naphthalene	*0.49*	*1.5*	**0.96**	**6.1**	**43.9**	**2.7**	**2.9**	**2.8**	**1.4**	**1.9**	**2**	<0.00038	<0.00038	<0.0004
Nitrobenzene	*0.049*	*0.15*	<0.0005	<0.00005	<0.00519	<0.00024	<0.00024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00038	<0.00038	<0.0004
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0005	<0.00005	<0.00472	<0.00025	<0.00025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00024	<0.00024	<0.00025
Pentachlorophenol	*0.001*	*0.001*	<0.0005	<0.00005	**<0.0288**	<0.00079	<0.0008	<0.000079	<0.000079	<0.000079	<0.000079	<0.00019	<0.00019	<0.0002
Phenanthrene	*0.73*	*2.2*	0.03	0.043	0.0217 J	0.032	0.037	0.034	0.025	0.026	0.028	0.00039 J	0.00039 J	<0.0002
Phenol	*7.3*	*22*	<0.0005	<0.00005	<0.00189	<0.00035	<0.00035	<0.000035	<0.000035	0.00096	<0.000035	<0.00019	<0.00019	<0.0002
Pyrene	*0.73*	*2.2*	0.00056 J	0.0003	<0.00519	<0.00019	0.0005 J	0.00048	0.00025	0.00026	0.0003	0.00039 J	0.00039 J	<0.0002
Metals														
Arsenic	*0.01*	*0.01*				0.0087	0.00568	0.00895	0.00788	0.00574	0.00808			

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-21C 07/15/2008 Duplicate	MW-21C 02/04/2009	MW-21C 02/04/2009 Duplicate	MW-21C 01/21/2010	MW-21C 01/21/2010 Duplicate	MW-21C 06/22/2010	MW-21C 06/22/2010 Duplicate	MW-21C 01/19/2011	MW-21C 07/27/2011	MW-21C 07/27/2011 Duplicate	MW-21C 02/02/2012	MW-21C 02/02/2012 Duplicate
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001
Benzene	*0.005*	*0.005*	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001
Chlorobenzene	*0.1*	*0.1*	<0.00047	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001
Ethylbenzene	*0.7*	*0.7*	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0011	<0.0011
Methylene chloride	*0.005*	*0.005*	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.0013	<0.0013
Toluene	*1*	*1*	<0.00041	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.00127	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0031	<0.0031
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00029	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00019	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.00039	<0.00012	<0.00012	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	<0.00039	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.000067 J	<0.00005
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00049	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.00024	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005
Acenaphthene	*1.5*	*4.4*	0.00269	<0.00009	<0.00009	0.00041	0.00035	<0.00009	<0.00009	0.00034	<0.00005	<0.00005	<0.00005	<0.00005
Acenaphthylene	*1.5*	*4.4*	<0.00029	<0.00006	<0.00006	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005
Anthracene	*7.3*	*22*	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	0.00013 J	<0.00005	<0.00005	<0.00005	<0.00005
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00039	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00019	<0.0002	0.00038	<0.00072	<0.00054	<0.00023	<0.00041	0.00062	0.00062 J	0.00036 J	<0.0001	<0.00022
Chrysene	*0.91*	*2*	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005
Dibenzofuran	*0.098*	*0.29*	<0.00029	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005
Fluoranthene	*0.98*	*2.9*	0.00019 J	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005
Fluorene	*0.98*	*2.9*	0.00098	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005
Naphthalene	*0.49*	*1.5*	<0.00039	0.00039	0.00033	<0.0001	<0.0001	<0.0001	<0.00021	<0.0001	<0.00005	<0.00005	0.00093 J	0.00015 J
Nitrobenzene	*0.049*	*0.15*	<0.00039	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00024	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00005
Pentachlorophenol	*0.001*	*0.001*	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005
Phenanthrene	*0.73*	*2.2*	<0.00019	<0.00007	<0.00007	<0.00007	0.0001 J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005
Phenol	*7.3*	*22*	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005
Pyrene	*0.73*	*2.2*	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-21C 07/26/2012	MW-21C 07/26/2012 Duplicate	MW-21C 02/05/2013	MW-21C 02/05/2013 Duplicate	MW-21C 08/01/2013	MW-21C 08/01/2013 Duplicate	MW-21C 01/16/2014	MW-21C 01/16/2014 Duplicate	MW-21C 07/25/2014	MW-21C 07/25/2014 Duplicate	MW-21C 01/24/2018	MW-21C 01/24/2018 Duplicate
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.0005	<0.00014	<0.00014	<0.00014	<0.00014	<0.0002	<0.0002	<0.00014	<0.00014	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.0005	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008	<0.0002	<0.0002	<0.00008	<0.00008	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.0005	<0.00012	<0.00012	<0.00012	<0.00012	<0.00018	<0.00018	<0.00012	<0.00012	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.0005	<0.000144	<0.00011	<0.00011	<0.00011	<0.00019	<0.00019	<0.00011	<0.00011	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.00015	<0.00015	<0.00015	<0.00015	<0.00022	<0.00022	<0.00015	<0.00015	<0.001	<0.001
Toluene	*1*	*1*	<0.0005	<0.0005	<0.00015	<0.00015	<0.00015	<0.00015	<0.00017	<0.00017	<0.00015	<0.00015	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*			<0.00011	<0.00011					<0.00011	<0.00011		
Xylenes (total)	*10*	*10*	<0.0015	<0.0015	<0.00026	<0.00026	<0.00026	<0.00026	<0.00058	<0.00058	<0.00026	<0.00026	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	<0.00005	<0.000104	<0.000104	0.000105 J	**0.00732 J**	<0.000104	<0.000104	<0.000107	<0.000107	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00005	<0.00005	<0.000292	**R**	<0.000295	<0.00654	<0.000292	<0.000292	<0.000301	<0.000301	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	<0.00005	<0.000123	<0.000123	0.000124 J	**0.00867 J**	<0.000123	<0.000123	<0.000126	<0.000126	<0.000059	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	<0.00006	<0.0000755	<0.0000755	0.0000762 J	**0.00805 J**	<0.0000755	<0.0000755	<0.0000777	<0.0000777	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.00005	<0.0000755	<0.0000755	0.0000762 J	0.00696 J	<0.0000755	<0.0000755	<0.0000777	<0.0000777	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	<0.00005	<0.00005	0.000271 J	<0.000066	0.0000667 J	0.00686 J	<0.000157	<0.000187	<0.000068	<0.000068	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.000783	**R**	0.00079 J	**0.00371 J**	<0.000783	<0.000783	<0.000806	<0.000806	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00005	<0.00005	<0.000528	**R**	0.000533 J	0.00667 J	<0.000528	<0.000528	<0.000544	<0.000544	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	<0.00005	<0.00005	0.000237 J	<0.0000755	0.0000762 J	0.00726 J	0.000254 J	0.000413 J	<0.0000777	<0.0000777	<0.000027	<0.000027
Acenaphthylene	*1.5*	*4.4*	<0.00005	<0.00005	<0.0000566	<0.0000566	0.0000571 J	0.00735 J	<0.0000566	<0.0000566	<0.0000583	<0.0000583	<0.000015	<0.000015
Anthracene	*7.3*	*22*	<0.00005	<0.00005	0.0000527 J	<0.0000472	0.0000476 J	0.00775 J	0.000243 J	0.000518 J	<0.0000485	<0.0000485	<0.000014	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.0000755	<0.0000755	0.0000762 J	0.00807 J	0.000129 J	0.000137 J	<0.0000777	<0.0000777	<0.000051	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00005	<0.00005	<0.0000755	<0.0000755	0.0000762 J	**0.00775 J**	<0.0000755	<0.0000755	<0.0000777	<0.0000777	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	<0.00005	<0.000123	<0.000123	0.000124 J	**0.00612 J**	<0.000123	<0.000123	<0.000126	<0.000126	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0001	<0.0001	<0.000349	<0.000349	0.000352 J	**0.00875 J**	<0.000349	<0.000349	<0.000359	<0.000359	0.000058 J	0.000072 J
Chrysene	*0.91*	*2*	<0.00005	<0.00005	<0.0000755	<0.0000755	0.0000762 J	0.00794 J	0.0000812 J	0.000132 J	<0.0000777	<0.0000777	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	<0.00005	<0.00005	0.000109 J	<0.0000755	0.0000762 J	0.00726 J	<0.000258	<0.000456	<0.0000777	<0.0000777	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.000072	<0.000051	<0.000104	<0.000104	0.000105 J	0.00955 J	<0.000104	<0.000104	0.000184 J	0.000107 J	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	<0.00005	<0.00005	<0.000066	<0.000066	0.0000667 J	0.00857 J	0.000528 J	0.000866 J	<0.000068	<0.000068	<0.00001	<0.00001
Fluorene	*0.98*	*2.9*	<0.00005	<0.00005	<0.000066	<0.000066	0.0000667 J	0.00746 J	0.000291 J	0.000705 J	<0.000068	<0.000068	<0.00003	<0.00003
Naphthalene	*0.49*	*1.5*	<0.00005	<0.00005	0.000429 J	<0.0000755	<0.0021	0.00669 J	0.000523 J	<0.000421	<0.0000777	<0.0000777	<0.00002	<0.00002
Nitrobenzene	*0.049*	*0.15*	<0.00005	<0.00005	<0.000104	<0.000104	0.000105 J	0.00628 J	<0.000104	<0.000104	<0.000107	<0.000107	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.00005	<0.0000943	<0.0000943	0.0000952 J	0.00846 J	<0.0000943	<0.0000943	<0.0000971	<0.0000971	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00005	<0.00005	<0.000575	**R**	0.000581 J	**0.0126 J**	<0.000575	<0.000575	<0.000592	<0.000592	<0.00008	<0.000079
Phenanthrene	*0.73*	*2.2*	<0.00005	<0.00005	0.000184 J	<0.0000566	0.0000775 J	0.00777 J	0.00128 J	0.00242 J	<0.000087	<0.0000613	<0.000021	<0.000021
Phenol	*7.3*	*22*	<0.00005	<0.00005	<0.0000377	**R**	0.0000381 J	0.00217 J	<0.0000377	<0.0000377	<0.0000388	<0.0000388	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	<0.00005	<0.00005	<0.000104	<0.000104	0.000105 J	0.00813 J	0.000355 J	0.000508 J	<0.000107	<0.000107	<0.000019	<0.000019
Metals														
Arsenic	*0.01*	*0.01*											0.00128 J	0.00128 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-21C 03/20/2018	MW-21C 03/20/2018 Duplicate	MW-21C 05/17/2018	MW-21C 05/17/2018 Duplicate	MW-21C 01/09/2019	MW-21C 01/09/2019 Duplicate	MW-21C 07/16/2019	MW-21C 07/16/2019 Duplicate	MW-21C 01/14/2020	MW-21C 01/14/2020 Duplicate	MW-22A 01/29/2008	MW-22A 07/14/2008
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052	<0.00109
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00025	<0.00112
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047	<0.0015
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00025	<0.00142
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.00122
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00041	<0.00138
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00127	<0.00302
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00008	<0.00008
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	0.0001 J	<0.00004	<0.00004	<0.00004	<0.00029	<0.00028
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000059	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.0002	<0.00019
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	**0.023 J**	0.000042 J	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	**0.003 J**	<0.0002	<0.00019
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00039	<0.00038
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019	0.000019 J	0.00012 J	<0.000019	<0.000019	0.0004 J	0.00005 J	<0.000019	<0.000019	<0.00039	<0.00038
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.00019
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00024	<0.00024
Acenaphthene	*1.5*	*4.4*	<0.000027	<0.000027	0.00013	0.00018	<0.000027	<0.000027	0.0057 J	0.00081 J	<0.000027	0.0002	<0.00029	<0.00028
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	0.000074 J	<0.000015	<0.000015	<0.000015	<0.00029	<0.00028
Anthracene	*7.3*	*22*	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	0.00044 J	0.00005 J	<0.000014	<0.000014	<0.0002	<0.00019
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.000051	<0.000051	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0002	<0.00019
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.00019
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00039	<0.00038
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	<0.000037	0.000048 J	<0.000037	<0.000037	<0.000037	<0.00004	<0.000037	0.00035	0.000065 J	**0.0104**	<0.00019
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0002	<0.00019
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00002	<0.00002	0.000052 J	<0.00002	<0.00002	0.0032 J	0.0004 J	<0.00002	0.00017	<0.00029	<0.00028
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.00019
Fluoranthene	*0.98*	*2.9*	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00081 J	0.000087 J	<0.00001	<0.00001	<0.0002	<0.00019
Fluorene	*0.98*	*2.9*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	0.0019 J	0.00025 J	<0.00003	0.00018	<0.0002	<0.00019
Naphthalene	*0.49*	*1.5*	<0.00002	<0.00002	0.00002 J	0.0014 J	<0.00002	<0.00002	0.0044 J	0.0008 J	0.00011	0.00013	<0.00039	<0.00038
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00039	<0.00038
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00024	<0.00024
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.00008	<0.00008	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.0002	<0.00019
Phenanthrene	*0.73*	*2.2*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.00087 J	0.00011 J	<0.000021	0.000061 J	<0.0002	<0.00019
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	0.00018 J	0.00081 J	<0.000035	<0.000035	<0.0002	<0.00019
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	0.00039 J	0.000033 J	<0.000019	<0.000019	<0.0002	<0.00019
Metals														
Arsenic	*0.01*	*0.01*	0.00109 J	0.00113 J	0.00116 J	0.00108 J	0.00187 J	0.00178 J	0.0013 J	0.00326	0.00109 J	0.00109 J		

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-22A 02/03/2009	MW-22A 01/15/2010	MW-22A 06/29/2010	MW-22A 01/25/2011	MW-22A 07/21/2011	MW-22A 02/15/2012	MW-22A 07/18/2012	MW-22A 01/23/2014	MW-22A 07/30/2014	MW-22AR 02/08/2018	MW-22AR 03/25/2018	MW-22AR 05/31/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.0002	0.00296	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	0.000549	0.0403	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00022	<0.00015	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	0.000307 J	0.00925	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	0.000834 J	0.0569	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.000108	<0.000109	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000304	<0.000307	<0.00004	<0.000041	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000127	<0.000129	<0.000059	<0.000059	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000784	<0.0000792	<0.000042	<0.000043	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000784	<0.0000792	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	<0.00007	<0.00007	<0.00007	0.00072	<0.00005	<0.00005	<0.00059	<0.0000686	0.00603	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.000814	<0.000822	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00007	0.00007 J	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000549	<0.000554	<0.000047	<0.000048	<0.000047
Acenaphthene	*1.5*	*4.4*	<0.00009	<0.00009	<0.00009	0.00015 J	<0.00005	0.00009 J	<0.00031	0.00557	0.0783	<0.000027	<0.000028	<0.000027
Acenaphthylene	*1.5*	*4.4*	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	0.000742	0.000943	<0.000015	<0.000015	<0.000015
Anthracene	*7.3*	*22*	0.0002	<0.00007	<0.00007	0.00011 J	<0.00005	0.000058 J	0.0004	<0.000939	0.00265	<0.000014	<0.000014	0.00017
Benzo(a)anthracene	*0.0091*	*0.02*	0.00015 J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00011 J	<0.0000784	<0.0000792	<0.000051	<0.000051	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000784	<0.0000792	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000127	<0.000129	<0.00003	<0.000031	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00033	0.0013	<0.0012	<0.0002	0.0015	<0.0011	0.00011 J	<0.000363	0.000703	0.0033	<0.000038	0.0001 J
Chrysene	*0.91*	*2*	0.00014 J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.0001 J	<0.0000784	<0.0000792	<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	<0.00008	<0.00008	<0.00008	0.00015 J	<0.00005	0.000074 J	<0.00048	0.001	0.0224	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	0.00017 J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000866	<0.000109	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.000086 J	<0.00041	0.000362 J	0.00247	<0.00001	<0.00001	<0.00001
Fluorene	*0.98*	*2.9*	<0.00007	<0.00007	<0.00007	0.0001 J	<0.00005	0.00008 J	<0.00029	0.000468 J	0.0175	<0.00003	<0.000031	<0.00003
Naphthalene	*0.49*	*1.5*	<0.0001	<0.0001	<0.0001	0.0035	0.0001 J	0.00024	<0.0018	<0.0034	**0.792**	<0.00017	0.00012	<0.00002
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000108	<0.000109	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000098	<0.000099	<0.000025	<0.000026	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00008	0.00008 J	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000598	<0.000604	<0.00008	<0.000081	<0.000079
Phenanthrene	*0.73*	*2.2*	<0.00007	<0.00007	<0.00007	0.00028	<0.00005	0.0002 J	<0.0015	<0.000478	0.000604	<0.000021	0.00012	<0.000021
Phenol	*7.3*	*22*	<0.00007	<0.00007	<0.00007	0.00017 J	<0.00005	<0.00005	<0.00005	<0.0000392	<0.0000396	<0.000035	<0.000036	<0.000035
Pyrene	*0.73*	*2.2*	0.00013 J	<0.00007	<0.00007	<0.00007	<0.00005	0.000055 J	<0.00033	<0.000108	0.00106	<0.000019	<0.000019	<0.000019
Metals														
Arsenic	*0.01*	*0.01*										0.000896 J	0.000716 J	0.00293

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-22AR 01/22/2019	MW-22AR 07/31/2019	MW-22AR 02/10/2020	MW-22B 01/29/2008	MW-22B 07/14/2008	MW-22B 02/03/2009	MW-22B 01/15/2010	MW-22B 06/29/2010	MW-22B 01/25/2011	MW-22B 07/21/2011	MW-22B 02/15/2012	MW-22B 07/18/2012
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.00052	<0.00109	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.00025	0.00313 J	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	0.0042 J
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.00047	<0.0015	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.00025	0.00262 J	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	0.0088
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.00054	<0.00122	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.00041	<0.00138	<0.0005	<0.0005	0.00053 J	<0.0005	<0.001	<0.001	0.0033 J
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.00127	0.00339 J	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	0.0057 J
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.00008	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.0003	<0.0003	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	0.00014 J	<0.00005
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.0002	<0.0002	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.0002	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.0004	<0.0004	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019	<0.00012	<0.0004	<0.0004	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00044	<0.00063
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.0002	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.00025	<0.00025	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Acenaphthene	*1.5*	*4.4*	0.00071	<0.000027	<0.00015	0.0121	0.182	0.022	0.00016 J	0.0093	0.00022	0.003	0.068	0.18
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.0003	0.00192	0.00034	<0.00007	0.00012 J	<0.00007	<0.00005	0.00046	0.0018
Anthracene	*7.3*	*22*	0.000028 J	<0.000014	0.0002	0.000948	0.00575	0.00071	<0.00007	0.00031	<0.00007	0.00011 J	0.0017	0.0067
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	0.00029	<0.0002	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	0.0001	<0.0002	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.0004	<0.0004	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.000065 J	<0.000037	0.00011 J	0.00172 J	<0.0002	0.00053	0.00022	<0.00061	<0.0002	0.00041	<0.00051	<0.0001
Chrysene	*0.91*	*2*	<0.000021	<0.000021	0.00032	<0.0002	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Dibenzofuran	*0.098*	*0.29*	0.000029 J	<0.00002	<0.00015	0.00363	0.0674	0.0051	0.00026	0.0019	<0.00008	0.00068	0.0079	0.046
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	0.00051	<0.00002	<0.00002	0.00066 J	<0.0002	0.00018 J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Fluoranthene	*0.98*	*2.9*	0.000079 J	<0.00001	0.0015	0.00029 J	0.00661	0.0011	0.00011 J	0.00061	<0.00007	0.00019 J	0.0022	0.0065
Fluorene	*0.98*	*2.9*	0.00014	<0.00003	0.00019	0.00199	0.0395	0.0018	<0.00007	0.0018	<0.00007	0.00049	0.0035	0.019
Naphthalene	*0.49*	*1.5*	<0.00002	<0.00002	<0.00044	0.000691	0.00435	0.00017 J	0.00012 J	0.00036	<0.0001	<0.00005	0.0032	0.032
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.0004	<0.0004	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.00025	<0.00025	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	0.00029	<0.00005
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.0002	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005
Phenanthrene	*0.73*	*2.2*	0.000068 J	<0.000021	0.0015	<0.0002	0.000764	<0.00007	0.00015 J	<0.00007	<0.00007	<0.00005	0.00026	0.0027
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.000041	<0.0002	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.0001 J
Pyrene	*0.73*	*2.2*	0.000084 J	<0.000019	0.001	<0.0002	0.00239	0.00047	<0.00007	0.00027	<0.00007	0.00012 J	0.001	0.0033
Metals														
Arsenic	*0.01*	*0.01*	0.00488	0.000481 J	0.00352									

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-22B 01/23/2014	MW-22B 07/30/2014	MW-22B 08/28/2014	MW-22BR 02/08/2018	MW-22BR 03/25/2018	MW-22BR 05/31/2018	MW-22BR 01/22/2019	MW-22BR 07/31/2019	MW-22BR 02/10/2020	MW-23C 02/04/2009 DNAPL	MW-23C 01/18/2010 DNAPL	MW-23C 06/23/2010 DNAPL
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.00014	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.005
Benzene	*0.005*	*0.005*	0.000304 J	0.00185	0.00238	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	**0.017**	**0.012**	**0.0095 J**
Chlorobenzene	*0.1*	*0.1*	<0.00018	<0.00012	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.001 J		<0.005
Ethylbenzene	*0.7*	*0.7*	0.0022	0.0255	0.0275	0.00034 J	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.13	0.074	0.12
Methylene chloride	*0.005*	*0.005*	<0.00022	<0.00015	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	**<0.0092**
Toluene	*1*	*1*	0.00133	0.00584	0.00752	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0023 J	0.0012 J	<0.005
Vinyl chloride	*0.002*	*0.002*			<0.00011									
Xylenes (total)	*10*	*10*	0.00409	0.0362	0.0383	0.00082 J	<0.0003	0.001	<0.0003	<0.0003	<0.0003	0.073	0.044	0.069 J
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000108	<0.000109	<0.00011	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0001	<0.0001	**<0.005**
2,4-Dimethylphenol	*0.49*	*1.5*	<0.000304	0.00107	<0.00031	<0.00004	<0.000041	<0.00004	<0.00004	<0.00004	<0.00004	<0.00008	<0.00008	<0.004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000127	<0.000129	<0.00013	<0.000059	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058	<0.00009	<0.00009	**<0.0045**
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0000784	<0.0000792	<0.00008	<0.000042	<0.000043	<0.000042	<0.000042	<0.000042	<0.000042	<0.00007	<0.00007	**<0.0035**
2-Chloronaphthalene	*2*	*5.8*	<0.0000784	<0.0000792	<0.00008	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.00011 J	<0.00012	<0.0001	<0.005
2-Methylnaphthalene	*0.098*	*0.29*	0.000414 J	0.00721	0.00663	0.00056	0.000067 J	0.000071 J	<0.000019	<0.000019	<0.000043	**2.6**	**0.75**	**2.7**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.000814	<0.000822	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	**<0.004**
4-Nitrophenol	*0.049*	*0.15*	<0.000549	<0.000554	<0.00056	<0.000047	<0.000048	<0.000047	<0.000047	<0.000047	<0.000047	<0.00007	<0.00007	<0.0035
Acenaphthene	*1.5*	*4.4*	0.0244	0.0762	0.123	0.034	0.044	0.047	0.022	<0.000027	0.018	**3.4**	1.2	**3.4**
Acenaphthylene	*1.5*	*4.4*	0.000886	0.000641	0.00132	<0.000015	0.00096	0.00041	<0.000015	<0.000015	0.00018	0.017	0.01	0.03
Anthracene	*7.3*	*22*	<0.00146	0.00292	0.00404	0.00039	0.00062	0.0013	0.00048	<0.000014	0.00042	1.2	0.36	1.2
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0000784	<0.0000792	<0.00008	<0.000051	<0.000051	<0.00005	<0.00005	<0.00005	<0.00005	**0.31**	**0.12**	**0.3**
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0000784	<0.0000792	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	**0.072**	**0.029**	**0.093**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.000127	<0.000129	<0.00013	<0.00003	<0.000031	<0.00003	<0.00003	<0.00003	<0.00003	<0.00009	<0.00009	**<0.0045**
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000363	0.000672	<0.00037	<0.000037	<0.000038	<0.000037	<0.000037	<0.000037	0.000075 J	0.002	<0.0011	**<0.01**
Chrysene	*0.91*	*2*	<0.0000784	<0.0000792	<0.00008	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.28	0.093	0.27
Dibenzofuran	*0.098*	*0.29*	0.00784	0.0238	0.0409	0.00066	0.00049	0.0011	0.00029	<0.00002	<0.00029	**3.5**	**1.2**	**3.6**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.000873	<0.000109	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00007	<0.00007	<0.0035
Fluoranthene	*0.98*	*2.9*	0.00187	0.00304	0.00282	0.00098	0.0011	0.0028	0.0011	<0.00001	0.0017	**3**	0.77	**3**
Fluorene	*0.98*	*2.9*	0.00521	0.0198	0.0355	0.002	0.0017	0.0046	0.0025	<0.00003	0.0026	**2.5**	0.82	**2.6**
Naphthalene	*0.49*	*1.5*	0.13 J	**0.832**	**0.977**	0.0038	0.0008	0.00044	0.00017	<0.00002	<0.00013	**9.9**	**3.9**	**8.9**
Nitrobenzene	*0.049*	*0.15*	<0.000108	<0.000109	<0.00011	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00009	<0.00009	<0.0045
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000098	<0.000099	<0.0001	<0.000025	<0.000026	<0.000025	<0.000025	<0.000025	<0.000025	<0.00009	<0.00009	<0.0045
Pentachlorophenol	*0.001*	*0.001*	<0.000598	<0.000604	<0.00061	<0.00008	<0.000081	<0.000079	<0.000079	<0.000079	<0.000079	<0.00008	<0.00008	**<0.004**
Phenanthrene	*0.73*	*2.2*	<0.000562	0.00053	<0.00006	0.00081	0.00018	0.00039	<0.000021	<0.000021	<0.00013	**8.8**	**2.7**	**8.2**
Phenol	*7.3*	*22*	<0.0000392	<0.0000396	<0.00004	<0.000035	<0.000036	<0.000035	<0.000035	0.00069	<0.000035	<0.00007	<0.00007	<0.0035
Pyrene	*0.73*	*2.2*	0.000876	0.00123	0.0023	0.00062	0.00077	0.0015	0.00046	<0.000019	0.00082	**1.6**	0.59	**1.9**
Metals														
Arsenic	*0.01*	*0.01*				**0.0219**	**0.0159**	**0.0301**	**0.0535**	0.000559 J	**0.016**			

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-23C 01/19/2011 DNAPL	MW-23C 07/22/2011 DNAPL	MW-23C 02/02/2012 DNAPL	MW-23C 07/12/2012 DNAPL	MW-23C 02/11/2013 DNAPL	MW-23C 07/31/2013 DNAPL	MW-23C 01/15/2014 DNAPL	MW-23C 08/28/2014 DNAPL	MW-23C 01/09/2020 DNAPL	MW-24AR 02/05/2009	MW-24AR 01/14/2010	MW-24AR 06/29/2010
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.005	**<0.01**	**<0.01**	<0.0005	<0.00014	<0.0014	<0.0002	<0.0014	<0.001	<0.0005	<0.0005	<0.0005
Benzene	*0.005*	*0.005*	**0.0072 J**	**<0.01**	**<0.01**	**0.0071**	**0.0111**	**0.0138**	**0.0126**	**0.00596 J**	0.0027 J	<0.0005	<0.0005	<0.0005
Chlorobenzene	*0.1*	*0.1*	<0.005	<0.01	<0.01	<0.0005	0.000279 J	0.00146 J	<0.00018	<0.0012	<0.0015	<0.0005	<0.0005	<0.0005
Ethylbenzene	*0.7*	*0.7*	0.13	0.1	0.1	0.17	0.151	0.185	0.165	0.15	0.028	<0.0005	<0.0005	<0.0005
Methylene chloride	*0.005*	*0.005*	<0.005	**<0.013**	**<0.013**	<0.001	<0.00015	<0.0015	<0.00022	<0.0015	<0.005	<0.0005	<0.0005	<0.0005
Toluene	*1*	*1*	<0.005	<0.01	<0.01	0.0025 J	0.00433	0.00819 J	0.00728	0.00378 J	<0.001	<0.0005	<0.0005	<0.0005
Vinyl chloride	*0.002*	*0.002*	**<0.005**	**<0.01**	**<0.01**	<0.0005	<0.00011	<0.0011	<0.00018	<0.0011				
Xylenes (total)	*10*	*10*	0.059 J	0.048 J	0.039 J	0.11	0.0884	0.0988	0.0959	0.0915	0.025	<0.001	<0.001	<0.001
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0001	<0.00005	<0.0005	<0.001	<0.001	**<0.00534**	**<0.0259**	**<0.022**	<0.00021	<0.0001	<0.0001	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00008	0.0035	0.0014 J	0.028	<0.00282	<0.015	<0.0731	0.202	<0.047	<0.00008	<0.00008	<0.00008
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.00005	<0.0005	<0.001	<0.00118	**<0.00631**	**<0.0307**	**<0.026**	<0.00058	<0.00009	<0.00009	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	<0.00006	<0.0006	<0.0012	<0.000727	**<0.00388**	**<0.0189**	**<0.016**	<0.00042	<0.00007	<0.00007	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.0001	<0.00005	<0.0005	<0.001	<0.000727	<0.00388	<0.0189	<0.016	<0.00021	<0.00012	<0.0001	<0.0001
2-Methylnaphthalene	*0.098*	*0.29*	**1.2**	**1.3**	**0.65**	**28**	**1.38**	**1.16**	**4.52**	**18.3**	**0.12**	<0.00007	0.00023	<0.00007
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.0008	<0.0016	**<0.00755**	**<0.0403**	**<0.196**	**<0.166**	<0.0002	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.00007	<0.00005	<0.0005	<0.001	<0.00509	<0.0272	**<0.132**	**<0.112**	<0.00047	<0.00007	<0.00007	<0.00007
Acenaphthene	*1.5*	*4.4*	**1.6**	**2**	0.89	**39**	**1.78**	**1.58**	**7.79**	**25.9**	0.21	<0.00009	<0.00009	<0.00009
Acenaphthylene	*1.5*	*4.4*	0.012	0.015	0.0068	0.45	<0.000545	<0.00291	<0.0142	0.336	0.0029	<0.00006	<0.00007	<0.00007
Anthracene	*7.3*	*22*	0.4	1.7	0.25	**16**	0.641	0.31	1.49	**8.74**	0.035	<0.00007	<0.00007	<0.00007
Benzo(a)anthracene	*0.0091*	*0.02*	**0.12**	**0.15**	**0.046**	**4.8**	**0.104**	**0.0905**	**0.5**	**2.63**	0.008	<0.00007	<0.00007	<0.00007
Benzo(a)pyrene	*0.0002*	*0.0002*	**0.04**	**0.044**	**0.016**	**1.2**	**0.0283**	**0.0235 J**	**0.119**	**0.73**	**0.0022**	<0.00008	<0.00008	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.00005	<0.0005	**<0.001**	**<0.00118**	**<0.00631**	**<0.0307**	**<0.026**	<0.0003	<0.00009	<0.00009	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.0014	0.0019	<0.001	**0.042**	<0.00336	**<0.018**	**<0.0873**	**<0.074**	<0.00037	0.00031	<0.00029	<0.0024
Chrysene	*0.91*	*2*	0.099	0.21	0.044	**4.3**	0.103	0.0819	0.476	**2.24**	0.0072	<0.00007	<0.00007	<0.00007
Dibenzofuran	*0.098*	*0.29*	**1.6**	**2.7**	**0.85**	**46**	**1.82**	**1.48**	**5.45**	**25.7**	**0.17**	<0.00008	0.000084 J	0.00011 J
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00007	<0.00005	<0.0005	<0.001	<0.001	<0.00534	<0.0259	<0.022	<0.0002	0.0019	0.0001 J	<0.00007
Fluoranthene	*0.98*	*2.9*	**0.99**	**1.8**	0.48	**34**	**1.09**	0.812	**4.42**	**20.4**	0.068	<0.00007	0.00011 J	<0.00007
Fluorene	*0.98*	*2.9*	0.88	**2**	0.57	**32**	**1.19**	0.874	**3.78**	**20.5**	0.12	<0.00007	<0.00007	<0.00007
Naphthalene	*0.49*	*1.5*	**8.5**	**7.5**	**7.8**	**83**	**12.2**	**13.2**	**43.8**	**57.9**	**0.66**	<0.0001	<0.0023	0.00036
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.00005	<0.0005	<0.001	<0.001	<0.00534	<0.0259	<0.022	<0.00024	<0.00009	<0.00009	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00009	<0.00005	<0.0005	<0.001	<0.000909	<0.00485	<0.0236	<0.02	<0.00025	<0.00009	<0.00009	<0.00009
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.00005	<0.0005	<0.001	**<0.00555**	**<0.0296**	**<0.144**	**<0.122**	<0.00079	<0.00008	<0.00008	<0.00008
Phenanthrene	*0.73*	*2.2*	**3.6**	**3.8**	**1.9**	**130**	**3.48**	**2.8**	**18.2**	**59.4**	0.25	<0.00007	0.00018 J	<0.00007
Phenol	*7.3*	*22*	<0.00007	<0.00005	0.0011 J	<0.001	<0.000364	<0.00194	<0.00943	<0.008	0.0079	<0.00007	<0.00007	<0.00007
Pyrene	*0.73*	*2.2*	0.6	**1.1**	0.35	**21**	**0.754**	0.515	**3.04**	**13.3**	0.043	<0.00007	<0.00007	<0.00007
Metals														
Arsenic	*0.01*	*0.01*									0.00333			

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-24AR 01/25/2011	MW-24AR 07/21/2011	MW-24AR 02/09/2012	MW-24AR 07/25/2012	MW-24AR 02/12/2013	MW-24AR 08/08/2013	MW-24AR 01/23/2014	MW-24B 01/28/2008	MW-24B 07/14/2008	MW-24B 02/03/2009	MW-24B 01/14/2010	MW-24B 06/29/2010
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00245	<0.00109	<0.0005	<0.0005	<0.0005
Benzene	*0.005*	*0.005*	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00257	<0.00112	<0.0005	<0.0005	<0.0005
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.001	<0.001	<0.0005	0.000201 J	<0.00012	<0.00018	<0.00239	<0.0015	<0.0005	<0.0005	<0.0005
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00203	<0.00142	<0.0005	<0.0005	<0.0005
Methylene chloride	*0.005*	*0.005*	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00195	<0.00122	<0.0005	<0.0005	<0.0005
Toluene	*1*	*1*	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00274	<0.00138	<0.0005	<0.0005	<0.0005
Vinyl chloride	*0.002*	*0.002*						<0.00011						
Xylenes (total)	*10*	*10*	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00581	<0.00302	<0.001	<0.001	<0.001
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0001	<0.00005	<0.00005	<0.00005	<0.000105	<0.000104	<0.000105	<0.00008	<0.00008	<0.0001	<0.0001	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00008	<0.00005	0.00013 J	<0.00005	**R**	<0.000292	<0.000295	<0.00029	<0.0003	<0.00008	<0.00008	<0.00008
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.00005	<0.00005	<0.00005	<0.000124	<0.000123	<0.000124	<0.00019	<0.0002	<0.00009	<0.00009	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000762	<0.0000755	<0.0000762	<0.00019	<0.0002	<0.00007	<0.00007	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000762	<0.00038	<0.0004	<0.00012	<0.0001	<0.0001
2-Methylnaphthalene	*0.098*	*0.29*	0.00018 J	<0.00005	<0.00005	<0.00005	<0.0000667	<0.000066	0.0000924 J	<0.00038	<0.0004	<0.00007	<0.00007	0.000099 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00079	<0.000783	<0.00079	<0.00019	<0.0002	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.00007	<0.00005	<0.00005	<0.00005	**R**	<0.000528	<0.000533	<0.00024	<0.00025	<0.00007	<0.00007	<0.00007
Acenaphthene	*1.5*	*4.4*	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	0.000146 J	<0.00029	<0.0003	<0.00009	<0.00009	<0.00009
Acenaphthylene	*1.5*	*4.4*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000571	<0.0000566	<0.0000571	<0.00029	<0.0003	<0.00006	<0.00007	<0.00007
Anthracene	*7.3*	*22*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000476	<0.0000472	<0.000452	0.00066	<0.0002	<0.00007	<0.00007	<0.00007
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000762	<0.00019	<0.0002	0.00015 J	<0.00007	<0.00007
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000762	<0.00019	<0.0002	<0.00008	<0.00008	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.00005	<0.00005	<0.00005	<0.000124	<0.000123	<0.000124	<0.00038	<0.0004	<0.00009	<0.00009	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0002	0.00089	0.00048	<0.0001	<0.000352	<0.000349	0.000767 J	<0.00019	<0.0002	0.00046	<0.0021	<0.00074
Chrysene	*0.91*	*2*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000762	<0.00019	<0.0002	0.00015 J	<0.00007	<0.00007
Dibenzofuran	*0.098*	*0.29*	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	0.000164 J	0.000568	<0.0003	<0.00008	<0.00008	<0.00008
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00007	<0.00005	0.00017 J	<0.000071	<0.000105	0.000168 J	<0.000837	<0.00019	<0.0002	<0.00007	<0.00007	<0.00007
Fluoranthene	*0.98*	*2.9*	<0.00007	<0.00005	0.000069 J	<0.00005	<0.0000667	<0.000066	0.000224 J	<0.00019	<0.0002	0.00011 J	<0.00007	<0.00007
Fluorene	*0.98*	*2.9*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000667	<0.000066	0.000137 J	0.00026 J	<0.0002	<0.00007	<0.00007	<0.00007
Naphthalene	*0.49*	*1.5*	0.00081	<0.00005	<0.00005	<0.00005	<0.000139	<0.0000755	<0.000744	0.00105	<0.0004	<0.0001	<0.0001	0.00083
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.00005	<0.00005	<0.00005	<0.000105	<0.000104	<0.000105	<0.00038	<0.0004	<0.00009	<0.00009	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000952	<0.0000943	<0.0000952	<0.00024	<0.00025	<0.00009	<0.00009	<0.00009
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.00005	<0.00005	<0.00005	**R**	<0.000575	<0.000581	<0.00019	<0.0002	<0.00008	<0.00008	<0.00008
Phenanthrene	*0.73*	*2.2*	0.0001 J	<0.00005	<0.00005	<0.00005	0.000089 J	<0.0000566	<0.000691	0.000676	<0.0002	<0.00007	<0.00007	<0.00007
Phenol	*7.3*	*22*	<0.00007	<0.00005	0.00005 J	<0.00005	**R**	<0.0000377	<0.0000381	<0.00019	<0.0002	<0.00007	<0.00007	<0.00007
Pyrene	*0.73*	*2.2*	<0.00007	<0.00005	0.000067 J	<0.00005	<0.000105	<0.000104	0.000172 J	<0.00019	<0.0002	<0.00007	<0.00007	<0.00007
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-24B 01/25/2011	MW-24B 07/21/2011	MW-24B 02/09/2012	MW-24B 07/25/2012	MW-24B 02/12/2013	MW-24B 08/08/2013	MW-24C 01/28/2008	MW-24C 07/14/2008	MW-24C 02/03/2009	MW-24C 01/14/2010	MW-24C 06/29/2010	MW-24C 01/25/2011
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.00245	<0.00109	<0.0005	<0.0005	<0.0005	<0.0005
Benzene	*0.005*	*0.005*	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.00257	<0.00112	<0.0005	<0.0005	<0.0005	<0.0005
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00239	<0.0015	<0.0005	<0.0005	<0.0005	<0.0005
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00203	<0.00142	<0.0005	<0.0005	<0.0005	<0.0005
Methylene chloride	*0.005*	*0.005*	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00195	<0.00122	<0.0005	<0.0005	<0.0005	<0.0005
Toluene	*1*	*1*	<0.0005	<0.001	<0.001	<0.0005	<0.00015	0.0209	<0.00274	<0.00138	<0.0005	<0.0005	<0.0005	<0.0005
Vinyl chloride	*0.002*	*0.002*						<0.00011						
Xylenes (total)	*10*	*10*	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00581	<0.00302	<0.001	<0.001	<0.001	<0.001
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0001	<0.00005	<0.00005	<0.00005	<0.000105	<0.000108	<0.00008	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00008	<0.00005	<0.00005	<0.00005	<0.000295	<0.000304	<0.00029	<0.00029	<0.00008	<0.00008	<0.00008	<0.00008
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.00005	<0.00005	<0.00005	<0.000124	<0.000127	<0.00019	<0.00019	<0.00009	<0.00009	<0.00009	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000762	<0.0000784	<0.00019	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	<0.00038	<0.00038	<0.00012	<0.0001	<0.0001	<0.0001
2-Methylnaphthalene	*0.098*	*0.29*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000667	<0.0000686	<0.00038	<0.00038	<0.00007	<0.00007	<0.00007	<0.00007
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00079	<0.000814	<0.00019	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.00007	<0.00005	<0.00005	<0.00005	<0.000533	<0.000549	<0.00024	<0.00024	<0.00007	<0.00007	<0.00007	<0.00007
Acenaphthene	*1.5*	*4.4*	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	<0.00029	<0.00029	<0.00009	<0.00009	0.00022	<0.00009
Acenaphthylene	*1.5*	*4.4*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000571	<0.0000588	<0.00029	<0.00029	<0.00006	<0.00007	<0.00007	<0.00007
Anthracene	*7.3*	*22*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000476	<0.000049	<0.00019	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	<0.00019	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	<0.00019	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.00005	<0.00005	<0.00005	<0.000124	<0.000127	<0.00038	<0.00038	<0.00009	<0.00009	<0.00009	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0002	0.00014 J	0.00011 J	<0.00015	<0.000352	<0.000363	<0.00019	<0.00019	0.00055	<0.0002	<0.001	<0.0002
Chrysene	*0.91*	*2*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	<0.00019	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007
Dibenzofuran	*0.098*	*0.29*	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	0.000571	<0.00029	<0.00008	<0.00008	<0.00008	<0.00008
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00007	<0.00005	<0.00005	<0.00013	<0.000105	<0.000108	0.00063 J	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007
Fluoranthene	*0.98*	*2.9*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000667	<0.0000686	0.000529	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007
Fluorene	*0.98*	*2.9*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000667	<0.0000686	<0.00019	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007
Naphthalene	*0.49*	*1.5*	<0.0001	<0.00005	<0.00005	0.00015 J	<0.0000762	<0.0000784	<0.00038	<0.00038	0.00013 J	<0.00026	<0.0001	<0.0001
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.00005	<0.00005	<0.00005	<0.000105	<0.000108	<0.00038	<0.00038	<0.00009	<0.00009	<0.00009	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000952	<0.000098	<0.00024	<0.00024	<0.00009	<0.00009	<0.00009	<0.00009
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.00005	<0.00005	<0.00005	<0.000581	<0.000598	<0.00019	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008
Phenanthrene	*0.73*	*2.2*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000571	<0.0000588	0.000677	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007
Phenol	*7.3*	*22*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000381	<0.0000392	<0.00019	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007
Pyrene	*0.73*	*2.2*	<0.00007	<0.00005	<0.00005	<0.00005	<0.000105	<0.000108	0.00041 J	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-24C 07/21/2011	MW-24C 02/09/2012	MW-24C 07/25/2012	MW-24C 02/12/2013	MW-24C 08/08/2013	MW-25A 01/28/2008	MW-25A 07/14/2008	MW-25A 02/03/2009	MW-25A 01/15/2010	MW-25A 06/30/2010	MW-25A 01/26/2011	MW-25A 01/26/2011 Duplicate
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.00245	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Benzene	*0.005*	*0.005*	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.00257	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chlorobenzene	*0.1*	*0.1*	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00239	<0.00047	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Ethylbenzene	*0.7*	*0.7*	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00203	<0.00025	0.0029 J	<0.0005	<0.0005	<0.0005	<0.0005
Methylene chloride	*0.005*	*0.005*	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00195	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Toluene	*1*	*1*	<0.001	<0.001	<0.0005	0.000218 J	<0.00015	<0.00274	<0.00041	0.00074 J	<0.0005	<0.0005	<0.0005	<0.0005
Vinyl chloride	*0.002*	*0.002*					<0.00011							
Xylenes (total)	*10*	*10*	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00581	<0.00127	0.0047 J	<0.001	<0.001	<0.001	<0.001
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	<0.00005	<0.00005	<0.000105	<0.000108	<0.00008	<0.00009	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00005	<0.00005	<0.00005	<0.000295	<0.000304	<0.00029	<0.00033	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	<0.00005	<0.00005	<0.000124	<0.000127	<0.00019	<0.00022	<0.00009	<0.00009	0.00066	<0.00009	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	<0.00006	<0.00006	<0.0000762	<0.0000784	<0.00019	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	<0.00038	<0.00044	<0.00012	<0.0001	<0.0001	<0.0001	<0.0001
2-Methylnaphthalene	*0.098*	*0.29*	<0.00005	<0.00005	0.000077 J	<0.0000667	<0.0000686	<0.00038	<0.00044	0.024	<0.00007	<0.00007	<0.00007	<0.00007
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.00079	<0.000814	<0.00019	<0.00022	<0.00008	<0.00008	0.00026	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.00005	<0.00005	<0.00005	<0.000533	<0.000549	<0.00024	<0.00028	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
Acenaphthene	*1.5*	*4.4*	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	0.00038 J	<0.00033	0.034	0.0014	0.0012	0.00054	0.00052
Acenaphthylene	*1.5*	*4.4*	<0.00005	<0.00005	<0.00005	<0.0000571	<0.0000588	<0.00029	<0.00033	0.0004	<0.00007	0.00034	<0.00007	<0.00007
Anthracene	*7.3*	*22*	<0.00005	<0.00005	<0.00005	<0.0000476	<0.000049	0.00067	<0.00022	0.0005	<0.00007	<0.00007	<0.00007	<0.00007
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	<0.00019	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	<0.00019	**<0.00022**	<0.00008	<0.00008	0.00012 J	<0.00008	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	<0.00005	<0.00005	<0.000124	<0.000127	<0.00038	<0.00044	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00013 J	0.0013	<0.00013	<0.000352	<0.000363	0.00021 J	<0.00022	0.00033	<0.0002	<0.00056	<0.0002	0.00046
Chrysene	*0.91*	*2*	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	<0.00019	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
Dibenzofuran	*0.098*	*0.29*	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	0.000601	<0.00033	0.018	<0.00008	0.00034	<0.00008	<0.00008
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00005	<0.00005	<0.00005	<0.000105	<0.000108	<0.00019	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
Fluoranthene	*0.98*	*2.9*	<0.00005	<0.00005	<0.00005	<0.0000667	<0.0000686	0.000556	<0.00022	0.00057	0.000084 J	0.000092 J	<0.00007	<0.00007
Fluorene	*0.98*	*2.9*	<0.00005	<0.00005	<0.00005	<0.0000667	<0.0000686	0.00033 J	<0.00022	0.0049	<0.00007	<0.00007	<0.00007	<0.00007
Naphthalene	*0.49*	*1.5*	0.0002	<0.00005	0.00019 J	<0.0000762	<0.0000784	0.0011	<0.00044	0.45	<0.0001	0.00024	0.00018 J	0.00027
Nitrobenzene	*0.049*	*0.15*	<0.00005	<0.00005	<0.00005	<0.000105	<0.000108	<0.00038	<0.00044	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.00005	<0.00005	<0.0000952	<0.000098	<0.00024	<0.00028	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Pentachlorophenol	*0.001*	*0.001*	<0.00005	<0.00005	<0.00005	<0.000581	<0.000598	<0.00019	<0.00022	<0.00008	<0.00008	0.00033	<0.00008	<0.00008
Phenanthrene	*0.73*	*2.2*	<0.00005	<0.00005	<0.00005	<0.0000571	<0.0000588	0.000715	<0.00022	0.0034	<0.00007	<0.00007	<0.00007	<0.00007
Phenol	*7.3*	*22*	<0.00005	<0.00005	<0.00005	<0.0000381	<0.0000392	<0.00019	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
Pyrene	*0.73*	*2.2*	<0.00005	<0.00005	<0.00005	<0.000105	<0.000108	0.000484	<0.00022	0.00036	0.00047	0.00015 J	<0.00007	<0.00007
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-25A 07/20/2011	MW-25A 02/08/2012	MW-25A 07/18/2012	MW-25A 02/06/2013	MW-25A 08/06/2013	MW-25A 01/22/2014	MW-25A 07/29/2014	MW-25A 01/31/2018	MW-25A[8] 03/27/2018	MW-25A 05/31/2018	MW-25A 01/15/2019	MW-25A 07/16/2019
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.001	<0.001	<0.0005	0.000497 J	0.000121 J	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*	<0.001	<0.001	<0.0005	<0.00011	<0.00011	<0.00018	<0.00011	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Xylenes (total)	*10*	*10*	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	<0.00005	<0.00005	<0.000106	<0.00011	<0.000105	<0.000107	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00005	<0.00005	<0.00005	<0.000298	<0.00031	<0.000295	<0.000301	<0.00004	<0.000041	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	<0.00005	<0.00005	<0.000125	<0.00013	<0.000124	<0.000126	<0.000058	<0.000059	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	<0.00006	<0.00006	<0.0000769	<0.00008	<0.0000762	<0.0000777	<0.000042	<0.000043	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.00005	<0.00005	<0.0000769	<0.00008	<0.0000762	<0.0000777	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	<0.00005	<0.00005	<0.000061	<0.0000673	<0.00007	<0.0000667	<0.000068	0.00014	<0.000019	0.000052 J	<0.000051	0.000057 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.000798	<0.00083	<0.00079	<0.000806	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00005	<0.00005	<0.00005	<0.000538	<0.00056	<0.000533	<0.000544	<0.000047	<0.000048	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.0042	0.00053	<0.00005	0.000171 J	0.000345 J	0.00356	0.0000912 J	0.062	0.054	<0.000027	0.000036 J	<0.000027
Acenaphthylene	*1.5*	*4.4*	0.000053 J	<0.00005	<0.00005	<0.0000577	<0.00006	0.000542	<0.0000583	0.00044	0.00053	<0.000015	<0.000015	<0.000015
Anthracene	*7.3*	*22*	<0.00005	<0.00005	<0.00005	<0.0000481	<0.00005	<0.0000476	<0.0000485	0.00057	0.00068	<0.000014	0.000015 J	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.0000769	<0.00008	<0.0000762	<0.0000777	<0.00005	<0.000051	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00005	<0.00005	<0.00005	<0.0000769	<0.00008	<0.0000762	<0.0000777	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	<0.00005	<0.00005	<0.000125	<0.00013	<0.000124	<0.000126	<0.00003	<0.000031	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00023	<0.0001	<0.0001	<0.000356	<0.00037	<0.000352	<0.000359	<0.00008	<0.000038	0.0001 J	<0.000078	<0.000037
Chrysene	*0.91*	*2*	<0.00005	<0.00005	<0.00005	<0.0000769	<0.00008	<0.0000762	<0.0000777	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	0.0013	0.0005	<0.00005	<0.0000769	<0.00008	<0.0000762	<0.0000777	0.00017	0.00011	0.000033 J	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00005	<0.00005	<0.00005	<0.000106	<0.00011	<0.000105	<0.000107	<0.00002	<0.00002	<0.00002	0.00002 J	<0.00002
Fluoranthene	*0.98*	*2.9*	0.00014 J	<0.00005	<0.00005	<0.0000673	<0.00007	0.00106	<0.000068	0.0062	0.0066	<0.00001	0.000015 J	<0.00001
Fluorene	*0.98*	*2.9*	0.00016 J	0.00011 J	<0.00005	<0.0000673	<0.00007	<0.0000667	<0.000068	0.026	0.022	<0.00003	<0.00003	<0.00003
Naphthalene	*0.49*	*1.5*	<0.00005	0.00017 J	<0.00038	<0.000692	<0.00008	<0.000217	<0.000817	<0.00029	0.0002	0.0006	<0.00029	0.00023
Nitrobenzene	*0.049*	*0.15*	<0.00005	<0.00005	<0.00005	<0.000106	<0.00011	<0.000105	<0.000107	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.00005	<0.00005	<0.0000962	<0.0001	<0.0000952	<0.0000971	<0.000025	<0.000026	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00005	<0.00005	<0.00005	<0.000587	<0.00061	<0.000581	<0.000592	<0.000079	<0.000081	<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	<0.00005	<0.00005	<0.00005	<0.0000577	<0.00006	<0.0000571	<0.0000583	0.00015	0.00015	<0.000021	0.000029 J	<0.000021
Phenol	*7.3*	*22*	<0.00005	0.00005 J	<0.00005	<0.0000385	<0.00004	<0.0000381	<0.0000388	<0.000035	<0.000036	<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	0.0009	<0.00005	<0.00005	<0.000106	0.000124 J	0.000585	0.00018 J	0.0033	0.0049	<0.000019	0.000027 J	<0.000019
Metals														
Arsenic	*0.01*	*0.01*								**0.0171**	0.00714	0.00171 J	0.00216	0.00285

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	***C/I Assessment Level***	MW-25A 01/15/2020	MW-25C 01/28/2008 DNAPL	MW-25C 01/15/2010 DNAPL	MW-25C 01/26/2011	MW-25C 07/20/2011	MW-25C 02/08/2012	MW-25C 07/18/2012	MW-25C 02/06/2013	MW-25C 08/06/2013	MW-25C 01/22/2014	MW-25C 07/29/2014	MW-25C 01/28/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.001	**<0.025**	<0.0005	<0.005	**<0.01**	<0.005	<0.0028	<0.0007	<0.0002	<0.0007	<0.0002
Benzene	*0.005*	*0.005*	<0.0002	**0.11**	**0.11 J**	**0.092**	**0.076**	**0.039 J**	**0.03 J**	**0.0304**	**0.0283**	**0.022**	**0.0119**	0.00089 J
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.00094	<0.025	<0.0005	<0.005	<0.01	<0.005	0.00653 J	<0.0006	0.00034 J	<0.0006	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0003	0.545	0.47	0.5	0.37	0.34	0.33	0.324	0.173	0.32	0.298	0.042
Methylene chloride	*0.005*	*0.005*	<0.001	<0.0011	**<0.025**	<0.0005	**<0.0065**	**<0.013**	**<0.01**	<0.003	<0.00075	<0.00022	<0.00075	<0.001
Toluene	*1*	*1*	<0.0002	0.556	0.52	0.53	0.4	0.31	0.31	0.291	0.204	0.261	0.207	0.015
Vinyl chloride	*0.002*	*0.002*	<0.0002				**<0.005**	**<0.01**	**<0.005**	**<0.0022**	<0.00055	<0.00018	<0.00055	<0.0002
Xylenes (total)	*10*	*10*	<0.0003	1.43	1.2	1.2	1	0.98	0.96	1.03	0.575	1.01	1.07	0.29
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	**<0.8**	0.0001 J	<0.0001	<0.00005	<0.00005	<0.00005	**<0.106**	**<0.011**	**<0.0105**	<0.000107	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	**<2.9**	0.00008 J	<0.00008	0.0051	<0.00005	<0.00005	<0.298	<0.031	0.372	<0.000301	0.00061
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	**<1.9**	0.00009 J	<0.00009	<0.00005	<0.00005	<0.00005	**<0.125**	**<0.013**	**<0.0124**	<0.000126	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	**<1.9**	0.00007 J	<0.00007	<0.00006	<0.00006	<0.00006	**<0.0769**	**<0.008**	**<0.00762**	<0.0000777	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.000021	**<3.8**	0.0001 J	<0.0001	<0.00005	<0.00005	<0.00005	<0.0769	<0.008	<0.00762	<0.0000777	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	**193**	**0.76**	**1.4**	**1.3**	**0.92**	**0.9**	**0.8**	**1.32**	**1.46**	**0.943**	**0.48**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	**<1.9**	0.00008 J	<0.00008	<0.00008	<0.00008	<0.00008	**<0.798**	**<0.083**	**<0.079**	<0.000806	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.000047	**<2.4**	0.00007 J	<0.00007	<0.00005	<0.00005	<0.00005	**<0.538**	**<0.056**	**<0.0533**	<0.000544	<0.000047
Acenaphthene	*1.5*	*4.4*	<0.000027	**97.5**	0.21	0.55	0.28	0.26	0.21	0.261 J	0.381	0.416	0.284	0.17
Acenaphthylene	*1.5*	*4.4*	<0.000015	**<2.9**	0.0027 J	0.0041	0.0029	0.0021	0.0021	<0.0577	<0.006	<0.00571	0.00316	0.0017
Anthracene	*7.3*	*22*	0.000089 J	**42.8**	0.035	0.19	0.031	0.021	0.019	<0.0481	0.0377 J	0.0372 J	0.0209	0.015
Benzo(a)anthracene	*0.0091*	*0.02*	0.00012	**9.37**	0.0027 J	**0.047**	0.0014	0.00054	0.00086	**<0.0769**	<0.008	<0.00762	0.000813	0.00079
Benzo(a)pyrene	*0.0002*	*0.0002*	0.000038 J	**2.3**	**0.0014 J**	**0.013**	**0.00043**	0.00017 J	0.0002	**<0.0769**	**<0.008**	**<0.00762**	**0.000435 J**	**0.00028**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	**<3.8**	0.00009 J	<0.00009	<0.00005	<0.00005	<0.00005	**<0.125**	**<0.013**	**<0.0124**	**0.0016**	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	**<1.9**	0.0002 J	<0.0002	<0.002	<0.0001	0.00012 J	**<0.356**	**<0.037**	**<0.0352**	<0.000674	0.00006 J
Chrysene	*0.91*	*2*	0.000097 J	**8.38**	0.0025 J	0.048	0.0012	0.00062	0.00086	<0.0769	<0.008	<0.00762	0.000957	0.00077
Dibenzofuran	*0.098*	*0.29*	<0.00002	**102**	**0.22**	**0.52**	**0.29**	**0.26**	**0.22**	**0.174 J**	**0.353**	<0.00762	**0.276**	**0.18**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<1.9	0.00007 J	<0.00007	<0.00005	<0.00005	<0.00005	<0.106	<0.011	<0.0105	<0.000107	<0.00002
Fluoranthene	*0.98*	*2.9*	0.00045	**84.1**	0.041	0.32	0.02	0.011	0.0088	<0.0673	0.0149 J	0.018 J	0.0127	0.0092
Fluorene	*0.98*	*2.9*	<0.00003	**75.5**	0.12	0.34	0.14	0.13	0.096	0.102 J	0.163	<0.00667	0.129	0.086
Naphthalene	*0.49*	*1.5*	0.0001	**750**	**9.8**	**18**	**19**	**15**	**13**	**10.7**	**19.7**	**19**	**10.7**	**3**
Nitrobenzene	*0.049*	*0.15*	<0.000024	**<3.8**	0.00009 J	<0.00009	<0.00005	<0.00005	<0.00005	**<0.106**	<0.011	<0.0105	<0.000107	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	**<2.4**	0.00009 J	<0.00009	<0.00005	<0.00005	<0.00005	<0.0962	<0.01	<0.00952	<0.0000971	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.000079	**<1.9**	0.00008 J	<0.00008	<0.00005	<0.00005	<0.00005	**<0.587**	**<0.061**	**<0.0581**	<0.000592	<0.000079
Phenanthrene	*0.73*	*2.2*	0.00017	**214**	0.19	0.7	0.18	0.14	0.12	0.147 J	0.187	0.222	0.14	0.089
Phenol	*7.3*	*22*	<0.000035	<1.9	0.00007 J	<0.00007	0.026	0.003	0.0045	<0.0385	0.12	<0.00381	0.00177	<0.000035
Pyrene	*0.73*	*2.2*	0.00035	**49.5**	0.022	0.24	0.0092	0.0047	0.0063	<0.106	<0.011	<0.0105	0.00769	0.0062
Metals														
Arsenic	*0.01*	*0.01*	0.00216											0.00283

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-25C[8] 03/26/2018	MW-25C 05/31/2018	MW-25C 01/15/2019	MW-25C 07/16/2019	MW-25C 01/15/2020	MW-26A 01/29/2008	MW-26A 07/14/2008	MW-26A 02/03/2009	MW-26A 01/13/2010	MW-26A 06/25/2010	MW-26A 01/24/2011	MW-26A 07/19/2011
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.001
Benzene	*0.005*	*0.005*	0.00047 J	0.0013	<0.0002	0.0013	0.0017	<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	**0.031**
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047	<0.00047	<0.0005	<0.0005	<0.0005	<0.0005	<0.001
Ethylbenzene	*0.7*	*0.7*	0.043	0.036	0.038	0.035	0.033	<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013
Toluene	*1*	*1*	0.015	0.013	0.013	0.011	0.01	<0.00041	<0.00041	<0.0005	<0.0005	<0.0005	<0.0005	<0.001
Vinyl chloride	*0.002*	*0.002*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002							
Xylenes (total)	*10*	*10*	0.32	0.28	0.27	0.25	0.22	<0.00127	<0.00127	<0.001	<0.001	<0.001	<0.001	0.0045 J
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00021	<0.00021	<0.000021	<0.00021	<0.000021	<0.00008	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	0.0033	0.0075	<0.00004	0.0075	0.0062	<0.0003	<0.0003	0.00054	<0.00008	<0.00008	<0.00008	<0.00005
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00058	<0.00058	<0.000058	<0.00058	<0.000058	<0.0002	<0.0002	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00042	<0.00042	<0.000042	<0.00042	<0.000042	<0.0002	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.00021	<0.00021	<0.000021	<0.00021	<0.000021	<0.0004	<0.0004	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	**0.69**	**0.71**	**0.4**	**0.54**	**0.96**	<0.0004	<0.0004	0.0024	<0.00007	<0.00007	0.00031	0.00039
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.0002	<0.0002	<0.00002	<0.0002	<0.00002	<0.0002	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.00047	<0.00047	<0.000047	<0.00047	<0.000047	<0.00025	<0.00025	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005
Acenaphthene	*1.5*	*4.4*	0.21	0.23	0.13	0.2	0.36	0.0519	0.0173	0.015	0.0097	0.005	0.0039	0.12
Acenaphthylene	*1.5*	*4.4*	0.0023	0.0028	0.0012	0.002	0.0025	<0.0003	<0.0003	<0.00006	0.00014 J	<0.00007	<0.00007	0.00047
Anthracene	*7.3*	*22*	0.019	0.024	0.011	0.016	0.027	0.0018	0.00047 J	0.00079	<0.00007	0.0002	0.000099 J	0.0026
Benzo(a)anthracene	*0.0091*	*0.02*	0.0011	0.0012	0.00065	0.0013	0.00057	<0.0002	<0.0002	0.00016 J	<0.00007	<0.00007	<0.00007	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0002	**0.00042 J**	**0.00021**	**0.00037 J**	0.00019	<0.0002	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.0003	<0.0003	<0.00003	<0.0003	<0.00003	<0.0004	<0.0004	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00037	<0.00037	<0.000037	<0.00037	0.00066	**0.0214**	<0.0002	0.00042	<0.00026	<0.00045	0.00043	<0.00031
Chrysene	*0.91*	*2*	0.0013	0.0014	0.00074	0.0014	0.00056	<0.0002	<0.0002	0.00018 J	<0.00007	0.0003	<0.00007	<0.00005
Dibenzofuran	*0.098*	*0.29*	**0.2**	**0.21**	**0.14**	**0.19**	**0.34**	0.00492	0.00123	0.0026	0.00078	0.00033	0.00038	0.021
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.0002	<0.0002	<0.00002	<0.0002	0.00068	<0.0002	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005
Fluoranthene	*0.98*	*2.9*	0.014	0.015	0.0079	0.014	0.0058	0.00244	0.000523	0.00091	0.0003	0.0004	0.00036	0.0048
Fluorene	*0.98*	*2.9*	0.091	0.11	0.062	0.081	0.15	0.00235	0.000742	0.0016	0.00028	0.00034	0.00017 J	0.0057
Naphthalene	*0.49*	*1.5*	**5.9**	**5.6**	**3.5**	**4.2**	**7.5**	0.00078	<0.0004	0.0074	<0.00051	<0.0001	0.0043	0.0019
Nitrobenzene	*0.049*	*0.15*	<0.00024	<0.00024	<0.000024	<0.00024	<0.000024	<0.0004	<0.0004	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00025	<0.00025	<0.000025	<0.00025	<0.000025	<0.00025	<0.00025	<0.00009	<0.00009	<0.00009	<0.00009	0.00023
Pentachlorophenol	*0.001*	*0.001*	<0.00079	<0.00079	<0.000079	<0.00079	**0.17**	<0.0002	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005
Phenanthrene	*0.73*	*2.2*	0.15	0.16	0.077	0.12	0.18	<0.0002	<0.0002	0.003	0.00021	0.00017 J	0.00011 J	0.00029
Phenol	*7.3*	*22*	<0.00035	<0.00035	<0.000035	<0.00035	<0.000035	<0.0002	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005
Pyrene	*0.73*	*2.2*	0.011	0.01	0.0052	0.0085	0.0049	0.00126	0.00021 J	0.00069	0.000092 J	0.0002 J	0.00013 J	0.0031
Metals														
Arsenic	*0.01*	*0.01*	0.003	0.00305	0.00359	0.00487	0.00391							

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-26A 08/25/2011	MW-26A 10/20/2011	MW-26A 02/15/2012	MW-26A 07/17/2012	MW-26A 02/06/2013	MW-26A 08/07/2013	MW-26A 10/14/2013	MW-26A 01/22/2014	MW-26A 07/24/2014	MW-26A 01/28/2018	MW-26A 03/21/2018	MW-26A 06/05/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*			<0.001	<0.0005	<0.00014	<0.00014		<0.0002	<0.00014	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	**0.042**	0.004 J	<0.001	<0.0005	0.00118	**0.0097**	0.00391	0.000434 J	0.000189 J	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*			<0.001	<0.0005	0.000176 J	0.000297 J		<0.00018	0.000205 J	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*			<0.0011	<0.0005	<0.00011	0.000815 J		<0.00019	<0.00011	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*			<0.0013	<0.001	<0.00015	<0.00015		<0.00022	<0.00015	<0.001	<0.001	<0.001
Toluene	*1*	*1*			<0.001	<0.0005	<0.00015	<0.000291		<0.00017	<0.00015	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*									<0.00011			
Xylenes (total)	*10*	*10*			<0.0031	<0.0015	<0.00026	0.00239 J		<0.00058	<0.00026	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*			<0.00005	<0.00005	**<0.00529**	<0.000104		<0.00011	<0.000107	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*			<0.00005	<0.00005	<0.0149	<0.000292		<0.00031	<0.000301	0.000056 J	<0.000041	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*			<0.00005	0.0001 J	**<0.00625**	<0.000123		<0.00013	<0.000126	<0.000058	<0.000059	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*			<0.00006	<0.00006	**<0.00385**	<0.0000755		<0.00008	<0.0000777	<0.000042	<0.000043	<0.000042
2-Chloronaphthalene	*2*	*5.8*			<0.00005	<0.00005	<0.00385	<0.0000755		<0.00008	<0.0000777	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*			<0.00005	0.000056 J	<0.00337	0.000414 J		<0.00007	<0.000068	0.000053 J	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*			<0.00008	<0.00008	**<0.0399**	<0.000783		<0.00083	<0.000806	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*			<0.00005	<0.00005	<0.0269	<0.000528		<0.00056	<0.000544	<0.000047	<0.000048	<0.000047
Acenaphthene	*1.5*	*4.4*			0.0095	0.0087	0.0481	0.141		0.0699	0.0663	0.0073	<0.000028	0.019
Acenaphthylene	*1.5*	*4.4*			0.00013 J	<0.00005	<0.00288	<0.0000566		<0.00006	0.000486	0.00007 J	<0.000015	0.000082 J
Anthracene	*7.3*	*22*			0.00025	0.00027	<0.0024	0.00228		0.00136	0.00141	0.00012	0.00015	0.00025
Benzo(a)anthracene	*0.0091*	*0.02*			<0.00005	<0.00005	<0.00385	<0.0000755		<0.00008	<0.0000777	<0.00005	<0.000051	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*			<0.00005	<0.00005	**<0.00385**	<0.0000755		<0.00008	<0.0000777	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*			<0.00005	<0.00005	**<0.00625**	<0.000123		<0.00013	<0.000126	<0.00003	<0.000031	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*			<0.0001	0.0002 J	**<0.0178**	<0.000349		<0.00037	<0.000359	0.000076 J	<0.000038	<0.000037
Chrysene	*0.91*	*2*			<0.00005	<0.00005	<0.00385	<0.0000755		<0.00008	<0.0000777	<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*			0.0014	0.00084	0.00416 J	0.0151		<0.00008	0.00154	<0.00016	0.000086 J	0.0001
Di-n-butylphthalate (DBP)	*2.4*	*7.3*			<0.00005	<0.00005	<0.00529	<0.000104		<0.00011	<0.000107	<0.00002	0.000052 J	<0.00002
Fluoranthene	*0.98*	*2.9*			0.00049	0.00092	<0.00337	0.0062		0.00306	0.00465	0.00084	0.0011	0.0014
Fluorene	*0.98*	*2.9*			0.0006	0.00041	<0.00337	0.00611		0.0031	0.00245	0.00044	0.00051	0.00084
Naphthalene	*0.49*	*1.5*			0.0001 J	0.00027	<0.00385	0.0066		<0.000924	0.000419 J	<0.00014	<0.00002	<0.00002
Nitrobenzene	*0.049*	*0.15*			<0.00005	<0.00005	<0.00529	<0.000104		<0.00011	0.00394	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*			<0.00005	<0.00005	<0.00481	<0.0000943		<0.0001	<0.0000971	<0.000025	<0.000026	<0.000025
Pentachlorophenol	*0.001*	*0.001*			<0.00005	<0.00005	**<0.0293**	<0.000575		<0.00061	<0.000592	<0.000079	<0.000081	<0.000079
Phenanthrene	*0.73*	*2.2*			<0.00005	<0.00005	<0.00288	<0.0000566		0.000147 J	0.000155 J	<0.000038	<0.000021	<0.000021
Phenol	*7.3*	*22*			<0.00005	<0.00005	<0.00192	<0.0000377		<0.00004	<0.0000388	<0.000035	<0.000036	<0.000035
Pyrene	*0.73*	*2.2*			0.00024	0.00051	<0.00529	0.00322		0.00159	0.0022	0.00043	0.00042	0.00094
Metals														
Arsenic	*0.01*	*0.01*										**0.032**	**0.0427**	**0.0491**

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-26A 01/15/2019	MW-26A 07/17/2019	MW-26A 01/16/2020	MW-27A 01/28/2008	MW-27A 07/14/2008	MW-27A 02/09/2018	MW-27A 03/26/2018	MW-27A 06/01/2018	MW-27A 07/18/2019	MW-27A 01/15/2020	MW-27C 01/28/2008	MW-27C 07/14/2008
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.00245	<0.00109	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00245	<0.00109
Benzene	*0.005*	*0.005*	<0.0002	0.00036 J	<0.0002	<0.00257	<0.00112	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00257	<0.00112
Chlorobenzene	*0.1*	*0.1*	0.00056 J	<0.0003	<0.0003	<0.00239	<0.0015	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00239	<0.0015
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.00203	<0.00142	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00203	<0.00142
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.00195	<0.00122	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00195	<0.00122
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.00274	<0.00138	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00274	<0.00138
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.00581	<0.00302	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00581	<0.00302
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.0001	<0.00008	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00008	<0.00008
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.00043	<0.0003	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00029	<0.00032
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.00029	<0.0002	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058	<0.00019	<0.00021
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.00029	<0.0002	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.00019	<0.00021
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.00057	<0.0004	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00038	<0.00042
2-Methylnaphthalene	*0.098*	*0.29*	<0.00009	0.000059 J	<0.000042	<0.00057	<0.0004	<0.000019	<0.000019	<0.000019	0.00034	<0.000019	<0.00038	<0.00042
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00029	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019	<0.00021
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.00036	<0.00025	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00024	<0.00026
Acenaphthene	*1.5*	*4.4*	0.042	0.028	<0.00017	<0.00043	<0.0003	<0.000027	<0.000027	<0.000027	0.00011	<0.000027	<0.00029	<0.00032
Acenaphthylene	*1.5*	*4.4*	0.00027	0.00013	<0.000015	<0.00043	<0.0003	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.00029	<0.00032
Anthracene	*7.3*	*22*	0.00087	0.00047	<0.000087	0.00087	<0.0002	<0.000014	<0.000014	<0.000014	0.000036 J	<0.000014	<0.00019	<0.00021
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.00029	<0.0002	<0.000051	<0.00005	<0.00005	<0.00005	<0.00005	<0.00019	<0.00021
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	**<0.00029**	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	0.000052 J	<0.00019	**<0.00021**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00057	<0.0004	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00038	<0.00042
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	<0.00019	<0.000037	0.00044 J	0.00026 J	0.0002	<0.000037	0.0005	0.0002	0.000062 J	0.00039 J	0.00029 J
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	<0.00029	<0.0002	0.00005 J	<0.000021	<0.000021	<0.000021	<0.000021	<0.00019	<0.00021
Dibenzofuran	*0.098*	*0.29*	0.0005	0.00021	<0.000044	0.00044 J	<0.0003	<0.00002	<0.00002	<0.00002	0.00014	<0.00002	<0.00029	<0.00032
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.00002	<0.00029	<0.0002	<0.00002	<0.00002	<0.00002	0.000034 J	<0.00002	<0.00019	<0.00021
Fluoranthene	*0.98*	*2.9*	0.0044	0.0029	0.00073	0.000756	<0.0002	0.000058 J	<0.00001	<0.00001	0.000024 J	<0.00001	<0.00019	<0.00021
Fluorene	*0.98*	*2.9*	0.0039	0.0017	<0.00029	<0.00029	<0.0002	<0.00003	<0.00003	<0.00003	0.000074 J	<0.00003	<0.00019	<0.00021
Naphthalene	*0.49*	*1.5*	<0.00049	<0.00032	<0.00017	0.0018	<0.0004	<0.00002	<0.00002	<0.00002	0.0026	0.000053 J	<0.00038	<0.00042
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.00057	<0.0004	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00038	<0.00042
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.00036	<0.00025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00024	<0.00026
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.00029	<0.0002	<0.00008	<0.000079	<0.000079	<0.000079	<0.000079	<0.00019	<0.00021
Phenanthrene	*0.73*	*2.2*	0.00012	0.000083 J	<0.00003	0.000746	<0.0002	<0.000021	<0.000021	<0.000021	0.00013	<0.000021	<0.00019	<0.00021
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.000035	<0.00029	<0.0002	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.00019	<0.00021
Pyrene	*0.73*	*2.2*	0.0025	0.0015	0.00035	0.00062	<0.0002	0.000078 J	<0.000019	<0.000019	<0.000019	<0.000019	<0.00019	<0.00021
Metals														
Arsenic	*0.01*	*0.01*	**0.166**	**0.0933**	**0.0217**			0.000978 J	<0.0004	0.00207	0.000498 J	0.000859 J		

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-27C 02/03/2009	MW-27C 01/14/2010	MW-27C 06/30/2010	MW-27C 01/27/2011	MW-27C 07/20/2011	MW-27C 02/09/2012	MW-27C 07/25/2012	MW-27C 02/12/2013	MW-27C 08/08/2013	MW-27C 01/24/2014	MW-27C 07/25/2014	MW-27C 01/31/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002
Benzene	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001
Toluene	*1*	*1*	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002
Vinyl chloride	*0.002*	*0.002*									<0.00011		<0.00011	
Xylenes (total)	*10*	*10*	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.000105	<0.000104	<0.000105	<0.000108	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000295	<0.000292	<0.000297	<0.000304	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000124	<0.000123	<0.000124	<0.000127	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000762	<0.0000755	<0.0000766	<0.0000784	0.00052
2-Chloronaphthalene	*2*	*5.8*	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000766	<0.0000784	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000777	<0.000066	<0.000067	<0.0000686	0.00041
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00079	<0.000783	<0.000794	<0.000814	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000533	<0.000528	<0.000536	<0.000549	0.00031 J
Acenaphthene	*1.5*	*4.4*	0.00026	0.00015 J	0.00028	0.00019 J	0.00011 J	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000766	<0.0000784	0.0012
Acenaphthylene	*1.5*	*4.4*	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000571	<0.0000566	<0.0000574	<0.0000588	<0.000015
Anthracene	*7.3*	*22*	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000476	<0.0000472	0.000431 J	<0.000049	0.000065 J
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000766	<0.0000784	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000766	<0.0000784	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000124	<0.000123	<0.000124	<0.000127	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00038	<0.0016	<0.0015	0.00047	<0.00095	0.00014 J	<0.00021	0.000652	<0.000349	<0.000354	<0.000363	<0.000073
Chrysene	*0.91*	*2*	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000766	<0.0000784	<0.000021
Dibenzofuran	*0.098*	*0.29*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000766	<0.0000784	0.00038
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.000055	<0.000105	0.000143 J	<0.000851	<0.000108	<0.00002
Fluoranthene	*0.98*	*2.9*	<0.00007	0.00015 J	<0.00007	<0.00007	0.00011 J	<0.00005	<0.00005	<0.0000667	0.000114 J	0.0000881 J	<0.0000686	0.000085 J
Fluorene	*0.98*	*2.9*	<0.00007	<0.00007	0.00025	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000667	<0.000066	<0.000067	<0.0000686	0.00085
Naphthalene	*0.49*	*1.5*	0.00037	<0.00013	0.00024	0.00015 J	<0.00005	<0.00005	0.00019 J	<0.0000762	0.000353 J	<0.000953	<0.0000784	<0.00043
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000105	<0.000104	<0.000105	<0.000108	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000952	<0.0000943	<0.0000957	<0.000098	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000581	<0.000575	<0.000584	<0.000598	<0.000079
Phenanthrene	*0.73*	*2.2*	<0.00007	0.00014 J	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000571	0.0000908 J	<0.000406	<0.0000588	0.00027
Phenol	*7.3*	*22*	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000381	<0.0000377	<0.0000383	<0.0000392	<0.000035
Pyrene	*0.73*	*2.2*	<0.00007	0.0001 J	<0.00007	<0.00007	0.000064 J	<0.00005	<0.00005	<0.000105	<0.000104	<0.000105	<0.000108	0.000044 J
Metals														
Arsenic	*0.01*	*0.01*												0.00261

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-27C 03/26/2018	MW-27C 06/01/2018	MW-27C 01/22/2019	MW-27C 07/18/2019	MW-27C 01/15/2020	MW-28A 01/29/2008	MW-28A 07/14/2008	MW-28A 02/03/2009	MW-28A 01/13/2010	MW-28A 06/30/2010	MW-28A 01/25/2011	MW-28A 07/19/2011
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.001
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.001
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047	<0.00047	<0.0005	<0.0005	<0.0005	<0.0005	<0.001
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00041	<0.00041	<0.0005	<0.0005	<0.0005	<0.0005	<0.001
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00127	<0.00127	<0.001	<0.001	<0.001	<0.001	<0.0031
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00008	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.0003	<0.00032	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058	<0.0002	<0.00021	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	0.00057	<0.000042	<0.000042	<0.000042	<0.0002	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0004	<0.00042	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.0004	<0.00042	<0.00007	<0.00007	<0.00007	0.00064	<0.00005
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.00021	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00025	<0.00026	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005
Acenaphthene	*1.5*	*4.4*	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.0003	<0.00032	<0.00009	<0.00009	<0.00009	0.0002	<0.00005
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.0003	<0.00032	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005
Anthracene	*7.3*	*22*	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	0.000611	<0.00021	<0.00007	<0.00007	<0.00007	0.00036	<0.00005
Benzo(a)anthracene	*0.0091*	*0.02*	<0.000051	<0.00005	<0.00005	<0.00005	<0.00005	<0.0002	<0.00021	0.00013 J	<0.00007	<0.00007	<0.00007	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	**<0.00021**	0.00011 J	<0.00008	<0.00008	<0.00008	<0.00005
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.0004	<0.00042	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.000057 J	0.00042	<0.000037	0.000092 J	<0.000037	0.0003 J	<0.00021	0.0037	<0.00022	<0.0019	<0.0002	<0.00032
Chrysene	*0.91*	*2*	<0.000021	0.000054 J	<0.000021	<0.000021	<0.000021	<0.0002	<0.00021	0.00013 J	<0.00007	<0.00007	<0.00007	<0.00005
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00032 J	<0.00032	<0.00008	<0.00008	<0.00008	0.0005	<0.00005
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.00021	0.00016 J	<0.00007	<0.00007	<0.00007	<0.00005
Fluoranthene	*0.98*	*2.9*	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.0002	<0.00021	0.00012 J	<0.00007	<0.00007	0.00021	<0.00005
Fluorene	*0.98*	*2.9*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.0002	<0.00021	<0.00007	<0.00007	<0.00007	0.0003	<0.00005
Naphthalene	*0.49*	*1.5*	<0.00002	<0.00002	<0.00002	0.000066 J	0.000055 J	0.000699	<0.00042	0.00017 J	<0.0001	<0.0001	0.0023	<0.00005
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.0004	<0.00042	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00025	<0.00026	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.000079	<0.000079	<0.000079	<0.000079	<0.0002	<0.00021	<0.00008	<0.00008	0.00032	<0.00008	<0.00005
Phenanthrene	*0.73*	*2.2*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.00046 J	<0.00021	<0.00007	<0.00007	<0.00007	0.00097	<0.00005
Phenol	*7.3*	*22*	<0.000035	0.000053 J	<0.000035	0.00023	<0.000035	<0.0002	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	0.00041 J	<0.00021	0.00016 J	<0.00007	<0.00007	0.00013 J	<0.00005
Metals														
Arsenic	*0.01*	*0.01*	<0.0004	0.00212	0.000786 J	0.000428 J	0.000623 J							

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-28A 02/16/2012	MW-28A 07/17/2012	MW-28A 02/07/2013	MW-28A 08/07/2013	MW-28A 01/22/2014	MW-28A 07/25/2014	MW-28A 01/25/2018	MW-28A 03/21/2018	MW-28A 05/17/2018	MW-28A 01/14/2019	MW-28A 07/16/2019	MW-28A 01/16/2020
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*						<0.00011						
Xylenes (total)	*10*	*10*	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	<0.00005	<0.00105	<0.000104	<0.000105	<0.000107	<0.000021	<0.000021	<0.00021	<0.000021	<0.000021	0.000034 J
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00005	<0.00005	<0.00295	<0.000292	<0.000295	<0.000301	<0.00004	<0.00004	0.012	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	<0.00005	<0.00124	<0.000123	<0.000124	<0.000126	<0.000059	<0.000059	<0.00058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	<0.00006	<0.000762	<0.0000755	<0.0000762	<0.0000777	<0.000042	<0.000042	<0.00042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.00005	<0.000762	<0.0000755	<0.0000762	<0.0000777	<0.000021	<0.000021	<0.00021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	<0.000066	0.00015 J	<0.000667	<0.000066	<0.0000667	<0.000068	<0.000019	<0.000019	0.001	<0.000055	0.0002	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	**<0.0079**	<0.000783	<0.00079	<0.000806	<0.00002	<0.00002	<0.0002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00005	<0.00005	<0.00533	<0.000528	<0.000533	<0.000544	<0.000047	<0.000047	<0.00047	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.00098	<0.00005	<0.000762	0.000368 J	<0.0000762	<0.0000777	<0.000027	<0.000027	0.00031 J	0.000092 J	0.000082 J	<0.00014
Acenaphthylene	*1.5*	*4.4*	<0.00005	<0.00005	<0.000571	<0.0000566	<0.0000571	<0.0000583	<0.000015	<0.000015	<0.00015	<0.000015	<0.000015	<0.000015
Anthracene	*7.3*	*22*	<0.00005	<0.00005	<0.000476	<0.0000472	<0.0000476	<0.0000485	0.000016 J	0.000021 J	<0.00014	<0.000014	0.000036 J	<0.00013
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.000762	<0.0000755	<0.0000762	<0.0000777	<0.000051	<0.000051	<0.0005	<0.00005	0.000055 J	0.000073 J
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00005	<0.00005	**<0.000762**	<0.0000755	<0.0000762	<0.0000777	0.000045 J	<0.00002	<0.0002	<0.00002	0.000095 J	0.000057 J
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	<0.00005	**<0.00124**	<0.000123	<0.000124	<0.000126	<0.00003	<0.00003	<0.0003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0001	<0.00043	<0.00352	<0.000349	<0.000352	<0.000359	0.00018 J	0.000062 J	0.00084 J	0.000061 J	<0.00023	0.00009 J
Chrysene	*0.91*	*2*	<0.00005	<0.00005	<0.000762	<0.0000755	<0.0000762	<0.0000777	0.000053 J	<0.000021	<0.00021	<0.000021	0.0001	0.000065 J
Dibenzofuran	*0.098*	*0.29*	<0.000051	<0.00005	<0.000762	<0.0000755	<0.0000762	<0.0000777	<0.00002	<0.00002	0.00031 J	<0.00011	0.000084 J	<0.0001
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00005	<0.00005	<0.00105	<0.000104	<0.000105	<0.000107	0.00003 J	<0.00002	<0.0002	<0.00002	<0.00002	0.000032 J
Fluoranthene	*0.98*	*2.9*	<0.00005	<0.00005	<0.000667	<0.000066	<0.0000667	<0.000068	0.000062 J	0.000055 J	<0.0001	<0.00001	0.00012	0.0003
Fluorene	*0.98*	*2.9*	<0.00005	<0.00005	<0.000667	<0.000066	<0.0000667	<0.000068	<0.00003	<0.00003	<0.0003	0.000056 J	0.000053 J	<0.00014
Naphthalene	*0.49*	*1.5*	<0.00093	0.0013	<0.000762	<0.000173	<0.0004	<0.0000777	<0.00002	<0.00002	0.024	<0.0024	0.0013	<0.0006
Nitrobenzene	*0.049*	*0.15*	<0.00005	<0.00005	<0.00105	<0.000104	<0.000105	<0.000107	<0.000024	<0.000024	<0.00024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.00005	<0.000952	<0.0000943	<0.0000952	<0.0000971	<0.000025	<0.000025	<0.00025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00005	<0.00005	**<0.00581**	<0.000575	<0.000581	<0.000592	<0.00008	<0.00008	<0.00079	<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	<0.00005	<0.00005	<0.000571	<0.0000566	<0.0000571	<0.0000583	0.000032 J	0.00003 J	0.00022 J	<0.000021	0.000049 J	0.00048
Phenol	*7.3*	*22*	<0.00005	<0.00005	<0.000381	<0.0000377	<0.0000381	<0.0000388	<0.000035	<0.000035	0.018	<0.000035	<0.000073	<0.000035
Pyrene	*0.73*	*2.2*	0.00011 J	<0.00005	<0.00105	0.000246 J	0.000105 J	<0.000107	0.000081 J	0.000079 J	<0.00019	0.000065 J	0.00016	0.00021
Metals														
Arsenic	*0.01*	*0.01*							0.0076	0.0053	**0.0177**	**0.0116**	0.0092	0.00664

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-28C 01/29/2008	MW-28C 07/14/2008	MW-28C 02/03/2009	MW-28C 01/13/2010	MW-28C 06/30/2010	MW-28C 01/25/2011	MW-28C 07/19/2011	MW-28C 02/16/2012	MW-28C 07/17/2012	MW-28C 02/07/2013	MW-28C 08/07/2013	MW-28C 01/22/2014
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00052	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002
Benzene	*0.005*	*0.005*	<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.00047	<0.00047	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018
Ethylbenzene	*0.7*	*0.7*	<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019
Methylene chloride	*0.005*	*0.005*	<0.00054	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022
Toluene	*1*	*1*	<0.00041	<0.00041	0.0026 J	0.0013 J	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.00127	<0.00127	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00008	<0.00009	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.000101	<0.000104	<0.00011
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00029	0.00114 J	<0.00008	0.0002	<0.00008	0.000086 J	<0.00005	<0.00005	<0.00005	<0.000284	<0.000292	<0.00031
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00019	<0.00022	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000119	<0.000123	<0.00013
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00019	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000734	<0.0000755	<0.00008
2-Chloronaphthalene	*2*	*5.8*	<0.00038	<0.00044	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000734	<0.0000755	<0.00008
2-Methylnaphthalene	*0.098*	*0.29*	<0.00038	<0.00044	0.000097 J	0.00024	0.000077 J	0.000079 J	<0.00005	<0.00005	0.00011 J	<0.0000642	<0.000066	0.0000741 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00019	<0.00022	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.000761	<0.000783	<0.00083
4-Nitrophenol	*0.049*	*0.15*	<0.00024	<0.00028	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000514	<0.000528	<0.00056
Acenaphthene	*1.5*	*4.4*	<0.00029	<0.00033	<0.00009	0.00018 J	0.00033	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000734	<0.0000755	<0.00008
Acenaphthylene	*1.5*	*4.4*	<0.00029	<0.00033	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000055	<0.0000566	<0.00006
Anthracene	*7.3*	*22*	0.00059	<0.00022	<0.00007	<0.00007	0.00014 J	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000459	<0.0000472	<0.00005
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00019	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000734	<0.0000755	<0.00008
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00019	**<0.00022**	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000734	<0.0000755	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00038	<0.00044	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000119	<0.000123	<0.00013
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00049 J	<0.00022	0.0033	<0.00046	<0.0012	0.00063	<0.00053	<0.00013	<0.0001	<0.000339	<0.000349	<0.00037
Chrysene	*0.91*	*2*	<0.00019	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000734	<0.0000755	<0.00008
Dibenzofuran	*0.098*	*0.29*	0.00044 J	<0.00033	<0.00008	0.00018 J	<0.00008	<0.00008	0.00019 J	<0.00005	<0.00005	<0.0000734	<0.0000755	<0.00008
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00019	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000101	<0.000104	<0.00011
Fluoranthene	*0.98*	*2.9*	0.000497	<0.00022	<0.00007	<0.00007	0.00012 J	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000642	<0.000066	<0.00007
Fluorene	*0.98*	*2.9*	0.00022 J	<0.00022	<0.00007	0.00016 J	0.00033	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000642	<0.000066	<0.00007
Naphthalene	*0.49*	*1.5*	0.00234	0.00196	0.00057	0.0014	0.00035	0.00029	<0.000091	<0.00031	0.00064	0.000163 J	<0.0000755	<0.000596
Nitrobenzene	*0.049*	*0.15*	<0.00038	<0.00044	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000101	<0.000104	<0.00011
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00024	<0.00028	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000917	<0.0000943	<0.0001
Pentachlorophenol	*0.001*	*0.001*	0.00056 J	<0.00022	<0.00008	<0.00008	0.00034	<0.00008	<0.00005	<0.00005	<0.00005	<0.00056	<0.000575	<0.00061
Phenanthrene	*0.73*	*2.2*	0.000624	<0.00022	0.00013 J	0.00033	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000055	<0.0000566	0.0000739 J
Phenol	*7.3*	*22*	0.00865	0.00648	0.00063	0.0027	0.00075	0.0014	0.00054	<0.00005	<0.00005	<0.0000367	<0.0000377	<0.00004
Pyrene	*0.73*	*2.2*	0.00041 J	<0.00022	<0.00007	<0.00007	0.00007 J	<0.00007	<0.00005	<0.00005	<0.00005	<0.000101	<0.000104	<0.00011
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-28C 07/25/2014	MW-28C 01/25/2018	MW-28C 03/21/2018	MW-28C 05/17/2018	MW-28C 01/14/2019	MW-28C 07/16/2019	MW-28C 01/16/2020	MW-29A 01/28/2008	MW-29B 01/28/2008	MW-29C 01/28/2008	MW-30A 01/30/2008	MW-30A 07/14/2011
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00245	<0.00245	<0.00245	<0.00052	**<0.01**
Benzene	*0.005*	*0.005*	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00257	<0.00257	<0.00257	**0.147**	**0.14**
Chlorobenzene	*0.1*	*0.1*	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00239	<0.00239	<0.00239	<0.00047	<0.01
Ethylbenzene	*0.7*	*0.7*	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00203	<0.00203	<0.00203	0.153	0.12
Methylene chloride	*0.005*	*0.005*	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00195	<0.00195	<0.00195	<0.00054	**<0.013**
Toluene	*1*	*1*	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00274	<0.00274	<0.00274	0.645	0.51
Vinyl chloride	*0.002*	*0.002*	<0.00011			<0.0002								
Xylenes (total)	*10*	*10*	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00581	<0.00581	<0.00581	0.386	0.32
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000107	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0002	0.00008 J	<0.00008	**<0.02**	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	<0.000301	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00057	<0.0003	<0.00029	**4.1**	**2.9**
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000126	<0.000058	<0.000059	<0.000059	<0.000058	<0.000058	<0.000058	<0.00038	<0.0002	<0.00019	**<0.038**	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0000777	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.00038	**0.00374**	<0.00019	**<0.038**	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.0000777	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00076	<0.0004	<0.00038	<0.076	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	<0.000068	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.00076	<0.0004	<0.00038	**0.573**	**0.85**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.000806	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00038	<0.0002	<0.00019	**<0.038**	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000544	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00048	<0.00025	<0.00024	<0.048	<0.00005
Acenaphthene	*1.5*	*4.4*	<0.0000777	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.00057	<0.0003	<0.00029	0.215	0.31
Acenaphthylene	*1.5*	*4.4*	<0.0000583	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.00057	<0.0003	<0.00029	<0.057	0.0075
Anthracene	*7.3*	*22*	<0.0000485	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.00038	<0.0002	<0.00019	<0.038	0.018
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0000777	<0.00005	<0.000051	<0.000051	<0.00005	<0.00005	<0.00005	<0.00038	<0.0002	<0.00019	**<0.038**	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0000777	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	**<0.00038**	<0.0002	<0.00019	**<0.038**	<0.00005
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.000126	<0.00003	<0.00003	0.00003 J	<0.00003	<0.00003	<0.00003	<0.00076	<0.0004	<0.00038	**<0.076**	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000359	0.000064 J	<0.000037	<0.000037	<0.000037	<0.00013	0.000072 J	0.00232 J	0.00037 J	0.00042 J	**<0.038**	<0.0001
Chrysene	*0.91*	*2*	<0.0000777	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00038	<0.0002	<0.00019	<0.038	<0.00005
Dibenzofuran	*0.098*	*0.29*	<0.0000777	<0.00002	<0.00002	0.00002 J	<0.00002	<0.00002	<0.00002	<0.00057	<0.0003	<0.00029	**0.156**	**0.25**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.000107	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00038	<0.0002	<0.00019	<0.038	<0.00005
Fluoranthene	*0.98*	*2.9*	<0.000068	<0.00001	<0.00001	<0.00001	<0.00001	0.000015 J	<0.00001	<0.00038	<0.0002	<0.00019	<0.038	0.0041
Fluorene	*0.98*	*2.9*	<0.000068	<0.00003	<0.00003	0.00003 J	<0.00003	<0.00003	<0.00003	<0.00038	<0.0002	<0.00019	0.109	0.18
Naphthalene	*0.49*	*1.5*	<0.0000777	<0.00021	<0.00002	<0.00002	<0.00002	0.000095 J	<0.00016	<0.00076	<0.0004	0.00047 J	**9.77**	**15**
Nitrobenzene	*0.049*	*0.15*	<0.000107	<0.000024	<0.000024	0.000024 J	<0.000024	<0.000024	<0.000024	<0.00076	<0.0004	<0.00038	**<0.076**	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0000971	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00048	<0.00025	<0.00024	<0.048	<0.00005
Pentachlorophenol	*0.001*	*0.001*	<0.000592	<0.000079	<0.00008	<0.00008	<0.000079	<0.000079	<0.000079	<0.00038	<0.0002	<0.00019	**<0.038**	0.00033 J
Phenanthrene	*0.73*	*2.2*	<0.0000583	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00038	<0.0002	<0.00019	0.075	0.12
Phenol	*7.3*	*22*	<0.0000388	<0.000035	<0.000035	<0.000035	<0.000035	0.0025	0.000086 J	<0.00038	0.00287	<0.00019	0.174	0.14
Pyrene	*0.73*	*2.2*	<0.000107	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.00038	<0.0002	<0.00019	<0.038	0.0022
Metals														
Arsenic	*0.01*	*0.01*		0.00206	0.00184 J	0.00184 J	0.000447 J	0.000456 J	0.000937 J					

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	C/I Assessment Level	MW-30A 02/03/2012	MW-30A 07/12/2012	MW-30A 02/01/2013	MW-31A 01/31/2008	MW-31A 07/14/2011	MW-31A 02/03/2012	MW-31A 07/12/2012	MW-31A 02/01/2013	MW-32A[7] 01/28/2008 DNAPL	MW-32A[7] 07/14/2008 DNAPL	MW-32A[7] 02/03/2009 DNAPL	MW-32A[7] 01/14/2010 DNAPL
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	**<0.01**	<0.0025	<0.0028	<0.00052	**<0.01**	**<0.025**	<0.005	<0.0014	<0.00052	<0.00109	<0.0005	<0.0005
Benzene	*0.005*	*0.005*	**0.13**	**0.14**	**0.117**	**0.178**	**0.14**	**0.14**	**0.11**	**0.135**	**0.884**	**0.884**	**0.69**	**0.34**
Chlorobenzene	*0.1*	*0.1*	<0.01	<0.0025	<0.0024	<0.00047	<0.01	<0.025	<0.005	<0.0012	<0.00047	<0.0015	<0.0005	<0.0005
Ethylbenzene	*0.7*	*0.7*	0.11	0.13	0.119	0.166	0.19	0.17	0.18	0.171	0.373	0.365	0.34	0.076
Methylene chloride	*0.005*	*0.005*	**<0.013**	<0.005	**0.0211**	<0.00054	**<0.013**	**<0.032**	**<0.01**	**0.00971 J**	<0.00054	<0.00122	<0.0005	<0.0005
Toluene	*1*	*1*	0.49	0.54	0.443	0.337	0.37	0.36	0.31	0.346	0.95	0.983	0.74	0.36
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	0.32	0.32	0.302	0.562	0.63	0.71	0.63	0.583	1.02	1.03	0.88	0.35
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0005	<0.00005	**<0.0524**	**<0.002**	<0.00005	<0.0005	<0.00005	**<0.055**	**<0.02**	**<0.008**	<0.0001	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	**3**	**2.7**	**2.94**	**4.74**	**5.3**	**5.1**	**3.4**	**4.45**	**9.57**	**12.6**	**2.2**	**2.1**
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.0005	<0.00005	**<0.0619**	**<0.0038**	<0.00005	<0.0005	<0.00005	**<0.065**	**<0.044**	**<0.019**	<0.00009	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0006	<0.00006	**<0.0381**	**<0.0038**	<0.00006	<0.0006	<0.00006	**<0.04**	**<0.044**	**<0.019**	<0.00007	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.0005	<0.00005	<0.0381	<0.0076	<0.00005	<0.0005	<0.00005	<0.04	<0.089	<0.039	<0.00012	<0.0001
2-Methylnaphthalene	*0.098*	*0.29*	**0.42**	**0.67**	**1.01**	**0.887**	**1**	**0.65**	**0.83**	**1.17**	**1.13**	**0.989**	**1.2**	**0.3**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.0008	<0.00008	**<0.395**	**<0.0038**	<0.00008	<0.0008	<0.00008	**<0.415**	**<0.044**	**<0.019**	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.0005	<0.00005	**<0.267**	<0.0048	<0.00005	<0.0005	<0.00005	**<0.28**	**<0.056**	<0.024	<0.00007	<0.00007
Acenaphthene	*1.5*	*4.4*	0.23	0.24	0.436	0.206	0.37	0.3	0.28	0.488	0.341	0.294	0.34	0.13
Acenaphthylene	*1.5*	*4.4*	0.0064	0.0074	<0.0286	<0.0057	0.0076	0.0044	0.0032	<0.03	<0.067	<0.029	0.006	0.0019
Anthracene	*7.3*	*22*	0.013	0.018	0.0391 J	0.0145	0.032	0.026	0.026	0.056 J	<0.044	0.043	0.077	0.051
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0005	<0.00005	**<0.0381**	<0.0038	0.0038	<0.0005	0.00023	**<0.04**	**<0.044**	**<0.019**	**0.0096**	0.0067
Benzo(a)pyrene	*0.0002*	*0.0002*	**<0.0005**	<0.00005	**<0.0381**	**<0.0038**	**0.00089**	**<0.0005**	<0.00005	**<0.04**	**<0.044**	**<0.019**	**0.003**	**0.0023**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.0005	<0.00005	**<0.0619**	**<0.0076**	<0.00005	<0.0005	<0.00005	**<0.065**	**<0.089**	**<0.039**	<0.00009	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.001	<0.0001	**<0.176**	<0.0038	<0.0001	<0.001	<0.0001	**<0.185**	**<0.044**	**<0.019**	0.00042	<0.0018
Chrysene	*0.91*	*2*	<0.0005	<0.00005	<0.0381	<0.0038	0.0031	<0.0005	0.00017 J	<0.04	<0.044	<0.019	0.0087	0.0064
Dibenzofuran	*0.098*	*0.29*	**0.21**	**0.2**	**0.308**	**0.169**	**0.33**	**0.26**	**0.26**	**0.367**	**0.298**	**0.26**	**0.32**	**0.14**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.0005	0.0002	<0.0524	<0.0038	<0.00005	<0.0005	<0.00005	<0.055	<0.044	<0.019	<0.00007	<0.00007
Fluoranthene	*0.98*	*2.9*	0.0031	0.0038	<0.0333	0.006	0.031	0.0029	0.0052	<0.035	<0.044	0.026	0.098	0.07
Fluorene	*0.98*	*2.9*	0.13	0.14	0.247	0.123	0.24	0.17	0.17	0.273	0.163	0.156	0.22	0.087
Naphthalene	*0.49*	*1.5*	**7.8**	**12**	**16.8 J**	**13.7**	**21**	**18**	**17**	**19.3 J**	**25**	**16.2**	**16**	**3.5**
Nitrobenzene	*0.049*	*0.15*	<0.0005	<0.00005	**<0.0524**	<0.0076	<0.00005	<0.0005	<0.00005	**<0.055**	**<0.089**	<0.039	<0.00009	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0005	<0.00005	<0.0476	<0.0048	<0.00005	<0.0005	<0.00005	<0.05	<0.056	<0.024	<0.00009	<0.00009
Pentachlorophenol	*0.001*	*0.001*	<0.0005	<0.00005	**<0.29**	**0.0895**	**0.076 J**	**0.11**	**0.094**	**<0.305**	**<0.044**	**<0.019**	<0.00008	<0.00008
Phenanthrene	*0.73*	*2.2*	0.064	0.1	0.162 J	0.0774	0.24	0.14	0.13	0.268	0.177	0.185	0.45	0.25
Phenol	*7.3*	*22*	0.015	0.02	0.0781 J	1.56	0.6	0.76	0.29	0.579	**9.01**	**8.83**	1.4	1.3
Pyrene	*0.73*	*2.2*	0.0021	0.0018	<0.0524	0.0084	0.018	0.0025	0.002	<0.055	<0.044	<0.019	0.062	0.043
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	***C/I Assessment Level***	MW-32A[7] 07/01/2010 DNAPL	MW-32A[7] 01/25/2011 DNAPL	MW-32A[7] 07/19/2011 DNAPL	MW-32AR 02/09/2012	MW-32AR 07/16/2012	MW-32AR 02/06/2013	MW-32AR 08/07/2013	MW-32AR 01/21/2014	MW-32AR 07/24/2014	MW-32AR 01/28/2018	MW-32AR 03/27/2018	MW-32AR 05/31/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0025	<0.0025	**0.03**	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	**1.5**	**0.61**	**1.4**	<0.001	<0.0005	**0.023**	0.000475 J	<0.0002	**0.0404**	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0025	<0.0025	<0.005	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	0.45	0.41	0.31	<0.0011	<0.0005	0.0082	0.000296 J	<0.00019	0.0208	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.0032	<0.0025	**<0.0065**	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001
Toluene	*1*	*1*	**1.5**	1	**1.2**	<0.001	<0.0005	0.00338	0.000234 J	<0.00017	0.000849 J	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*							<0.00011		<0.00011			
Xylenes (total)	*10*	*10*	1.3	1.1	0.87	<0.0031	<0.0015	0.0176	0.000873 J	<0.00058	0.0336	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.001	<0.001	<0.0005	<0.00005	<0.00005	**<0.00529**	<0.000104	<0.000104	<0.000104	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	**15**	**2.3**	**31**	0.0012	0.000061 J	0.0172 J	<0.000292	<0.000292	0.0722	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.0009	<0.0009	<0.0005	<0.00005	<0.00005	**<0.00625**	<0.000123	<0.000123	<0.000123	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0007	<0.0007	<0.0006	<0.00006	<0.00006	**<0.00385**	<0.0000755	<0.0000755	<0.0000755	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.001	<0.001	<0.0005	<0.00005	<0.00005	<0.00385	<0.0000755	<0.0000755	<0.0000755	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	**0.48**	**6.9**	**0.95**	0.000088 J	0.00019 J	0.011 J	<0.000066	0.00021 J	**0.206**	0.000079 J	0.0068	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.0008	<0.0008	<0.0008	<0.00008	<0.00008	**<0.0399**	<0.000783	<0.000783	<0.000783	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.0007	<0.0007	<0.0005	<0.00005	<0.00005	<0.0269	<0.000528	<0.000528	<0.000528	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.19	**3.1**	0.25	0.0046	0.0029	0.0232 J	0.00625	0.0105	0.111	0.0013	0.0043	0.002
Acenaphthylene	*1.5*	*4.4*	0.0079	0.027	0.005	0.00032	<0.00005	<0.00288	0.000258 J	<0.000317	0.00226	0.000054 J	0.000054 J	<0.000015
Anthracene	*7.3*	*22*	0.093	0.91	0.09	0.00041	0.00026	<0.0024	0.000223 J	0.000444 J	0.00332	0.000082 J	0.00021	0.000064 J
Benzo(a)anthracene	*0.0091*	*0.02*	**0.01**	**0.3**	**0.038**	0.00012 J	0.00015 J	<0.00385	<0.0000755	<0.0000755	0.000218 J	0.00006 J	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	**0.0067**	**0.078**	**0.019**	<0.00005	<0.00005	**<0.00385**	<0.0000755	<0.0000755	<0.0000755	0.000027 J	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	**<0.0009**	**<0.0009**	<0.0005	<0.00005	<0.00005	**<0.00625**	<0.000123	<0.000123	0.000452 J	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0041	0.0046	<0.0013	0.00054	0.00014 J	**<0.0178**	<0.000349	<0.000349	0.000621	0.00011 J	<0.000037	0.00014 J
Chrysene	*0.91*	*2*	0.0099	0.28	0.033	0.000093 J	0.00023	<0.00385	<0.0000755	0.0000774 J	0.00016 J	0.000058 J	<0.000021	0.000037 J
Dibenzofuran	*0.098*	*0.29*	**0.21**	**3.2**	**0.27**	0.00096	0.0017	0.00936 J	0.000515	0.000664	0.05	<0.000053	0.0024	0.00007 J
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.0007	<0.0007	<0.0005	<0.00005	0.000056 J	<0.00529	<0.000104	<0.000104	<0.000104	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	0.09	**2.5**	0.11	0.002	0.003	0.00508 J	0.00102	0.00124	0.00656	0.00048	0.00023	0.00031
Fluorene	*0.98*	*2.9*	0.13	**2.5**	0.18	0.0017	0.0016	0.00932 J	0.00105	0.00317	0.0516	0.00012	0.00093	0.000058 J
Naphthalene	*0.49*	*1.5*	**11**	**31**	**21**	0.00044	0.0036	0.406	<0.00297	0.0087	**3.83**	<0.00058	0.026	0.000043 J
Nitrobenzene	*0.049*	*0.15*	<0.0009	<0.0009	<0.0005	<0.00005	<0.00005	<0.00529	<0.000104	<0.000104	<0.000104	0.00035	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	0.014	<0.0009	<0.0005	<0.00005	<0.00005	<0.00481	<0.0000943	<0.0000943	<0.0000943	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.0008	<0.0008	<0.0005	<0.00005	<0.00005	**<0.0293**	<0.000575	<0.000575	<0.000575	<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	0.19	**8.9**	0.35	0.00033	0.000055 J	0.00768 J	0.000112 J	0.000101 J	0.0111	0.00022	0.0013	<0.000021
Phenol	*7.3*	*22*	**14**	1.2	**21**	0.00012 J	0.00029	<0.00192	<0.0000377	<0.0000377	<0.0000377	<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	0.047	**1.5**	0.072	0.0041	0.0046	<0.00529	0.000617	0.000625	0.00474	0.00031	0.00018	0.00049
Metals														
Arsenic	*0.01*	*0.01*										0.00294	**0.0228**	**0.0441**

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-32AR 01/23/2019	MW-32AR 07/30/2019	MW-32AR 01/20/2020	MW-33A 01/29/2008	MW-33A 07/14/2008	MW-33A 02/03/2009	MW-33A 02/03/2009 Duplicate	MW-33A 01/13/2010	MW-33A 01/13/2010 Duplicate	MW-33A 06/29/2010	MW-33A 06/29/2010 Duplicate	MW-33A 01/24/2011
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.00052	<0.00109	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.00025	**0.0062**	0.00071 J	0.00074 J	0.0025 J	0.0024 J	0.0018 J	0.0034 J	**0.0056**
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.00047	<0.0015	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.00025	<0.00142	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0015 J
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.00054	<0.00122	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.00041	<0.00138	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Vinyl chloride	*0.002*	*0.002*			<0.0002									
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.00127	<0.00302	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0016 J
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.0001	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	0.00013 J	<0.00004	<0.00004	<0.0005	<0.00029	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	0.0027
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.00033	<0.00019	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.00033	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.00067	<0.00038	<0.00012	<0.00012	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019	<0.000028	<0.00067	<0.00038	0.00066	<0.00007	0.0009 J	0.00051 J	0.00092	<0.00007	0.0067
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00033	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.00042	<0.00024	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
Acenaphthene	*1.5*	*4.4*	0.0001	<0.000027	0.0014	0.0133	0.0124	0.013	<0.00009	0.028	0.026	0.012	0.0072	0.014
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.0005	<0.00029	<0.00006	<0.00006	0.00015 J	0.00014 J	<0.00007	<0.00007	0.00014 J
Anthracene	*7.3*	*22*	0.00002 J	<0.000014	<0.000014	<0.00033	0.00024 J	0.0002 J	<0.00007	0.00028	0.00024	0.00021	<0.00007	0.00072
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	0.000054 J	<0.00005	<0.00033	<0.00019	0.0002 J	<0.00007	0.00017 J	0.00017 J	0.00014 J	0.00014 J	0.00025
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	0.000081 J	**<0.00033**	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00067	<0.00038	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000044	0.000074 J	0.000043 J	0.00137 J	<0.00019	0.00033	0.00035	<0.0003	<0.00038	<0.00035	<0.0016	0.00031
Chrysene	*0.91*	*2*	<0.000021	<0.000021	0.000042 J	<0.00033	<0.00019	0.00012 J	<0.00007	0.00012 J	0.000089 J	0.00009 J	<0.00007	0.00016 J
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00002	<0.00002	0.00074	0.000628	0.00078	<0.00008	0.0019	0.0017	0.0014	0.00035	0.0027
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	0.00002 J	<0.00002	<0.00002	0.00055 J	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
Fluoranthene	*0.98*	*2.9*	0.000051 J	<0.00001	<0.00029	0.00141	0.00154	0.0022	<0.00007	0.0013	0.0012	0.0012	0.00095	0.003
Fluorene	*0.98*	*2.9*	<0.00003	<0.00003	0.000038 J	0.0013	0.000939	0.00067	<0.00007	0.0015	0.0013	0.0012	0.00041	0.0027
Naphthalene	*0.49*	*1.5*	0.000067 J	<0.00002	<0.00014	0.00167	0.0047	0.0028	<0.0001	0.02 J	0.009 J	0.0082	0.0013	0.095
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.00067	<0.00038	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.00042	<0.00024	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009	<0.00009
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.00033	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Phenanthrene	*0.73*	*2.2*	0.000034 J	<0.000021	<0.000032	<0.00033	0.00028 J	0.00037	<0.00007	0.00032	0.00024	0.00065	<0.00007	0.0048
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.000035	<0.00033	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007
Pyrene	*0.73*	*2.2*	0.000036 J	0.00045	0.00042	0.0019	0.00167	0.0024	<0.00007	0.0019	0.0018	0.0016	0.0015	0.0035
Metals														
Arsenic	*0.01*	*0.01*	**0.0316**	**0.0628**	0.0077									

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	***C/I Assessment Level***	MW-33A 07/19/2011	MW-33A 07/19/2011 Duplicate	MW-33A 02/15/2012	MW-33A 02/15/2012 Duplicate	MW-33A 07/17/2012	MW-33A 07/17/2012 Duplicate	MW-33A 02/12/2013	MW-33A 02/12/2013 Duplicate	MW-33A 08/07/2013	MW-33A 08/07/2013 Duplicate	MW-33A 01/23/2014	MW-33A 01/23/2014 Duplicate
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.005	<0.0005	<0.0005	<0.00014	<0.00014	<0.00014	<0.00014	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	**0.009**	**0.0091**	**0.054**	**0.051**	0.0023 J	0.0022 J	**0.00782**	**0.00782**	**0.165**	**0.174**	**0.223**	**0.223**
Chlorobenzene	*0.1*	*0.1*	<0.001	<0.001	<0.001	<0.005	<0.0005	<0.0005	<0.00012	<0.00012	0.000185 J	0.000189 J	0.000214 J	<0.00018
Ethylbenzene	*0.7*	*0.7*	0.0033 J	0.003 J	0.075	0.061	<0.0005	<0.0005	0.0022	0.00216	0.109	0.117	0.135	0.134
Methylene chloride	*0.005*	*0.005*	<0.0013	<0.0013	<0.0013	**<0.0065**	<0.001	<0.001	<0.00015	<0.00015	<0.00015	<0.00015	<0.00022	<0.00022
Toluene	*1*	*1*	<0.001	<0.001	0.019	0.018 J	<0.0005	<0.0005	<0.00015	<0.00015	0.00639	0.00672	0.23	0.229
Vinyl chloride	*0.002*	*0.002*						<0.0005			<0.00011	<0.00011		
Xylenes (total)	*10*	*10*	<0.0031	<0.0031	0.11	0.092	<0.0015	<0.0015	0.00223 J	0.00229 J	0.172	0.186	0.188	0.19
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000105	<0.000105	**<0.00519**	**<0.00519**	**<0.104**	**<0.106**
2,4-Dimethylphenol	*0.49*	*1.5*	0.0034	0.0046	0.029 J	0.019 J	<0.00005	<0.00005	0.00623	0.0199	**0.888**	**0.801**	**1.44**	**1.54**
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000124	<0.000124	**<0.00613**	**<0.00613**	**<0.123**	**<0.125**
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.0000762	<0.0000762	**<0.00377**	**<0.00377**	**<0.0755**	**<0.0769**
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000762	<0.00377	<0.00377	<0.0755	<0.0769
2-Methylnaphthalene	*0.098*	*0.29*	0.022 J	0.031 J	0.03	0.024	0.0015	0.0011	0.00345	0.0149	**0.195**	**0.16**	**0.263 J**	**0.27 J**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00079	<0.00079	**<0.0392**	**<0.0392**	**<0.783**	**<0.798**
4-Nitrophenol	*0.049*	*0.15*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000533	<0.000533	<0.0264	<0.0264	**<0.528**	**<0.538**
Acenaphthene	*1.5*	*4.4*	0.037	0.042	0.048	0.064	0.019	0.023	0.0279	0.0374 J	0.157	0.151	0.288 J	0.217 J
Acenaphthylene	*1.5*	*4.4*	0.00018 J	0.00021	0.0003	0.0004	<0.00005	<0.00005	<0.0000571	0.000358 J	<0.00283	<0.00283	<0.0566	<0.0577
Anthracene	*7.3*	*22*	0.0013	0.0016	0.00082	0.00078	0.0026 J	0.0015 J	0.000748	0.000801	0.0049 J	0.00487 J	<0.0472	<0.0481
Benzo(a)anthracene	*0.0091*	*0.02*	0.00019 J	0.00018 J	0.0001 J	0.00011 J	0.00043 J	0.00026 J	0.000174 J	0.000211 J	<0.00377	<0.00377	**<0.0755**	**<0.0769**
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00005	<0.00005	<0.00005	<0.00005	0.00011 J	0.000054 J	<0.0000762	<0.0000762	**<0.00377**	**<0.00377**	**<0.0755**	**<0.0769**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000124	<0.000124	**<0.00613**	**<0.00613**	**<0.123**	**<0.125**
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00056	<0.00068	0.0013 J	0.00084 J	0.00014 J	0.00022	<0.000352	<0.000352	**<0.0175**	**<0.0175**	**<0.349**	**<0.356**
Chrysene	*0.91*	*2*	0.0001 J	0.00005 J	0.000061 J	<0.00005	0.00033 J	0.00016 J	0.000114 J	0.000106 J	<0.00377	<0.00377	<0.0755	<0.0769
Dibenzofuran	*0.098*	*0.29*	0.0088 J	0.014 J	0.019 J	0.026 J	0.0049	0.0061	0.00262	0.00699	0.0728	0.0717	**0.148 J**	**0.108 J**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000105	<0.000105	<0.00519	<0.00519	<0.104	<0.106
Fluoranthene	*0.98*	*2.9*	0.0021	0.0023	0.0012	0.0011	0.0036 J	0.0026 J	0.00212	0.0025	0.00385 J	0.00435 J	0.0703 J	<0.0673
Fluorene	*0.98*	*2.9*	0.0088 J	0.012 J	0.015	0.019	0.0056	0.0073	0.00641	0.00994	0.0668	0.0623	0.145 J	0.0939 J
Naphthalene	*0.49*	*1.5*	0.31 J	0.44 J	**0.96 J**	**1.6 J**	0.017	0.021	0.112	0.382 J	**4.98**	**4.07**	**5.82**	**5.3**
Nitrobenzene	*0.049*	*0.15*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000105	<0.000105	<0.00519	<0.00519	**<0.104**	**<0.106**
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000952	<0.0000952	<0.00472	<0.00472	<0.0943	<0.0962
Pentachlorophenol	*0.001*	*0.001*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000581	<0.000581	**<0.0288**	**<0.0288**	**<0.575**	**<0.587**
Phenanthrene	*0.73*	*2.2*	0.0046 J	0.0068 J	0.0038	0.0032	0.0058 J	0.0026 J	0.000488	0.000987	0.0232 J	0.0236	0.18 J	0.135 J
Phenol	*7.3*	*22*	0.00005 J	0.00091 J	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000381	<0.0000381	<0.00189	<0.00189	0.203 J	0.108 J
Pyrene	*0.73*	*2.2*	0.0025	0.0026	0.0021	0.0022	0.0035	0.0032	0.00283	0.00336	<0.00519	<0.00519	<0.104	<0.106
Metals														
Arsenic	*0.01*	*0.01*												

Notes:
1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-33A 08/28/2014	MW-33A 08/28/2014 Duplicate	MW-33A 01/30/2018	MW-33A 01/30/2018	MW-33A 03/27/2018	MW-33A 03/27/2018 Duplicate	MW-33A 06/05/2018	MW-33A 06/05/2018 Duplicate	MW-33A 01/22/2019	MW-33A 01/22/2019 Duplicate	MW-33A 07/17/2019	MW-33A 07/17/2019 Duplicate
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00014	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	0.00236 J	0.00389 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.00012	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	0.0014 J	0.00224 J	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.00015	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.00015	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*			<0.0002	<0.0002	<0.0002							
Xylenes (total)	*10*	*10*	0.000632 J	0.000872 J	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000108	<0.000108	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	0.0212 J	0.0608 J	<0.0002	<0.00021	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000127	<0.000127	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0000784	<0.0000784	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.0000784	<0.0000784	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	0.0216 J	0.0524 J	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.000814	<0.000814	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.000549	<0.000549	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.046 J	0.0692 J	0.0005	0.00016	<0.000027	<0.000027	0.00018 J	0.00097 J	<0.000027	<0.000027	0.000098 J	<0.000027
Acenaphthylene	*1.5*	*4.4*	0.00041 J	0.000636 J	0.000022 J	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	*7.3*	*22*	0.00132 J	0.00184 J	<0.000014	<0.000014	<0.000014	<0.000014	0.000021 J	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*	0.000288 J	0.000318 J	0.000077 J	<0.00005	<0.00005	<0.00005	0.000077 J	0.000091 J	<0.00005	0.000062 J	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0000784	<0.0000784	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.000127	0.000476 J	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.000363 J	0.000363 J	<0.000037	<0.000044	<0.000037	<0.000037	0.000078 J	0.00014 J	<0.000037	<0.000037	<0.00022	<0.000084
Chrysene	*0.91*	*2*	0.000168 J	0.000178 J	<0.000021	<0.000021	0.000047 J	<0.000021	0.00005 J	0.000061 J	0.000025 J	0.000034 J	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	0.0164 J	0.0334 J	0.000042 J	<0.00002	<0.00002	0.000036 J	0.00002 J	0.000038 J	<0.00002	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.000108	<0.000108	<0.00002	<0.00002	<0.00002	<0.00002	0.000039 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	0.00395	0.00426	0.0006	0.00034	0.00052	0.00052	0.00045 J	0.0006 J	0.00033	0.00044	0.00016	0.00017
Fluorene	*0.98*	*2.9*	0.0146 J	0.0224 J	<0.00003	<0.00003	<0.00003	<0.00003	0.000059 J	0.00017	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	*0.49*	*1.5*	0.489 J	**1.02 J**	<0.00033	<0.00035	<0.00002	0.00013	<0.00019	<0.00002	<0.00002	<0.00002	<0.000076	<0.000096
Nitrobenzene	*0.049*	*0.15*	0.000108 J	0.00936 J	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000098	<0.000098	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.000598	<0.000598	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	0.00427 J	0.00736 J	<0.000021	<0.000021	<0.000021	<0.000021	0.000085 J	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Phenol	*7.3*	*22*	<0.0000392	<0.0000392	<0.0002	<0.00025	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	0.00011 J	0.000053 J
Pyrene	*0.73*	*2.2*	0.0043	0.00471	0.00028	0.000041 J	0.00057	0.00062	0.00073	0.001	0.00015	0.00034	0.00028	0.00069
Metals														
Arsenic	*0.01*	*0.01*			**0.0197**	**0.0202**	**0.0186**	**0.0201**	0.00573	0.00584	0.01	0.00995	**0.0155**	**0.0147**

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-33A 01/20/2020	MW-33A 01/20/2020 Duplicate	MW-34C 01/29/2008 DNAPL	MW-34C 02/08/2012	MW-34CR 07/29/2014	MW-34CR 01/29/2018	MW-34CR 03/27/2018	MW-34CR 06/05/2018	MW-34CR 01/15/2019	MW-35A 01/29/2008	MW-35A 07/14/2008	MW-35A 02/03/2009
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.00052	0.001 J	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052	<0.00052	<0.0005
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	**0.0287**	0.0014 J	0.000154 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.00025	<0.00025	<0.0005
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.00047	0.001 J	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047	<0.00047	<0.0005
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	0.0903	0.0039 J	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.00025	<0.00025	<0.0005
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.00054	0.0013 J	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.00054	<0.0005
Toluene	*1*	*1*	<0.0002	<0.0002	0.0832	0.0041 J	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.00041	<0.00041	<0.0005
Vinyl chloride	*0.002*	*0.002*	<0.0002	<0.0002										
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	0.25	0.0077 J	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.00127	<0.00127	<0.001
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	**<0.002**	0.00005 J	<0.000108	<0.000021	<0.000021	<0.000021	<0.000021	<0.00008	0.00012 J	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.0059	0.00022 J	<0.000304	<0.00004	<0.00004	<0.00004	<0.00004	<0.0003	<0.00028	<0.00008
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	**<0.004**	0.00005 J	<0.000127	<0.000058	<0.000058	<0.000058	<0.000058	<0.0002	<0.00019	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	**<0.004**	0.00006 J	<0.0000784	0.0001 J	<0.000042	<0.000042	<0.000042	<0.0002	<0.00019	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.0079	0.00005 J	<0.0000784	<0.000021	<0.000021	<0.000021	<0.000021	<0.0004	<0.00038	<0.00012
2-Methylnaphthalene	*0.098*	*0.29*	<0.000063	<0.000095	**0.437**	0.00011 J	0.000255 J	<0.000019	<0.000019	<0.000019	<0.000079	<0.0004	<0.00038	<0.00007
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	**<0.004**	0.00008 J	<0.000814	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.00019	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.005	0.00005 J	<0.000549	<0.000047	<0.000047	<0.000047	<0.000047	<0.00025	<0.00024	<0.00007
Acenaphthene	*1.5*	*4.4*	0.00073 J	0.0011 J	0.365	0.00005 J	<0.0000784	<0.000027	<0.000027	<0.000027	0.000029 J	0.0176	0.00656	0.0035
Acenaphthylene	*1.5*	*4.4*	0.000049 J	0.000038 J	<0.0059	0.00005 J	<0.0000588	<0.000015	<0.000015	<0.000015	<0.000015	<0.0003	<0.00028	<0.00006
Anthracene	*7.3*	*22*	0.000057 J	0.000044 J	0.0712	0.00005 J	<0.000049	<0.000014	<0.000014	<0.000014	<0.000014	0.000542	0.00023 J	<0.00007
Benzo(a)anthracene	*0.0091*	*0.02*	0.00012	0.00012	**0.017**	0.00005 J	<0.0000784	<0.00005	<0.00005	<0.00005	<0.00005	<0.0002	<0.00019	<0.00007
Benzo(a)pyrene	*0.0002*	*0.0002*	0.000066 J	0.000072 J	**0.0065**	0.00005 J	<0.0000784	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.00019	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	**<0.0079**	0.00005 J	<0.000127	<0.00003	<0.00003	<0.00003	<0.00003	<0.0004	<0.00038	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	<0.000037	**0.0076**	0.00053 J	<0.000799	<0.000037	<0.000037	<0.000037	0.000081 J	<0.000037	0.00453	<0.00019	0.00024
Chrysene	*0.91*	*2*	0.000078 J	0.000093 J	0.0128	0.00005 J	<0.0000784	<0.000021	<0.000021	<0.000021	<0.000021	<0.0002	<0.00019	<0.00007
Dibenzofuran	*0.098*	*0.29*	0.000096 J	0.000067 J	**0.412**	0.000071 J	<0.0000784	<0.00002	<0.00002	<0.00002	0.000027 J	0.00819	0.00319	0.0014
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.004	0.00005 J	<0.000108	<0.00002	<0.00002	<0.00002	0.000021 J	0.00046 J	<0.00019	<0.00007
Fluoranthene	*0.98*	*2.9*	0.00035 J	0.00057 J	0.14	0.00017 J	<0.0000686	<0.00001	<0.00001	<0.00001	0.000014 J	0.0014	0.00105	0.00034
Fluorene	*0.98*	*2.9*	0.000059 J	0.000072 J	0.228	0.00011 J	<0.0000686	<0.00003	<0.00003	<0.00003	<0.00003	0.00328	0.00161	0.00062
Naphthalene	*0.49*	*1.5*	<0.0005	<0.00066	**5.87**	0.00043 J	0.00282	<0.00017	<0.00002	<0.00023	<0.00069	0.0257	0.000704	<0.0001
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.0079	0.00005 J	<0.000108	<0.000024	<0.000024	<0.000024	<0.000024	<0.0004	<0.00038	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.005	0.00005 J	<0.000098	<0.000025	<0.000025	<0.000025	<0.000025	<0.00025	<0.00024	<0.00009
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	**<0.004**	0.00005 J	<0.000598	0.00013 J	<0.000079	<0.000079	<0.000079	<0.0002	<0.00019	<0.00008
Phenanthrene	*0.73*	*2.2*	<0.000056	<0.000046	0.431	0.0001 J	<0.0000588	<0.000021	<0.000021	<0.000021	<0.000021	0.00046 J	<0.00019	<0.00007
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.004	0.000072 J	<0.0000392	<0.000035	<0.000035	<0.000035	<0.000035	<0.0002	<0.00019	<0.00007
Pyrene	*0.73*	*2.2*	<0.00019	0.00052 J	0.0853	0.00021 J	<0.000108	<0.000019	<0.000019	<0.000019	<0.000019	0.000967	0.000547	0.00025
Metals														
Arsenic	*0.01*	*0.01*	0.0081	0.00755				0.00106 J	0.000801 J	0.000689 J	0.00132 J			

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-35A 01/14/2010	MW-35A 06/30/2010	MW-35A 01/27/2011	MW-35A 07/20/2011	MW-35A 02/15/2012	MW-35A 07/18/2012	MW-35A 02/07/2013	MW-35A 08/08/2013	MW-35A 01/24/2014	MW-35A 07/24/2014	MW-35A 01/25/2018	MW-35A 03/22/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	0.000367 J	0.00021 J	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	0.00015 J	<0.0003	0.00042 J
Ethylbenzene	*0.7*	*0.7*	0.0015 J	<0.0005	<0.0005	<0.0011	<0.0011	0.0015 J	<0.00011	<0.00011	<0.00019	0.000473 J	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001
Toluene	*1*	*1*	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*								<0.00011		<0.00011		
Xylenes (total)	*10*	*10*	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	0.000309 J	<0.00058	<0.00026	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0001	0.0003	<0.0001	<0.00005	<0.00005	<0.00005	<0.000105	<0.000108	<0.000104	<0.000106	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000295	<0.000304	<0.000292	<0.000298	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000124	<0.000127	<0.000123	<0.000125	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000762	<0.0000784	<0.0000755	<0.0000769	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	<0.0000755	<0.0000769	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	0.00061	<0.00007	<0.00007	<0.00005	<0.00005	0.0063	0.000239 J	<0.0000686	0.00035 J	0.000151 J	0.0019	0.000092 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00079	<0.000814	<0.000783	<0.000798	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000533	<0.000549	<0.000528	<0.000538	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.017	0.0077	0.00069	0.00091	0.00041	0.0072	0.0196	0.0181 J	0.0551	0.0294	0.0076	0.0064
Acenaphthylene	*1.5*	*4.4*	0.00011 J	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000571	<0.0000588	0.000754	<0.0000577	<0.000015	0.000088 J
Anthracene	*7.3*	*22*	0.00043	0.00035	<0.00007	<0.00005	<0.00005	0.0013	0.000389 J	<0.000049	0.00111	0.000601	0.00038	0.00028
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.0003	<0.0000762	<0.0000784	<0.0000755	<0.0000769	0.000054 J	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	<0.0000755	<0.0000769	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000124	<0.000127	<0.000123	<0.000125	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00045	<0.00048	0.0004	<0.00099	<0.00013	0.00014 J	<0.000352	<0.000363	<0.000349	<0.000356	0.00011 J	<0.000037
Chrysene	*0.91*	*2*	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00027	<0.0000762	<0.0000784	<0.0000755	<0.0000769	0.00005 J	<0.000021
Dibenzofuran	*0.098*	*0.29*	0.005	0.0026	0.00011 J	0.00013 J	0.00008 J	0.0043	0.000429 J	0.000141 J	0.00177	0.00115	0.0047	0.0011
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	0.000092 J	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000105	<0.000108	<0.000838	<0.000106	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	0.0011	0.00048	0.00021	0.00053	0.00007 J	0.0027	0.000109 J	0.000365 J	0.000484	0.000782	0.00065	0.00039
Fluorene	*0.98*	*2.9*	0.0028	0.0014	0.000095 J	0.00012 J	<0.00005	0.0029	<0.0000667	0.002 J	0.0149	0.0071	0.0024	0.00061
Naphthalene	*0.49*	*1.5*	0.19	0.0017	0.00028	<0.00005	0.00027	0.05	0.00286 J	0.000557 J	0.00968	0.00293	0.13	0.013
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000105	<0.000108	<0.000104	<0.000106	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000952	<0.000098	<0.0000943	<0.0000962	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000581	<0.000598	<0.000575	<0.000587	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	0.00039	<0.00007	<0.00007	<0.00005	<0.00005	0.0068	0.000104 J	<0.0000588	<0.000848	0.000449 J	0.0016	0.00028
Phenol	*7.3*	*22*	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000381	<0.0000392	<0.0000377	<0.0000385	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	0.00092	0.00031	<0.00007	0.00029	<0.00005	0.0016	0.000305 J	0.000252 J	0.000376 J	0.000548	0.00055	0.00026
Metals														
Arsenic	*0.01*	*0.01*											**0.0166**	**0.0714**

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-35A 06/05/2018	MW-35A 01/15/2019	MW-35A 07/18/2019	MW-35A 01/10/2020	MW-35B 01/29/2008	MW-35B 07/14/2008	MW-35B 02/03/2009	MW-35B 01/14/2010	MW-35B 07/01/2010	MW-35B 01/27/2011	MW-35B 07/20/2011	MW-35B 02/15/2012
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052	<0.00109	<0.005	<0.005	<0.0005	<0.0005	<0.005	<0.001
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	**0.0648**	**0.0281**	**0.062**	**0.064**	**0.068**	**0.064**	**0.056**	**0.077**
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047	<0.0015	<0.005	<0.005	<0.0005	<0.0005	<0.005	<0.001
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	0.176	0.113	0.2	0.2	0.21	0.22	0.17	0.19
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.00122	<0.005	<0.005	<0.0005	<0.0005	**<0.0065**	<0.0013
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	0.00494 J	0.00249 J	0.0057 J	<0.005	0.005	0.0045 J	<0.005	0.0042 J
Vinyl chloride	*0.002*	*0.002*				<0.0002								
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	0.135	0.0787	0.15	0.15 J	0.17	0.16	0.12	0.13
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	<0.00008	<0.00008	<0.0001	<0.0001	**0.0012**	<0.0001	<0.00005	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	0.0021	<0.00004	<0.00004	<0.00029	<0.0003	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.000058	<0.00019	<0.0002	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.000042	<0.00019	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.00038	<0.0004	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	0.00032	0.016	0.00012	<0.000019	**0.464**	0.0561	**0.4**	**0.47**	**0.36**	**0.41**	**0.48**	**0.18**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.00024	<0.00025	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Acenaphthene	*1.5*	*4.4*	0.006	0.0039	0.0028	<0.000027	0.217	0.116	0.17	0.22	0.2	0.19	0.2	0.08
Acenaphthylene	*1.5*	*4.4*	0.000066 J	0.000068 J	0.000071 J	<0.000015	<0.00029	<0.0003	0.00088	0.0013	0.0011	0.0012	0.00097	0.00063 J
Anthracene	*7.3*	*22*	0.00022	0.00044	0.00011	<0.000014	0.0129	0.00842	0.0056	0.008	0.015	0.014	0.016	0.0048 J
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.00005	0.00044 J	0.0003 J	0.00017 J	0.00032	0.00022	0.00031	0.00021	0.00011 J
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019	<0.0002	<0.00008	0.00014 J	0.00012 J	0.00014 J	0.000069 J	<0.00005
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00038	<0.0004	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00018 J	<0.000037	0.000057 J	0.000061 J	**0.0198**	<0.0002	0.00052	<0.00029	<0.00097	0.00041	<0.00056	<0.00088
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	<0.000021	0.00033 J	0.00022 J	0.00015 J	0.00028	0.00017 J	0.00037	0.00025	0.0001 J
Dibenzofuran	*0.098*	*0.29*	0.00072	0.0041	0.00039	<0.00002	**0.198**	**0.104**	**0.16**	**0.23**	**0.22**	**0.2**	**0.21**	0.097
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Fluoranthene	*0.98*	*2.9*	0.00024	0.00015	0.00015	<0.00001	0.00698	0.00624	0.0031	0.0053	0.006	0.0065	0.0056	0.0026 J
Fluorene	*0.98*	*2.9*	0.00086	0.0022	0.00036	0.000065 J	0.0912	0.0685	0.063	0.092	0.11	0.09	0.097	0.048
Naphthalene	*0.49*	*1.5*	0.0075	0.22	0.00083	<0.0002	**9.3**	0.365	**12**	**14**	**11**	**4.8**	**12**	**7.4**
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.00038	<0.0004	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.00024	<0.00025	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.000079	<0.00019	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005
Phenanthrene	*0.73*	*2.2*	<0.000021	0.0025	0.000042 J	<0.000021	0.1	0.0782	0.061	0.086	0.12	0.078	0.12	0.052
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.000035	<0.000035	<0.00019	0.00059	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Pyrene	*0.73*	*2.2*	0.00027	0.00007 J	0.000096 J	<0.000019	0.00411	0.0026	0.0017	0.0027	0.0025	0.0032	0.0027	0.0016 J
Metals														
Arsenic	*0.01*	*0.01*	**0.0189**	**0.0198**	**0.0548**	**0.0219**								

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-35B 07/18/2012	MW-35B 02/07/2013	MW-35B 08/08/2013	MW-35B 01/24/2014	MW-35B 07/24/2014	MW-35B 01/25/2018	MW-35B 03/22/2018	MW-35B 06/05/2018	MW-35B 01/15/2019	MW-35B 07/18/2019	MW-35B 01/10/2020	MW-35B 01/10/2020 Duplicate
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.005	<0.0007	<0.0028	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	**0.064**	**0.0662**	**0.0855**	**0.0664**	**0.0539**	**0.078**	**0.088**	**0.044**	0.0033	0.0045	**0.025 J**	**0.016 J**
Chlorobenzene	*0.1*	*0.1*	<0.005	<0.0006	<0.0024	0.000241 J	0.000228 J	0.0009 J	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	0.19	0.225	0.258	0.187	0.176	0.15	0.15	0.12	0.0094	0.014	0.096	0.083
Methylene chloride	*0.005*	*0.005*	**0.02 J**	<0.00075	**0.0234**	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.005	0.00437 J	0.00584 J	0.00429	0.00377	0.0057	0.0041	0.0031	<0.0002	0.00054 J	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*			**<0.0022**		<0.00011						<0.0002	<0.0002
Xylenes (total)	*10*	*10*	0.13 J	0.153	0.174	0.132	0.114	0.064	0.066	0.056	0.004	0.0062	0.058 J	0.041 J
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	**<0.105**	**<0.00539**	**<0.106**	<0.00107	<0.00021	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00005	<0.295	<0.0152	<0.298	<0.00301	<0.0004	<0.0004	<0.00004	<0.00004	<0.00004	<0.00004	0.00021
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	**<0.124**	**<0.00637**	**<0.125**	<0.00126	<0.00059	<0.00058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	**<0.0762**	**<0.00392**	**<0.0769**	<0.000777	<0.00042	<0.00042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.0762	<0.00392	<0.0769	<0.000777	<0.00021	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	**0.26**	**0.295 J**	**0.431**	**0.534**	**0.376**	**0.13**	**0.22**	**0.25**	0.011	0.041	**0.14 J**	0.062 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	**<0.79**	**<0.0407**	**<0.798**	**<0.00806**	<0.0002	0.00078 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00005	**<0.533**	<0.0275	**<0.538**	<0.00544	<0.00047	<0.00047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.15	0.173 J	0.258	0.305 J	0.139	0.094	0.18	0.17	0.013	0.029	0.059 J	0.033 J
Acenaphthylene	*1.5*	*4.4*	0.00078	<0.0571	<0.00294	<0.0577	0.0015 J	<0.00015	0.0014	0.00076	0.00018	0.00022	0.00038	0.00027
Anthracene	*7.3*	*22*	0.0064	<0.0476	0.0202 J	<0.0481	0.0111	0.011	0.014	0.0072	0.0011	0.0022	0.0029 J	0.0018 J
Benzo(a)anthracene	*0.0091*	*0.02*	0.0002	**<0.0762**	<0.00392	**<0.0769**	<0.000777	<0.00051	<0.0005	0.000075 J	0.000077 J	0.000083 J	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00005	**<0.0762**	**<0.00392**	**<0.0769**	**<0.000777**	<0.0002	<0.0002	<0.00002	0.000058 J	0.000053 J	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	**<0.124**	**<0.00637**	**<0.125**	**<0.00126**	<0.0003	<0.0003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00018 J	**<0.352**	**<0.0181**	**<0.356**	<0.00359	<0.00037	<0.00037	<0.000037	<0.00014	0.00012 J	<0.000037	<0.000037
Chrysene	*0.91*	*2*	0.00023	<0.0762	<0.00392	<0.0769	<0.000777	0.00051 J	<0.00021	0.000086 J	0.000098 J	0.000091 J	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	**0.14**	**0.161 J**	**0.252**	**0.256 J**	**0.138**	**0.13**	**0.22**	**0.18**	0.015	0.029	0.054 J	0.031 J
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00005	<0.105	<0.00539	<0.106	<0.00107	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	0.0039	<0.0667	0.00756 J	0.0698 J	0.00692	0.0081	0.0098	0.0031	0.0013	0.0017	0.0015 J	0.00093 J
Fluorene	*0.98*	*2.9*	0.069	<0.0667	0.138	0.167 J	0.076	0.057	0.092	0.095	0.0066	0.014	0.028 J	0.015 J
Naphthalene	*0.49*	*1.5*	**7.6**	**8.83**	**14.1**	**13.1**	**9.36**	**5**	**13**	**15**	0.079	**1.1**	**2 J**	0.13 J
Nitrobenzene	*0.049*	*0.15*	<0.00005	**<0.105**	<0.00539	**<0.106**	<0.00107	<0.00024	<0.00024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.0952	<0.0049	<0.0962	<0.000971	<0.00025	<0.00025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00005	**<0.581**	**<0.0299**	**<0.587**	**<0.00592**	<0.0008	<0.00079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	0.066	0.0936 J	0.142	0.27 J	0.0891	0.088	0.18	0.11	0.0086	0.019	0.024 J	0.013 J
Phenol	*7.3*	*22*	0.00014 J	<0.0381	<0.00196	0.129 J	<0.000388	<0.00035	<0.00035	<0.000035	<0.000035	0.00017 J	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	0.0019	<0.105	<0.00539	<0.106	0.00327 J	0.0057	0.0053	0.0018	0.00075	0.00079	0.0007 J	0.00045 J
Metals														
Arsenic	*0.01*	*0.01*						0.00465	0.00595	**0.0116**	0.00862	0.0012 J	**0.012**	**0.0159**

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-36A 01/29/2008	MW-36A 07/14/2008	MW-36A 02/03/2009	MW-36A 01/13/2010	MW-36A 06/29/2010	MW-36A 01/20/2011	MW-36A 07/19/2011	MW-36A 02/07/2012	MW-36A 07/17/2012	MW-36A 01/31/2013	MW-36A 08/06/2013	MW-36A 01/16/2014
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00052	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002
Benzene	*0.005*	*0.005*	<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.00047	<0.00047	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018
Ethylbenzene	*0.7*	*0.7*	<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019
Methylene chloride	*0.005*	*0.005*	<0.00054	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022
Toluene	*1*	*1*	<0.00041	<0.00041	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017
Vinyl chloride	*0.002*	*0.002*							<0.001	<0.001	<0.0005	<0.00011	<0.00011	<0.00018
Xylenes (total)	*10*	*10*	<0.00127	<0.00127	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00008	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.000104	<0.000104	<0.000104
2,4-Dimethylphenol	*0.49*	*1.5*	<0.0003	<0.00029	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000292	<0.000292	<0.000292
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.0002	<0.0002	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000123	<0.000123	<0.000123
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0002	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000755	<0.0000755	<0.0000755
2-Chloronaphthalene	*2*	*5.8*	<0.0004	<0.00039	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000755	<0.0000755
2-Methylnaphthalene	*0.098*	*0.29*	<0.0004	<0.00039	<0.00007	0.0003	0.00023	<0.00007	<0.00005	<0.00005	<0.00005	<0.000066	<0.000066	<0.000066
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.0002	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.000783	<0.000783	<0.000783
4-Nitrophenol	*0.049*	*0.15*	<0.00025	<0.00024	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000528	<0.000528	<0.000528
Acenaphthene	*1.5*	*4.4*	<0.0003	<0.00029	<0.00009	0.00036	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000755	<0.0000867
Acenaphthylene	*1.5*	*4.4*	<0.0003	<0.00029	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000566	<0.0000566	<0.0000566
Anthracene	*7.3*	*22*	0.00065	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000472	<0.0000472	<0.0000472
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0002	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000755	<0.0000755
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0002	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000755	<0.0000755
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.0004	<0.00039	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000123	<0.000123	<0.000123
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00061 J	<0.0002	0.00045	<0.00033	<0.00061	<0.00048	<0.0004	0.0025	<0.0001	<0.000349	<0.000349	<0.000349
Chrysene	*0.91*	*2*	<0.0002	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000755	<0.0000755
Dibenzofuran	*0.098*	*0.29*	0.00049 J	<0.00029	<0.00008	0.0003	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000755	<0.0000755
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.0002	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000104	<0.000391	<0.000104
Fluoranthene	*0.98*	*2.9*	0.000526	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000066	<0.000066	<0.000066
Fluorene	*0.98*	*2.9*	0.00028 J	<0.0002	<0.00007	0.00024	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000066	<0.000066	<0.000066
Naphthalene	*0.49*	*1.5*	0.00119	<0.00039	0.0006	0.0013	0.0023	<0.0001	<0.00005	<0.00005	0.0003	<0.000211	<0.0000755	<0.0000755
Nitrobenzene	*0.049*	*0.15*	<0.0004	<0.00039	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000104	<0.000104	<0.000104
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00025	<0.00024	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000943	<0.0000943	<0.0000943
Pentachlorophenol	*0.001*	*0.001*	<0.0002	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000575	<0.000575	<0.000575
Phenanthrene	*0.73*	*2.2*	0.000727	<0.0002	<0.00007	0.00039	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000566	<0.0000861	<0.000201
Phenol	*7.3*	*22*	<0.0002	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000377	<0.0000377	<0.0000377
Pyrene	*0.73*	*2.2*	0.000531	<0.0002	0.00015 J	0.00021	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000104	<0.000104	0.000155 J
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-36A 07/28/2014	MW-36A 01/25/2018	MW-36A 03/21/2018	MW-36A 05/31/2018	MW-36A 01/14/2019	MW-36A 07/16/2019	MW-36A 01/09/2020	MW-36D 07/15/2010	MW-36D 01/26/2011	MW-36D 07/27/2011	MW-36D 02/14/2012	MW-36D 07/23/2012
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.001	<0.001	<0.0005
Benzene	*0.005*	*0.005*	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	0.00071 J	<0.001	<0.001	<0.0005
Chlorobenzene	*0.1*	*0.1*	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.001	<0.001	<0.0005
Ethylbenzene	*0.7*	*0.7*	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005
Methylene chloride	*0.005*	*0.005*	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0013	<0.0013	<0.001
Toluene	*1*	*1*	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.001	<0.001	<0.0005
Vinyl chloride	*0.002*	*0.002*	<0.00011	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002					
Xylenes (total)	*10*	*10*	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.001	<0.001	<0.0031	<0.0031	<0.0015
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000107	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	<0.000301	<0.000041	<0.00004	<0.00004	<0.00004	<0.00004	<0.000052	0.00008 J	<0.00008	<0.00005	<0.00005	<0.00005
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000126	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	0.00009 J	<0.00009	<0.00005	<0.00005	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0000777	<0.000043	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.0000777	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	<0.000177	<0.000019	0.000022 J	<0.000019	<0.000019	<0.000019	<0.000019	<0.00007	0.00013 J	<0.00005	<0.00005	<0.00005
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.000806	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000544	<0.000048	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Acenaphthene	*1.5*	*4.4*	<0.0000777	<0.000028	0.00059	<0.000027	<0.000027	<0.000027	<0.000027	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
Acenaphthylene	*1.5*	*4.4*	<0.0000583	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Anthracene	*7.3*	*22*	<0.0000485	<0.000014	0.000066 J	<0.000014	<0.000014	<0.000014	<0.000014	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0000777	<0.000051	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0000777	<0.00002	0.000064 J	0.00003 J	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.000126	<0.000031	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000359	0.000089 J	0.00015 J	0.0001 J	<0.000037	<0.000037	<0.000037	0.005 J	0.00097	0.0012	<0.0012	<0.00035
Chrysene	*0.91*	*2*	<0.0000777	<0.000021	<0.000021	0.000027 J	<0.000021	<0.000021	<0.000021	<0.00007	<0.00007	<0.00005	0.000078 J	<0.00005
Dibenzofuran	*0.098*	*0.29*	<0.0000777	<0.00002	0.00061	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.000107	<0.00002	<0.00002	0.000028 J	<0.00002	<0.00002	<0.00002	<0.00007	<0.00007	0.00032	0.000052 J	<0.00005
Fluoranthene	*0.98*	*2.9*	<0.000068	<0.00001	0.00012	0.000033 J	<0.00001	<0.00001	<0.00001	<0.00007	<0.00007	0.000068 J	0.00013 J	0.000054 J
Fluorene	*0.98*	*2.9*	<0.000068	<0.000031	0.00034	<0.00003	<0.00003	<0.00003	<0.00003	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Naphthalene	*0.49*	*1.5*	<0.00101	<0.00002	<0.00002	<0.00002	<0.000062	0.00015	<0.00034	<0.0001	0.00083	0.000061 J	<0.000072	<0.00014
Nitrobenzene	*0.049*	*0.15*	<0.000107	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0000971	<0.000026	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
Pentachlorophenol	*0.001*	*0.001*	<0.000592	<0.000081	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005
Phenanthrene	*0.73*	*2.2*	<0.0000583	<0.000021	0.00011	0.000026 J	<0.000021	<0.000021	<0.000021	<0.00007	<0.00007	0.000072 J	0.000069 J	<0.00005
Phenol	*7.3*	*22*	<0.0000388	<0.000036	<0.000035	<0.000035	<0.000035	<0.00014	<0.000035	0.00065	<0.00007	0.000056 J	0.00023	<0.00005
Pyrene	*0.73*	*2.2*	<0.000107	<0.000019	0.000076 J	0.000032 J	<0.000019	<0.000019	<0.000019	<0.00007	<0.00007	0.000053 J	0.000087 J	<0.00005
Metals														
Arsenic	*0.01*	*0.01*		0.00108 J	0.00753	0.00117 J	0.00107 J	0.00244	0.00354					

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-36D 07/23/2012 Duplicate	MW-36D 02/11/2013	MW-36D 08/05/2013	MW-36D 01/21/2014	MW-36D 08/28/2014	MW-36D 02/07/2018	MW-36D 03/26/2018	MW-36D 05/31/2018	MW-36D 01/24/2019	MW-36D 07/31/2019	MW-36D 01/16/2020	MW-38A 01/29/2008
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052
Benzene	*0.005*	*0.005*	<0.0005	<0.00008	<0.00008	<0.0002	0.0000895 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00025
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.00012	0.00013 J	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.00011	0.000127 J	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00025
Methylene chloride	*0.005*	*0.005*	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00054
Toluene	*1*	*1*	<0.0005	<0.00015	<0.00015	<0.00017	0.00675	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00041
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00127
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	<0.000105	<0.00011	<0.000104	<0.000109	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00008
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00005	<0.000295	<0.00031	<0.000292	<0.000307	<0.0004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00029
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	<0.000124	<0.00013	<0.000123	<0.000129	<0.00058	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058	<0.00019
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	<0.0000762	<0.00008	<0.0000755	<0.0000792	<0.00042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.00019
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.0000762	<0.00008	<0.0000755	<0.0000792	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00039
2-Methylnaphthalene	*0.098*	*0.29*	<0.00005	<0.0000667	<0.00007	0.000189 J	<0.0000693	<0.00019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.00039
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00079	<0.00083	<0.000783	<0.000822	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019
4-Nitrophenol	*0.049*	*0.15*	<0.00005	<0.000533	<0.00056	<0.000528	<0.000554	<0.00047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00024
Acenaphthene	*1.5*	*4.4*	<0.00005	<0.0000762	<0.00008	0.00014 J	<0.0000792	0.00056 J	0.002	<0.000027	<0.000027	<0.000027	<0.000027	<0.00029
Acenaphthylene	*1.5*	*4.4*	<0.00005	<0.0000571	<0.00006	<0.0000566	<0.0000594	<0.00015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.00029
Anthracene	*7.3*	*22*	<0.00005	<0.0000476	<0.00005	0.000105 J	0.000224 J	<0.00014	0.00016	0.000037 J	<0.000014	0.000017 J	<0.000033	<0.00019
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.0000762	<0.00008	<0.0000755	0.000213 J	<0.0005	0.00024	0.00019	<0.00005	0.000053 J	<0.00005	<0.00019
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00005	<0.0000762	<0.00008	<0.0000755	0.000192 J	<0.0002	**0.0003**	**0.00024**	0.000027 J	0.000087 J	<0.00002	<0.00019
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	<0.000124	<0.00013	<0.000123	<0.000129	<0.0003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00039
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00059	<0.000352	<0.00037	<0.000349	0.00128	<0.00037	0.00054	0.0005	0.000055 J	0.00008 J	<0.000037	0.00078 J
Chrysene	*0.91*	*2*	<0.00005	<0.0000762	<0.00008	<0.0000755	0.000347 J	<0.00021	0.00031	0.00026	0.000031 J	0.000058 J	<0.000021	<0.00019
Dibenzofuran	*0.098*	*0.29*	<0.00005	<0.0000762	<0.00008	0.00017 J	<0.0000792	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00029
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00005	<0.000105	<0.00011	<0.000104	<0.000109	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019
Fluoranthene	*0.98*	*2.9*	0.000093 J	<0.0000667	<0.00007	0.000216 J	0.00111	<0.0001	0.00094	0.00039	0.000048 J	0.00011	<0.00001	<0.00019
Fluorene	*0.98*	*2.9*	<0.00005	<0.0000667	<0.00007	0.000147 J	0.0001 J	<0.0003	0.00086	0.00003 J	<0.00003	<0.00003	<0.00003	<0.00019
Naphthalene	*0.49*	*1.5*	<0.00015	<0.0000762	<0.00008	0.0011 J	0.0000923 J	<0.0002	0.00015	0.000045 J	<0.00002	<0.00002	<0.000033	<0.00039
Nitrobenzene	*0.049*	*0.15*	<0.00005	<0.000105	<0.00011	<0.000104	<0.000109	<0.00024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00039
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.0000952	<0.0001	<0.0000943	<0.000099	<0.00025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00024
Pentachlorophenol	*0.001*	*0.001*	<0.00005	<0.000581	<0.00061	<0.000575	<0.000604	<0.00079	<0.00008	<0.000079	<0.000079	<0.000079	<0.000079	<0.00019
Phenanthrene	*0.73*	*2.2*	0.00014 J	<0.0000571	<0.00006	0.000665	0.00102	<0.00021	0.00037	0.00028	<0.000021	0.000066 J	<0.000047	<0.00019
Phenol	*7.3*	*22*	<0.00005	<0.0000381	<0.00004	<0.0000377	0.00194	<0.00035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.00019
Pyrene	*0.73*	*2.2*	<0.00005	<0.000105	<0.00011	0.000159 J	0.000881	<0.00019	0.00062	0.00036	0.000042 J	0.000099 J	<0.000019	<0.00019
Metals														
Arsenic	*0.01*	*0.01*						0.000773 J	0.00137 J	<0.0004	0.000417 J	<0.0004	0.000533 J	

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-38A 01/29/2008 Duplicate	MW-38A 07/14/2008	MW-38A 07/14/2008 Duplicate	MW-38A 02/03/2009	MW-38A 01/14/2010	MW-38A 06/29/2010	MW-38A 01/25/2011	MW-38A 07/19/2011	MW-38A 08/25/2011	MW-38A 02/15/2012	MW-38A 07/18/2012	MW-38A 02/07/2013
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00052	<0.00109	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.001		<0.001	<0.0005	<0.00014
Benzene	*0.005*	*0.005*	<0.00025	<0.00112	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.001		<0.001	<0.0005	<0.00008
Chlorobenzene	*0.1*	*0.1*	<0.00047	<0.0015	<0.00047	<0.0005	<0.0005	<0.0005	<0.0005	<0.001		<0.001	<0.0005	<0.00012
Ethylbenzene	*0.7*	*0.7*	<0.00025	<0.00142	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011		<0.0011	<0.0005	<0.00011
Methylene chloride	*0.005*	*0.005*	<0.00054	<0.00122	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013		<0.0013	<0.001	<0.00015
Toluene	*1*	*1*	<0.00041	<0.00138	<0.00041	<0.0005	<0.0005	<0.0005	<0.0005	<0.001		<0.001	<0.0005	<0.00015
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.00127	<0.00302	<0.00127	<0.001	<0.001	<0.001	<0.001	<0.0031		<0.0031	<0.0015	<0.00026
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00008	<0.00008	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005		<0.00005	<0.00005	<0.000105
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00029	<0.00029	<0.00028	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005		<0.00005	<0.00005	<0.000295
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.0002	<0.0002	<0.00019	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005		<0.00005	<0.00005	<0.000124
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0002	<0.0002	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006		<0.00006	<0.00006	<0.0000762
2-Chloronaphthalene	*2*	*5.8*	<0.00039	<0.00039	<0.00038	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005		<0.00005	<0.00005	<0.0000762
2-Methylnaphthalene	*0.098*	*0.29*	<0.00039	<0.00039	<0.00038	0.00044	<0.00007	0.00016 J	0.000085 J	<0.00005		<0.00005	<0.00031	<0.0000667
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.0002	<0.0002	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008		<0.00008	<0.00008	<0.00079
4-Nitrophenol	*0.049*	*0.15*	<0.00024	<0.00024	<0.00024	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005		<0.00005	<0.00005	<0.000533
Acenaphthene	*1.5*	*4.4*	<0.00029	<0.00029	<0.00028	<0.00009	0.00024	<0.00009	<0.00009	0.00043		<0.00005	<0.00025	<0.0000762
Acenaphthylene	*1.5*	*4.4*	<0.00029	<0.00029	<0.00028	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005		<0.00005	<0.00005	<0.0000571
Anthracene	*7.3*	*22*	<0.0002	<0.0002	<0.00019	<0.00007	<0.00007	<0.00007	0.00023	0.0001 J		<0.00005	<0.00013	0.0000712 J
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0002	<0.0002	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	0.00025		<0.00005	<0.00005	<0.0000762
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0002	<0.0002	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008	**0.00052**	<0.00005	<0.00005	<0.00005	<0.0000762
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00039	<0.00039	<0.00038	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005		<0.00005	<0.00005	<0.000124
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	**0.0145**	0.00022 J	0.00105 J	0.00042	<0.00049	<0.00044	0.00064	<0.00094		0.0016	0.00023	<0.000352
Chrysene	*0.91*	*2*	<0.0002	<0.0002	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	0.00022		<0.00005	<0.00005	<0.0000762
Dibenzofuran	*0.098*	*0.29*	<0.00029	<0.00029	<0.00028	<0.00008	<0.00008	0.000083 J	<0.00008	<0.00005	0.000055 J	<0.00005	<0.00014	<0.0000762
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.0002	<0.0002	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	0.00017 J		<0.00005	0.000052 J	<0.000105
Fluoranthene	*0.98*	*2.9*	<0.0002	<0.0002	<0.00019	<0.00007	0.00012 J	<0.00007	0.00034	0.00014 J		<0.00005	<0.00017	<0.0000667
Fluorene	*0.98*	*2.9*	<0.0002	<0.0002	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005		<0.00005	<0.00015	<0.0000667
Naphthalene	*0.49*	*1.5*	<0.00039	<0.00039	<0.00038	0.006	<0.0001	<0.0001	0.00059	<0.00026		<0.00005	<0.001	<0.0000762
Nitrobenzene	*0.049*	*0.15*	<0.00039	<0.00039	<0.00038	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005		<0.00005	<0.00005	<0.000105
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00024	<0.00024	<0.00024	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005		<0.00005	<0.00005	<0.0000952
Pentachlorophenol	*0.001*	*0.001*	<0.0002	<0.0002	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008	0.000067 J		<0.00005	<0.00005	<0.000581
Phenanthrene	*0.73*	*2.2*	<0.0002	<0.0002	<0.00019	<0.00007	<0.00007	<0.00007	0.0001 J	<0.00005		0.00011 J	<0.00032	<0.0000571
Phenol	*7.3*	*22*	<0.0002	<0.0002	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005		<0.00005	<0.00005	<0.0000381
Pyrene	*0.73*	*2.2*	<0.0002	<0.0002	<0.00019	<0.00007	0.0001 J	<0.00007	0.00021	0.00018 J		<0.00005	<0.00016	<0.000105
Metals														
Arsenic	*0.01*	*0.01*												

Notes:
1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-38A 08/08/2013	MW-38A 01/21/2014	MW-38A 07/25/2014	MW-38A 01/26/2018	MW-38A 03/25/2018	MW-38A 06/05/2018	MW-38A 01/22/2019	MW-38A 07/31/2019	MW-38A 01/21/2020	MW-38B 01/29/2008	MW-38B 07/14/2008	MW-38B 02/03/2009
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	0.00031 J	<0.0002	<0.00052	<0.00109	<0.0005
Benzene	*0.005*	*0.005*	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00025	<0.00112	<0.0005
Chlorobenzene	*0.1*	*0.1*	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047	<0.0015	<0.0005
Ethylbenzene	*0.7*	*0.7*	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00025	<0.00142	<0.0005
Methylene chloride	*0.005*	*0.005*	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.00122	<0.0005
Toluene	*1*	*1*	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00041	<0.00138	<0.0005
Vinyl chloride	*0.002*	*0.002*	<0.00011		<0.00011									
Xylenes (total)	*10*	*10*	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00127	<0.00302	<0.001
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000104	<0.000105	<0.000107	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00008	<0.00008	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	<0.000292	<0.000295	<0.000301	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.0003	<0.00029	<0.00008
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000123	<0.000124	<0.000126	<0.000058	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058	<0.0002	<0.00019	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0000755	<0.0000762	<0.0000777	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.0002	<0.00019	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.0000755	<0.0000762	<0.0000777	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0004	<0.00038	<0.00012
2-Methylnaphthalene	*0.098*	*0.29*	0.000115 J	<0.0000667	<0.000068	<0.000019	0.00014	<0.000019	0.000055 J	<0.000019	0.00017	<0.0004	<0.00038	0.00037
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.000783	<0.00079	<0.000806	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.00019	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000528	<0.000533	<0.000544	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00025	<0.00024	<0.00007
Acenaphthene	*1.5*	*4.4*	0.000638	<0.0000762	<0.0000777	<0.000027	0.0039	0.00061	0.014	<0.000027	0.00068	<0.0003	<0.00029	0.0001 J
Acenaphthylene	*1.5*	*4.4*	<0.0000566	<0.0000571	<0.0000583	<0.000015	0.000053 J	<0.000015	0.0002	<0.000015	<0.000015	<0.0003	<0.00029	<0.00006
Anthracene	*7.3*	*22*	<0.0000472	0.000103 J	<0.0000816	<0.000014	0.00026	0.00015	0.00017	0.000022 J	0.00015	<0.0002	0.00026 J	0.00013 J
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0000755	<0.0000762	<0.0000777	<0.00005	<0.000051	<0.00005	<0.00005	0.000087 J	<0.00005	<0.0002	<0.00019	<0.00007
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0000755	<0.0000762	<0.0000777	<0.00002	<0.00002	<0.00002	<0.00002	0.00012	0.000032 J	<0.0002	<0.00019	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.000123	<0.000124	<0.000126	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.0004	<0.00038	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000349	<0.000352	<0.000359	<0.000037	<0.000037	0.0001 J	<0.000037	0.000084 J	0.000063 J	0.00103 J	<0.00019	0.00041
Chrysene	*0.91*	*2*	<0.0000755	<0.0000762	<0.0000777	<0.000021	<0.000021	<0.000021	<0.000021	0.000092 J	0.00006 J	<0.0002	<0.00019	<0.00007
Dibenzofuran	*0.098*	*0.29*	<0.0000755	<0.0000762	<0.0000777	<0.00002	<0.00002	0.00006 J	0.00014	<0.00002	0.00036	<0.0003	<0.00029	<0.00008
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	0.000145 J	<0.000105	<0.000107	<0.00002	<0.00002	0.00017 J	0.000068 J	<0.00002	<0.00002	<0.0002	<0.00019	<0.00007
Fluoranthene	*0.98*	*2.9*	0.000164 J	<0.0000667	<0.000068	<0.00001	0.00023	0.000032 J	0.0013	0.00018	0.00018	<0.0002	<0.00019	<0.00007
Fluorene	*0.98*	*2.9*	<0.000066	<0.0000667	<0.000068	<0.00003	0.0003	0.00016	0.0024	<0.00003	0.00029	<0.0002	<0.00019	<0.00007
Naphthalene	*0.49*	*1.5*	0.00192 J	<0.000146	<0.0000777	<0.00002	<0.00002	0.00071	0.00015	0.000068 J	0.0011	<0.0004	<0.00038	0.0045
Nitrobenzene	*0.049*	*0.15*	<0.000104	<0.000105	<0.000107	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.0004	<0.00038	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0000943	<0.0000952	<0.0000971	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	0.00011 J	<0.00025	<0.00024	<0.00009
Pentachlorophenol	*0.001*	*0.001*	<0.000575	<0.000581	<0.000592	<0.000079	<0.00008	<0.000079	<0.000079	<0.000079	<0.000079	<0.0002	<0.00019	<0.00008
Phenanthrene	*0.73*	*2.2*	<0.0000566	<0.0000571	<0.0000583	<0.000021	0.00033	<0.000021	0.00058	0.0001	0.00039	<0.0002	<0.00019	<0.00007
Phenol	*7.3*	*22*	<0.0000377	<0.0000381	<0.0000388	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.0002	<0.00019	<0.00007
Pyrene	*0.73*	*2.2*	0.000176 J	<0.000105	<0.000107	<0.000019	0.00021	0.000056 J	0.0011	0.00014	0.00014	<0.0002	<0.00019	<0.00007
Metals														
Arsenic	*0.01*	*0.01*				<0.0004	**0.0138**	**0.0124**	**0.0186**	<0.0004	**0.0177**			

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-38B 01/14/2010	MW-38B 06/29/2010	MW-38B 01/25/2011	MW-38B 07/18/2011	MW-38B 02/15/2012	MW-38B 07/18/2012	MW-38B 02/07/2013	MW-38B 08/08/2013	MW-38B 01/21/2014	MW-38B 07/25/2014	MW-38B 01/26/2018	MW-38B 03/25/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001
Toluene	*1*	*1*	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*								<0.00011		<0.00011		
Xylenes (total)	*10*	*10*	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.000105	<0.000104	<0.000105	<0.000109	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000295	<0.000292	<0.000295	<0.000307	<0.000041	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000124	<0.000123	<0.000124	<0.000129	<0.000059	<0.000059
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000762	<0.0000755	<0.0000762	<0.0000792	<0.000043	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000762	<0.0000792	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.0003	<0.0000667	<0.000066	0.000137 J	<0.0000992	0.000096 J	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00079	<0.000783	<0.00079	<0.000822	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000533	<0.000528	<0.000533	<0.000554	<0.000048	<0.000047
Acenaphthene	*1.5*	*4.4*	<0.00009	0.00047	<0.00009	<0.00005	0.0001 J	0.00096	0.000226 J	<0.0000755	0.0000786 J	<0.000342	<0.000028	0.000095 J
Acenaphthylene	*1.5*	*4.4*	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000571	<0.0000566	<0.0000571	<0.0000594	<0.000015	<0.000015
Anthracene	*7.3*	*22*	<0.00007	<0.00007	0.00011 J	0.00013 J	0.00021	<0.00023	0.000313 J	<0.0000472	0.000141 J	<0.000398	0.000047 J	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000762	<0.0000792	<0.000051	<0.000051
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000762	<0.0000792	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	0.000072 J	<0.000124	<0.000123	<0.000124	<0.000129	<0.000031	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00039	<0.00074	<0.0002	<0.001	<0.0001	<0.0001	<0.000352	<0.000349	<0.000352	<0.000366	0.000061 J	0.00012 J
Chrysene	*0.91*	*2*	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000762	<0.0000792	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00028	<0.0000762	<0.0000755	0.0000923 J	<0.00041	0.000053 J	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000105	<0.000104	<0.000105	<0.000109	<0.00002	0.000027 J
Fluoranthene	*0.98*	*2.9*	<0.00007	0.00017 J	<0.00007	<0.00005	<0.00005	<0.00032	<0.0000667	<0.000066	0.000101 J	<0.00058	<0.00001	0.000022 J
Fluorene	*0.98*	*2.9*	<0.00007	0.00015 J	<0.00007	<0.00005	<0.00005	<0.00027	<0.0000667	<0.000066	0.0000778 J	<0.000219	0.000046 J	<0.00003
Naphthalene	*0.49*	*1.5*	<0.00014	<0.0001	0.00031	<0.00005	0.00037	<0.0015	<0.0000762	<0.0000755	0.000466 J	<0.0016	0.00084	0.00016
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000105	<0.000104	<0.000105	<0.000109	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000952	<0.0000943	<0.0000952	<0.000099	<0.000026	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000581	<0.000575	<0.000581	<0.000604	<0.000081	<0.00008
Phenanthrene	*0.73*	*2.2*	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00037	<0.0000571	<0.0000566	0.000304 J	<0.000164	0.000061 J	0.000052 J
Phenol	*7.3*	*22*	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000381	<0.0000377	<0.0000381	<0.0000396	<0.000036	<0.000035
Pyrene	*0.73*	*2.2*	<0.00007	0.00027	<0.00007	<0.00005	<0.00005	<0.00037	<0.000105	<0.000104	<0.000105	0.000472 J	<0.000019	0.000035 J
Metals														
Arsenic	*0.01*	*0.01*											0.000636 J	0.000972 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-38B 06/05/2018	MW-38B 01/22/2019	MW-38B 07/18/2019	MW-38B 01/21/2020	MW-39B 01/30/2008	MW-39B 07/15/2008	MW-39B 02/04/2009	MW-39B 01/19/2010	MW-39B 06/22/2010	MW-39B 01/18/2011	MW-39B 07/26/2011	MW-39B 02/01/2012
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047	<0.00047	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	<0.00041	<0.00041	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	<0.00127	<0.00127	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	0.00025	<0.00008	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	0.000056 J	<0.00004	<0.0003	<0.00029	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	0.00005 J
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.000058	<0.0002	<0.00019	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	0.00005 J
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.000042	<0.0002	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	0.00006 J
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.0004	<0.00039	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	0.00005 J
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019	0.0003	0.00017	<0.0004	<0.00039	<0.00007	<0.00007	<0.00007	0.000086 J	<0.00005	0.00005 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.00049	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.00025	<0.00024	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00005 J
Acenaphthene	*1.5*	*4.4*	0.048	<0.000027	0.00012	0.054	0.000664	<0.00029	0.00022	0.00014 J	0.0034	0.00039	0.00028	0.0011 J
Acenaphthylene	*1.5*	*4.4*	0.00036	<0.000015	<0.000015	0.00045	<0.0003	<0.00029	<0.00006	<0.00007	<0.00007	<0.00007	0.000053 J	0.00005 J
Anthracene	*7.3*	*22*	0.0018	0.0001	0.000037 J	0.0012	0.00106	0.000619	0.00028	<0.00007	<0.00007	<0.00007	0.0004	<0.00005
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	0.000055 J	<0.0002	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00005 J
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	<0.0004	<0.00039	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	0.00005 J
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	<0.000037	0.00031	<0.000037	0.00119 J	<0.00019	0.00046	0.0007	<0.0002	0.00024	0.00092	<0.00015
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	0.000057 J	<0.0002	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Dibenzofuran	*0.098*	*0.29*	0.008	<0.00002	0.00014	0.0054	<0.0003	<0.00029	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	0.0004 J
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.00002	0.000036 J	<0.0002	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Fluoranthene	*0.98*	*2.9*	0.0014	<0.00001	<0.00001	0.0025	0.00213	0.000575	0.0014	<0.00007	0.0019	0.00013 J	0.000079 J	0.0011
Fluorene	*0.98*	*2.9*	0.019	<0.00003	0.00006 J	0.015	<0.0002	<0.00019	0.00025	0.00021	0.00048	0.00013 J	0.00011 J	0.00032 J
Naphthalene	*0.49*	*1.5*	0.00099	<0.00002	0.0026	0.00098	<0.0004	<0.00039	0.00052	0.00018 J	<0.00015	0.00076	<0.00005	0.00034 J
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.0004	<0.00039	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	0.00005 J
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.00025	<0.00024	<0.00009	<0.00009	<0.00009	<0.00009	0.000054 J	<0.00005
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.000079	<0.0002	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	0.00005 J
Phenanthrene	*0.73*	*2.2*	<0.000021	<0.000021	0.000079 J	0.00095	0.00045 J	<0.00019	<0.00007	0.00025	<0.00007	0.00018 J	<0.00005	<0.00005
Phenol	*7.3*	*22*	<0.000035	<0.000035	0.000056 J	<0.000035	<0.0002	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Pyrene	*0.73*	*2.2*	0.00086	<0.000019	<0.000019	0.0015	0.00156	0.000956	0.0013	0.00018 J	0.002	<0.00007	0.00017 J	0.0013
Metals														
Arsenic	*0.01*	*0.01*	**0.0386**	<0.0004	0.000553 J	**0.0173**								

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-39B 07/19/2012	MW-39B 02/05/2013	MW-39B 07/31/2013	MW-39B 01/14/2014	MW-39B 07/25/2014	MW-39B 01/23/2018	MW-39B 03/19/2018	MW-39B 05/16/2018	MW-39B 01/08/2019	MW-39B 07/11/2019	MW-39B 01/13/2020	MW-40B 01/30/2008
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.00014	<0.00014	<0.00014	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052
Benzene	*0.005*	*0.005*	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	**0.0348**
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.00012	<0.00012	<0.00012	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.00011	<0.00011	<0.00011	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.162
Methylene chloride	*0.005*	*0.005*	<0.001	<0.00015	<0.00015	<0.00015	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00054
Toluene	*1*	*1*	<0.0005	<0.00015	<0.00015	<0.00015	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0791
Vinyl chloride	*0.002*	*0.002*		<0.00011			<0.00011							
Xylenes (total)	*10*	*10*	<0.0015	<0.00026	<0.00026	<0.00026	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.35
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	<0.000104	<0.000105	<0.00106	<0.000107	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	**<0.02**
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00005	<0.000292	<0.000295	<0.00298	<0.000301	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.071
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	<0.000123	<0.000124	<0.00125	<0.000126	<0.000058	<0.000059	<0.000059	<0.000058	<0.000058	<0.000058	**<0.048**
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	<0.0000755	<0.0000762	<0.000769	<0.0000777	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	**<0.048**
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.0000755	<0.0000762	<0.000769	<0.0000777	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.095
2-Methylnaphthalene	*0.098*	*0.29*	0.000069 J	<0.000066	<0.0000667	<0.000673	<0.0000708	0.000081 J	<0.000019	0.00008 J	<0.000019	<0.000027	0.00021	**0.522**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.000783	<0.00079	**<0.00798**	<0.000806	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	**<0.048**
4-Nitrophenol	*0.049*	*0.15*	<0.00005	<0.000528	<0.000533	<0.00538	<0.000544	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	**<0.06**
Acenaphthene	*1.5*	*4.4*	0.0004	0.000756	0.0007	0.00115 J	<0.0012	0.00093	0.001	0.00054	0.00062	0.00065	0.0012	0.365
Acenaphthylene	*1.5*	*4.4*	<0.00005	0.00011 J	0.0000676 J	<0.000577	0.0000623 J	<0.000015	<0.000015	<0.000015	<0.000015	0.000021 J	<0.000015	<0.071
Anthracene	*7.3*	*22*	0.0001 J	0.000901	0.000774	<0.00101	<0.000615	0.000053 J	<0.000014	0.0002	0.00016	0.00021	0.00016	<0.048
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.0000755	<0.0000762	<0.000769	<0.0000777	<0.00005	<0.000051	<0.000051	<0.00005	<0.00005	<0.00005	**<0.048**
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00005	<0.0000755	<0.0000762	**<0.000769**	<0.0000777	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	**<0.048**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	<0.000123	<0.000124	**<0.00125**	<0.000126	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	**<0.095**
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00015	<0.000349	<0.000352	<0.00356	<0.000359	0.0018	0.00013 J	0.00011 J	<0.000037	0.000042 J	<0.000037	**<0.048**
Chrysene	*0.91*	*2*	<0.00005	<0.0000755	<0.0000762	<0.000769	<0.0000777	0.000057 J	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.048
Dibenzofuran	*0.098*	*0.29*	0.000067 J	<0.0000755	<0.0000762	<0.000769	<0.0000823	0.0001	<0.00002	0.000054 J	<0.00002	0.000037 J	0.00019	**0.239**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00005	<0.000104	<0.000122	<0.00106	<0.000107	0.000082 J	<0.00002	0.000035 J	<0.00002	<0.00002	<0.00002	<0.048
Fluoranthene	*0.98*	*2.9*	0.00036	0.000112 J	0.000418 J	<0.000673	<0.000605	0.00015	0.000075 J	0.000053 J	0.000067 J	0.000048 J	0.00023	<0.048
Fluorene	*0.98*	*2.9*	0.00019 J	<0.000066	0.000216 J	<0.000673	<0.000311	0.00011	<0.00003	0.000061 J	<0.00003	0.000044 J	0.00032	0.175
Naphthalene	*0.49*	*1.5*	0.00018 J	0.000428 J	<0.0000762	<0.000769	<0.0000777	0.00082	<0.00002	<0.0013	<0.000092	<0.00041	0.0023	**9.34**
Nitrobenzene	*0.049*	*0.15*	<0.00005	<0.000104	<0.000105	<0.00106	0.000853	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	**<0.095**
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.0000943	0.000158 J	<0.000962	<0.0000971	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.06
Pentachlorophenol	*0.001*	*0.001*	<0.00005	<0.000575	<0.000581	**<0.00587**	<0.000592	<0.000079	<0.00008	<0.00008	<0.000079	<0.000079	<0.000079	**<0.048**
Phenanthrene	*0.73*	*2.2*	0.00016 J	<0.0000566	0.0000912 J	<0.000577	<0.0001	<0.000021	<0.000021	0.000056 J	0.000039 J	<0.000021	0.00019	0.173
Phenol	*7.3*	*22*	<0.00005	<0.0000377	<0.0000381	<0.000385	<0.0000388	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.048
Pyrene	*0.73*	*2.2*	0.00052	0.000131 J	0.000655	<0.00106	0.000818	0.00015	0.000074 J	0.000064 J	0.000052 J	0.000072 J	0.00022	<0.048
Metals														
Arsenic	*0.01*	*0.01*						**0.0108**	0.00188 J	0.00178 J	0.00365	0.00144 J	0.00248	

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	***C/I Assessment Level***	MW-40B 07/15/2008	MW-40B 02/04/2009	MW-40B 01/19/2010	MW-40B 06/22/2010	MW-40B 01/18/2011	MW-40B 07/14/2011	MW-40B 02/03/2012	MW-40B 07/19/2012	MW-40B 02/05/2013	MW-40B 07/31/2013	MW-40B 01/14/2014	MW-40B 07/18/2014
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	**<0.01**	**<0.01**	<0.005	<0.00014	<0.0014	<0.0007	<0.00014
Benzene	*0.005*	*0.005*	**0.0269**	**0.026**	**0.028**	**0.026**	**0.019**	**0.016 J**	**0.013 J**	**0.013 J**	**0.0108**	**0.0115**	**0.0109**	**0.0103**
Chlorobenzene	*0.1*	*0.1*	<0.00047	0.001 J	<0.0005	<0.0005	<0.0005	<0.01	<0.01	<0.005	<0.00012	<0.0012	<0.0006	<0.00012
Ethylbenzene	*0.7*	*0.7*	0.116	0.1	0.12	0.12	0.13	0.081	0.08	0.082	0.0817	0.0798	0.084	0.0825
Methylene chloride	*0.005*	*0.005*	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	**<0.013**	**<0.013**	**<0.01**	<0.00015	<0.0015	<0.00075	<0.00015
Toluene	*1*	*1*	0.059	0.05	0.054	0.05	0.045	0.019 J	0.028 J	0.022 J	0.0118	0.0173	0.0147	0.0154
Vinyl chloride	*0.002*	*0.002*									<0.00011			<0.00011
Xylenes (total)	*10*	*10*	0.244	0.2	0.22	0.22	0.21	0.12 J	0.13 J	0.14 J	0.116	0.127	0.12	0.126
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0004	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	**<0.0104**	**<0.00524**	**<0.0212**	<0.00109
2,4-Dimethylphenol	*0.49*	*1.5*	0.0445	0.011	0.014	0.0044	0.00033 J	0.0034	0.004	0.0039	<0.0292	<0.0148	<0.0596	<0.00307
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	**<0.0123**	**<0.00619**	**<0.025**	<0.00129
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.001	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	**<0.00755**	**<0.00381**	**<0.0154**	<0.000792
2-Chloronaphthalene	*2*	*5.8*	<0.002	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00755	<0.00381	<0.0154	<0.000792
2-Methylnaphthalene	*0.098*	*0.29*	**4.41**	**0.58**	**0.49**	**0.41**	**0.27**	**0.24**	**0.2**	**0.28**	**0.302**	**0.309**	**0.35**	**0.263**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	**<0.0025**	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	**<0.0783**	**<0.0395**	**<0.16**	**<0.00822**
4-Nitrophenol	*0.049*	*0.15*	<0.0012	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	**<0.0528**	<0.0267	**<0.108**	<0.00554
Acenaphthene	*1.5*	*4.4*	**3.17**	0.35	0.33	0.27	0.25	0.17	0.2	0.23	0.315	0.35	0.402	0.236
Acenaphthylene	*1.5*	*4.4*	<0.0015	0.0027	0.0025	0.0031	0.0025	0.0019	0.0022	0.0021	<0.00566	<0.00286	<0.0115	0.00335 J
Anthracene	*7.3*	*22*	0.0141	0.016	0.0095	0.017	0.017	0.0097	0.019	0.007	0.0183 J	0.019 J	0.0247 J	0.0142
Benzo(a)anthracene	*0.0091*	*0.02*	<0.001	0.00028	0.0001 J	<0.00007	0.00016 J	<0.00005	0.000095 J	<0.00005	<0.00755	<0.00381	**<0.0154**	<0.000792
Benzo(a)pyrene	*0.0002*	*0.0002*	**<0.001**	0.0002 J	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	**<0.00755**	**<0.00381**	**<0.0154**	**<0.000792**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	**<0.002**	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	**<0.0123**	**<0.00619**	**<0.025**	**<0.00129**
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.001	0.00047	0.0035	<0.0002	0.00075	<0.00053	0.00033	<0.00016	**<0.0349**	**<0.0176**	**<0.0712**	<0.00366
Chrysene	*0.91*	*2*	<0.001	0.00023	0.00011 J	<0.00007	0.00013 J	<0.00005	0.00011 J	<0.00005	<0.00755	<0.00381	<0.0154	<0.000792
Dibenzofuran	*0.098*	*0.29*	**2.13**	**0.25**	**0.17**	**0.22**	0.092	**0.13**	**0.15**	**0.17**	**0.206**	**0.242**	**0.252**	**0.178**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.001	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0104	<0.00524	<0.0212	<0.00109
Fluoranthene	*0.98*	*2.9*	0.0067	0.0082	0.0067	0.0064	0.0068	0.0049	0.0042	0.0031	<0.0066	0.0104 J	<0.0135	0.00562
Fluorene	*0.98*	*2.9*	0.247	0.2	0.15	0.17	0.093	0.13	0.13	0.15	0.175	0.212	0.217	0.183
Naphthalene	*0.49*	*1.5*	**94.2**	**9.7**	**8**	**6.8**	**6.1**	**4**	**4.2**	**6**	**6.78**	**7.73**	**6.07**	**4.24**
Nitrobenzene	*0.049*	*0.15*	<0.002	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0104	<0.00524	<0.0212	<0.00109
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0012	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00943	<0.00476	<0.0192	<0.00099
Pentachlorophenol	*0.001*	*0.001*	<0.001	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	**<0.0575**	**<0.029**	**<0.117**	**<0.00604**
Phenanthrene	*0.73*	*2.2*	0.177	0.16	0.12	0.15	0.083	0.11	0.08	0.1	0.137	0.158	0.197	0.111
Phenol	*7.3*	*22*	<0.001	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00377	<0.0019	<0.00769	<0.000396
Pyrene	*0.73*	*2.2*	0.0029	0.0043	0.0033	0.0035	0.0039	0.0021	0.0033	0.0019	<0.0104	<0.00524	<0.0212	0.00242 J
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-40B 01/24/2018	MW-40B 03/19/2018	MW-40B 05/16/2018	MW-40B 01/08/2019	MW-40B 07/11/2019	MW-40B 01/13/2020	MW-41B 01/31/2008 DNAPL	MW-41B 01/23/2020 DNAPL	MW-42B 01/30/2008	MW-42B 01/19/2010	MW-42B 07/14/2011	MW-42B 02/03/2012
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.00052	<0.0002	<0.00052	<0.0005	<0.001	<0.001
Benzene	*0.005*	*0.005*	**0.0091**	**0.0066**	**0.014**	**0.0063**	**0.0088**	**0.011**	**0.0103**	**0.012**	0.00117 J	<0.0005	<0.001	<0.001
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0015	<0.0003	<0.0003	<0.0003	<0.00047	<0.0003	<0.00047	<0.0005	<0.001	<0.001
Ethylbenzene	*0.7*	*0.7*	0.049	0.039	0.08	0.041	0.082	0.089	0.0508	0.066	0.00112 J	<0.0005	<0.0011	<0.0011
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.00054	<0.001	<0.00054	<0.0005	<0.0013	<0.0013
Toluene	*1*	*1*	0.0081	0.0049	0.019	0.0048	0.014	0.022	0.0525	0.087	0.00181 J	<0.0005	<0.001	<0.001
Vinyl chloride	*0.002*	*0.002*								<0.0002				
Xylenes (total)	*10*	*10*	0.066	0.044	0.11	0.052	0.13	0.16	0.127	0.16	0.00377 J	<0.001	<0.0031	<0.0031
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0008	<0.000021	<0.00008	<0.0001	<0.00005	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	0.00034	<0.00004	<0.00004	0.0013	0.0013	0.104	0.043	<0.00029	<0.00008	0.00013 J	<0.00005
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	**<0.0019**	<0.000058	<0.00019	<0.00009	<0.00005	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	**<0.0019**	<0.000042	<0.00019	<0.00007	<0.00006	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0038	<0.000021	<0.00039	<0.0001	<0.00005	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	**0.13**	0.056	0.091	0.077	**0.18**	**0.34**	**0.305**	**0.67 J**	<0.00039	<0.00007	<0.00005	0.000089 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0019	<0.00002	<0.00019	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	0.0015	<0.000047	<0.000047	<0.000047	<0.0024	<0.000047	<0.00024	<0.00007	<0.00005	<0.00005
Acenaphthene	*1.5*	*4.4*	0.26	0.16	0.14	0.12	0.21	0.39	0.161	0.49	<0.00029	0.00021	<0.00024	0.0017
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	0.0014	0.00083	0.0021	0.0021	<0.0029	0.0089	<0.00029	<0.00007	<0.00005	<0.00005
Anthracene	*7.3*	*22*	0.016	0.0082	0.0087	0.007	0.011	0.04	0.0191	0.045	<0.00019	<0.00007	0.00036	<0.00005
Benzo(a)anthracene	*0.0091*	*0.02*	<0.000051	<0.00005	<0.00005	<0.00005	<0.00005	0.000094 J	0.0036	0.004	<0.00019	<0.00007	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	**<0.0019**	**0.0009**	<0.00019	<0.00008	<0.00005	<0.00005
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	**<0.0038**	<0.00003	<0.00039	<0.00009	<0.00005	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00038	<0.000037	0.00012 J	0.000079 J	<0.000037	<0.000037	<0.0019	0.00032	0.00135 J	0.00028	<0.0008	<0.0001
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	0.000045 J	<0.000021	0.000051 J	0.003	0.0033	<0.00019	<0.00007	<0.00005	<0.00005
Dibenzofuran	*0.098*	*0.29*	**0.16**	0.085	0.086	0.069	**0.13**	**0.29**	**0.142**	**0.39**	0.000699	0.00037	<0.00014	0.00016 J
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0019	<0.00002	<0.00019	<0.00007	<0.00005	<0.00005
Fluoranthene	*0.98*	*2.9*	0.0081	0.0037	0.0034	0.0041	0.0059	0.017	0.027	0.052	0.000697	0.00059	0.00024	0.00085
Fluorene	*0.98*	*2.9*	0.18	0.096	0.1	0.087	0.13	0.3	0.148	0.35	<0.00019	0.00016 J	<0.00026	0.0005
Naphthalene	*0.49*	*1.5*	**1.5**	**0.97**	**1.8**	**1.3**	**3.6**	**7.9**	**4.57**	**10**	0.000725	0.00035	<0.00048	<0.00063
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.0038	<0.000024	<0.00039	<0.00009	<0.00005	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.0024	<0.000025	<0.00024	<0.00009	<0.00005	<0.00005
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	**<0.0019**	<0.000079	<0.00019	<0.00008	<0.00005	<0.00005
Phenanthrene	*0.73*	*2.2*	0.14	0.078	0.1	0.068	0.093	0.22	0.161	0.41	<0.00019	<0.00007	<0.00016	0.00012 J
Phenol	*7.3*	*22*	<0.000035	<0.000035	0.00065	<0.000035	0.000053 J	<0.000035	0.00576	<0.000035	<0.00019	<0.00007	<0.00005	<0.00005
Pyrene	*0.73*	*2.2*	0.0036	0.0019	0.0016	0.002	0.0024	0.0037	0.017	0.029	0.000624	0.00035	0.00014 J	0.00044
Metals														
Arsenic	*0.01*	*0.01*	**0.0679**	**0.0606**	**0.0494**	**0.085**	**0.052**	**0.0523**		**0.0842 J**				

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-42B 07/19/2012	MW-42B 02/05/2013	MW-42B 08/01/2013	MW-42B 01/15/2014	MW-42B 07/18/2014	MW-42B 01/24/2018	MW-42B 03/19/2018	MW-42B 05/16/2018	MW-42B 01/08/2019	MW-42B 07/11/2019	MW-42B 01/13/2020	MW-44A 01/30/2008
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0025	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.00052
Benzene	*0.005*	*0.005*	<0.0025	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	**0.00751**
Chlorobenzene	*0.1*	*0.1*	<0.0025	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0015	<0.0003	<0.0003	<0.0003	<0.00047
Ethylbenzene	*0.7*	*0.7*	<0.0025	<0.000132	<0.00011	<0.00019	0.000208 J	<0.0003	<0.0003	<0.0015	<0.0003	<0.0003	<0.0003	0.00363 J
Methylene chloride	*0.005*	*0.005*	**0.0097 J**	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.00054
Toluene	*1*	*1*	<0.0025	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	0.002 J
Vinyl chloride	*0.002*	*0.002*		<0.00011			<0.00011							
Xylenes (total)	*10*	*10*	<0.0075	<0.00026	<0.00026	<0.00058	0.000349 J	<0.0003	<0.0003	<0.0015	<0.0003	<0.0003	<0.0003	0.0186
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	<0.000104	<0.000105	<0.000104	<0.000109	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00008
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00005	<0.000292	<0.000295	0.000916 J	0.000577	<0.00004	<0.00004	<0.00041	<0.00004	<0.00004	<0.00004	<0.0003
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	<0.000123	<0.000124	<0.000123	<0.000129	<0.000059	<0.000058	<0.000059	<0.000058	<0.000058	<0.000058	<0.0002
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	<0.0000755	<0.0000762	<0.0000755	<0.0000792	<0.000042	<0.000042	**0.012**	<0.000042	<0.000042	<0.000042	<0.0002
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.0000755	<0.0000762	<0.0000755	<0.0000792	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0004
2-Methylnaphthalene	*0.098*	*0.29*	0.00015 J	0.000196 J	0.000141 J	0.000317 J	<0.0000693	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	0.000069 J	0.0244
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.000783	<0.00079	<0.000783	<0.000822	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002
4-Nitrophenol	*0.049*	*0.15*	<0.00005	<0.000528	<0.000533	<0.000528	<0.000554	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00025
Acenaphthene	*1.5*	*4.4*	0.00081	0.00036 J	<0.0000762	0.000355 J	<0.0000792	<0.000027	<0.000027	0.000067 J	<0.000027	0.000068 J	0.00012	0.127
Acenaphthylene	*1.5*	*4.4*	<0.00005	<0.0000566	<0.0000571	<0.0000566	<0.0000594	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.0003
Anthracene	*7.3*	*22*	<0.00005	0.000194 J	0.000122 J	0.000465 J	<0.0000495	0.000025 J	<0.000014	0.000019 J	<0.000014	0.000064 J	0.000049 J	0.00195
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.0000755	<0.0000762	<0.0000755	<0.0000792	<0.000051	<0.00005	<0.000051	<0.00005	<0.00005	<0.00005	<0.0002
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00005	<0.0000755	<0.0000762	<0.0000755	<0.0000792	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	<0.000123	<0.000124	<0.000123	<0.000129	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.0004
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00022	<0.000349	<0.000352	<0.000349	0.000513	0.00025	0.00015 J	0.00021	0.000061 J	0.00015 J	0.00013 J	0.00097 J
Chrysene	*0.91*	*2*	<0.00005	<0.0000755	<0.0000762	<0.0000755	<0.0000792	0.000038 J	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0002
Dibenzofuran	*0.098*	*0.29*	0.000066 J	0.000217 J	0.000131 J	0.000205 J	<0.0000792	<0.00002	<0.00002	0.000039 J	<0.00002	0.000038 J	0.000065 J	0.0642
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	0.000062 J	<0.000104	0.000108 J	<0.000104	<0.000109	0.00006 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002
Fluoranthene	*0.98*	*2.9*	0.00041	0.000641	0.000294 J	0.000339 J	<0.0000693	0.00024	0.00014	0.000016 J	0.00011	0.00004 J	0.00018	0.00269
Fluorene	*0.98*	*2.9*	0.00016 J	<0.000066	0.000134 J	0.000198 J	<0.0000693	<0.00003	<0.00003	0.000047 J	<0.00003	0.000057 J	0.000067 J	0.045
Naphthalene	*0.49*	*1.5*	0.0019	0.000476	0.00288 J	0.00242 J	0.000426 J	<0.00002	0.00049	<0.00061	<0.00002	<0.00043	<0.00076	**0.816**
Nitrobenzene	*0.049*	*0.15*	<0.00005	<0.000104	<0.000105	<0.000104	<0.000109	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.0004
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.0000943	<0.0000952	<0.0000943	<0.000099	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00025
Pentachlorophenol	*0.001*	*0.001*	<0.00005	<0.000575	<0.000581	<0.000575	<0.000604	<0.00008	<0.000079	<0.00008	<0.000079	<0.000079	<0.000079	<0.0002
Phenanthrene	*0.73*	*2.2*	<0.00005	0.000356 J	0.000122 J	0.000501	<0.0000594	0.000077 J	<0.000021	0.000039 J	<0.000021	0.000034 J	0.00012	0.0161
Phenol	*7.3*	*22*	<0.00005	<0.0000377	<0.0000381	<0.0000377	0.000801	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.0002
Pyrene	*0.73*	*2.2*	0.00023	0.000369 J	0.000127 J	0.000234 J	<0.000109	0.00023	0.00014	<0.000019	0.0001	0.000033 J	0.00013	0.00159
Metals														
Arsenic	*0.01*	*0.01*						0.00186 J	0.00108 J	0.00112 J	0.00216	0.0022	0.00133 J	

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-44A 07/14/2008	MW-44A 02/03/2009	MW-44A 01/13/2010	MW-44A 06/30/2010	MW-44A 01/26/2011	MW-44A 07/20/2011	MW-44A 02/15/2012	MW-44A 07/25/2012	MW-44A 02/12/2013	MW-44A 08/05/2013	MW-44A 01/17/2014	MW-44A 08/28/2014
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014
Benzene	*0.005*	*0.005*	**0.00635**	0.003 J	<0.0005	0.0026 J	<0.0005	0.002 J	0.0042 J	0.0044 J	0.00206	**0.00849**	**0.00727**	0.0042
Chlorobenzene	*0.1*	*0.1*	<0.00047	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012
Ethylbenzene	*0.7*	*0.7*	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	0.000624 J	0.00172	0.00067	0.000344 J
Methylene chloride	*0.005*	*0.005*	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015
Toluene	*1*	*1*	<0.00041	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	0.000252 J	<0.000705	0.000418 J	0.000329 J
Vinyl chloride	*0.002*	*0.002*						<0.001	<0.001	<0.0005		<0.00011	<0.00018	<0.00011
Xylenes (total)	*10*	*10*	0.006 J	0.0013 J	<0.001	0.0026 J	<0.001	<0.0031	0.0052 J	0.0033 J	0.00469	0.0207	0.00805	0.00561
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00105	<0.0011	<0.000106	<0.000108
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00032	<0.00008	<0.00008	<0.00008	0.00081	<0.00005	<0.00005	<0.00005	<0.00295	<0.0031	<0.000298	<0.000304
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00021	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00124	<0.0013	<0.000125	<0.000127
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.000762	<0.0008	<0.0000769	<0.0000784
2-Chloronaphthalene	*2*	*5.8*	<0.00042	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.000762	<0.0008	<0.0000769	<0.0000784
2-Methylnaphthalene	*0.098*	*0.29*	0.00779	0.00097	0.00012 J	0.004 J	<0.00007	0.0023	0.0048	0.0095 J	<0.000667	**0.109**	0.0106	0.00902
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00021	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	**<0.0079**	**<0.0083**	<0.000798	<0.000814
4-Nitrophenol	*0.049*	*0.15*	<0.00026	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00533	<0.0056	<0.000538	<0.000549
Acenaphthene	*1.5*	*4.4*	0.202	0.12	0.13	0.2	0.023	0.23	0.21	0.22	0.07	0.546	0.394	0.197
Acenaphthylene	*1.5*	*4.4*	<0.00032	0.0012	0.00079	0.00096 J	0.0014	0.0013	0.001	0.0013	0.00276 J	<0.0006	<0.0000577	0.0014
Anthracene	*7.3*	*22*	0.00393	0.0046	0.0077	0.0067 J	0.00055	0.0058	0.0068	0.004	<0.000476	0.017	0.017	0.00868
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000762	<0.0008	<0.0000769	<0.0000784
Benzo(a)pyrene	*0.0002*	*0.0002*	**<0.00021**	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	**<0.000762**	**<0.0008**	<0.0000769	<0.0000784
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00042	<0.00009	<0.00009	0.00009 J	<0.00009	<0.00005	<0.00005	<0.00005	**<0.00124**	**<0.0013**	<0.000125	0.00014 J
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00021	0.00043	<0.00031	<0.00028	0.00048	<0.00075	<0.00011	<0.0001	<0.00352	<0.0037	<0.000356	<0.000363
Chrysene	*0.91*	*2*	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000762	<0.0008	<0.0000769	<0.0000784
Dibenzofuran	*0.098*	*0.29*	**0.125**	0.054	0.0087	0.0043 J	0.00072	0.0014	0.001	0.0031	<0.000762	**0.135**	**0.107**	0.0159
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00105	<0.0011	<0.000106	<0.000108
Fluoranthene	*0.98*	*2.9*	0.00367	0.0032	0.0056	0.006 J	0.0014	0.0095	0.0094	0.0065	0.00257 J	0.0137	0.0154	0.00749
Fluorene	*0.98*	*2.9*	0.0865	0.056	0.069	0.097	0.00027	0.094	0.11	0.091 J	0.00495	0.172	0.178	0.0987
Naphthalene	*0.49*	*1.5*	0.287	0.021	<0.0011	0.16	0.00035	0.042	0.32	0.39	<0.000941	**1.72**	0.235 J	0.0163
Nitrobenzene	*0.049*	*0.15*	<0.00042	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00105	<0.0011	<0.000106	0.0012
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00026	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	0.00065	<0.00005	<0.000952	<0.001	<0.0000962	<0.000098
Pentachlorophenol	*0.001*	*0.001*	<0.00021	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	**<0.00581**	**<0.0061**	<0.000587	<0.000598
Phenanthrene	*0.73*	*2.2*	0.0184	0.02	0.0055	0.0025 J	<0.00007	0.0047	0.0073	0.0064	<0.000571	0.0416	0.0438	0.0217
Phenol	*7.3*	*22*	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.000062 J	<0.000381	<0.0004	<0.0000385	<0.0000392
Pyrene	*0.73*	*2.2*	0.00156	0.0016	0.0032	0.003 J	0.001	0.0046	0.0054	0.0038	0.00139 J	0.00732	0.0083	0.0041
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-44A 01/31/2018	MW-44A 03/26/2018	MW-44A 06/01/2018	MW-44A 01/22/2019	MW-44A 07/17/2019	MW-44A 01/09/2020	MW-44C 01/29/2008 DNAPL	MW-44C 07/20/2011 DNAPL	MW-44C 07/18/2012 DNAPL	MW-44C 02/06/2013 DNAPL	MW-44C 01/15/2020	MW-45C 01/29/2008 DNAPL
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052	<0.001	<0.005	<0.0014	<0.0002	<0.00052
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00025	<0.001	<0.005	0.000964 J	<0.0002	**0.0448**
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047	<0.001	<0.005	0.00293 J	<0.0003	<0.00047
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0204	<0.0011	0.32	0.233	<0.0003	0.111
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.0013	**<0.01**	<0.0015	<0.001	<0.00054
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0117	<0.001	0.16	0.0895	<0.0002	0.112
Vinyl chloride	*0.002*	*0.002*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002							
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0487	<0.0031	0.84	0.688	<0.0003	0.298
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0002	<0.00005	<0.00075	**<0.529**	<0.000021	**<0.002**
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.000041	<0.00004	<0.00004	<0.00004	<0.00042	0.00219 J	<0.00005	<0.00075	**<1.49**	0.00011 J	0.0104
2,4-Dinitrotoluene	*0.0013*	*0.003*	0.00017 J	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058	<0.00039	<0.00005	<0.00075	**<0.625**	<0.000058	**<0.004**
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000043	<0.000042	<0.000042	<0.000042	<0.000042	<0.00039	<0.00006	<0.0009	**<0.385**	<0.000042	**<0.004**
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00078	<0.00005	<0.00075	<0.385	<0.000021	<0.008
2-Methylnaphthalene	*0.098*	*0.29*	<0.000093	<0.000019	<0.000019	<0.000019	<0.000019	<0.00035	0.00551	<0.00005	**62**	**1.15 J**	0.00012	**1.01**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00039	<0.00008	<0.0012	**<3.99**	<0.00002	**<0.004**
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000048	<0.000047	<0.000047	<0.000047	<0.000047	<0.00049	<0.00005	<0.00075	**<2.69**	<0.000047	<0.005
Acenaphthene	*1.5*	*4.4*	0.062	0.064	0.09	0.037	0.056	0.064	0.0531	0.00012 J	**31**	0.632 J	0.00045	0.472
Acenaphthylene	*1.5*	*4.4*	0.00078	0.0006	<0.000015	0.00036	0.00028	0.00097	0.00083	0.000097 J	0.29	<0.288	0.00065	0.0085
Anthracene	*7.3*	*22*	0.00066	0.0024	0.0022	0.00044	0.00089	0.00027	0.0131	0.00014 J	**19**	<0.24	0.0086	0.18
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.000051	<0.00005	<0.00005	0.000085 J	0.000054 J	0.00327	0.00017 J	**3.5**	**<0.385**	0.0018	**0.0416**
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	**<0.00039**	**0.00022**	**0.87**	**<0.385**	**0.00065**	**<0.004**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.000031	<0.00003	<0.00003	<0.00003	<0.00003	<0.00078	<0.00005	<0.00075	**<0.625**	<0.00003	**<0.008**
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0001	<0.000038	0.0001 J	<0.000037	<0.00025	<0.000037	0.00235 J	<0.00087	**0.013**	**<1.78**	0.0012	<0.004
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	0.000026 J	0.000052 J	<0.000021	0.00278	0.00032	**3.3**	<0.385	0.0022	0.0347
Dibenzofuran	*0.098*	*0.29*	0.00019	0.00029	<0.00002	<0.00002	<0.00002	<0.00033	0.046	<0.00005	**38**	**0.453 J**	0.00034	**0.488**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00039	<0.00005	<0.00075	<0.529	0.0016	<0.004
Fluoranthene	*0.98*	*2.9*	0.0067	0.0095	0.012	0.0058	0.0091	0.0059	0.0264	0.00016 J	**28**	<0.337	0.0095	0.384
Fluorene	*0.98*	*2.9*	0.024	0.03	0.039	0.0097	0.014	0.0078	0.0346	<0.00005	**26**	<0.337	0.00067	0.357
Naphthalene	*0.49*	*1.5*	<0.00028	0.00036	0.00038	0.00011	<0.00019	<0.003	<0.00078	<0.00016	**230**	**18 J**	0.000097 J	**6.05**
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00078	<0.00005	<0.00075	**<0.529**	<0.000024	<0.008
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000026	<0.000025	<0.000025	<0.000025	<0.000025	<0.00049	<0.00005	<0.00075	**<0.481**	<0.000025	<0.005
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000081	<0.000079	<0.000079	<0.000079	<0.000079	<0.00039	<0.00005	<0.00075	**<2.93**	<0.000079	**<0.004**
Phenanthrene	*0.73*	*2.2*	0.00012	0.00018	0.0002	<0.000021	0.00012	<0.00022	0.0668	0.000081 J	**88**	0.498 J	0.0077	**0.903**
Phenol	*7.3*	*22*	<0.000035	<0.000036	<0.000035	<0.000035	<0.000035	<0.00013	<0.00039	<0.00005	<0.00075	<0.192	<0.000035	<0.004
Pyrene	*0.73*	*2.2*	0.0037	0.0069	0.0073	0.0033	0.0057	0.0045	0.0159	0.00013 J	**19**	<0.529	0.006	0.234
Metals														
Arsenic	*0.01*	*0.01*	**0.0275**	**0.0169**	**0.0165**	**0.0101**	**0.0303**	0.00966					0.00314	

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-45C 01/20/2020	MW-46C 01/30/2008 DNAPL	MW-46C 01/15/2020	MW-47A 03/20/2020	MW-47C 07/14/2008	MW-47C 02/04/2009	MW-47C 01/20/2010	MW-47C 06/24/2010	MW-47C 01/19/2011	MW-47C 07/21/2011	MW-47C 02/07/2012	MW-47C 07/27/2012
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.00052	<0.0002	<0.0002	<0.00109	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005
Benzene	*0.005*	*0.005*	0.0005 J	**0.0222**	**0.028**	<0.0002	<0.00112	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.00047	<0.0003	<0.0003	<0.0015	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005
Ethylbenzene	*0.7*	*0.7*	0.00044 J	0.0249	0.051	<0.0003	<0.00142	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005
Methylene chloride	*0.005*	*0.005*	<0.001	<0.00054	<0.001	<0.001	<0.00122	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001
Toluene	*1*	*1*	<0.0002	0.0167	0.0047	<0.0002	<0.00138	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005
Vinyl chloride	*0.002*	*0.002*	<0.0002											
Xylenes (total)	*10*	*10*	0.0051	0.0377	0.11	<0.0003	<0.00302	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000085	<0.0004	<0.000021	<0.000021	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.0014	0.00016 J	<0.00004	<0.00032	<0.00008	<0.00008	0.00011 J	<0.00008	<0.00005	<0.00005	0.00042
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.00096	<0.000058	<0.000058	<0.00021	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	**0.0022 J**	<0.00096	<0.000042	<0.000042	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.0019	<0.000021	<0.000021	<0.00042	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	<0.00013	0.0825	**0.2**	<0.000019	<0.00042	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.0044	<0.00005
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00096	<0.00002	<0.00002	<0.00021	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	0.000067 J	<0.0012	<0.000047	<0.000047	<0.00026	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Acenaphthene	*1.5*	*4.4*	0.000084 J	0.0635	0.16	<0.000027	<0.00032	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	0.00017 J	0.000058 J
Acenaphthylene	*1.5*	*4.4*	0.000037 J	<0.0014	0.0016	<0.000015	<0.00032	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Anthracene	*7.3*	*22*	0.0009	0.0222	0.073	<0.000014	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.000074 J	<0.00005
Benzo(a)anthracene	*0.0091*	*0.02*	0.00039	0.00597	0.0071	<0.00005	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	**0.00042**	**0.00215**	**0.0021**	<0.00002	**<0.00021**	<0.00008	0.000099 J	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	**<0.0019**	<0.00003	<0.00003	<0.00042	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.000067 J	<0.00096	0.0011	0.00011 J	<0.00021	0.0036	<0.00065	<0.00021	<0.0002	0.0001 J	**0.011**	<0.0001
Chrysene	*0.91*	*2*	0.00062	0.00521	0.0068	<0.000021	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Dibenzofuran	*0.098*	*0.29*	0.000075 J	0.0636	**0.16**	<0.00002	<0.00032	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00096	<0.00002	0.000076 J	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00015 J	<0.00005
Fluoranthene	*0.98*	*2.9*	0.00062	0.0426	0.084	<0.00001	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005
Fluorene	*0.98*	*2.9*	0.00023	0.048	0.12	<0.00003	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00025	<0.00005
Naphthalene	*0.49*	*1.5*	<0.00061	**1.1**	**1.8**	<0.00002	<0.00042	0.00019 J	<0.0001	0.00046	0.00021	<0.00005	0.0041	0.00046
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.0019	<0.000024	<0.000024	<0.00042	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.0012	<0.000025	<0.000025	<0.00026	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.00096	<0.000079	<0.000079	<0.00021	<0.00008	0.0004	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005
Phenanthrene	*0.73*	*2.2*	<0.00027	0.119	0.24	<0.000021	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.0003	<0.00005
Phenol	*7.3*	*22*	<0.000035	0.0133	<0.000035	<0.000035	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00044	0.00056
Pyrene	*0.73*	*2.2*	0.00068	0.0252	0.053	<0.000019	<0.00021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00015 J	<0.00005
Metals														
Arsenic	*0.01*	*0.01*	0.00073 J		0.00272	0.000566 J								

Notes:
1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-47C 02/07/2013	MW-47C 08/06/2013	MW-47C 01/17/2014	MW-47C 07/30/2014	MW-47C 01/23/2019	MW-47C 07/17/2019	MW-47C 01/16/2020	MW-48C 01/29/2008	MW-48C 01/29/2008	MW-48C 07/14/2008	MW-48C 02/04/2009	MW-48C 01/21/2010
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.00052	<0.00052	<0.00109	<0.0005	<0.0005
Benzene	*0.005*	*0.005*	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.00025	<0.00025	<0.00112	<0.0005	<0.0005
Chlorobenzene	*0.1*	*0.1*	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.00047	<0.00047	<0.0015	<0.0005	<0.0005
Ethylbenzene	*0.7*	*0.7*	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.00025	<0.00025	<0.00142	<0.0005	<0.0005
Methylene chloride	*0.005*	*0.005*	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.00054	<0.00054	<0.00122	<0.0005	<0.0005
Toluene	*1*	*1*	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.00041	<0.00041	<0.00138	<0.0005	<0.0005
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.00127	<0.00127	<0.00302	<0.001	<0.001
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000105	<0.00011	**R**	<0.000104	<0.000021	<0.000021	<0.000021	<0.00008	<0.00008	<0.00009	<0.0001	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	**R**	<0.00031	**R**	<0.000292	0.000095 J	<0.00004	0.0002	<0.00029	<0.00029	<0.00033	<0.00008	<0.00008
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000124	<0.00013	**R**	<0.000123	<0.000058	<0.000058	<0.000058	<0.00019	<0.00019	<0.00022	<0.00009	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0000762	<0.00008	**R**	<0.0000755	<0.000042	<0.000042	<0.000042	<0.00019	<0.00019	<0.00022	<0.00007	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.0000762	<0.00008	**R**	<0.0000755	<0.000021	<0.000021	<0.000021	<0.00038	<0.00038	<0.00044	<0.00012	<0.0001
2-Methylnaphthalene	*0.098*	*0.29*	0.000098 J	<0.00007	**R**	<0.000066	<0.000019	<0.000019	<0.0001	<0.00038	<0.00038	<0.00044	<0.00007	<0.00007
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	**R**	<0.00083	**R**	<0.000783	<0.00002	<0.00002	<0.00002	<0.00019	<0.00019	<0.00022	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000533	<0.00056	**R**	<0.000528	<0.000047	<0.000047	<0.000047	<0.00024	<0.00024	<0.00028	<0.00007	<0.00007
Acenaphthene	*1.5*	*4.4*	<0.0000762	<0.00008	**R**	<0.0000755	<0.000027	<0.000027	<0.000057	<0.00029	<0.00029	<0.00033	<0.00009	<0.00009
Acenaphthylene	*1.5*	*4.4*	<0.0000571	<0.00006	**R**	<0.0000566	<0.000015	<0.000015	<0.000015	<0.00029	<0.00029	<0.00033	<0.00006	<0.00007
Anthracene	*7.3*	*22*	0.000107 J	<0.00005	**R**	<0.0000472	<0.000014	<0.000014	<0.000014	0.000584	0.000589	<0.00022	0.00012 J	<0.00007
Benzo(a)anthracene	*0.0091*	*0.02*	0.000137 J	<0.00008	**R**	<0.0000755	<0.00005	<0.00005	<0.00005	<0.00019	<0.00019	<0.00022	<0.00007	<0.00007
Benzo(a)pyrene	*0.0002*	*0.0002*	**0.000306 J**	<0.00008	**R**	<0.0000755	<0.00002	<0.00002	0.00004 J	<0.00019	<0.00019	**<0.00022**	<0.00008	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.000124	<0.00013	**R**	<0.000123	<0.00003	<0.00003	<0.00003	<0.00038	<0.00038	<0.00044	<0.00009	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.000594	<0.00037	**R**	<0.000349	<0.000056	<0.00027	0.00079	0.00045 J	<0.00019	0.00028 J	0.00034	<0.0018
Chrysene	*0.91*	*2*	0.000127 J	<0.00008	**R**	<0.0000755	<0.000021	<0.000021	0.00006 J	<0.00019	<0.00019	<0.00022	<0.00007	<0.00007
Dibenzofuran	*0.098*	*0.29*	0.000104 J	<0.00008	**R**	<0.0000755	0.000034 J	<0.00002	<0.000049	0.00031 J	<0.00029	<0.00033	0.00025	<0.00008
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.000105	<0.00011	**R**	<0.000104	<0.00002	<0.00002	0.0014	<0.00019	<0.00019	<0.00022	<0.00007	<0.00007
Fluoranthene	*0.98*	*2.9*	0.000289 J	0.000186 J	0.0000718 J	<0.000066	0.000028 J	<0.00001	<0.00011	0.00047 J	0.000687	0.00033 J	<0.00007	0.00013 J
Fluorene	*0.98*	*2.9*	0.000116 J	<0.00007	**R**	<0.000066	<0.00003	<0.00003	<0.000042	<0.00019	<0.00019	<0.00022	<0.00007	<0.00007
Naphthalene	*0.49*	*1.5*	<0.000401	<0.00008	0.000297 J	<0.0000755	0.00083	<0.00002	<0.00056	0.00119	0.00062	<0.00044	0.00052	0.0002 J
Nitrobenzene	*0.049*	*0.15*	<0.000105	<0.00011	**R**	<0.000104	<0.000024	<0.000024	<0.000024	<0.00038	<0.00038	<0.00044	<0.00009	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0000952	<0.0001	**R**	<0.0000943	<0.000025	<0.000025	<0.000025	<0.00024	<0.00024	<0.00028	<0.00009	<0.00009
Pentachlorophenol	*0.001*	*0.001*	**R**	<0.00061	**R**	<0.000575	<0.000079	<0.000079	<0.000079	<0.00019	<0.00019	<0.00022	<0.00008	<0.00008
Phenanthrene	*0.73*	*2.2*	0.000406 J	<0.00006	0.000185 J	<0.0000566	0.000052 J	<0.000021	<0.000088	0.00046 J	0.00043 J	<0.00022	0.00032	<0.00007
Phenol	*7.3*	*22*	**R**	<0.00004	**R**	<0.0000377	<0.000035	<0.000035	<0.000035	<0.00019	<0.00019	<0.00022	<0.00007	<0.00007
Pyrene	*0.73*	*2.2*	0.000388 J	0.000131 J	**R**	<0.000104	0.000021 J	<0.000019	<0.0001	0.00039 J	0.000528	<0.00022	<0.00007	0.0001 J
Metals														
Arsenic	*0.01*	*0.01*					<0.0004	0.00044 J	0.00234					

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-48C 06/24/2010	MW-48C 07/15/2010	MW-48C 01/19/2011	MW-48C 07/18/2011	MW-48C 02/06/2012	MW-48C 07/24/2012	MW-48C 01/31/2013	MW-48C 08/01/2013	MW-48C 01/16/2014	MW-48C 07/16/2014	MW-48C 01/28/2018	MW-48C 03/20/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001
Toluene	*1*	*1*	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*									<0.00018			
Xylenes (total)	*10*	*10*	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0005	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.000104	<0.000105	<0.000104	<0.000104	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	0.0073	<0.00008	<0.00008	<0.00005	<0.00005	0.00014 J	<0.000292	<0.000295	<0.000292	<0.000292	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00045	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000123	<0.000124	<0.000123	<0.000123	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00035	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000755	<0.0000762	<0.0000755	<0.0000755	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.0005	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000762	<0.0000755	<0.0000755	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	**0.18**	<0.00007	<0.00007	<0.00005	<0.00005	0.0013	<0.000066	<0.0000667	<0.000066	<0.000066	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.0004	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.000783	<0.00079	<0.000783	<0.000783	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00035	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000528	<0.000533	<0.000528	<0.000528	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.073	<0.00009	<0.00009	<0.00005	<0.00005	0.0011	<0.0000755	<0.0000762	<0.0000755	<0.0000755	<0.000027	<0.000027
Acenaphthylene	*1.5*	*4.4*	0.0014	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000566	<0.0000571	<0.0000566	<0.0000566	<0.000015	<0.000015
Anthracene	*7.3*	*22*	0.007	<0.00007	<0.00007	<0.00005	<0.00005	0.00077	<0.0000472	<0.0000476	<0.0000472	<0.0000472	0.000025 J	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00035	<0.00007	<0.00007	<0.00005	<0.00005	0.000066 J	<0.0000755	<0.0000762	<0.0000755	<0.0000755	<0.00005	0.000057 J
Benzo(a)pyrene	*0.0002*	*0.0002*	**<0.0004**	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000762	<0.0000755	<0.0000755	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00045	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000123	<0.000124	<0.000123	<0.000123	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.001	0.0013	0.001	<0.00043	<0.0001	<0.00024	<0.000349	<0.000352	<0.000349	<0.000349	0.000079 J	0.00011 J
Chrysene	*0.91*	*2*	<0.00035	<0.00007	<0.00007	<0.00005	<0.00005	0.000073 J	<0.0000755	<0.0000762	<0.0000755	<0.0000755	<0.000021	0.000044 J
Dibenzofuran	*0.098*	*0.29*	0.065	<0.00008	<0.00008	<0.00005	<0.00005	0.00096	<0.0000755	<0.0000762	<0.0000755	<0.0000755	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00035	<0.00007	<0.00007	<0.00005	<0.00005	0.000053 J	<0.000104	<0.000105	<0.000104	<0.000104	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	0.0021	0.00019 J	0.00019 J	<0.00013	<0.00005	0.00095	<0.000066	0.000134 J	0.000153 J	<0.000066	0.000049 J	0.000099 J
Fluorene	*0.98*	*2.9*	0.032	<0.00007	<0.00007	<0.00005	<0.00005	0.0011	<0.000066	<0.0000667	<0.000066	<0.000066	<0.00003	<0.00003
Naphthalene	*0.49*	*1.5*	**5**	<0.0001	<0.0001	<0.00005	<0.00005	0.0071	<0.000495	<0.000158	<0.0000755	<0.0000755	<0.00002	<0.00002
Nitrobenzene	*0.049*	*0.15*	<0.00045	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000104	<0.000105	<0.000104	<0.000104	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00045	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000943	<0.0000952	<0.0000943	<0.0000943	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	**0.019**	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000575	<0.000581	<0.000575	<0.000575	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	0.03	<0.00007	<0.00007	<0.00005	<0.00005	0.0034	<0.0000566	<0.0000571	<0.0000566	<0.0000566	<0.000022	<0.000021
Phenol	*7.3*	*22*	0.024	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000377	<0.0000381	<0.0000377	<0.0000377	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	0.001	0.00015 J	0.00012 J	<0.0001	<0.00005	0.00052	<0.000104	<0.000105	<0.000104	<0.000104	0.000052 J	0.000087 J
Metals														
Arsenic	*0.01*	*0.01*											0.000831 J	0.000581 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-48C 05/24/2018	MW-48C 01/10/2019	MW-48C 07/17/2019	MW-48C 01/16/2020	MW-49A 01/31/2008	MW-49A 07/15/2008	MW-49A 02/04/2009	MW-49A 01/21/2010	MW-49A 06/25/2010	MW-49A 01/20/2011	MW-49A 07/22/2011	MW-49A 02/07/2012
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052	<0.00052	<0.0005	<0.0005	<0.005	<0.005	**<0.01**	**<0.05**
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	**0.0108**	**0.165**	**0.24**	**0.2**	**0.29**	**0.057**	**0.2**	**<0.05**
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	0.00865	0.00702	0.0053	0.0024 J	<0.005	0.0084 J	<0.01	<0.05
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	0.0238	0.0837	0.084	0.085	0.14	0.04 J	0.094	<0.055
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.00054	<0.0005	<0.0005	<0.005	<0.005	**<0.013**	**<0.065**
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	0.00805	0.0415	0.077	0.083	0.13	0.021 J	0.11	<0.05
Vinyl chloride	*0.002*	*0.002*										**<0.005**	**<0.01**	**<0.05**
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	0.0352	0.187	0.2	0.21	0.34	0.079 J	0.2	<0.16
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	**<0.004**	**<0.002**	<0.0001	<0.0001	<0.0005	<0.0001	<0.00005	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	0.001	<0.00004	<0.00004	0.025	**6.08**	**6.8**	**0.86**	**3.7**	0.18	**3**	<0.00005
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.000058	**<0.0095**	**<0.004**	<0.00009	<0.00009	<0.00045	<0.00009	<0.00005	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.000042	**<0.0095**	**<0.004**	<0.00007	<0.00007	<0.00035	<0.00007	<0.00006	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.019	<0.008	<0.00012	<0.0001	<0.0005	<0.0001	<0.00005	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	0.00038	<0.000019	<0.000076	0.0693	**0.492**	**0.6**	**0.35**	**0.44**	**0.13**	**0.27**	<0.00005
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	**<0.0095**	**<0.01**	<0.00008	<0.00008	<0.0004	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.012	<0.005	<0.00007	<0.00007	<0.00035	<0.00007	<0.00005	<0.00005
Acenaphthene	*1.5*	*4.4*	<0.000027	0.000098 J	<0.000027	<0.000073	0.215	0.468	0.32	0.2	0.21	0.13	0.13	<0.00005
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.000015	<0.014	<0.006	0.0039	0.0032	0.0052	0.0018	0.0029	<0.00005
Anthracene	*7.3*	*22*	<0.000014	<0.000014	<0.000014	<0.000014	<0.0095	0.0164	0.01	0.0071	0.0099	0.0096	0.011	<0.00005
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.00005	**<0.0095**	<0.004	0.00066	<0.00007	<0.00035	<0.00007	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	0.000021 J	**<0.0095**	**<0.004**	**0.00024**	<0.00008	**<0.0004**	<0.00008	<0.00005	<0.00005
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	**<0.019**	**<0.008**	<0.00009	<0.00009	<0.00045	<0.00009	<0.00005	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.000063 J	<0.000037	<0.0003	0.000039 J	**<0.0095**	<0.004	0.0009	<0.0015	<0.001	<0.00029	<0.0001	<0.0001
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	0.000029 J	<0.0095	<0.004	0.0006	<0.00007	<0.00035	<0.00007	<0.00005	<0.00005
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00002	<0.00002	<0.000054	**0.148**	**0.293**	**0.21**	**0.14**	**0.16**	0.075	0.09	<0.00005
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.00002	<0.00002	<0.0095	<0.004	<0.00007	<0.00007	<0.00035	<0.00007	<0.00005	<0.00005
Fluoranthene	*0.98*	*2.9*	<0.00001	<0.00001	0.000035 J	<0.000061	<0.0095	0.0063	0.0058	0.0025	0.0034	0.0038	0.0033	<0.00005
Fluorene	*0.98*	*2.9*	<0.00003	<0.00003	<0.00003	<0.00005	0.102	0.205	0.15	0.11	0.13	0.073	0.092	<0.00005
Naphthalene	*0.49*	*1.5*	<0.00002	0.0085	<0.00002	<0.00052	**2.13**	**11**	**9**	**5.1**	**10**	**1.8**	**7.4**	<0.00005
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.019	<0.008	<0.00009	<0.00009	<0.00045	<0.00009	<0.00005	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.012	<0.005	<0.00009	<0.00009	<0.00045	<0.00009	<0.00005	<0.00005
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.000079	**<0.0095**	**<0.004**	<0.00008	<0.00008	<0.0004	<0.00008	<0.00005	<0.00005
Phenanthrene	*0.73*	*2.2*	<0.000021	<0.000021	<0.000021	<0.000052	0.0939	0.147	0.096	0.072	0.086	0.062	0.07	<0.00005
Phenol	*7.3*	*22*	<0.000035	0.002	0.000074 J	<0.000035	<0.0095	0.0111	<0.00007	0.00077	0.0011	0.0058	0.0095	<0.00005
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019	0.000036 J	<0.000065	<0.0095	<0.004	0.0046	0.0017	0.0018	0.002	0.0016	<0.00005
Metals														
Arsenic	*0.01*	*0.01*	0.000562 J	0.000924 J	0.00167 J	0.00126 J								

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-49A 07/26/2012	MW-49A 02/07/2013	MW-49A 08/01/2013	MW-49A 01/16/2014	MW-49A 07/16/2014	MW-49A 01/29/2018	MW-49A 04/01/2018	MW-49A 05/31/2018	MW-49A 01/23/2019	MW-49A 07/31/2019	MW-49A 01/07/2020	MW-50A 01/31/2008
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.00014	<0.0014	<0.0002	<0.0028	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.002	<0.00052
Benzene	*0.005*	*0.005*	**0.042**	**0.114**	**0.094**	**0.0565**	**0.108**	**0.013**	**0.016**	**0.01**	0.004	<0.0002	**0.3**	<0.00025
Chlorobenzene	*0.1*	*0.1*	0.0037 J	**0.299**	**0.476**	**0.304**	**0.211**	<0.0003	<0.0015	<0.0003	<0.0003	<0.0003	0.0063 J	<0.00047
Ethylbenzene	*0.7*	*0.7*	0.037	0.0321	0.0499	0.0331	0.0701	0.01	0.01	0.0067	0.0031	<0.0003	0.1	<0.00025
Methylene chloride	*0.005*	*0.005*	<0.001	<0.00015	<0.0015	<0.00022	**0.0212**	<0.001	<0.005	<0.001	<0.001	<0.001	**<0.01**	<0.00054
Toluene	*1*	*1*	0.031	0.0343	0.0347	0.0296	0.0593	0.003	0.0075	0.0065	0.0023	<0.0002	0.19	<0.00041
Vinyl chloride	*0.002*	*0.002*	<0.0005	<0.00011	<0.0011	<0.00018	**<0.0022**	<0.0002		<0.0002	<0.0002	<0.0002	<0.002	
Xylenes (total)	*10*	*10*	0.082	0.0777	0.106	0.0699	0.157	0.023	0.023	0.015	0.0087	<0.0003	0.24	<0.00127
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	**<0.00524**	**<0.0105**	**<0.00519**	**<0.0104**	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00008
2,4-Dimethylphenol	*0.49*	*1.5*	0.037	**1.42**	**0.903**	**2.1 J**	**1.23**	0.097	0.033	0.097	<0.00004	<0.00004	**5.7**	<0.00029
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	**<0.00619**	**<0.0124**	**<0.00613**	**<0.0123**	<0.000058	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058	<0.00019
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	**<0.00381**	**<0.00762**	**<0.00377**	**<0.00755**	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.00019
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.00381	<0.00762	<0.00377	<0.00755	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00038
2-Methylnaphthalene	*0.098*	*0.29*	<0.00005	**0.218**	**0.216**	**0.267**	**0.293**	0.000078 J	0.000067 J	0.0079	<0.000019	<0.000019	**0.13**	<0.00038
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	**<0.0395**	**<0.079**	**<0.0392**	**<0.0783**	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019
4-Nitrophenol	*0.049*	*0.15*	<0.00005	<0.0267	**<0.0533**	<0.0264	**<0.0528**	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00024
Acenaphthene	*1.5*	*4.4*	0.033	0.134	0.126	0.18	0.126	0.0036	0.0049	0.007	<0.000027	<0.000027	0.057	<0.00029
Acenaphthylene	*1.5*	*4.4*	0.00062	<0.00286	<0.00571	0.00528 J	<0.00566	0.00012	0.00012	0.00015	<0.000015	<0.000015	0.00097	<0.00029
Anthracene	*7.3*	*22*	0.00076	0.00824 J	0.0119 J	0.0132 J	<0.00472	0.00028	0.00035	0.00062	<0.000014	<0.000014	0.0028	<0.00019
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00381	<0.00762	<0.00377	<0.00755	<0.00005	<0.000051	<0.00005	<0.00005	<0.00005	<0.00005	<0.00019
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00005	**<0.00381**	**<0.00762**	**<0.00377**	**<0.00755**	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	**<0.00619**	**<0.0124**	**<0.00613**	**<0.0123**	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00038
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.0001 J	**<0.0176**	**<0.0352**	**<0.0175**	**<0.0349**	0.00013 J	0.00014 J	0.0002 J	<0.000055	<0.000037	<0.00011	<0.00019
Chrysene	*0.91*	*2*	<0.00005	<0.00381	<0.00762	<0.00377	<0.00755	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00019
Dibenzofuran	*0.098*	*0.29*	0.0099	0.0851	0.0812	0.0902	0.0941	0.0021	0.0029	0.0049	<0.00002	<0.00002	0.037	<0.00029
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00005	<0.00524	<0.0105	<0.00519	<0.0104	0.000069 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019
Fluoranthene	*0.98*	*2.9*	0.0018	<0.00333	<0.00667	0.00521 J	<0.0066	0.00035	0.00039	0.00049	<0.00001	<0.00001	0.00056	<0.00019
Fluorene	*0.98*	*2.9*	0.015 J	0.0717	0.0662	0.0864	0.0651	0.0025	0.0027	0.0039	<0.00003	<0.00003	0.027	<0.00019
Naphthalene	*0.49*	*1.5*	<0.00005	**2.88**	**3.3**	**5.86**	**5.13**	<0.00016	0.0002	0.046	0.000089 J	<0.00002	**4.5**	<0.00038
Nitrobenzene	*0.049*	*0.15*	<0.00005	<0.00524	<0.0105	<0.00519	<0.0104	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00024	<0.00038
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.00476	<0.00952	<0.00472	<0.00943	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00024
Pentachlorophenol	*0.001*	*0.001*	<0.00005	**<0.029**	**<0.0581**	**<0.0288**	**<0.0575**	<0.000079	<0.00008	<0.000079	<0.000079	<0.000079	<0.000079	<0.00019
Phenanthrene	*0.73*	*2.2*	0.002	0.0455	0.0684	0.0564	0.0519	0.00066	0.00055	0.0034	<0.000021	<0.000021	0.016	0.00026 J
Phenol	*7.3*	*22*	<0.00023	<0.0019	<0.00381	<0.00189	<0.00377	<0.000035	<0.000035	0.0001 J	<0.000035	0.00064	0.17	<0.00019
Pyrene	*0.73*	*2.2*	0.00095	<0.00524	<0.0105	<0.00519	<0.0104	0.00018	0.00029	0.00034	<0.000019	<0.000019	0.00052	<0.00019
Metals														
Arsenic	*0.01*	*0.01*						0.00163 J	0.00233	0.000922 J	0.0012 J	0.000658 J	0.00463	

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-50A 07/16/2008	MW-50A 02/04/2009	MW-50A 01/20/2010	MW-50A 06/25/2010	MW-50A 01/27/2011	MW-50A 07/28/2011	MW-50A 02/09/2012	MW-50A 07/24/2012	MW-50A 04/02/2013	MW-50A 08/09/2013	MW-50A 01/29/2014	MW-50A 08/28/2014
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00109	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.00014	<0.00014
Benzene	*0.005*	*0.005*	<0.00112	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008
Chlorobenzene	*0.1*	*0.1*	<0.0015	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00012	<0.00012
Ethylbenzene	*0.7*	*0.7*	<0.00142	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00011	<0.00011
Methylene chloride	*0.005*	*0.005*	<0.00122	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00015	<0.00015
Toluene	*1*	*1*	<0.00138	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00015	<0.00015
Vinyl chloride	*0.002*	*0.002*										<0.00011		
Xylenes (total)	*10*	*10*	<0.00302	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00026	<0.00026
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00009	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.000106	<0.000108	<0.000104	<0.000109
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00033	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	0.000083 J	<0.000298	<0.000304	<0.000292	<0.000307
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00022	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000125	<0.000127	<0.000123	<0.000129
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000769	<0.0000784	<0.0000755	<0.0000792
2-Chloronaphthalene	*2*	*5.8*	<0.00044	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000769	<0.0000784	<0.0000755	<0.0000792
2-Methylnaphthalene	*0.098*	*0.29*	<0.00044	<0.00007	<0.00007	<0.00007	0.00019 J	<0.00005	<0.00005	0.0039	0.000107 J	<0.0000686	0.000264 J	<0.0000693
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00056	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.000798	<0.000814	<0.000783	<0.000822
4-Nitrophenol	*0.049*	*0.15*	<0.00028	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000538	<0.000549	<0.000528	<0.000554
Acenaphthene	*1.5*	*4.4*	<0.00033	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	0.0029	<0.0000769	<0.0000784	<0.0000755	<0.0000792
Acenaphthylene	*1.5*	*4.4*	<0.00033	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000577	<0.0000588	<0.0000566	<0.0000594
Anthracene	*7.3*	*22*	<0.00022	0.00011 J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.0006	<0.0000481	<0.000049	<0.0000472	<0.0000495
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	0.0000972 J	<0.0000784	<0.0000755	<0.0000792
Benzo(a)pyrene	*0.0002*	*0.0002*	**<0.00022**	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	0.00015 J	<0.0000784	<0.0000755	<0.0000792
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00044	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000125	<0.000127	<0.000123	<0.000129
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00022	0.0035	<0.0002	<0.0003	0.00029	<0.00077	0.00032	<0.00012	0.000512	0.000409 J	<0.000349	<0.000366
Chrysene	*0.91*	*2*	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	0.000157 J	<0.0000784	<0.0000755	<0.0000792
Dibenzofuran	*0.098*	*0.29*	<0.00033	0.00025	<0.00008	<0.00008	0.00011 J	<0.00005	<0.00005	0.0024	<0.0000769	<0.0000784	0.000134 J	<0.0000792
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.000086 J	0.000194 J	0.000147 J	<0.000104	<0.000109
Fluoranthene	*0.98*	*2.9*	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00061	<0.0000673	<0.0000686	<0.000066	<0.0000693
Fluorene	*0.98*	*2.9*	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.0022	<0.0000673	<0.0000686	<0.000066	<0.0000693
Naphthalene	*0.49*	*1.5*	<0.00044	0.0003	<0.0001	<0.0004	0.0026 J	<0.00005	<0.00005	0.02	<0.0000769	0.000265 J	0.00129	0.00071
Nitrobenzene	*0.049*	*0.15*	<0.00044	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000106	<0.000108	<0.000104	<0.000109
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00028	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000962	<0.000098	<0.0000943	<0.000099
Pentachlorophenol	*0.001*	*0.001*	<0.00022	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	0.000921 J	<0.000598	<0.000575	<0.000604
Phenanthrene	*0.73*	*2.2*	<0.00022	0.00031	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.0045	0.000164 J	<0.0000588	0.0000703 J	<0.0000594
Phenol	*7.3*	*22*	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00038	<0.00005	<0.0000385	<0.0000392	<0.0000377	<0.0000396
Pyrene	*0.73*	*2.2*	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00031	0.000138 J	<0.000108	<0.000104	<0.000109
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-50A 01/30/2018	MW-50A 03/28/2018	MW-50A 04/01/2018	MW-50A 05/25/2018	MW-50A 01/10/2019	MW-50A 07/19/2019	MW-50A 01/09/2020	MW-50B 03/12/2020	MW-51A 01/31/2008	MW-51A 01/31/2008 Duplicate	MW-51A 02/04/2009	MW-51A 01/20/2010
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052	<0.00052	<0.0005	<0.0005
Benzene	*0.005*	*0.005*	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00025	<0.00025	<0.0005	<0.0005
Chlorobenzene	*0.1*	*0.1*	<0.0003		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047	<0.00047	<0.0005	<0.0005
Ethylbenzene	*0.7*	*0.7*	<0.0003		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0068	<0.00025	<0.00025	<0.0005	<0.0005
Methylene chloride	*0.005*	*0.005*	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.00054	<0.0005	<0.0005
Toluene	*1*	*1*	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0033	<0.00041	<0.00041	<0.0005	<0.0005
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.0003		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0056	<0.00127	<0.00127	<0.001	<0.001
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021		<0.000021	<0.000021	<0.000021	<0.000021	<0.000022	<0.00008	<0.0002	<0.0001	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004		<0.00004	<0.00004	<0.00004	<0.00071	<0.000042	<0.00029	<0.00057	<0.00008	<0.00008
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058		<0.000058	<0.000058	<0.000058	<0.000058	<0.00006	<0.00019	<0.00038	<0.00009	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042		<0.000042	<0.000042	<0.000042	<0.000042	<0.000044	<0.00019	<0.00038	<0.00007	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021		<0.000021	<0.000021	<0.000021	<0.000021	<0.000022	<0.00038	<0.00076	<0.00012	<0.0001
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019		<0.000019	<0.000019	<0.000019	<0.00019	0.016	<0.00038	<0.00076	<0.00007	<0.00007
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.000021	<0.00019	<0.00038	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047		<0.000047	<0.000047	<0.000047	<0.000047	<0.000049	<0.00024	<0.00048	<0.00007	<0.00007
Acenaphthene	*1.5*	*4.4*	<0.000027	<0.000027		<0.000027	<0.000027	<0.000027	<0.00037	0.02	<0.00029	<0.00057	<0.00009	<0.00009
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015		<0.000015	<0.000015	<0.000015	0.000022 J	0.00028	<0.00029	<0.00057	<0.00006	<0.00007
Anthracene	*7.3*	*22*	<0.000014	<0.000014		<0.000014	<0.000014	<0.000014	<0.000014	0.0016	<0.00019	<0.00038	<0.00007	<0.00007
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005		<0.00005	<0.00005	<0.00005	<0.00005	<0.000052	<0.00019	<0.00038	<0.00007	<0.00007
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002		<0.00002	<0.00002	<0.00002	<0.00002	<0.000021	<0.00019	**<0.00038**	<0.00008	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003		<0.00003	<0.00003	<0.00003	<0.00003	<0.000031	<0.00038	<0.00076	<0.00009	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	<0.000037		0.0001 J	<0.000037	<0.000037	<0.000085	<0.000039	<0.00019	<0.00038	0.00034	<0.0019
Chrysene	*0.91*	*2*	<0.000021	<0.000021		<0.000021	<0.000021	<0.000021	<0.000021	<0.000022	<0.00019	<0.00038	<0.00007	<0.00007
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00002		<0.00002	<0.00002	<0.00002	<0.00013	0.015	0.000566	<0.00057	<0.00008	<0.00008
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002		<0.00002	<0.00002	<0.00002	<0.00002	0.000038 J	<0.00019	<0.00038	<0.00007	<0.00007
Fluoranthene	*0.98*	*2.9*	<0.00001	<0.00001		<0.00001	<0.00001	<0.00001	0.000052 J	0.0011	<0.00019	<0.00038	<0.00007	<0.00007
Fluorene	*0.98*	*2.9*	<0.00003	<0.00003		<0.00003	<0.00003	<0.00003	<0.00011	0.011	0.000602	0.00042 J	<0.00007	<0.00007
Naphthalene	*0.49*	*1.5*	<0.000046	<0.00002		0.00018	<0.00002	0.00027	<0.002	0.31	0.00182	0.00131	0.00029	<0.0001
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024		<0.000024	<0.000024	<0.000024	<0.000024	<0.000025	<0.00038	<0.00076	<0.00009	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025		<0.000025	<0.000025	<0.000025	<0.000025	<0.000026	<0.00024	<0.00048	<0.00009	<0.00009
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079		<0.000079	<0.000079	<0.000079	<0.000079	<0.000082	<0.00019	<0.00038	<0.00008	<0.00008
Phenanthrene	*0.73*	*2.2*	<0.000021	<0.000021		<0.000021	<0.000021	<0.000021	<0.00007	0.016	0.00097	0.00075	<0.00007	<0.00007
Phenol	*7.3*	*22*	<0.000035	<0.000035		<0.000035	<0.000035	0.00016 J	<0.000066	<0.000036	0.00044 J	<0.00038	<0.00007	<0.00007
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019		<0.000019	<0.000019	<0.000019	<0.000034	0.00059	<0.00019	<0.00038	<0.00007	<0.00007
Metals														
Arsenic	*0.01*	*0.01*	0.00205		<0.0004	0.00857	0.00134 J	0.000642 J	0.000718 J	0.00372				

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-51A 06/24/2010	MW-51A 01/20/2011	MW-51A 07/28/2011	MW-51A 02/15/2012	MW-51A 07/24/2012	MW-51A 04/02/2013	MW-51A 08/09/2013	MW-51A 01/29/2014	MW-51A 07/24/2014	MW-51A 01/29/2018	MW-51A 03/28/2018	MW-51A 05/24/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.00014	<0.00014	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00012	<0.00012	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00011	<0.00011	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00015	<0.00015	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00015	<0.00015	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*					<0.0005		<0.00011		<0.00011			
Xylenes (total)	*10*	*10*	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00026	<0.00026	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.000106	<0.000108	<0.000104	<0.000104	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000298	<0.000304	<0.000292	<0.000292	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000125	<0.000127	<0.000123	<0.000123	<0.000058	<0.000059	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000769	<0.0000784	**0.00292**	<0.0000755	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000769	<0.0000784	<0.0000755	<0.0000755	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	0.00013 J	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000673	<0.0000686	<0.000066	<0.000066	0.000069 J	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.000798	<0.000814	<0.000783	<0.000783	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000538	<0.000549	<0.000528	<0.000528	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.00013 J	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000769	<0.0000784	<0.0000755	<0.0000755	<0.000027	<0.000027	<0.000027
Acenaphthylene	*1.5*	*4.4*	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000577	<0.0000588	<0.0000566	<0.0000566	<0.000015	<0.000015	<0.000015
Anthracene	*7.3*	*22*	0.00017 J	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000481	<0.000049	<0.0000472	<0.0000472	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*	0.00014 J	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000769	<0.0000784	<0.0000755	<0.0000755	<0.00005	<0.000051	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000769	<0.0000784	<0.0000755	<0.0000755	<0.00002	<0.00002	0.000022 J
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000125	<0.000127	<0.000123	<0.000123	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00035	<0.00029	<0.0018	<0.0001	<0.00033	<0.000356	<0.000363	0.00121	0.000804	<0.000037	0.000069 J	0.000069 J
Chrysene	*0.91*	*2*	0.00013 J	<0.00007	<0.00005	<0.00005	0.00011 J	<0.0000769	<0.0000784	<0.0000755	<0.0000755	<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	0.00012 J	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000769	<0.0000784	<0.0000755	<0.0000755	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00007	<0.00007	<0.00005	<0.00005	0.000051 J	<0.000106	0.00011 J	<0.000104	<0.000104	<0.00002	<0.00002	0.000025 J
Fluoranthene	*0.98*	*2.9*	0.00072	<0.00007	<0.00005	<0.00005	0.00012 J	<0.0000673	<0.0000686	<0.000066	<0.000066	<0.00001	<0.00001	<0.00001
Fluorene	*0.98*	*2.9*	0.00011 J	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000673	<0.0000686	<0.000066	<0.000066	<0.00003	<0.00003	<0.00003
Naphthalene	*0.49*	*1.5*	0.00087	<0.00011	<0.00005	<0.00005	<0.00005	<0.0000769	<0.0000784	0.000118 J	0.000162 J	<0.00018	<0.00023	0.000087 J
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000106	<0.000108	<0.000104	<0.000104	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000962	<0.000098	<0.0000943	<0.0000943	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000587	<0.000598	<0.000575	<0.000575	<0.000079	<0.00008	<0.000079
Phenanthrene	*0.73*	*2.2*	0.00068	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000577	0.0000699 J	<0.0000566	<0.0000566	<0.000021	<0.000021	<0.000021
Phenol	*7.3*	*22*	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000385	<0.0000392	<0.0000377	<0.0000377	<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	0.00037	<0.00007	<0.00005	<0.00005	0.000088 J	<0.000106	<0.000108	<0.000104	<0.000104	<0.000019	<0.000019	<0.000019
Metals														
Arsenic	*0.01*	*0.01*										<0.0004	<0.0004	<0.0004

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-51A 01/10/2019	MW-51A 07/19/2019	MW-51A 01/09/2020	MW-51C 07/24/2014	MW-51C 01/29/2018	MW-51C 03/28/2018	MW-51C 05/24/2018	MW-51C 01/10/2019	MW-51C 07/19/2019	MW-51C 01/09/2020	MW-52A 01/31/2008	MW-52A 01/18/2010
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00052	<0.0025
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	0.000104 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	**0.0576**	0.0047 J
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00047	
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0892	0.014 J
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00054	<0.0025
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.103	0.012 J
Vinyl chloride	*0.002*	*0.002*				<0.00011								
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.24	0.044 J
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000104	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	**<0.008**	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.000292	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	**1.54**	0.0046
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.000123	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	**<0.019**	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.0000755	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	**<0.019**	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.0000755	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.038	<0.0001
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	0.000067 J	<0.000044	<0.000066	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000055	**0.929**	**0.54**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.000783	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	**<0.019**	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000528	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.024	<0.00007
Acenaphthene	*1.5*	*4.4*	<0.000027	<0.000027	<0.00004	<0.0000755	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000094	0.494	0.36
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.0000566	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.029	0.0045
Anthracene	*7.3*	*22*	<0.000014	<0.000014	<0.000063	<0.0000472	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.0001	0.046	0.022
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.0000755	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	**<0.019**	0.00047
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	0.000027 J	<0.0000755	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	**<0.019**	0.00013 J
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.000123	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	**<0.038**	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.000078 J	0.00013 J	<0.00014	0.00111	<0.000037	<0.000037	0.000073 J	0.00013 J	0.000079 J	<0.000085	**<0.019**	<0.00032
Chrysene	*0.91*	*2*	<0.000021	<0.000021	0.00005 J	<0.0000755	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.019	0.00041
Dibenzofuran	*0.098*	*0.29*	<0.00002	0.00003 J	<0.000049	<0.0000755	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00011	**0.373**	**0.28**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	0.000034 J	<0.000104	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.019	<0.00007
Fluoranthene	*0.98*	*2.9*	<0.00001	<0.00001	0.00013	<0.000066	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00018	0.027	0.015
Fluorene	*0.98*	*2.9*	<0.00003	<0.00003	<0.000043	<0.000066	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00011	0.263	0.23
Naphthalene	*0.49*	*1.5*	0.00012	0.00055	<0.00032	0.000553	<0.0002	<0.00021	0.00029	0.00017	0.00023	<0.0003	**10.3**	**3.9**
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000104	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.038	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.0000943	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.024	<0.00009
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.000575	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	**<0.019**	<0.00008
Phenanthrene	*0.73*	*2.2*	<0.000021	0.000026 J	<0.00021	<0.0000566	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00056	0.24	0.24
Phenol	*7.3*	*22*	<0.000035	0.00019 J	<0.000035	0.000628	<0.000035	<0.000035	<0.000035	<0.000035	0.00027	<0.000035	0.038	<0.00007
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019	<0.000083	<0.000104	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.00011	0.039	0.0066
Metals														
Arsenic	*0.01*	*0.01*	<0.0004	<0.0004	0.00188 J		0.000614 J	0.0004 J	<0.0004	<0.0004	<0.0004	0.000452 J		

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-52A 07/14/2011	MW-52A 02/03/2012	MW-52A 07/12/2012	MW-52A 02/01/2013	MW-53C 01/29/2008	MW-53C 07/14/2008	MW-53C 02/03/2009	MW-53C 01/13/2010	MW-53C 06/30/2010	MW-53C 01/26/2011	MW-53C 07/20/2011	MW-53C 02/09/2012
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.001	<0.001	<0.0005	<0.00014	<0.00052	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Benzene	*0.005*	*0.005*	0.0025 J	0.0017 J	**0.0053**	0.00461	<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Chlorobenzene	*0.1*	*0.1*	<0.001	<0.001	<0.0005	<0.00012	<0.00047	<0.00047	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Ethylbenzene	*0.7*	*0.7*	0.011	0.0053	0.0099	0.00677	<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011
Methylene chloride	*0.005*	*0.005*	<0.0013	<0.0013	<0.001	<0.00015	<0.00054	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013
Toluene	*1*	*1*	0.0089	0.0034 J	0.0084	0.00679	<0.00041	<0.00041	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Vinyl chloride	*0.002*	*0.002*	<0.001		<0.0005	0.000661 J								
Xylenes (total)	*10*	*10*	0.025	0.011 J	0.021	0.0147	<0.00127	<0.00127	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	<0.00005	<0.00005	**<0.00524**	<0.00008	<0.00009	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	0.0045	0.0034	0.029	0.0479	<0.00029	<0.00033	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	<0.00005	<0.00005	**<0.00619**	<0.00019	<0.00022	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	<0.00006	<0.00006	**<0.00381**	<0.00019	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.00005	<0.00005	<0.00381	<0.00038	<0.00044	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	**0.33**	0.096	**0.16**	**0.165**	<0.00038	<0.00044	<0.00007	0.000071 J	<0.00007	<0.00007	<0.00005	0.00008 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	**<0.0395**	<0.00019	<0.00022	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.00005	<0.00005	<0.00005	<0.0267	<0.00024	<0.00028	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Acenaphthene	*1.5*	*4.4*	0.26	0.19	0.15	0.271	<0.00029	<0.00033	<0.00009	0.0002	0.00032	<0.00009	0.00032	0.0002 J
Acenaphthylene	*1.5*	*4.4*	0.004	0.0024	0.0025	<0.00286	<0.00029	<0.00033	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Anthracene	*7.3*	*22*	0.041	0.036	0.021	0.0231 J	0.000569	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Benzo(a)anthracene	*0.0091*	*0.02*	0.00063	0.00031	0.00022	<0.00381	<0.00019	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	0.00017 J	0.000066 J	<0.00005	**<0.00381**	<0.00019	**<0.00022**	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	<0.00005	<0.00005	**<0.00619**	<0.00038	<0.00044	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00042	0.00043	<0.0001	**<0.0176**	<0.00019	0.00026 J	0.00072	<0.00024	<0.00032	0.00037	<0.00014	<0.0001
Chrysene	*0.91*	*2*	0.0006	0.00033	0.00028	<0.00381	<0.00019	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Dibenzofuran	*0.098*	*0.29*	**0.2**	**0.14**	**0.13**	**0.178**	<0.00029	<0.00033	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00005	<0.00005	<0.00005	<0.00524	<0.00019	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Fluoranthene	*0.98*	*2.9*	0.024	0.013	0.017	0.0245	<0.00019	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Fluorene	*0.98*	*2.9*	0.18	0.12	0.11	0.167	<0.00019	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Naphthalene	*0.49*	*1.5*	**1.9**	**0.77**	**0.83**	**0.878**	0.00075	0.00161	0.0012	<0.00027	<0.0001	0.00015 J	<0.00005	0.00066
Nitrobenzene	*0.049*	*0.15*	<0.00005	<0.00005	<0.00005	<0.00524	<0.00038	<0.00044	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.00005	<0.00005	<0.00476	<0.00024	<0.00028	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005
Pentachlorophenol	*0.001*	*0.001*	<0.00005	<0.00005	<0.00005	**<0.029**	<0.00019	<0.00022	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005
Phenanthrene	*0.73*	*2.2*	0.22	0.081	0.12	0.226	0.00043 J	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Phenol	*7.3*	*22*	0.000066 J	0.000052 J	<0.00015	<0.0019	<0.00019	0.00027 J	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Pyrene	*0.73*	*2.2*	0.011	0.0054	0.0071	0.0124 J	0.00039 J	<0.00022	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-53C 07/18/2012	MW-53C 02/06/2013	MW-53C 08/06/2013	MW-53C 01/22/2014	MW-53C 07/25/2014	MW-53C 01/28/2018	MW-53C 03/21/2018	MW-53C 05/31/2018	MW-53C 01/14/2019	MW-53C 07/16/2019	MW-53C 01/09/2020	MW-54C 01/28/2008
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	0.000644 J	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00245
Benzene	*0.005*	*0.005*	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00257
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00239
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00584
Methylene chloride	*0.005*	*0.005*	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00195
Toluene	*1*	*1*	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00274
Vinyl chloride	*0.002*	*0.002*					<0.00011							
Xylenes (total)	*10*	*10*	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00581
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	<0.000106	<0.00011	<0.000524	<0.000107	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00008
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00005	<0.000298	<0.00031	<0.00148	<0.000301	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.0011	<0.00029
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	<0.000125	<0.00013	<0.000619	<0.000126	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.00019
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	<0.0000769	<0.00008	<0.000381	<0.0000777	<0.000042	<0.000042	**0.0016**	<0.000042	**0.0028**	<0.000042	<0.00019
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.0000769	<0.00008	<0.000381	<0.0000777	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00038
2-Methylnaphthalene	*0.098*	*0.29*	<0.000091	<0.0000673	<0.00007	0.000358 J	<0.0000826	<0.000019	<0.000019	<0.000019	<0.000019	0.000071 J	<0.00025	**0.109**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.000798	<0.00083	**<0.00395**	<0.000806	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019
4-Nitrophenol	*0.049*	*0.15*	<0.00005	<0.000538	<0.00056	<0.00267	<0.000544	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00024
Acenaphthene	*1.5*	*4.4*	<0.00005	<0.0000769	<0.00008	0.000856 J	<0.0000777	<0.000027	<0.000027	0.000044 J	<0.000027	<0.000027	<0.00032	0.074
Acenaphthylene	*1.5*	*4.4*	<0.00005	<0.0000577	<0.00006	<0.000286	<0.0000583	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.00029
Anthracene	*7.3*	*22*	<0.00005	<0.0000481	<0.00005	<0.000238	<0.0000485	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000028	0.00268
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.0000769	<0.00008	<0.000381	<0.0000777	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00024 J
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00005	<0.0000769	<0.00008	**<0.000381**	<0.0000777	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	<0.000125	<0.00013	<0.000619	<0.000126	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00038
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0001	<0.000356	<0.00037	<0.00176	<0.000359	0.00012 J	<0.000037	0.0001 J	<0.000037	<0.000037	<0.000037	0.00105 J
Chrysene	*0.91*	*2*	<0.00005	<0.0000769	<0.00008	<0.000381	<0.0000777	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.00021 J
Dibenzofuran	*0.098*	*0.29*	<0.00005	<0.0000769	<0.00008	<0.000381	<0.0000777	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00027	0.0611
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00005	<0.000106	<0.00011	<0.000524	<0.000107	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00069 J
Fluoranthene	*0.98*	*2.9*	<0.00005	<0.0000673	<0.00007	<0.000333	<0.000068	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.000071 J	0.00426
Fluorene	*0.98*	*2.9*	<0.00005	<0.0000673	<0.00007	0.000355 J	<0.000068	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.0002	0.0323
Naphthalene	*0.49*	*1.5*	<0.00048	<0.000183	<0.00008	<0.00212	<0.00194	<0.00002	<0.000034	0.00023	<0.00025	0.00013	<0.0012	**0.892**
Nitrobenzene	*0.049*	*0.15*	<0.00005	<0.000106	<0.00011	<0.000524	<0.000107	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00038
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.0000962	<0.0001	<0.000476	<0.0000971	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	0.000056 J	<0.00024
Pentachlorophenol	*0.001*	*0.001*	<0.00005	<0.000587	<0.00061	**<0.0029**	<0.000592	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	0.00025 J
Phenanthrene	*0.73*	*2.2*	<0.00005	<0.0000577	<0.00006	0.000939 J	<0.0000665	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00025	0.0389
Phenol	*7.3*	*22*	<0.00005	<0.0000385	<0.00004	<0.00019	<0.0000388	<0.000035	<0.000035	<0.000035	<0.000035	<0.00016	0.0005	<0.00019
Pyrene	*0.73*	*2.2*	<0.00005	<0.000106	<0.00011	<0.000524	<0.000107	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000061	0.00227
Metals														
Arsenic	*0.01*	*0.01*						0.000502 J	0.000443 J	0.000694 J	<0.0004	0.000569 J	0.000728 J	

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-54C 07/14/2008	MW-54C 02/03/2009	MW-54C 01/21/2010	MW-54C 06/30/2010	MW-54C 01/26/2011	MW-54C 07/20/2011	MW-54C 02/08/2012	MW-54C 07/25/2012	MW-54C 02/12/2013	MW-54C 08/06/2013	MW-54C 01/23/2014	MW-54C 07/25/2014
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014
Benzene	*0.005*	*0.005*	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008
Chlorobenzene	*0.1*	*0.1*	<0.00047	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	0.000128 J	<0.00018	<0.00012
Ethylbenzene	*0.7*	*0.7*	0.00391 J	0.0029 J	<0.0005	0.0024 J	<0.0005	0.0018 J	0.0011 J	0.0011 J	0.000187 J	0.00062 J	0.000527	0.000282 J
Methylene chloride	*0.005*	*0.005*	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015
Toluene	*1*	*1*	<0.00041	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015
Vinyl chloride	*0.002*	*0.002*												<0.00011
Xylenes (total)	*10*	*10*	<0.00127	0.0027 J	<0.001	0.0011 J	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	0.00076 J	0.00062 J	<0.00026
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.000105	<0.00011	<0.000104	<0.000109
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00029	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	0.000098 J	<0.00005	<0.000295	<0.00031	<0.000292	<0.000307
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.0002	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000124	<0.00013	<0.000123	<0.000129
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000762	<0.00008	<0.0000755	<0.0000792
2-Chloronaphthalene	*2*	*5.8*	<0.00039	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000762	<0.00008	<0.0000755	<0.0000792
2-Methylnaphthalene	*0.098*	*0.29*	**0.14**	**0.13**	<0.00007	0.0096	0.00025	0.022	0.0065	0.0054 J	0.00392	0.0173	0.0176	0.00834
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00079	<0.00083	<0.000783	<0.000822
4-Nitrophenol	*0.049*	*0.15*	<0.00024	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000533	<0.00056	<0.000528	<0.000554
Acenaphthene	*1.5*	*4.4*	0.0738	0.067	0.00016 J	0.024	0.0023	0.039	0.035	0.022	0.0219	0.0749	0.062	0.0367
Acenaphthylene	*1.5*	*4.4*	<0.00029	0.00072	<0.00007	0.00042	<0.00007	0.00045	0.00051	0.00039	<0.0000571	<0.00006	0.00105	0.000526
Anthracene	*7.3*	*22*	0.00293	0.003	<0.00007	0.005	0.00027	0.0029	0.0024	0.0019	0.00183	0.00389	0.00445	0.00261
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000762	<0.00008	0.0000993 J	<0.0000792
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000762	<0.00008	<0.0000755	<0.0000792
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00039	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000124	<0.00013	<0.000123	<0.000129
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00029 J	0.00072	<0.00077	<0.00037	0.0016	<0.00015	<0.0001	0.00017 J	<0.000352	<0.00037	<0.000349	<0.000366
Chrysene	*0.91*	*2*	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000762	<0.00008	0.0000758 J	<0.0000792
Dibenzofuran	*0.098*	*0.29*	0.0739	0.064	<0.00008	0.028	0.0018	0.046	0.047	0.029	0.0223	0.0878	0.0695	0.0471
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.000064 J	<0.000105	<0.00011	<0.000824	<0.000109
Fluoranthene	*0.98*	*2.9*	0.00349	0.0032	<0.00007	0.0032	0.00016 J	0.0034	0.0026	0.002	0.00246	0.00474	0.00575	0.00302
Fluorene	*0.98*	*2.9*	0.0351	0.03	<0.00007	0.015	0.001	0.022	0.021	0.011	0.0092	0.0409	0.0321	<0.0208
Naphthalene	*0.49*	*1.5*	**0.912**	**1.1**	<0.0001	0.21	0.0055	0.47	0.35	0.15	0.0681	0.383 J	0.315 J	0.18
Nitrobenzene	*0.049*	*0.15*	<0.00039	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000105	<0.00011	<0.000104	<0.000109
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00024	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	0.00014 J	<0.0000952	<0.0001	<0.0000943	<0.000099
Pentachlorophenol	*0.001*	*0.001*	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000581	<0.00061	<0.000575	<0.000604
Phenanthrene	*0.73*	*2.2*	0.0495	0.042	<0.00007	0.024	0.0011	0.04	0.034	0.019	0.0128	0.04	0.042	0.0148
Phenol	*7.3*	*22*	<0.0002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00011 J	<0.00005	<0.0000381	<0.00004	<0.0000377	<0.0000396
Pyrene	*0.73*	*2.2*	0.00163	0.0018	<0.00007	0.0016	<0.00007	0.0017	0.0015	0.0013	0.00138	0.00248	0.00373	0.00169
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-54C 01/28/2018	MW-54C 03/20/2018	MW-54C 05/31/2018	MW-54C 01/14/2019	MW-54C 07/16/2019	MW-54C 01/09/2020	MW-55A 02/04/2009	MW-55A 01/18/2010	MW-55A 07/14/2011	MW-55A 02/03/2012	MW-55A 07/12/2012	MW-55A 01/30/2013
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0025	<0.005	**<0.01**	<0.005	<0.0028
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	**0.19**	**0.072**	**0.07**	**0.15**	**0.17**	**0.133**
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005		<0.005	<0.01	<0.005	<0.0024
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.15	0.2	0.17	0.2	0.24	0.228
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0025	**<0.0065**	**<0.013**	**<0.01**	<0.003
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.44	0.29	0.24	0.41	0.39	0.385
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.35	0.47	0.42	0.48	0.62	0.575
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0001	<0.0001	<0.00005	<0.0005	<0.00005	<0.000104
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	**1.2**	0.28	0.48	**1.8**	**0.96**	<0.000292
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.00009	<0.00009	<0.00005	<0.0005	<0.00005	<0.000123
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.00007	<0.00007	<0.00006	<0.0006	<0.00006	<0.0000755
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00012	<0.0001	<0.00005	<0.0005	<0.00005	<0.0000755
2-Methylnaphthalene	*0.098*	*0.29*	0.00048	0.00075	0.0059	0.0014	0.0021	0.002	**0.63**	**0.39**	**0.33**	**0.25**	**0.31**	<0.000066
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.0008	<0.00008	<0.000783
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00007	<0.00007	<0.00005	<0.0005	<0.00005	<0.000528
Acenaphthene	*1.5*	*4.4*	0.023	0.03	0.04	0.014	0.041	0.021	0.28	0.19	0.16	0.14	0.11	0.0573
Acenaphthylene	*1.5*	*4.4*	0.00034	0.00036	0.00054	<0.0002	0.00037	0.00023	0.0037	0.0028	0.003	0.0019 J	0.0017	0.0021
Anthracene	*7.3*	*22*	0.0015	0.0027	0.0041	0.0013	0.0023	0.0015	0.047	0.021	0.016	0.016	0.0075	0.00062
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	0.000065 J	<0.00005	<0.00005	<0.00005	**0.01**	0.0018	0.0014	<0.0005	0.00034	<0.0000755
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	0.000039 J	<0.00002	<0.00002	**0.0069**	**0.00081**	**0.00062**	**<0.0005**	0.000081 J	<0.0000755
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	0.000056 J	<0.00003	<0.00003	<0.00009	0.00009 J	<0.00005	<0.0005	<0.00005	<0.000123
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.000055 J	<0.000037	0.00011 J	0.000096 J	<0.000037	<0.00018	0.00073	<0.0031	<0.0001	<0.001	<0.0001	<0.000349
Chrysene	*0.91*	*2*	<0.000021	0.000059 J	0.000053 J	0.000038 J	<0.000021	0.000054 J	0.0099	0.0017	0.0014	<0.0005	0.00025	<0.0000755
Dibenzofuran	*0.098*	*0.29*	0.025	0.029	0.045	0.015	0.032	0.02	**0.2**	**0.13**	**0.12**	0.084	0.078	0.0265
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	0.000029 J	<0.00002	<0.00002	<0.00002	<0.00007	<0.00007	<0.00005	<0.0005	<0.00005	<0.000104
Fluoranthene	*0.98*	*2.9*	0.0023	0.004	0.0049	0.002	0.0033	0.0026	0.052	0.0081	0.009	0.0044	0.0042	0.000459 J
Fluorene	*0.98*	*2.9*	0.011	0.014	0.022	0.0085	0.018	0.0095	0.16	0.083	0.08	0.057	0.048	0.00213
Naphthalene	*0.49*	*1.5*	0.022	0.029	0.068	0.019	0.032	<0.035	**17**	**11**	**8.6**	**9.9**	**9.7**	<0.00227
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00009	0.00009 J	<0.00005	<0.0005	<0.00005	<0.000104
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00009	<0.00009	<0.00005	<0.0005	<0.00005	<0.0000943
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	0.00053	<0.00008	<0.00005	<0.0005	<0.00005	<0.000575
Phenanthrene	*0.73*	*2.2*	0.0023	0.0041	0.023	0.0052	0.0065	0.0056	0.2	0.084	0.083	0.047	0.045	<0.0000566
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.000035	<0.000035	0.00044	<0.000064	0.15	0.025 J	0.0038	0.079	0.046	<0.0000377
Pyrene	*0.73*	*2.2*	0.0012	0.0018	0.0028	0.001	0.0016	0.0014	0.032	0.0052	0.0061	0.0041	0.0021	0.000223 J
Metals														
Arsenic	*0.01*	*0.01*	0.00128 J	0.00133 J	0.0012 J	0.00123 J	0.00103 J	0.00122 J						

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	C/I Assessment Level	MW-55A 07/30/2013	MW-55A 01/14/2014	MW-55A 07/17/2014	MW-55B 02/02/2012	MW-55B 07/12/2012	MW-55B 01/30/2013	MW-55B 07/30/2013	MW-55B 01/14/2014	MW-55B 07/17/2014	MW-57A 02/05/2009	MW-57A 01/20/2010	MW-57A 06/23/2010 DNAPL
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	**<0.014**	**<0.007**	<0.0028	**<0.01**	<0.005	**<0.007**	**<0.014**	**<0.007**	<0.0028	<0.0005	<0.0025	<0.005
Benzene	*0.005*	*0.005*	**0.145**	**0.0715**	**0.0881**	**0.78**	**0.89**	**0.881**	**0.809**	**0.648**	**0.846**	**0.26**	**0.17**	**0.47**
Chlorobenzene	*0.1*	*0.1*	<0.012	<0.006	<0.0024	<0.01	<0.005	<0.006	<0.012	<0.006	<0.0024	<0.0005	<0.0025	<0.005
Ethylbenzene	*0.7*	*0.7*	0.26	0.2	0.368	0.13	0.21	0.162	0.173	0.134	0.126	0.34	0.32	0.45
Methylene chloride	*0.005*	*0.005*	**0.0894 J**	**<0.0075**	**0.0179 J**	**<0.013**	**<0.01**	**0.0213 J**	**0.0517 J**	**<0.0075**	**0.0155 J**	<0.0005	<0.0025	**0.014 J**
Toluene	*1*	*1*	0.431	0.311	0.409	0.65	0.9	0.76	0.782	0.597	0.591	0.63	0.13	0.86
Vinyl chloride	*0.002*	*0.002*	**<0.011**						**<0.011**				**<0.0025**	
Xylenes (total)	*10*	*10*	0.584	0.486	0.869	0.39	0.68	0.623	0.624	0.481	0.443	0.92	0.6	1.2
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	**<0.00534**	**<0.0529**	**<0.00519**	<0.0005	<0.0005	**<0.0208**	**<0.0534**	**<0.529**	**<0.013**	<0.0001	<0.0001	0.0005 J
2,4-Dimethylphenol	*0.49*	*1.5*	**0.956**	**0.519**	0.463	**35**	**30**	**2.06**	**25.2**	**44.2**	**35.6**	**1.8**	**3**	**2.7 J**
2,4-Dinitrotoluene	*0.0013*	*0.003*	**<0.00631**	**<0.0625**	**<0.00613**	<0.0005	<0.0005	**<0.0245**	**<0.0631**	**<0.625**	**<0.0153**	<0.00009	<0.00009	0.00045 J
2,6-Dinitrotoluene	*0.0013*	*0.003*	**<0.00388**	**<0.0385**	**<0.00377**	<0.0006	<0.0006	**<0.0151**	**<0.0388**	**<0.385**	**<0.00943**	<0.00007	<0.00007	0.00035 J
2-Chloronaphthalene	*2*	*5.8*	<0.00388	<0.0385	<0.00377	<0.0005	<0.0005	<0.0151	<0.0388	<0.385	<0.00943	<0.00012	<0.0001	0.0005 J
2-Methylnaphthalene	*0.098*	*0.29*	**0.468**	**0.463**	**0.486**	**0.28**	**0.64**	**0.757**	**0.868**	**0.901 J**	**0.512**	**0.73**	**0.89**	**3.5 J**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	**<0.0403**	**<0.399**	**<0.0392**	<0.0008	<0.0008	**<0.157**	**<0.403**	**<3.99**	**<0.0979**	<0.00008	<0.00008	0.0004 J
4-Nitrophenol	*0.049*	*0.15*	<0.0272	**<0.269**	<0.0264	<0.0005	<0.0005	**<0.106**	**<0.272**	**<2.69**	**<0.066**	<0.00007	<0.00007	0.00035 J
Acenaphthene	*1.5*	*4.4*	0.207	0.251	0.219	0.19	0.26	0.347	<0.0388	<0.385	0.19	0.24	0.31	**2 J**
Acenaphthylene	*1.5*	*4.4*	<0.00291	<0.0288	<0.00283	0.0057	0.01	<0.0113	<0.0291	<0.288	<0.00708	0.0056	0.0061	0.02 J
Anthracene	*7.3*	*22*	0.0336	0.083 J	0.032	0.016	0.03	0.0492 J	0.0437 J	<0.24	0.027 J	0.044	0.022	0.9 J
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00388	**<0.0385**	<0.00377	0.0011 J	0.0012 J	**<0.0151**	**<0.0388**	**<0.385**	**<0.00943**	**0.011**	0.00051	**0.15 J**
Benzo(a)pyrene	*0.0002*	*0.0002*	**<0.00388**	**<0.0385**	**<0.00377**	**<0.0005**	**<0.0005**	**<0.0151**	**<0.0388**	**<0.385**	**<0.00943**	**0.0045**	0.00012 J	**0.037 J**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	**<0.00631**	**<0.0625**	**<0.00613**	<0.0005	<0.0005	**<0.0245**	**<0.0631**	**<0.625**	**<0.0153**	<0.00009	<0.00009	0.00045 J
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	**<0.018**	**<0.178**	**<0.0175**	<0.001	<0.001	**<0.0698**	**<0.18**	**<1.78**	**<0.0436**	0.002	<0.0004	0.001 J
Chrysene	*0.91*	*2*	<0.00388	<0.0385	<0.00377	<0.0005	0.0009 J	<0.0151	<0.0388	<0.385	<0.00943	0.0094	0.00034	0.14 J
Dibenzofuran	*0.098*	*0.29*	<0.00388	**0.15 J**	**0.14**	**0.15**	**0.23**	<0.0151	**0.309**	**<0.385**	**0.138**	**0.21**	**0.17**	**1.9 J**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00534	<0.0529	<0.00519	<0.0005	<0.0005	<0.0208	<0.0534	<0.529	<0.013	<0.00007	<0.00007	0.00035 J
Fluoranthene	*0.98*	*2.9*	0.0148 J	0.0595 J	0.0175 J	0.0047	0.014	0.0153 J	<0.034	<0.337	0.0119 J	0.054	0.0063	**1.4 J**
Fluorene	*0.98*	*2.9*	0.0996	0.172 J	0.1	0.09	0.15	0.166	0.195 J	<0.337	0.0816	0.083	0.11	**1.6 J**
Naphthalene	*0.49*	*1.5*	**13.8**	**11.7**	**11.6**	**21**	**24**	**2.3**	**21.9**	**24.3**	**13.5**	**16**	**7.4**	**20 J**
Nitrobenzene	*0.049*	*0.15*	<0.00534	**<0.0529**	<0.00519	<0.0005	<0.0005	<0.0208	**<0.0534**	**<0.529**	<0.013	<0.00009	<0.00009	0.00045 J
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00485	<0.0481	<0.00472	<0.0005	<0.0005	<0.0189	<0.0485	**<0.481**	<0.0118	<0.00009	<0.00009	0.00045 J
Pentachlorophenol	*0.001*	*0.001*	**<0.0296**	**<0.293**	**<0.0288**	<0.0005	0.00069 J	**<0.115**	**<0.296**	**<2.93**	**<0.0719**	<0.00008	<0.00008	0.0004 J
Phenanthrene	*0.73*	*2.2*	0.078	0.174 J	0.0893	0.057	0.13	0.13	0.228 J	<0.288	0.1	0.22	0.088	**4 J**
Phenol	*7.3*	*22*	<0.00194	<0.0192	<0.00189	**150**	**130**	0.0999	**103**	**454**	**127**	0.052	0.0099	0.042 J
Pyrene	*0.73*	*2.2*	0.00729 J	<0.0529	0.0101 J	0.0042	0.0076	<0.0208	<0.0534	<0.529	<0.013	0.038	0.0037	**0.84 J**
Metals														
Arsenic	*0.01*	*0.01*												

Notes:
1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-57A 01/18/2011 DNAPL	MW-57A 07/22/2011 DNAPL	MW-57A 02/02/2012 DNAPL	MW-57A 07/24/2012 DNAPL	MW-57A 02/11/2013 DNAPL	MW-57A 07/31/2013 DNAPL	MW-57A 01/15/2014 DNAPL	MW-57A 07/29/2014 DNAPL	MW-57A 07/10/2019	MW-57A 01/08/2020	MW-58A 02/05/2009	MW-58A 01/20/2010
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.005	**<0.01**	**<0.01**	<0.0005	<0.0014	**<0.007**	<0.0002	<0.00014	<0.0002	<0.0002	<0.0025	<0.0025
Benzene	*0.005*	*0.005*	**0.23**	**0.084**	**0.14**	**0.064**	**0.138**	**0.137**	**0.109**	**0.0412**	0.00057 J	**0.038**	**0.052**	**0.038**
Chlorobenzene	*0.1*	*0.1*	<0.005	<0.01	<0.01	<0.0005	<0.0012	<0.006	0.000465 J	0.000625 J	<0.0003	0.00046 J	<0.0025	0.0093 J
Ethylbenzene	*0.7*	*0.7*	0.29	0.13	0.22	0.17	0.24	0.283	0.198	0.274	0.00085 J	0.015	0.079	0.063
Methylene chloride	*0.005*	*0.005*	<0.005	**<0.013**	**<0.013**	<0.001	0.00367 J	**<0.0075**	<0.00022	<0.00015	<0.001	<0.001	<0.0025	<0.0025
Toluene	*1*	*1*	0.38	0.055	0.23	0.1	0.244	0.308	0.198	0.0355	<0.0002	0.01	0.022 J	0.02 J
Vinyl chloride	*0.002*	*0.002*	**<0.005**	**<0.01**	**<0.01**	0.0016 J	<0.0011	**<0.0055**	0.00154		<0.0002	<0.0002		**<0.0025**
Xylenes (total)	*10*	*10*	0.68	0.19	0.4	0.33	0.591	0.572	0.454	0.455	<0.0003	0.026	0.1	0.04 J
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0001	<0.0005	<0.0005	<0.0005	**<0.075**	**<0.0267**	**<0.0259**	<0.000109	<0.000021	<0.000021	<0.0001	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	**2**	**1**	**1.7**	0.2	**1.62**	**0.994**	**7.91 J**	0.0443 J	<0.00059	0.41	0.047	0.097
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.0005	<0.0005	<0.0005	**<0.0886**	**<0.0316**	**<0.0307**	<0.000129	<0.000058	<0.000058	<0.00009	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	<0.0006	<0.0006	<0.0006	**<0.0545**	**<0.0194**	**<0.0189**	<0.0000792	<0.000042	<0.000042	<0.00007	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.0001	<0.0005	<0.0005	<0.0005	<0.0545	<0.0194	<0.0189	<0.0000792	<0.000021	<0.000021	<0.00012	<0.0001
2-Methylnaphthalene	*0.098*	*0.29*	**3.5**	**13**	**1.9**	**3.1**	**13.9**	**1.5**	**8.24**	**0.616**	**0.19**	**0.18**	**0.22**	**0.1**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.0008	<0.0008	<0.0008	**<0.566**	**<0.201**	**<0.196**	<0.000822	<0.00002	<0.00002	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.00007	<0.0005	<0.0005	<0.0005	**<0.382**	**<0.136**	**<0.132**	<0.000554	<0.000047	<0.000047	<0.00007	<0.00007
Acenaphthene	*1.5*	*4.4*	**1.9**	**8.6**	1.2	**1.8**	**8.56**	0.997	**5.69**	0.335	0.099	0.19	0.31	0.18
Acenaphthylene	*1.5*	*4.4*	0.022	0.091	0.014	0.024	<0.0409	<0.0146	<0.0142	0.00779	0.0019	0.0025	0.0012	0.0013
Anthracene	*7.3*	*22*	0.62	**8.4**	0.34	0.55	3.09	0.337	2.02	0.0557	0.0084	0.048	0.0045	0.0098
Benzo(a)anthracene	*0.0091*	*0.02*	**0.12**	**0.45**	**0.047**	**0.074**	**0.605**	**0.0521 J**	**0.361**	0.0072	0.001	0.0036	<0.00007	<0.00007
Benzo(a)pyrene	*0.0002*	*0.0002*	**0.028**	**0.16**	**0.014**	**0.024**	**0.165 J**	**<0.0194**	**0.0962 J**	**0.00385**	**0.00054**	**0.0011**	<0.00008	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.0005	<0.0005	<0.0005	**<0.0886**	**<0.0316**	**<0.0307**	**0.0021**	<0.00003	<0.00003	<0.00009	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0002	<0.001	0.0016 J	<0.001	**<0.252**	**<0.0898**	**<0.0873**	<0.000808	0.00021	<0.00037	0.0003	<0.0002
Chrysene	*0.91*	*2*	0.11	0.53	0.046	0.089	0.602	0.0482 J	0.36	0.00625	0.001	0.003	<0.00007	<0.00007
Dibenzofuran	*0.098*	*0.29*	**1.7**	**8.6**	**0.86**	**1.7**	**7.28**	**0.799**	**4.69**	**0.257**	0.076	**0.15**	**0.23**	**0.14**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00007	<0.0005	<0.0005	<0.0005	<0.075	<0.0267	<0.0259	<0.000109	<0.00002	<0.00002	0.0012	<0.00007
Fluoranthene	*0.98*	*2.9*	**0.99**	**6**	0.48	0.74	**4.98**	0.412	**3.19**	0.0561	0.0091	0.038	0.0025	0.0058
Fluorene	*0.98*	*2.9*	**1.4**	**7.9**	0.72	**1.4**	**6.54**	0.713	**4.16**	0.21	0.059	0.13	0.15	0.12
Naphthalene	*0.49*	*1.5*	**18**	**71**	**9.2**	**22**	**60.7**	**13.5**	**56.9**	**7.27**	**0.61**	**1**	**2.4**	**0.67**
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.0005	<0.0005	<0.0005	**<0.075**	<0.0267	<0.0259	<0.000109	<0.000024	<0.000024	<0.00009	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00009	<0.0005	<0.0005	<0.0005	<0.0682	<0.0243	<0.0236	<0.000099	<0.000025	<0.000025	<0.00009	<0.00009
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.0005	<0.0005	<0.0005	**<0.416**	**<0.148**	**<0.144**	<0.000604	0.00059	<0.000079	<0.00008	<0.00008
Phenanthrene	*0.73*	*2.2*	**3.5**	**13**	**2**	**3**	**17**	**1.61**	**13.1**	0.271	0.059	0.17	0.041	0.049
Phenol	*7.3*	*22*	0.02	<0.0005	0.0089	<0.0005	<0.0273	<0.00971	<0.00943	<0.0000396	<0.00016	0.0049	0.00029	0.0074
Pyrene	*0.73*	*2.2*	0.67	**3.3**	0.34	0.42	**3.12**	0.264	**2.29**	0.0308 J	0.0055	0.025	0.0012	0.0034
Metals														
Arsenic	*0.01*	*0.01*									0.00447	**0.0545**		

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	***C/I Assessment Level***	MW-58A 06/23/2010	MW-58A 01/19/2011	MW-58A 07/27/2011	MW-58A 02/03/2012	MW-58A 07/24/2012	MW-58A 02/11/2013	MW-58A 08/06/2013	MW-58A 01/29/2014	MW-58A 08/28/2014	MW-58A 01/31/2018	MW-58A 03/19/2018	MW-58A 05/16/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0025	<0.0025	<0.005	**<0.01**	<0.0005	<0.00014	<0.00014	<0.00014	<0.0014	<0.0002	<0.0002	<0.001
Benzene	*0.005*	*0.005*	**0.075**	**0.034**	<0.005	**0.12**	**0.16**	**0.0943**	0.0000807 J	<0.00008	**0.259**	0.0048	**0.012**	**0.012**
Chlorobenzene	*0.1*	*0.1*	0.01 J	0.0029 J	<0.005	<0.01	0.0018 J	0.00295	<0.00012	<0.00012	<0.0012	<0.0003	0.00054 J	<0.0015
Ethylbenzene	*0.7*	*0.7*	0.11	0.03	<0.0055	0.085	0.099	0.0648	<0.00011	<0.00011	0.167	0.0066	0.038	0.035
Methylene chloride	*0.005*	*0.005*	<0.0048	<0.0025	**<0.0065**	**<0.013**	<0.001	<0.00015	<0.00015	<0.00015	<0.0015	<0.001	<0.001	<0.005
Toluene	*1*	*1*	0.045	0.0059 J	<0.005	0.043 J	0.041	0.0176	<0.00015	<0.00015	0.135	0.00091 J	0.00063 J	0.0027 J
Vinyl chloride	*0.002*	*0.002*		**<0.0025**	**<0.005**		**0.011**	**0.00281**	<0.00011	<0.00011	**0.0101 J**	<0.0002	<0.0002	<0.001
Xylenes (total)	*10*	*10*	0.15	0.029 J	<0.016	0.23	0.31	0.122	<0.00026	<0.00026	0.352	0.012	0.068	0.015
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	0.0001 J	<0.0001	<0.00005	<0.00005	<0.00005	**<0.01**	<0.00011	<0.000104	**<0.00539**	<0.00021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	**0.61**	**0.68**	<0.00005	**1.1**	**2.4**	**0.95**	<0.00031	<0.000292	**9.19**	0.0015 J	0.00053	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	**<0.0118**	<0.00013	<0.000123	**<0.00637**	<0.00058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	**<0.00727**	<0.00008	<0.0000755	**<0.00392**	<0.00042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00727	<0.00008	<0.0000755	<0.00392	<0.00021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	**0.21**	0.057	<0.00005	0.082	0.0076	**0.243**	<0.00007	<0.000066	**0.373**	0.038	0.045	**0.14**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	0.00008 J	<0.00008	<0.00008	<0.00008	<0.00008	**<0.0755**	<0.00083	<0.000783	**<0.0407**	<0.0002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	0.00007 J	<0.00007	<0.00005	<0.00005	<0.00005	**<0.0509**	<0.00056	<0.000528	<0.0275	<0.00047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.28	0.12	<0.00005	0.16	0.057	0.205	<0.00008	<0.0000755	0.221	0.1	0.17	0.19
Acenaphthylene	*1.5*	*4.4*	0.0015	0.00072	<0.00005	0.0011	0.0011	<0.00545	<0.00006	<0.0000566	0.00996 J	0.0012	0.001	0.0017
Anthracene	*7.3*	*22*	0.017 J	0.0051	0.00039	0.0055	0.0069	0.0245 J	<0.00005	<0.0000472	0.0126 J	0.0055	0.008	0.011
Benzo(a)anthracene	*0.0091*	*0.02*	0.00007 J	<0.00007	<0.00005	<0.00005	0.00072	<0.00727	<0.00008	<0.0000755	<0.00392	<0.0005	0.000083 J	0.000083 J
Benzo(a)pyrene	*0.0002*	*0.0002*	0.00008 J	<0.00008	<0.00005	<0.00005	**0.00027**	**<0.00727**	<0.00008	<0.0000755	**<0.00392**	<0.0002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	**0.0321 J**	<0.00013	<0.000123	**<0.00637**	<0.0003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00046 J	0.00035	0.00071	<0.0001	<0.00094	**<0.0336**	<0.00037	<0.000349	**<0.0181**	<0.00037	<0.000037	0.000098 J
Chrysene	*0.91*	*2*	0.00007 J	<0.00007	<0.00005	<0.00005	0.0011	<0.00727	<0.00008	<0.0000755	<0.00392	<0.00021	0.000083 J	0.000082 J
Dibenzofuran	*0.098*	*0.29*	**0.23**	0.079	0.0017	**0.13**	0.0088	**0.128**	<0.00008	<0.0000755	**0.136**	0.036	0.08	0.091
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	0.00007 J	<0.00007	<0.00005	<0.00005	<0.00005	<0.01	<0.00011	<0.000104	<0.00539	<0.0002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	0.009 J	0.0049	0.001	0.0036	0.0099	0.0102 J	<0.00007	<0.000066	<0.00343	0.0065	0.0074	0.0067
Fluorene	*0.98*	*2.9*	0.16	0.065	<0.00005	0.08	0.027	0.12	<0.00007	<0.000066	0.109	0.084	0.096	0.12
Naphthalene	*0.49*	*1.5*	**1.5**	0.45	<0.00005	**2.2**	0.068	**2.96 J**	0.00036 J	<0.0000755	**4.05**	0.0037	**0.95**	0.32
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.01	<0.00011	<0.000104	<0.00539	<0.00024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	0.00009 J	<0.00009	<0.00005	<0.00005	<0.00005	<0.00909	<0.0001	<0.0000943	<0.0049	<0.00025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	0.00008 J	<0.00008	<0.00005	<0.00005	0.00017 J	**<0.0555**	<0.00061	<0.000575	**<0.0299**	<0.00079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	0.061 J	0.037	<0.00005	0.039	0.036	0.0563	<0.00006	<0.0000566	0.0702	0.024	0.042	0.038
Phenol	*7.3*	*22*	0.0065 J	0.00037	0.000077 J	0.0038	0.00074	<0.00364	<0.00004	<0.0000377	<0.00196	0.00054 J	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	0.0042 J	0.0022	0.00073	0.0022	0.0069	<0.01	<0.00011	<0.000104	<0.00539	0.0031	0.0039	0.0036
Metals														
Arsenic	*0.01*	*0.01*										0.000713 J	0.00106 J	0.00143 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-58A 01/23/2019	MW-58A 07/10/2019	MW-58A 01/08/2020	MW-59A 02/05/2009	MW-59A 01/20/2010	MW-59A 06/24/2010	MW-59A 01/20/2011	MW-59A 07/18/2011	MW-59A 02/06/2012	MW-59A 07/27/2012	MW-59A 01/31/2013	MW-59A 08/01/2013
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014
Benzene	*0.005*	*0.005*	0.0011	0.0049	**0.0053**	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008
Chlorobenzene	*0.1*	*0.1*	0.00046 J	0.0008 J	0.00072 J	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012
Ethylbenzene	*0.7*	*0.7*	0.0032	0.017	0.0098	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015
Toluene	*1*	*1*	0.0014	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015
Vinyl chloride	*0.002*	*0.002*	<0.0002	<0.0002	<0.0002					<0.001	<0.001	<0.0005	<0.00011	<0.00011
Xylenes (total)	*10*	*10*	0.005	0.028	0.028	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.000104	<0.000108
2,4-Dimethylphenol	*0.49*	*1.5*	0.0001 J	<0.00004	<0.00004	<0.00008	<0.00008	<0.00008	<0.00008	0.000066 J	<0.00005	<0.00005	<0.000292	<0.000304
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000123	<0.000127
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000755	<0.0000784
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000784
2-Methylnaphthalene	*0.098*	*0.29*	0.000072 J	0.015	0.08	<0.00007	<0.00007	0.0002	0.0018	<0.00005	<0.00005	<0.00005	<0.000066	<0.0000686
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.000783	<0.000814
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000528	<0.000549
Acenaphthene	*1.5*	*4.4*	0.023	0.11	0.27	<0.00009	<0.00009	0.0003	0.00079	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000784
Acenaphthylene	*1.5*	*4.4*	0.00038	0.00087	0.0015	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000566	<0.0000588
Anthracene	*7.3*	*22*	0.002	0.062	0.018	<0.00007	<0.00007	0.00026	0.0004	<0.00005	<0.00005	<0.00005	<0.0000472	0.0000519 J
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	0.00082	0.000091 J	<0.00007	<0.00007	<0.00007	0.00015 J	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000784
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000784
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000123	<0.000127
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00007	<0.000037	<0.00011	0.0006	<0.00065	<0.00023	<0.00031	<0.00054	0.00015 J	<0.0001	<0.000349	<0.000363
Chrysene	*0.91*	*2*	0.00003 J	0.00084	0.000071 J	<0.00007	<0.00007	<0.00007	0.00014 J	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000784
Dibenzofuran	*0.098*	*0.29*	0.013	0.059	**0.13**	<0.00008	<0.00008	0.0007	0.00099	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000784
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	0.000032 J	<0.00002	<0.00002	0.00077	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.000075	<0.000104	0.000169 J
Fluoranthene	*0.98*	*2.9*	0.002	0.02	0.0099	<0.00007	<0.00007	0.0005	0.0012	<0.00012	<0.00005	<0.00005	<0.000066	<0.0000686
Fluorene	*0.98*	*2.9*	0.015	0.15	0.19	<0.00007	<0.00007	0.00045	0.00084	<0.00005	<0.00005	<0.00005	<0.000066	<0.0000686
Naphthalene	*0.49*	*1.5*	0.00042	0.46	**1.2**	<0.0001	<0.0001	0.00047	0.0066	<0.00005	<0.00005	0.000051 J	<0.0000755	<0.0000784
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000104	<0.000108
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000943	<0.000098
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000575	<0.000598
Phenanthrene	*0.73*	*2.2*	0.0038	0.036	0.062	<0.00007	<0.00007	0.0017	0.0024	<0.00018	<0.00005	<0.00005	<0.0000566	0.000075 J
Phenol	*7.3*	*22*	0.000074 J	<0.000035	<0.000035	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.000065 J	<0.0000377	<0.0000392
Pyrene	*0.73*	*2.2*	0.00088	0.0099	0.005	<0.00007	<0.00007	0.00029	0.00059	<0.00005	<0.00005	<0.00005	<0.000104	<0.000108
Metals														
Arsenic	*0.01*	*0.01*	0.00232	0.00748	0.000906 J									

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-59A 01/16/2014	MW-59A 07/30/2014	MW-59A 01/29/2018	MW-59A 03/20/2018	MW-59A 05/24/2018	MW-59A 01/23/2019	MW-59A 07/17/2019	MW-59A 01/16/2020	MW-59D 02/05/2009	MW-59D 02/05/2009 Duplicate	MW-59D 01/20/2010	MW-59D 01/20/2010 Duplicate
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005
Benzene	*0.005*	*0.005*	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005
Chlorobenzene	*0.1*	*0.1*	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005
Ethylbenzene	*0.7*	*0.7*	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005
Methylene chloride	*0.005*	*0.005*	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0011 J	0.0014 J	<0.0005	<0.0005
Toluene	*1*	*1*	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.00064 J	0.0007 J	<0.0005	<0.0005
Vinyl chloride	*0.002*	*0.002*	<0.00018	<0.00011	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002				
Xylenes (total)	*10*	*10*	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.001	<0.001	<0.001	<0.001
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000104	<0.000109	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0001	<0.0001	<0.0001	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	<0.000292	<0.000307	<0.00004	<0.000041	<0.00004	<0.00004	<0.00004	<0.00004	<0.00008	<0.00008	<0.00008	<0.00008
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000123	<0.000129	<0.000058	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058	<0.00009	<0.00009	<0.00009	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0000755	<0.0000792	<0.000042	<0.000043	<0.000042	<0.000042	<0.000042	<0.000042	<0.00007	<0.00007	<0.00007	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.0000755	<0.0000792	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00012	<0.00012	<0.0001	<0.0001
2-Methylnaphthalene	*0.098*	*0.29*	<0.0000902	<0.0000693	0.00011	<0.000019	<0.000019	<0.000019	0.000036 J	<0.00016	0.00015 J	0.0003	<0.00007	<0.00007
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.000783	<0.000822	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000528	<0.000554	<0.000047	<0.000048	<0.000047	<0.000047	<0.000047	<0.000047	<0.00007	<0.00007	<0.00007	<0.00007
Acenaphthene	*1.5*	*4.4*	<0.0000831	<0.0000792	0.0001	<0.000028	<0.000027	<0.000027	<0.000027	<0.00029	0.00015 J	0.00014 J	<0.00009	<0.00009
Acenaphthylene	*1.5*	*4.4*	<0.0000566	<0.0000594	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.00006	<0.00006	<0.00007	<0.00007
Anthracene	*7.3*	*22*	0.000119 J	<0.0000495	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000027	<0.00007	<0.00007	<0.00007	<0.00007
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0000755	<0.0000792	<0.00005	<0.000051	<0.00005	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0000755	<0.0000792	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.000123	<0.000129	<0.00003	<0.000031	<0.00003	<0.00003	<0.00003	<0.00003	<0.00009	<0.00009	<0.00009	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000349	<0.000366	0.000094 J	<0.000038	<0.000037	<0.000037	<0.00005	<0.000037	0.006	0.0055	<0.00023	<0.00087
Chrysene	*0.91*	*2*	<0.0000755	<0.0000792	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00007	<0.00007	<0.00007	<0.00007
Dibenzofuran	*0.098*	*0.29*	<0.000136	<0.0000792	0.00017	<0.00002	<0.00002	<0.00002	<0.00002	<0.00016	0.00014 J	<0.00008	<0.00008	<0.00008
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	0.000178 J	<0.000109	<0.00002	<0.00002	<0.00002	<0.00002	0.000064 J	<0.00002	0.0029	0.0023	<0.00007	<0.00007
Fluoranthene	*0.98*	*2.9*	0.000199 J	<0.0000693	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.000032	<0.00007	<0.00007	<0.00007	<0.00007
Fluorene	*0.98*	*2.9*	0.000176 J	<0.0000693	0.00011	<0.000031	<0.00003	<0.00003	<0.00003	<0.00011	0.00013 J	0.00012 J	<0.00007	<0.00007
Naphthalene	*0.49*	*1.5*	<0.000381	0.000219 J	0.00068	<0.00002	<0.00002	<0.00002	<0.00012	<0.0012	0.0019	0.0029	<0.0001	<0.0001
Nitrobenzene	*0.049*	*0.15*	<0.000104	<0.000109	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00009	<0.00009	<0.00009	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0000943	<0.000099	<0.000025	<0.000026	<0.000025	<0.000025	<0.000025	<0.000025	<0.00009	<0.00009	<0.00009	<0.00009
Pentachlorophenol	*0.001*	*0.001*	<0.000575	<0.000604	<0.000079	<0.000081	<0.000079	<0.000079	<0.000079	<0.000079	<0.00008	<0.00008	<0.00008	<0.00008
Phenanthrene	*0.73*	*2.2*	<0.000587	<0.0000594	0.00018	<0.000021	<0.000021	<0.000021	<0.000021	<0.00012	0.0002	0.00025	<0.00007	<0.00007
Phenol	*7.3*	*22*	<0.0000377	<0.0000396	<0.000035	<0.000036	0.000089 J	<0.000035	0.000058 J	<0.000035	<0.00007	<0.00007	<0.00007	<0.00007
Pyrene	*0.73*	*2.2*	0.00012 J	<0.000109	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000023	<0.00007	<0.00007	<0.00007	<0.00007
Metals														
Arsenic	*0.01*	*0.01*			0.00181 J	0.00131 J	**0.0101**	0.00243	0.00455	0.00368				

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-59D 07/01/2010	MW-59D 07/01/2010 Duplicate	MW-59D 01/20/2011	MW-59D 07/27/2011	MW-59D 07/27/2011 Duplicate	MW-59D 02/14/2012	MW-59D 02/14/2012 Duplicate	MW-59D 07/23/2012	MW-59D 02/11/2013	MW-59D 02/11/2013 Duplicate	MW-59D 08/05/2013	MW-59D 08/05/2013 Duplicate
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.00014	<0.00014
Benzene	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00012	<0.00012
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00011	<0.00011
Methylene chloride	*0.005*	*0.005*	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00015	<0.00015
Toluene	*1*	*1*	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00015	<0.00015
Vinyl chloride	*0.002*	*0.002*							<0.001					
Xylenes (total)	*10*	*10*	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00026	<0.00026
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000105	<0.000105	<0.00011	<0.00011
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000295	<0.000295	<0.00031	<0.00031
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000124	<0.000124	<0.00013	<0.00013
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.0000762	<0.0000762	<0.00008	<0.00008
2-Chloronaphthalene	*2*	*5.8*	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000762	<0.00008	<0.00008
2-Methylnaphthalene	*0.098*	*0.29*	<0.00007	<0.00007	0.00046	<0.00005	<0.00005	<0.00005	<0.00005	0.000071 J	<0.0000667	<0.0000667	0.00016 J	0.00007 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00079	<0.00079	<0.00083	<0.00083
4-Nitrophenol	*0.049*	*0.15*	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000533	<0.000533	<0.00056	<0.00056
Acenaphthene	*1.5*	*4.4*	<0.00009	<0.00009	0.00095	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000762	<0.00008	<0.00008
Acenaphthylene	*1.5*	*4.4*	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000571	<0.0000571	<0.00006	<0.00006
Anthracene	*7.3*	*22*	<0.00007	<0.00007	0.00069	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000476	<0.0000476	<0.00005	<0.00005
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00007	<0.00007	0.00027	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000762	<0.00008	<0.00008
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000762	<0.00008	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000124	<0.000124	<0.00013	<0.00013
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00031	<0.00049	<0.0015	0.0011	0.0018	<0.00094	<0.00068	<0.00014	<0.000352	0.000538	0.000805 J	0.000812 J
Chrysene	*0.91*	*2*	<0.00007	<0.00007	0.00024	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000762	<0.00008	<0.00008
Dibenzofuran	*0.098*	*0.29*	<0.00008	<0.00008	0.0011	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000762	<0.00008	<0.00008
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000105	<0.000105	<0.00011	<0.00011
Fluoranthene	*0.98*	*2.9*	<0.00007	<0.00007	0.0018	<0.00005	<0.00005	<0.00005	0.000075 J	<0.00005	<0.0000667	<0.0000667	<0.00007	<0.00007
Fluorene	*0.98*	*2.9*	<0.00007	<0.00007	0.00079	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000667	<0.0000667	<0.00007	<0.00007
Naphthalene	*0.49*	*1.5*	<0.00022	<0.0001	0.0034	<0.00005	<0.00005	<0.00005	<0.000064	<0.00036	<0.0000762	<0.0000762	0.00226 J	0.00008 J
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000105	<0.000105	<0.00011	<0.00011
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000952	<0.0000952	<0.0001	<0.0001
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000581	<0.000581	<0.00061	<0.00061
Phenanthrene	*0.73*	*2.2*	<0.00007	<0.00007	0.0037	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000571	<0.0000571	<0.00006	<0.00006
Phenol	*7.3*	*22*	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00014 J	0.000087 J	<0.00005	<0.0000381	<0.0000381	<0.00004	<0.00004
Pyrene	*0.73*	*2.2*	<0.00007	<0.00007	0.0011	<0.00005	<0.00005	<0.00005	0.000054 J	<0.00005	<0.000105	<0.000105	<0.00011	<0.00011
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-59D 01/23/2014	MW-59D 01/23/2014 Duplicate	MW-59D 08/28/2014	MW-59D 08/28/2014 Duplicate	MW-59D 02/07/2018	MW-59D 02/07/2018 Duplicate	MW-59D 03/26/2018	MW-59D 03/26/2018 Duplicate	MW-59D 06/01/2018	MW-59D 06/01/2018 Duplicate	MW-59D 01/24/2019	MW-59D 01/24/2019 Duplicate
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.00014	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	0.000135 J	0.000114 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.00018	<0.00018	<0.00012	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.00019	<0.00019	<0.00011	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.00022	<0.00022	<0.00015	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.00017	<0.00017	0.000258 J	0.000249 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.00058	<0.00058	<0.00026	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000104	<0.000104	<0.00011	<0.00011	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.000292	<0.000292	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000123	<0.000123	<0.00013	<0.00013	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0000755	<0.0000755	<0.00008	<0.00008	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.0000755	<0.0000755	<0.00008	<0.00008	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	<0.000066	<0.000066	0.000334 J	0.00007 J	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	0.000083 J	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.000783	<0.000783	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.000528	<0.000528	<0.00056	<0.00056	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	<0.0000755	<0.0000755	<0.00008	<0.00008	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	0.00012	<0.000027	<0.000027
Acenaphthylene	*1.5*	*4.4*	<0.0000566	<0.0000566	<0.00006	<0.00006	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	*7.3*	*22*	<0.000425	<0.0000472	<0.00005	<0.00005	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	0.000024 J	<0.000014	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0000755	<0.0000755	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0000755	<0.0000755	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.000123	<0.000123	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.000425 J	0.000364 J	0.00306 J	0.00598 J	0.000063 J	0.000054 J	<0.000037	0.000095 J	0.00024	0.00026	<0.000037	<0.000037
Chrysene	*0.91*	*2*	<0.0000755	<0.0000755	<0.00008	<0.00008	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	<0.0000755	<0.0000755	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	0.000092 J	0.00024 J	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.000825	<0.000827	<0.00011	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	0.0000789 J	0.0000746 J	0.00018 J	0.00007 J	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	*0.98*	*2.9*	<0.000066	0.0000688 J	<0.00007	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003	0.000064 J	0.00017 J	<0.00003	<0.00003
Naphthalene	*0.49*	*1.5*	<0.000727	<0.000796	0.00576 J	0.00008 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.0002	<0.00002	<0.00002
Nitrobenzene	*0.049*	*0.15*	<0.000104	<0.000104	<0.00011	<0.00011	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0000943	<0.0000943	<0.0001	<0.0001	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.000575	<0.000575	<0.00061	<0.00061	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	<0.000455	<0.000464	0.00018 J	0.0000608 J	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.00018	<0.000021	<0.000021
Phenol	*7.3*	*22*	<0.0000377	<0.0000377	<0.00004	<0.00004	<0.000035	<0.000035	<0.000035	<0.000035	0.00063 J	0.00097 J	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	<0.000104	<0.000104	0.000131 J	<0.00011	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019
Metals														
Arsenic	*0.01*	*0.01*					<0.0004	<0.0004	<0.0004	<0.0004	0.00111 J	0.00101 J	0.000765 J	0.000637 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-59D 07/31/2019	MW-59D 07/31/2019 Duplicate	MW-59D 01/16/2020	MW-59D 01/16/2020 Duplicate	MW-60A 02/04/2009	MW-60A 01/20/2010	MW-60A 06/24/2010	MW-60A 01/19/2011	MW-60A 07/18/2011	MW-60A 02/07/2012	MW-60A 07/23/2012	MW-60A 02/14/2013
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	
Vinyl chloride	*0.002*	*0.002*								<0.0005	<0.001	<0.001	<0.0005	
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00038
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.00004	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	0.001	<0.00018
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.000058	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00032
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.000042	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00029
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00019
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019	<0.000019	<0.000019	0.00028	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.0021	0.000146 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00016
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00033
Acenaphthene	*1.5*	*4.4*	<0.000027	<0.000027	<0.000036	<0.000027	0.00045	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	0.0012	<0.00016
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.000015	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00016
Anthracene	*7.3*	*22*	<0.000014	<0.000014	<0.000014	<0.000014	0.00034	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00027	<0.00044
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00025
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00013
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00019
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	<0.000037	<0.000037	<0.000037	0.002	<0.0025	<0.0002	0.0031	<0.00017	0.00023	<0.0001	<0.00059
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	<0.000021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00024
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00002	<0.000028	<0.00002	0.00035	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	0.00099	<0.00016
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.00002	<0.00002	0.0023	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.000076	<0.00187
Fluoranthene	*0.98*	*2.9*	<0.00001	<0.00001	<0.00001	<0.00001	0.00039	<0.00007	0.0003	0.00029	<0.00005	0.00028	0.0003	<0.00031
Fluorene	*0.98*	*2.9*	<0.00003	<0.00003	<0.000031	<0.00003	0.00044	<0.00007	<0.00007	<0.00007	<0.00005	0.00016 J	0.00089	<0.00012
Naphthalene	*0.49*	*1.5*	<0.00002	<0.00002	<0.00013	<0.00002	0.0095	<0.0001	0.0015	<0.0001	<0.00005	<0.00005	0.025	0.00043 J
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0002
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00033
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.000079	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00096
Phenanthrene	*0.73*	*2.2*	<0.000021	<0.000021	<0.000043	<0.000021	0.0011	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.0015	<0.00029
Phenol	*7.3*	*22*	0.00011 J	<0.000035	<0.000035	<0.000035	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	0.000275 J
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019	<0.000019	<0.000019	0.00029	<0.00007	0.0002 J	0.00079	<0.00005	0.0013	0.00033	<0.00033
Metals														
Arsenic	*0.01*	*0.01*	<0.0004	0.000502 J	0.000508 J	0.000478 J								

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-60A 04/02/2013	MW-60A 08/02/2013	MW-60A 01/15/2014	MW-60A 07/16/2014	MW-60A 02/08/2018	MW-60A 03/20/2018	MW-60A 05/25/2018	MW-60A 01/11/2019	MW-60A 07/17/2019	MW-60AR 03/20/2020	MW-61A 02/03/2009	MW-61A 01/20/2010
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005
Benzene	*0.005*	*0.005*	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005
Chlorobenzene	*0.1*	*0.1*	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005
Ethylbenzene	*0.7*	*0.7*	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005
Methylene chloride	*0.005*	*0.005*	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
Toluene	*1*	*1*	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005
Vinyl chloride	*0.002*	*0.002*	<0.00011	<0.00011	<0.00018	<0.00011	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002			
Xylenes (total)	*10*	*10*	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.001	<0.001
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000106	<0.000105	<0.000104	<0.000104	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0001	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	<0.000298	<0.000295	<0.000292	<0.000292	<0.00004	<0.000041	<0.00004	<0.00004	<0.00004	<0.00004	<0.00008	<0.00008
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000125	<0.000124	<0.000123	<0.000123	<0.000058	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058	<0.00009	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0000769	<0.0000762	<0.0000755	<0.0000755	<0.000042	<0.000043	<0.000042	<0.000042	<0.000042	<0.000042	<0.00007	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.0000769	<0.0000762	<0.0000755	<0.0000755	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00012	<0.0001
2-Methylnaphthalene	*0.098*	*0.29*	<0.0000673	<0.0000667	0.000143 J	0.000516	<0.000019	<0.000019	<0.000019	<0.000019	0.000072 J	<0.000019	0.00041	<0.00007
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.000798	<0.00079	<0.000783	<0.000783	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000538	<0.000533	<0.000528	<0.000528	<0.000047	<0.000048	<0.000047	<0.000047	<0.000047	<0.000047	<0.00007	<0.00007
Acenaphthene	*1.5*	*4.4*	<0.0000769	<0.0000762	0.000157 J	0.000167 J	<0.000027	<0.000028	<0.000027	<0.000027	<0.000027	<0.000027	0.00017 J	<0.00009
Acenaphthylene	*1.5*	*4.4*	<0.0000577	<0.0000571	<0.0000566	<0.0000566	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.00006	<0.00007
Anthracene	*7.3*	*22*	<0.0000481	0.0000883 J	0.000158 J	<0.0000472	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.00007	<0.00007
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0000769	<0.0000762	<0.0000755	<0.0000755	<0.00005	<0.000051	<0.00005	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0000769	<0.0000762	<0.0000755	<0.0000755	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.000125	<0.000124	<0.000123	<0.000123	<0.00003	<0.000031	<0.00003	<0.00003	<0.00003	<0.00003	<0.00009	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000356	<0.000352	<0.000349	<0.000349	<0.000037	<0.000038	0.000076 J	<0.000092	<0.00055	0.000063 J	0.0017	<0.002
Chrysene	*0.91*	*2*	<0.0000769	<0.0000762	<0.0000755	<0.0000755	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00007	<0.00007
Dibenzofuran	*0.098*	*0.29*	<0.0000769	<0.0000762	0.000145 J	0.000116 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.000106	<0.000105	<0.000104	<0.000104	<0.00002	<0.00002	<0.00002	0.000064 J	0.000075 J	<0.00002	0.011	<0.00007
Fluoranthene	*0.98*	*2.9*	<0.0000673	<0.0000667	0.0000894 J	<0.000066	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00007	<0.00007
Fluorene	*0.98*	*2.9*	<0.0000673	<0.0000667	0.000162 J	<0.000066	<0.00003	0.000054 J	<0.00003	<0.00003	<0.00003	<0.00003	0.00011 J	<0.00007
Naphthalene	*0.49*	*1.5*	<0.0000769	<0.0000762	0.000668 J	0.00653	<0.00002	<0.00002	<0.00002	<0.00002	<0.00013	<0.00002	0.0066	<0.0001
Nitrobenzene	*0.049*	*0.15*	<0.000106	<0.000105	<0.000104	<0.000104	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00009	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0000962	<0.0000952	<0.0000943	<0.0000943	<0.000025	<0.000026	<0.000025	<0.000025	<0.000025	<0.000025	<0.00009	<0.00009
Pentachlorophenol	*0.001*	*0.001*	<0.000587	<0.000581	<0.000575	<0.000575	<0.000079	<0.000081	<0.000079	<0.000079	<0.000079	<0.000079	<0.00008	<0.00008
Phenanthrene	*0.73*	*2.2*	<0.0000577	<0.0000571	0.000345 J	<0.0000566	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.00021	<0.00007
Phenol	*7.3*	*22*	<0.0000385	<0.0000381	<0.0000377	<0.0000377	<0.000035	<0.000036	<0.000035	<0.000035	<0.000035	<0.000035	<0.00007	<0.00007
Pyrene	*0.73*	*2.2*	<0.000106	<0.000105	<0.000104	<0.000104	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.00007	<0.00007
Metals														
Arsenic	*0.01*	*0.01*					0.000649 J	0.000706 J	0.000636 J	0.00453	0.00044 J	0.00189 J		

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-61A 07/01/2010	MW-61A 01/27/2011	MW-61A 07/21/2011	MW-61A 02/07/2012	MW-61A 07/27/2012	MW-61A 04/02/2013	MW-61A 08/01/2013	MW-61A 01/23/2014	MW-61A 08/28/2014	MW-61A 02/08/2018	MW-61A 03/20/2018	MW-61A 05/25/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*			<0.001	<0.001	<0.0005	<0.00011	<0.00011	<0.00018	<0.00011	<0.0002	<0.0002	<0.0002
Xylenes (total)	*10*	*10*	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.000106	<0.000105	<0.000104	<0.00011	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000298	<0.000295	<0.000292	<0.00031	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000125	<0.000124	<0.000123	<0.00013	<0.000058	<0.000059	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000769	<0.0000762	<0.0000755	<0.00008	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000769	<0.0000762	<0.0000755	<0.00008	<0.000021	<0.000021	0.000021 J
2-Methylnaphthalene	*0.098*	*0.29*	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000673	<0.0000667	<0.000066	<0.00007	<0.000019	<0.000019	0.000019 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.000798	<0.00079	<0.000783	<0.00083	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000538	<0.000533	<0.000528	<0.00056	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000769	<0.0000762	<0.0000755	<0.00008	<0.000027	<0.000027	0.000027 J
Acenaphthylene	*1.5*	*4.4*	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000577	<0.0000571	<0.0000566	<0.00006	<0.000015	<0.000015	0.000015 J
Anthracene	*7.3*	*22*	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000481	<0.0000476	<0.000434	<0.00005	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000769	<0.0000762	<0.0000755	<0.00008	<0.00005	<0.000051	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000769	<0.0000762	<0.0000755	<0.00008	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000125	<0.000124	<0.000123	<0.00013	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0021	<0.0002	0.00023	0.00038	0.00027	<0.000356	<0.000352	0.00163 J	0.000536 J	<0.000037	<0.000037	0.000054 J
Chrysene	*0.91*	*2*	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000769	<0.0000762	<0.0000755	<0.00008	<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000769	<0.0000762	<0.0000755	<0.00008	<0.00002	<0.00002	0.00002 J
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000106	<0.000105	<0.000827	<0.00011	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000673	<0.0000667	0.0000806 J	<0.00007	<0.00001	<0.00001	<0.00001
Fluorene	*0.98*	*2.9*	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000673	<0.0000667	<0.000066	<0.00007	<0.00003	<0.00003	0.00003 J
Naphthalene	*0.49*	*1.5*	<0.00018	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000769	<0.00012	<0.000668	<0.00008	<0.00002	<0.00002	<0.00002
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000106	<0.000105	<0.000104	<0.00011	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000962	<0.0000952	<0.0000943	<0.0001	<0.000025	<0.000025	0.00015 J
Pentachlorophenol	*0.001*	*0.001*	<0.00032	<0.00008	<0.00005	<0.00005	<0.00005	<0.000587	<0.000581	<0.000575	<0.00061	<0.000079	<0.00008	<0.000079
Phenanthrene	*0.73*	*2.2*	<0.00007	<0.00007	<0.00005	<0.00005	0.00016 J	<0.0000577	0.0000586 J	<0.00046	<0.00006	<0.000021	<0.000021	<0.000021
Phenol	*7.3*	*22*	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000385	<0.0000381	<0.0000377	<0.00004	<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000106	<0.000105	<0.000104	<0.00011	<0.000019	<0.000019	<0.000019
Metals														
Arsenic	*0.01*	*0.01*										0.000743 J	0.00116 J	0.00172 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-61A 01/23/2019	MW-61A 07/17/2019	MW-61A 01/16/2020	MW-62B 02/04/2009	MW-62B 01/21/2010	MW-62B 07/14/2010	MW-62B 01/27/2011	MW-62B 07/27/2011	MW-62B 08/25/2011	MW-62B 02/08/2012	MW-62B 07/26/2012	MW-62B 02/11/2013
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.001		<0.001	<0.0005	<0.00014
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0043 J		<0.001	0.002 J	<0.00008
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.001		<0.001	<0.0005	<0.00012
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	0.00071 J	<0.0005	<0.0005	<0.0005	0.041		<0.0011	0.0021 J	<0.00011
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013		<0.0013	<0.001	<0.00015
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	0.0095		<0.001	0.0012 J	<0.00015
Vinyl chloride	*0.002*	*0.002*	<0.0002	<0.0002	<0.0002									
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.001	<0.001	<0.001	<0.001	0.025		<0.0031	0.0053 J	<0.00026
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005		<0.00005	<0.00005	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005		<0.00005	<0.00005	<0.000282
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005		<0.00005	<0.00005	<0.000118
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006		<0.00006	<0.00006	<0.0000727
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005		<0.00005	<0.00005	<0.0000727
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019	<0.000019	0.00012 J	0.0016	0.00064	<0.00007	<0.00005		<0.00005	<0.00006	<0.000174
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008		<0.00008	<0.00008	<0.000755
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005		<0.00005	<0.00005	<0.000509
Acenaphthene	*1.5*	*4.4*	<0.000027	<0.000027	<0.000052	0.0078	0.039	0.00041	<0.00009	0.21		0.026	0.085	0.000242 J
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.00006	0.00066	<0.00007	<0.00007	0.0026		0.0013	0.00084	0.000112 J
Anthracene	*7.3*	*22*	<0.000014	<0.000014	<0.000014	0.00024	0.0011	<0.00007	<0.00007	0.013		<0.00005	0.0032	0.000723
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005		<0.00005	<0.00005	<0.0000727
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.0000727
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005		<0.00005	<0.00005	<0.000118
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	<0.00037	0.000081 J	0.00041	<0.00098	0.0016	0.00022	0.00042		<0.00029	0.00013 J	<0.000336
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005		<0.00005	<0.00005	<0.0000727
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00002	<0.00002	0.0024	0.013	0.00034	<0.00008	**0.15**	**0.23**	0.00012 J	0.038	0.000174 J
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	0.000056 J	<0.00002	0.00065	<0.00007	<0.00007	<0.00007	<0.00005		<0.00005	<0.000078	<0.0001
Fluoranthene	*0.98*	*2.9*	<0.00001	<0.00001	<0.00006	0.00012 J	0.0011	<0.00007	0.00014 J	0.0079		0.00053	0.004	0.00033 J
Fluorene	*0.98*	*2.9*	<0.00003	<0.00003	<0.00003	0.0012	0.015	0.00016 J	<0.00007	0.058		0.0002	0.0087 J	<0.0000636
Naphthalene	*0.49*	*1.5*	<0.00002	<0.00002	<0.00021	0.0027	0.00028	0.0096	<0.0001	0.035		<0.00021	0.0056	<0.00129
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005		<0.00005	<0.00005	<0.0001
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005		<0.00005	<0.00005	<0.0000909
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005		<0.00005	<0.00005	<0.000555
Phenanthrene	*0.73*	*2.2*	<0.000021	<0.000021	<0.0001	0.00087	0.0025	0.00025	<0.00007	0.035		0.00014 J	0.0026	<0.000472
Phenol	*7.3*	*22*	<0.000035	0.00011 J	<0.000035	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005		0.000053 J	<0.00005	<0.0000364
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019	<0.000059	<0.00007	0.00047	<0.00007	0.000077 J	0.0033		0.00037	0.0021	0.000387 J
Metals														
Arsenic	*0.01*	*0.01*	0.00069 J	0.00117 J	0.00107 J									

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-62B 08/02/2013	MW-62B 01/29/2014	MW-62B 07/29/2014	MW-62B 01/24/2018	MW-62B 03/20/2018	MW-62B 05/24/2018	MW-62B 01/23/2019	MW-62B 07/16/2019	MW-62B 01/27/2020	MW-64A 02/04/2009	MW-64A 01/21/2010	MW-64A 07/14/2010
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00014	<0.00014	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005
Benzene	*0.005*	*0.005*	<0.00008	<0.00008	<0.00008	<0.0002	<0.0002	0.0021	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005
Chlorobenzene	*0.1*	*0.1*	<0.00012	<0.00012	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005
Ethylbenzene	*0.7*	*0.7*	<0.00011	<0.00011	<0.00011	<0.0003	<0.0003	0.013	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005
Methylene chloride	*0.005*	*0.005*	<0.00015	<0.00015	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005
Toluene	*1*	*1*	<0.00015	<0.00015	<0.00015	<0.0002	<0.0002	0.003	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.00026	<0.00026	<0.00026	<0.0003	<0.0003	0.014	<0.0003	<0.0003	<0.0003	<0.001	<0.001	<0.001
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000105	<0.000104	<0.000109	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0001	<0.0001	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	<0.000295	<0.000292	<0.000307	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00008	<0.00008	<0.00008
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000124	<0.000123	<0.000129	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.00009	<0.00009	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0000762	<0.0000755	<0.0000792	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.00007	<0.00007	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.0000762	<0.0000755	<0.0000792	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.00016 J	<0.00012	<0.0001	<0.0001
2-Methylnaphthalene	*0.098*	*0.29*	<0.0000667	<0.000066	<0.0000693	<0.000019	<0.000019	0.00011	<0.000019	0.000096 J	0.00011	0.00014 J	<0.00007	<0.00007
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00079	<0.000783	<0.000822	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.000533	<0.000528	<0.000554	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00007	<0.00007	<0.00007
Acenaphthene	*1.5*	*4.4*	<0.0000762	<0.0000755	0.000235 J	0.00006 J	0.023	0.11	<0.000027	0.000099 J	0.04	0.00029	<0.00009	<0.00009
Acenaphthylene	*1.5*	*4.4*	<0.0000571	<0.0000566	<0.0000594	0.000061 J	0.00063	0.0013	<0.000015	<0.000015	0.00029	<0.00006	<0.00007	<0.00007
Anthracene	*7.3*	*22*	<0.0000476	<0.0000472	0.0000699 J	0.00036	0.00051	0.0044	<0.000014	<0.000014	0.00096	0.00016 J	<0.00007	<0.00007
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0000762	<0.0000755	<0.0000792	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0000762	<0.0000755	<0.0000792	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.000124	<0.000123	<0.000129	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00009	<0.00009	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000352	<0.000349	<0.000366	0.00026	0.00018 J	0.00013 J	<0.000037	<0.000037	0.000095 J	0.0004	<0.0016	0.002
Chrysene	*0.91*	*2*	<0.0000762	<0.0000755	<0.0000792	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.000027 J	<0.00007	<0.00007	<0.00007
Dibenzofuran	*0.098*	*0.29*	<0.0000762	<0.0000755	0.0000916 J	<0.00002	0.0031	0.048	<0.00002	0.000048 J	0.0042	0.00012 J	<0.00008	<0.00008
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	0.000107 J	<0.000104	<0.000109	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00014 J	0.02	<0.00007	<0.00007
Fluoranthene	*0.98*	*2.9*	<0.0000667	<0.000066	<0.0000693	0.00052	0.0015	0.0041	<0.00001	0.000017 J	0.002	0.00076	<0.00007	<0.00007
Fluorene	*0.98*	*2.9*	<0.0000667	<0.000066	0.000126 J	0.00015	0.0047	0.034	<0.00003	0.000036 J	0.011	0.00018 J	<0.00007	<0.00007
Naphthalene	*0.49*	*1.5*	<0.0000762	<0.0000755	<0.0000792	<0.00002	<0.00002	0.038	<0.00002	0.00028	0.001	0.00092	<0.0001	<0.0001
Nitrobenzene	*0.049*	*0.15*	<0.000105	<0.000104	<0.000109	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00009	<0.00009	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0000952	<0.0000943	<0.000099	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00009	<0.00009	<0.00009
Pentachlorophenol	*0.001*	*0.001*	<0.000581	<0.000575	<0.000604	<0.000079	0.00033	<0.000079	<0.000079	<0.000079	<0.000079	<0.00008	<0.00008	<0.00008
Phenanthrene	*0.73*	*2.2*	<0.0000571	<0.0000566	<0.000144	<0.000021	0.00023	0.0083	<0.000021	0.000021 J	0.00087	0.00055	<0.00007	<0.00007
Phenol	*7.3*	*22*	<0.0000381	<0.0000377	<0.0000396	<0.000035	<0.000035	<0.000035	<0.000035	0.00056	<0.000035	<0.00007	<0.00007	<0.00007
Pyrene	*0.73*	*2.2*	<0.000105	<0.000104	<0.000109	0.00039	0.00077	0.002	<0.000019	<0.000019	0.0013	0.00063	<0.00007	<0.00007
Metals														
Arsenic	*0.01*	*0.01*				0.00842	**0.0173**	**0.028**	<0.0004	0.00194 J	**0.0161**			

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-64A 01/27/2011	MW-64A 07/27/2011	MW-64A 02/08/2012	MW-64A 07/25/2012	MW-64A 04/01/2013	MW-64A 08/06/2013	MW-64A 01/29/2014	MW-64A 07/29/2014	MW-64A 01/31/2018	MW-64A 03/25/2018	MW-64A 05/31/2018	MW-64A 01/23/2019
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.00014	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	0.000154 J	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00012	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00011	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00015	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00015	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00026	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0001	<0.00005	<0.00005	<0.00005	<0.000106	<0.00011	<0.000104	<0.000108	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00008	<0.00005	<0.00005	<0.00005	<0.000298	<0.00031	<0.000292	<0.000304	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.00005	<0.00005	<0.00005	<0.000125	<0.00013	<0.000123	<0.000127	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000769	<0.00008	<0.0000755	<0.0000784	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000769	<0.00008	<0.0000755	<0.0000784	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	<0.00007	<0.00005	0.000053 J	<0.00005	<0.0000673	<0.00007	<0.000066	<0.0000686	<0.000019	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.00008	<0.000798	<0.00083	<0.000783	<0.000814	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00007	<0.00005	<0.00005	<0.00005	<0.000538	<0.00056	<0.000528	<0.000549	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	<0.00009	<0.00005	0.0096	<0.00005	<0.0000769	<0.00008	<0.0000755	<0.0000784	<0.000027	0.035	<0.000027	<0.000027
Acenaphthylene	*1.5*	*4.4*	<0.00007	<0.00005	0.0005	<0.00005	<0.0000577	<0.00006	<0.0000566	<0.0000588	<0.000015	0.00086	<0.000015	<0.000015
Anthracene	*7.3*	*22*	<0.00007	0.00036	<0.00005	<0.00005	0.000158 J	<0.00005	<0.0000472	0.000127 J	<0.000014	0.00056	<0.000014	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000769	<0.00008	<0.0000755	<0.0000784	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000769	<0.00008	<0.0000755	<0.0000784	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.00005	<0.00005	<0.00005	<0.000125	<0.00013	<0.000123	<0.000127	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00049	0.00076	<0.00013	0.00021	<0.000356	<0.00037	<0.000349	<0.000363	<0.0001	<0.000037	0.00023	<0.000037
Chrysene	*0.91*	*2*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000769	<0.00008	<0.0000755	<0.0000784	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	<0.00008	0.0013	<0.00005	<0.00005	<0.0000769	<0.00008	<0.0000755	<0.0000784	0.00003 J	0.00038	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00007	0.000079 J	<0.00005	0.000084 J	<0.000106	<0.00011	0.000117 J	<0.000108	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	<0.00007	0.00057	0.00021	<0.00005	<0.0000673	<0.00007	<0.000066	<0.0000686	<0.00001	0.00095	<0.00001	<0.00001
Fluorene	*0.98*	*2.9*	<0.00007	<0.00005	0.00012 J	<0.00005	<0.0000673	<0.00007	<0.000066	<0.0000686	<0.00003	0.0013	<0.00003	<0.00003
Naphthalene	*0.49*	*1.5*	<0.0001	<0.00005	<0.00063	<0.00005	<0.0000769	<0.00008	<0.0000755	<0.000317	<0.000094	0.00058	<0.00002	<0.00002
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.00005	<0.00005	<0.00005	<0.000106	<0.00011	<0.000104	<0.000108	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000962	<0.0001	<0.0000943	<0.000098	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.00005	<0.00005	<0.00005	<0.000587	<0.00061	<0.000575	<0.000598	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000577	<0.00006	<0.0000566	<0.0000588	0.000032 J	<0.000021	<0.000021	<0.000021
Phenol	*7.3*	*22*	<0.00007	0.000077 J	<0.00005	<0.00005	<0.0000385	<0.00004	<0.0000377	<0.0000392	<0.000035	<0.000035	0.00051	<0.000035
Pyrene	*0.73*	*2.2*	<0.00007	0.00042	0.00013 J	<0.00005	<0.000106	<0.00011	<0.000104	<0.000108	<0.000019	0.00059	<0.000019	<0.000019
Metals														
Arsenic	*0.01*	*0.01*									0.000419 J	**0.0117**	0.00111 J	<0.0004

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-64A 07/11/2019	MW-64A 01/27/2020	MW-65D 02/05/2009	MW-65D 01/21/2010	MW-65D 07/01/2010	MW-65D 01/26/2011	MW-65D 07/27/2011	MW-65D 02/14/2012	MW-65D 07/23/2012	MW-65D 02/11/2013	MW-65D 08/05/2013	MW-65D 01/21/2014
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	0.0013 J	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	0.00095 J	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.000105	<0.000108	<0.000104
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000295	<0.000304	<0.000292
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000124	<0.000127	<0.000123
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000762	<0.0000784	<0.0000755
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	<0.0000755
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	0.00037	0.00012 J	<0.00007	0.00014 J	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000667	<0.0000686	0.0000808 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00079	<0.000814	<0.000783
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000533	<0.000549	<0.000528
Acenaphthene	*1.5*	*4.4*	0.0003	0.00016	0.00019 J	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	<0.0000755
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000571	<0.0000588	<0.0000566
Anthracene	*7.3*	*22*	<0.000014	0.000096 J	0.000078 J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000476	<0.000049	0.0000574 J
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	<0.0000755
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	<0.0000755
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000124	<0.000127	<0.000123
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	0.00031	0.0019	<0.0027	<0.001	0.001	0.001	<0.00013	<0.00025	0.000593	<0.000363	<0.000349
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	<0.0000755
Dibenzofuran	*0.098*	*0.29*	<0.00002	0.0001 J	0.00016 J	0.00012 J	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000784	<0.0000755
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	0.000079 J	0.00029	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	0.000135 J	0.000148 J	<0.000104
Fluoranthene	*0.98*	*2.9*	<0.00001	0.00028	0.000097 J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000667	<0.0000686	0.000117 J
Fluorene	*0.98*	*2.9*	0.000031 J	0.000082 J	0.00016 J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000667	<0.0000686	<0.000066
Naphthalene	*0.49*	*1.5*	<0.00033	0.002	0.00051	0.00026	<0.00059	0.00019 J	<0.00005	<0.00005	<0.000094	<0.0000762	<0.0000784	0.000529 J
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000105	<0.000108	<0.000104
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000952	<0.000098	<0.0000943
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000581	<0.000598	<0.000575
Phenanthrene	*0.73*	*2.2*	<0.000021	<0.000021	0.00014 J	<0.00007	<0.00007	<0.00007	0.000065 J	<0.00005	<0.00005	<0.0000571	0.000093 J	0.000294 J
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.00007	0.0015	<0.00007	<0.00007	0.000051 J	<0.00005	<0.00005	<0.0000381	<0.0000392	<0.0000377
Pyrene	*0.73*	*2.2*	0.00015	0.00015	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000105	<0.000108	<0.000104
Metals														
Arsenic	*0.01*	*0.01*	0.00939	0.00126 J										

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-65D 08/28/2014	MW-65D 02/07/2018	MW-65D 03/26/2018	MW-65D 06/01/2018	MW-65D 01/24/2019	MW-65D 07/31/2019	MW-65D 01/16/2020	MW-66D 02/05/2009	MW-66D 01/20/2010	MW-66D 07/01/2010	MW-66D 07/27/2011	MW-66D 02/14/2012
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Benzene	*0.005*	*0.005*	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Chlorobenzene	*0.1*	*0.1*	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Ethylbenzene	*0.7*	*0.7*	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011
Methylene chloride	*0.005*	*0.005*	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013
Toluene	*1*	*1*	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.001	<0.001	<0.001	<0.0031	<0.0031
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00011	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00031	<0.00004	<0.00004	<0.00004	<0.00009	<0.00004	<0.00004	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00013	<0.000058	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00008	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006
2-Chloronaphthalene	*2*	*5.8*	<0.00008	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00012	<0.0001	<0.0001	<0.00005	<0.00005
2-Methylnaphthalene	*0.098*	*0.29*	<0.00007	<0.000019	<0.000019	0.000089 J	0.00016	<0.000019	<0.000019	0.00062	<0.00007	<0.00007	<0.00005	<0.00005
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.00056	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Acenaphthene	*1.5*	*4.4*	<0.00008	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	0.0004	<0.00009	<0.00009	<0.00005	<0.00005
Acenaphthylene	*1.5*	*4.4*	<0.00006	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.00006	<0.00007	<0.00007	<0.00005	<0.00005
Anthracene	*7.3*	*22*	<0.00005	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	0.00015 J	<0.00007	<0.00007	0.00022	0.00027
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00008	<0.00005	<0.000051	<0.00005	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	0.00011 J	0.00012 J
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	0.00016 J	0.00013 J
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00244	<0.000037	<0.000037	0.0002 J	0.00006 J	0.00016 J	0.00026	**0.0064**	<0.0028	<0.00096	0.0019	<0.0002
Chrysene	*0.91*	*2*	<0.00008	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00007	<0.00007	<0.00007	0.00046	0.00052
Dibenzofuran	*0.098*	*0.29*	<0.00008	<0.00002	<0.00002	0.000061 J	0.000039 J	<0.00002	<0.00002	0.00036	<0.00008	0.000083 J	<0.00005	<0.00005
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00011	<0.00002	<0.00002	0.000022 J	<0.00002	<0.00002	<0.00002	0.00044	0.000086 J	<0.00007	0.000056 J	<0.00005
Fluoranthene	*0.98*	*2.9*	<0.00007	<0.00001	<0.00001	0.000013 J	0.000027 J	<0.00001	<0.00001	0.00026	<0.00007	<0.00007	0.00035	0.00057
Fluorene	*0.98*	*2.9*	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	0.00033	<0.00007	<0.00007	<0.00005	<0.00005
Naphthalene	*0.49*	*1.5*	0.00071	<0.00002	<0.00002	0.00029	<0.0026	<0.00002	<0.00002	0.0058	<0.0001	<0.0002	<0.00005	<0.00005
Nitrobenzene	*0.049*	*0.15*	<0.00011	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0001	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005
Pentachlorophenol	*0.001*	*0.001*	<0.00061	<0.000079	<0.00008	<0.000079	<0.000079	<0.000079	<0.000079	<0.00008	<0.00008	<0.00008	0.000084 J	<0.00005
Phenanthrene	*0.73*	*2.2*	<0.00006	<0.000021	<0.000021	0.000035 J	<0.000021	<0.000021	<0.000021	0.00073	0.00012 J	<0.00007	0.00011 J	0.00011 J
Phenol	*7.3*	*22*	<0.00004	<0.000035	<0.000035	<0.000035	<0.00019	<0.000035	<0.000035	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005
Pyrene	*0.73*	*2.2*	<0.00011	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	0.00017 J	<0.00007	<0.00007	0.00036	0.00051
Metals														
Arsenic	*0.01*	*0.01*		<0.0004	0.00761	0.00292	0.00202	0.00135 J	0.000507 J					

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-66D 07/23/2012	MW-66D 04/02/2013	MW-66D 08/05/2013	MW-66D 01/29/2014	MW-66D 08/28/2014	MW-66D 10/03/2014	MW-66D 02/07/2018	MW-66D 03/26/2018	MW-66D 06/01/2018	MW-66D 01/24/2019	MW-66D 07/31/2019	MW-66D 01/16/2020
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.00014	<0.00014	<0.00014	<0.00014		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.00012	<0.00012	<0.00012	<0.00012		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.00011	<0.00011	<0.00011	<0.00011		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.001	<0.00015	<0.00015	<0.00015	<0.00015		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.0005	<0.00015	<0.00015	<0.00015	<0.00015		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.0015	<0.00026	<0.00026	<0.00026	<0.00026		<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	<0.000106	<0.00011	<0.000104	<0.000109	<0.000107	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00005	<0.000298	<0.00031	<0.000292	<0.000307	<0.000301	<0.0004	<0.000041	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	<0.000125	<0.00013	<0.000123	<0.000129	<0.000126	<0.00058	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	<0.0000769	<0.00008	<0.0000755	<0.0000792	<0.0000777	<0.00042	<0.000043	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.00005	<0.0000769	<0.00008	<0.0000755	<0.0000792	<0.0000777	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	0.000085 J	<0.0000673	<0.00007	<0.000066	0.000211 J	<0.000068	<0.00019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000095
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.000798	<0.00083	<0.000783	<0.000822	<0.000806	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00005	<0.000538	<0.00056	<0.000528	<0.000554	<0.000544	<0.00047	<0.000048	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.000054 J	<0.0000769	<0.00008	0.000145 J	0.000141 J	<0.0000777	<0.00027	<0.000028	<0.000027	<0.000027	<0.000027	<0.000027
Acenaphthylene	*1.5*	*4.4*	0.000081 J	<0.0000577	<0.00006	<0.0000566	0.000411 J	0.000206 J	<0.00015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	*7.3*	*22*	0.00059	<0.0000481	<0.00005	<0.0000472	0.00304	0.00256	<0.00014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*	0.00036	<0.0000769	<0.00008	<0.0000755	0.00041 J	0.000245 J	<0.0005	<0.000051	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	**0.00067**	<0.0000769	<0.00008	<0.0000755	**0.000436 J**	**0.000439 J**	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	<0.000125	<0.00013	<0.000123	<0.000129	<0.000126	<0.0003	<0.000031	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.0032	<0.000356	<0.00037	<0.000349	0.000585	0.000415 J	<0.00037	<0.000038	0.00019 J	0.00017 J	0.00022	0.000046 J
Chrysene	*0.91*	*2*	0.0018	<0.0000769	<0.00008	<0.0000755	0.00104	0.000582	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	0.000066 J	<0.0000769	<0.00008	<0.0000755	0.000133 J	<0.0000777	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.000078	<0.000106	<0.00011	<0.000104	0.000121 J	<0.000107	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	0.0019	<0.0000673	<0.00007	<0.000066	0.00116	0.000346 J	<0.0001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	*0.98*	*2.9*	<0.00005	<0.0000673	<0.00007	<0.000066	0.000143 J	<0.000068	<0.0003	<0.000031	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	*0.49*	*1.5*	<0.0004	<0.0000769	0.0000999 J	0.000367 J	0.00118	<0.0000777	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00013
Nitrobenzene	*0.049*	*0.15*	<0.00005	<0.000106	<0.00011	<0.000104	<0.000109	<0.000107	<0.00024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.0000962	<0.0001	<0.0000943	<0.000099	<0.0000971	<0.00025	<0.000026	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00005	<0.000587	<0.00061	<0.000575	<0.000604	<0.000592	<0.00079	<0.000081	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	0.00058	<0.0000577	<0.00006	0.000132 J	0.000295 J	0.0000729 J	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Phenol	*7.3*	*22*	<0.00005	<0.0000385	<0.00004	<0.0000377	<0.0000396	<0.0000388	<0.00035	<0.000036	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	0.0019	<0.000106	<0.00011	<0.000104	0.00118	0.000388 J	<0.00019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019
Metals														
Arsenic	*0.01*	*0.01*							0.000711 J	0.00663	0.00223	0.00204	0.00124 J	0.00138 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-68A 05/29/2019	MW-68A 05/29/2019 Duplicate	MW-68A 07/18/2019	MW-68A 01/17/2020	MW-68B 02/16/2012	MW-68B 07/16/2012	MW-68B 02/06/2013	MW-68B 08/08/2013	MW-68B 01/22/2014	MW-68B 01/22/2014 Duplicate	MW-68B 07/24/2014	MW-68B 07/24/2014 Duplicate
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.005	**<0.014**	**<0.014**	<0.0002	<0.0002	<0.0028	<0.0028
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	**2.7**	**2.4**	**2.35**	**2.88**	**1.5**	**1.51**	**2.18**	**2.1**
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.005	<0.005	0.0273 J	<0.012	0.000454 J	0.000468 J	<0.0024	<0.0024
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	0.45	0.49	0.449	0.55	0.364	0.363	0.403	0.453
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	**<0.0065**	**<0.01**	**<0.015**	**0.101**	<0.00022	<0.00022	<0.003	<0.003
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	0.91	0.93	0.701	0.625	0.329	0.329	0.538	0.57
Vinyl chloride	*0.002*	*0.002*								**<0.011**			**0.007 J**	**0.0022 J**
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	1.2	1.3	1.04	1.28	0.857	0.862	1.08	1.22
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	<0.00005	<0.00025	**<0.00524**	**<0.00519**	**<0.0105**	**<0.0105**	**<0.0055**	**<0.00529**
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.00004	0.19	0.27	0.273	<0.0146	**0.536**	0.457 J	0.445	0.451
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000059	<0.000058	<0.000058	<0.00005	<0.00025	**<0.00619**	**<0.00613**	**<0.0124**	**<0.0124**	**<0.0065**	**<0.00625**
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.000042	<0.00006	<0.0003	**<0.00381**	**<0.00377**	**<0.00762**	**<0.00762**	**<0.004**	**<0.00385**
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.00005	<0.00025	<0.00381	<0.00377	<0.00762	<0.00762	<0.004	<0.00385
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	0.000026 J	0.00012	0.000048 J	**0.66**	**1.3**	**0.952**	**1.41**	**1.1**	**1.19**	**0.852**	**0.906**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.0004	**<0.0395**	**<0.0392**	**<0.079**	**<0.079**	**<0.0415**	**<0.0399**
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.00005	<0.00025	<0.0267	<0.0264	**<0.0533**	**<0.0533**	<0.028	<0.0269
Acenaphthene	*1.5*	*4.4*	0.0012	0.0011	0.0019	0.0003	0.15	0.23	0.261	0.304	0.263	0.26	0.178	0.181
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	0.000054 J	0.0023	0.003	<0.00286	<0.00283	<0.00571	<0.00571	<0.003	<0.00288
Anthracene	*7.3*	*22*	<0.000014	<0.000014	0.000028 J	0.000059 J	0.046	0.034	0.0194 J	0.023 J	0.0428 J	0.0292 J	0.0169 J	0.0162 J
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.000051	<0.00005	<0.00005	0.006	0.0054	<0.00381	<0.00377	**0.0123 J**	0.00762 J	<0.004	<0.00385
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00002	**0.0017**	**0.0016**	**<0.00381**	**<0.00377**	**<0.00762**	**<0.00762**	**<0.004**	**<0.00385**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00005	<0.00025	**<0.00619**	**<0.00613**	**<0.0124**	**<0.0124**	**<0.0065**	**<0.00625**
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00015 J	0.000074 J	0.00024	<0.000061	<0.0001	<0.0005	**<0.0176**	**<0.0175**	**<0.0352**	**<0.0352**	**<0.0185**	**<0.0178**
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	<0.000021	0.0052	0.005	<0.00381	<0.00377	0.00806 J	0.00976 J	<0.004	<0.00385
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00002	0.000082 J	<0.00002	**0.19**	**0.3**	**0.26**	**0.325**	**0.284**	**0.276**	**0.198**	**0.196**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	0.00087	0.00064	0.00015 J	0.000034 J	<0.00005	<0.00025	<0.00524	<0.00519	<0.0105	<0.0105	<0.0055	<0.00529
Fluoranthene	*0.98*	*2.9*	<0.00001	<0.00001	<0.00001	0.00013	0.05	0.044	<0.00333	0.00764 J	0.052	0.0357 J	0.00825 J	0.00751 J
Fluorene	*0.98*	*2.9*	0.000044 J	0.000042 J	0.00012	0.000069 J	0.096	0.13	0.118	0.154	0.149	0.143	0.0966	0.0953
Naphthalene	*0.49*	*1.5*	0.00019	0.00025	0.00035	<0.00022	**14**	**26**	**11.8**	**31.2**	**17**	**17.6**	**10.5**	**12.6**
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.00005	<0.00025	<0.00524	<0.00519	<0.0105	<0.0105	<0.0055	<0.00529
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	0.0011	<0.00025	<0.00476	<0.00472	<0.00952	<0.00952	<0.005	<0.00481
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.00008	<0.000079	<0.000079	<0.00005	<0.00025	**<0.029**	**<0.0288**	**<0.0581**	**<0.0581**	**<0.0305**	**<0.0293**
Phenanthrene	*0.73*	*2.2*	<0.000021	<0.000021	0.000062 J	0.00016	0.19	0.24	0.12	0.136	0.263	0.196	0.106	0.103
Phenol	*7.3*	*22*	0.000041 J	<0.000035	<0.000035	<0.000035	0.035	0.058	0.0421	0.0795	0.0862	0.0929	0.00988 J	0.00192 J
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019	<0.000019	0.000068 J	0.031	0.024	<0.00524	<0.00519	0.0341 J	0.0227 J	<0.0055	<0.00529
Metals														
Arsenic	*0.01*	*0.01*	0.00966	0.00894	**0.0353**	**0.0423**								

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-68B 01/29/2018	MW-68B 01/29/2018 Duplicate	MW-68B 03/21/2018	MW-68B 03/21/2018 Duplicate	MW-68B 06/06/2018	MW-68B 06/06/2018 Duplicate	MW-68B 01/15/2019	MW-68B 01/15/2019 Duplicate	MW-68B 07/18/2019	MW-68B 07/18/2019 Duplicate	MW-68B 01/23/2020 DNAPL	MW-68C 07/15/2010
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.001	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.002	<0.002	<0.005	<0.0005
Benzene	*0.005*	*0.005*	**2.1**	**2.2**	**1.4**	**1.4**	**1.9**	**2**	**2**	**1.9**	**1.4**	**1.4**	**1.4**	0.00081 J
Chlorobenzene	*0.1*	*0.1*	<0.0015	<0.0015	<0.0003	<0.0003	<0.0003	<0.0003	0.00056 J	0.00056 J	<0.003	<0.003	<0.0075	<0.0005
Ethylbenzene	*0.7*	*0.7*	0.61	0.56	0.29	0.28	0.5	0.5	0.5	0.49	0.52	0.51	0.39	<0.0005
Methylene chloride	*0.005*	*0.005*	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	**<0.01**	**<0.01**	**<0.025**	<0.0005
Toluene	*1*	*1*	0.45	0.42	0.2	0.19	0.45	0.44	0.086	0.084	0.37	0.37	0.23	<0.0005
Vinyl chloride	*0.002*	*0.002*											**<0.005**	
Xylenes (total)	*10*	*10*	1.6	1.5	0.83	0.84	1.4	1.4	1.2	1.2	1.5	1.4	1.1	<0.001
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021	<0.000021	<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*	0.051 J	0.071 J	0.07	0.065	0.075 J	0.23 J	0.05	0.058	0.076	0.076	0.075	<0.00008
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00058	<0.00058	<0.00059	<0.00059	<0.00058	<0.00058	<0.00058	0.0013 J	<0.00058	<0.00058	<0.000058	<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042	<0.000042	<0.00007
2-Chloronaphthalene	*2*	*5.8*	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021	<0.000021	<0.0001
2-Methylnaphthalene	*0.098*	*0.29*	**0.6**	**0.6**	**0.67**	**0.67**	**1.4**	**1.3**	**0.33**	**0.31**	**0.72**	**0.66**	**1.1 J**	<0.00007
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0011 J	<0.0002	<0.0002	<0.00002	<0.00008
4-Nitrophenol	*0.049*	*0.15*	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047	0.0074 J	<0.00047	<0.00047	<0.000047	<0.00007
Acenaphthene	*1.5*	*4.4*	0.13	0.15	0.21	0.22	0.34	0.36	0.1	0.13	0.2	0.17	0.44	<0.00009
Acenaphthylene	*1.5*	*4.4*	0.002	0.0024	0.0021	0.0016	0.0022	0.0029	0.0012	0.0014	0.0027	0.0022	0.0037	<0.00007
Anthracene	*7.3*	*22*	0.014	0.014	0.014	0.012	0.015	0.021	0.008	0.0098	0.03 J	0.022 J	0.15	<0.00007
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0005	<0.0005	<0.00051	<0.00051	<0.0005	<0.0005	<0.0005	<0.0005	0.0051 J	0.003 J	**0.047**	<0.00007
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	**0.0018**	**0.0012**	**0.0089**	<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	**0.0036**	<0.0003	<0.0003	<0.00003	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.00037	<0.00037	<0.00037	<0.00037	<0.00037	<0.00037	<0.00037	<0.00037	<0.00037	<0.00037	0.0011	0.00098
Chrysene	*0.91*	*2*	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021	0.005 J	0.0029 J	0.04	<0.00007
Dibenzofuran	*0.098*	*0.29*	**0.16**	**0.16**	**0.24**	**0.25**	**0.38**	**0.38**	**0.1**	**0.12**	**0.21**	**0.18**	**0.5**	<0.00008
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.00018 J	<0.00007
Fluoranthene	*0.98*	*2.9*	0.0052	0.0049	0.006	0.005	0.0063	0.0088	0.0031	0.0039	0.043 J	0.027 J	0.31	<0.00007
Fluorene	*0.98*	*2.9*	0.082	0.086	0.092	0.078	0.082 J	0.18 J	0.057	0.065	0.11	0.083	0.32	<0.00007
Naphthalene	*0.49*	*1.5*	**9.2**	**10**	**12**	**13**	**23**	**23**	**5**	**3.8**	**9.6**	**9.9**	**12**	0.00083
Nitrobenzene	*0.049*	*0.15*	<0.00024	<0.00024	<0.00024	<0.00024	<0.00024	<0.00024	<0.00024	<0.00024	<0.00024	<0.00024	<0.000024	<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025	0.0051	<0.00025	<0.00025	<0.000025	<0.00009
Pentachlorophenol	*0.001*	*0.001*	<0.00079	<0.00079	<0.0008	<0.0008	<0.00079	<0.00079	<0.00079	<0.00079	<0.00079	<0.00079	<0.000079	<0.00008
Phenanthrene	*0.73*	*2.2*	0.099	0.098	0.15	0.088	0.096 J	0.22 J	0.065	0.073	0.21	0.16	**0.95**	<0.00007
Phenol	*7.3*	*22*	<0.00035	<0.00035	<0.00035	<0.00035	<0.00035	<0.00035	0.0019 J	0.0015 J	<0.00035	<0.00035	<0.000035	0.0005
Pyrene	*0.73*	*2.2*	0.0025	0.0024	0.0032	0.0029	0.0045 J	0.0058 J	0.0015	0.0018	0.025 J	0.015 J	0.19	<0.00007
Metals														
Arsenic	*0.01*	*0.01*	**0.0114**	**0.0117**	**0.014**	**0.0151**	**0.0112**	**0.0107**	**0.0123**	**0.0125**	**0.0134**	**0.0129**	0.00944 J	

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-68C 01/25/2011	MW-68C 07/21/2011	MW-68C 02/16/2012	MW-68C 07/17/2012	MW-68C 02/06/2013	MW-68C 08/07/2013	MW-68C 01/22/2014	MW-68C 07/24/2014	MW-68C 08/28/2014	MW-68C 01/29/2018	MW-68C 03/21/2018	MW-68C 06/06/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.00014	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	0.0021 J	0.0032 J	**0.0069**	**0.0079**	0.00134	0.00364	0.00225	**0.0073**	0.00118	0.0028	0.0049	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0005	<0.001	<0.001	<0.0005	<0.000352	<0.00012	<0.00018	<0.00012	<0.00012	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0005	<0.0011	<0.0011	<0.0005	0.000363 J	0.000517 J	0.00024 J	0.000419 J	0.00014 J	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.00015	<0.001	<0.001	<0.001
Toluene	*1*	*1*	0.00067 J	0.0011 J	0.0019 J	0.0023 J	0.000632 J	<0.0016	0.00059	0.00138	0.000442 J	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*								<0.00011	<0.00011			
Xylenes (total)	*10*	*10*	<0.001	<0.0031	<0.0031	<0.0015	0.000873 J	0.000879 J	<0.00058	0.000649 J	<0.00026	<0.0003	0.00046 J	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0001	<0.00005	<0.00005	<0.00005	<0.000105	<0.000104	<0.000105	<0.000104		<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	0.00012 J	0.00031	0.00095	0.0014	**R**	<0.000292	0.000454 J	<0.000292		<0.00004	0.0015	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00009	<0.00005	<0.00005	<0.00005	<0.000124	<0.000123	<0.000124	<0.000123		<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000762	<0.0000755	<0.0000762	<0.0000755		<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000762	<0.0000755		<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	0.00016 J	0.00024	<0.00011	0.0025	0.00132	0.000301 J	0.00331	0.000188 J		<0.000019	0.00014	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.00008	<0.00079	<0.000783	<0.00079	<0.000783		<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00007	<0.00005	<0.00005	<0.00005	**R**	<0.000528	<0.000533	<0.000528		<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	<0.00009	0.00013 J	<0.00005	0.0013	0.000647	<0.0000755	0.00183	0.000235 J		<0.000027	0.00017	<0.000027
Acenaphthylene	*1.5*	*4.4*	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000571	<0.0000566	<0.0000571	<0.0000566		<0.000015	<0.000015	<0.000015
Anthracene	*7.3*	*22*	<0.00007	<0.00005	<0.00005	0.00089	<0.0000476	<0.0000472	0.00106	<0.0000472		<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00007	<0.00005	<0.00005	0.00018 J	<0.0000762	<0.0000755	0.000276 J	<0.0000755		<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	0.000171 J	<0.0000755		<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00009	<0.00005	<0.00005	<0.00005	<0.000124	<0.000123	<0.000124	<0.000123		<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.006	0.001	<0.0015	0.0018	0.000637	0.00157 J	<0.000352	<0.000349		0.00015 J	<0.000037	<0.00056
Chrysene	*0.91*	*2*	<0.00007	<0.00005	<0.00005	0.00016 J	<0.0000762	<0.0000755	0.000301 J	<0.0000755		<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	<0.00008	0.0002 J	<0.000078	0.0018	0.000168 J	<0.0000755	0.00192	0.0000942 J		<0.00002	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00007	<0.00005	<0.00005	0.00011 J	<0.000105	<0.000104	<0.000105	<0.000104		<0.00002	<0.00002	0.0001 J
Fluoranthene	*0.98*	*2.9*	<0.00007	<0.00005	<0.00005	0.0016	<0.0000667	<0.000066	0.00233	<0.000066		<0.00001	<0.00001	0.00021
Fluorene	*0.98*	*2.9*	<0.00007	0.0001 J	<0.00005	0.0012	0.00034 J	0.000135 J	0.00167	0.000155 J		<0.00003	0.00012	<0.00003
Naphthalene	*0.49*	*1.5*	0.0014	0.0027	<0.0015	0.015	0.0129	0.00643 J	0.0112	0.00274		0.00088	0.0032	0.00035
Nitrobenzene	*0.049*	*0.15*	<0.00009	<0.00005	<0.00005	<0.00005	<0.000105	<0.000104	<0.000105	<0.000104		<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000952	<0.0000943	<0.0000952	<0.0000943		<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.00005	<0.00005	<0.00005	**R**	<0.000575	<0.000581	<0.000575		<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	<0.00007	0.00016 J	<0.00005	0.005	0.000499	<0.0000566	0.00585	<0.0000566		<0.000021	0.0001	<0.000021
Phenol	*7.3*	*22*	0.0039	0.0049	0.0074	0.000062 J	**R**	<0.0000377	<0.0000381	<0.0000377		<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	<0.00007	<0.00005	<0.00005	0.00086	<0.000105	<0.000104	0.0014	<0.000104		<0.000019	<0.000019	0.00015
Metals														
Arsenic	*0.01*	*0.01*										<0.0004	0.000618 J	<0.0004

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-68C 01/15/2019	MW-68C 07/18/2019	MW-68C 01/17/2020	MW-69A 07/15/2010	MW-69A 01/19/2011	MW-69A 07/21/2011	MW-69A 02/08/2012	MW-69A 07/24/2012	MW-69A 02/07/2013	MW-69A 08/06/2013	MW-69A 01/24/2014	MW-69A 07/16/2014
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	0.00056 J	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	0.00047 J	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015
Vinyl chloride	*0.002*	*0.002*						<0.001	<0.001	<0.0005	<0.00011	<0.00011	<0.00018	<0.00011
Xylenes (total)	*10*	*10*	0.0011	<0.0003	0.00062 J	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.000105	<0.00011	<0.000106	<0.000104
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	0.0036	<0.00008	<0.00005	<0.00005	0.000078 J	<0.000295	<0.00031	<0.000298	<0.000292
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000059	<0.000058	<0.000058	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000124	<0.00013	<0.000125	<0.000123
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000762	<0.00008	<0.0000769	<0.0000755
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000762	<0.00008	<0.0000769	<0.0000755
2-Methylnaphthalene	*0.098*	*0.29*	<0.000077	0.000072 J	0.00033	0.0038	0.000074 J	<0.00005	<0.00005	0.0009	<0.0000667	<0.00007	<0.0000673	<0.000066
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00079	<0.00083	<0.000798	<0.000783
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000533	<0.00056	<0.000538	<0.000528
Acenaphthene	*1.5*	*4.4*	<0.000027	0.00012	0.000036 J	0.0037	0.00025	<0.00005	<0.00005	0.00082	<0.0000762	<0.00008	<0.0000769	<0.0000755
Acenaphthylene	*1.5*	*4.4*	<0.000015	0.000053 J	0.000023 J	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000571	<0.00006	<0.0000577	<0.0000566
Anthracene	*7.3*	*22*	<0.000014	<0.000014	0.000036 J	0.00039	0.00024	<0.00005	<0.00005	0.00047	<0.0000476	<0.00005	0.000497	<0.0000472
Benzo(a)anthracene	*0.0091*	*0.02*	<0.000051	<0.00005	0.000055 J	0.00049	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000762	<0.00008	<0.0000769	<0.0000755
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	0.000063 J	0.00013 J	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000762	<0.00008	<0.0000769	<0.0000755
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000124	<0.00013	<0.000125	<0.000123
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000044	0.00032	0.00029	0.0059	0.00081	0.00086	<0.00018	<0.0003	<0.000352	<0.00037	<0.000356	<0.000349
Chrysene	*0.91*	*2*	<0.000021	<0.000021	0.000054 J	0.00032	0.00011 J	<0.00005	<0.00005	<0.00005	<0.0000762	<0.00008	<0.0000769	<0.0000755
Dibenzofuran	*0.098*	*0.29*	0.000066 J	0.000064 J	0.00003 J	0.003	0.00022	<0.00005	<0.00005	0.00071	<0.0000762	<0.00008	<0.0000769	<0.0000755
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	0.000067 J	<0.00002	<0.00007	<0.00007	0.000069 J	<0.00005	<0.00005	<0.000105	<0.00011	<0.000855	<0.000104
Fluoranthene	*0.98*	*2.9*	<0.00001	<0.00001	0.000074 J	0.0025	0.00057	0.000059 J	<0.00005	0.00045	<0.0000667	<0.00007	<0.0000673	<0.000066
Fluorene	*0.98*	*2.9*	0.000057 J	0.000051 J	0.000036 J	0.0033	0.00036	<0.00005	<0.00005	0.00085	<0.0000667	<0.00007	<0.0000673	<0.000066
Naphthalene	*0.49*	*1.5*	<0.00079	0.0011	<0.00052	0.026	0.00011 J	<0.00005	<0.00029	<0.004	<0.000142	<0.00008	<0.000713	<0.000155
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000105	<0.00011	<0.000106	<0.000104
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000952	<0.0001	<0.0000962	<0.0000943
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.000079	<0.000079	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000581	<0.00061	<0.000587	<0.000575
Phenanthrene	*0.73*	*2.2*	0.000062 J	<0.000021	0.000042 J	0.0083	0.0012	<0.00005	<0.00005	0.0022	<0.0000571	<0.00006	<0.00039	<0.0000566
Phenol	*7.3*	*22*	<0.000035	0.00026	<0.000035	0.0069	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000381	<0.00004	<0.0000385	<0.0000377
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019	0.000092 J	0.0022	0.00037	<0.00005	<0.00005	0.00033	<0.000105	<0.00011	<0.000106	<0.000104
Metals														
Arsenic	*0.01*	*0.01*	<0.0004	<0.0004	<0.0004									

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-69A 01/28/2018	MW-69A 03/20/2018	MW-69A 05/24/2018	MW-69A 01/10/2019	MW-69A 07/17/2019	MW-70C 03/12/2020	MW-70C 03/12/2020 Duplicate	MW-73B 02/02/2012	MW-73B 07/16/2012	MW-73B 01/30/2013	MW-73B 07/30/2013	MW-73B 01/15/2014
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.0005	<0.00014	0.000678 J	<0.0002
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	**0.01**	**0.0089**	**0.0097**	<0.0005	0.000218 J	0.000156 J	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.001	<0.0005	<0.00012	<0.00012	<0.00018
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.057	0.052	0.0059	<0.0005	<0.00011	<0.00011	0.000437 J
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0013	<0.001	<0.00015	<0.00015	<0.00022
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.034	0.032	0.015	<0.0005	0.000336 J	<0.00015	0.000575
Vinyl chloride	*0.002*	*0.002*	<0.0002	<0.0002		<0.0002	<0.0002							
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.064	0.061	0.0059 J	<0.0015	<0.00026	<0.00026	0.00133 J
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000022	<0.000022	<0.0005	<0.00005	<0.000104	<0.000107	<0.000104
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	0.00041	<0.000041	0.007	0.0028	<0.000292	<0.000301	0.000946 J
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.00006	<0.00006	<0.0005	<0.00005	<0.000123	<0.000126	<0.000123
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000044	<0.000043	<0.0006	<0.00006	<0.0000755	<0.0000777	<0.0000755
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000022	<0.000022	<0.0005	<0.00005	<0.0000755	<0.0000777	<0.0000755
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	0.067 J	0.098 J	0.00055 J	0.00011 J	<0.000066	0.0000878 J	0.0161
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000021	<0.000021	<0.0008	<0.00008	<0.000783	<0.000806	<0.000783
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000049	<0.000048	<0.0005	<0.00005	<0.000528	<0.000544	<0.000528
Acenaphthene	*1.5*	*4.4*	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	0.059 J	0.087 J	0.012	0.00016 J	<0.000185	0.000118 J	0.0112
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000016	0.00074	0.0013 J	<0.00005	0.0000696 J	<0.0000583	<0.0000566
Anthracene	*7.3*	*22*	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	0.0049 J	0.0082 J	<0.0005	0.00012 J	0.000186 J	0.000245 J	0.00462
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000052	0.000079 J	<0.0005	0.000057 J	<0.0000755	<0.0000777	0.00131
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000021	<0.000021	**<0.0005**	<0.00005	<0.0000755	<0.0000777	**0.00039 J**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.000031	<0.000031	<0.0005	<0.00005	<0.000123	<0.000126	<0.000123
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00028	0.00038	0.00025	<0.000037	<0.00034	<0.000039	0.000052 J	<0.001	0.00012 J	<0.000349	<0.000359	0.0015 J
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000022	0.000061 J	<0.0005	0.000096 J	<0.0000755	<0.0000777	0.00119
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.055 J	0.078 J	0.00078 J	0.000067 J	<0.0000755	<0.0000777	0.0102
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.000061 J	0.0001 J	<0.0005	<0.00005	<0.000104	0.000133 J	0.000169 J
Fluoranthene	*0.98*	*2.9*	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.003 J	0.0053 J	0.01	0.000059 J	0.000138 J	<0.000068	0.00937
Fluorene	*0.98*	*2.9*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	0.028 J	0.038 J	0.0041	0.00021	<0.000066	0.0000805 J	0.00951
Naphthalene	*0.49*	*1.5*	<0.00019	<0.00002	0.00008 J	<0.00002	<0.000078	**1.6 J**	**2.5 J**	0.0014 J	<0.00064	<0.000436	<0.000674	0.0906
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000025	<0.000025	<0.0005	<0.00005	<0.000104	<0.000107	<0.000104
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000026	<0.000026	<0.0005	<0.00005	<0.0000943	<0.0000971	<0.0000943
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000082	<0.000081	<0.0005	<0.00005	<0.000575	<0.000592	<0.000575
Phenanthrene	*0.73*	*2.2*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.04	0.054	0.00087 J	0.000089 J	<0.0000566	0.000228 J	0.0348
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000036	<0.000036	0.0053	0.00015 J	<0.0000377	<0.0000388	0.000522
Pyrene	*0.73*	*2.2*	<0.000019	0.000055 J	<0.000019	<0.000019	<0.000019	0.0017 J	0.0029 J	0.0077	<0.00005	<0.000104	<0.000107	0.00725
Metals														
Arsenic	*0.01*	*0.01*	0.00916	0.0017 J	**0.0142**	0.000717 J	0.000642 J	0.00598	0.0047					

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-73B 07/18/2014	MW-74B 02/09/2012	MW-74B 07/26/2012	MW-74B 04/02/2013	MW-74B 01/29/2014	MW-74B 08/28/2014	MW-74B 01/30/2018	MW-74B 03/28/2018	MW-74B 06/07/2018	MW-74B 01/23/2019	MW-74B 07/30/2019	MW-74B 01/17/2020
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.00014	**<0.01**	<0.005	<0.0028	<0.0007	<0.0028	<0.0002	<0.0002	<0.0002	<0.002	<0.001	<0.0002
Benzene	*0.005*	*0.005*	0.00309	**0.35**	**0.71**	**0.552**	**0.795**	**0.652**	**0.47**	**0.58**	**0.71**	**0.83**	**0.59**	**0.12**
Chlorobenzene	*0.1*	*0.1*	<0.00012	<0.01	<0.005	<0.0024	<0.0006	<0.0024	<0.0003	<0.0003	<0.0003	<0.003	<0.0015	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.00011	0.086	0.14	0.147	0.203	0.2	0.25	0.12	0.17 J	0.22	0.15	0.076
Methylene chloride	*0.005*	*0.005*	<0.00015	**<0.013**	**<0.01**	<0.003	<0.00075	<0.003	<0.001	<0.001	<0.001	**<0.01**	<0.005	<0.001
Toluene	*1*	*1*	<0.00015	0.32	0.56	0.533	0.774	0.741	0.75	0.56	0.74	0.69	0.52	0.29
Vinyl chloride	*0.002*	*0.002*	<0.00011											
Xylenes (total)	*10*	*10*	<0.00026	0.25	0.38	0.427	0.553	0.558	0.53	0.33	0.51 J	0.63	0.42	0.2
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000109	<0.0005	<0.0005	**<0.106**	**<0.208**	**<0.216**	**<0.0021**	<0.00021	**<0.0021**	<0.00021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.000307	**55**	**41**	**56.9**	**525**	**70.6**	**59**	**30**	**57**	**9**	**37**	0.21
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000129	<0.0005	<0.0005	**<0.125**	**<0.245**	**<0.255**	**<0.0058**	<0.00058	**<0.0058**	<0.00058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0000792	<0.0006	<0.0006	**<0.0769**	**<0.151**	**<0.157**	**<0.0042**	<0.00042	**<0.0042**	<0.00042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.0000792	<0.0005	<0.0005	<0.0769	<0.151	<0.157	<0.0021	<0.00021	<0.0021	<0.00021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	<0.0000693	**0.39**	**0.43 J**	**0.673**	**5.52**	**0.95 J**	**0.3**	**2.4**	**0.99**	**0.22**	**0.48**	**1.3**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.000822	<0.0008	<0.0008	**<0.798**	**<1.57**	**<1.63**	<0.002	<0.0002	<0.002	<0.0002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.000554	<0.0005	<0.0005	**<0.538**	**<1.06**	**<1.1**	0.033 J	<0.00047	<0.0047	<0.00047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	<0.0000792	0.29	0.21	0.31 J	**2.4**	0.413 J	0.31	1.4	0.33	0.098	0.24	0.98
Acenaphthylene	*1.5*	*4.4*	<0.0000594	0.0058	0.0062	<0.0577	<0.113	<0.118	0.012	0.019	0.0098 J	0.0032	0.0037	0.018
Anthracene	*7.3*	*22*	0.00015 J	0.037	0.024	<0.0481	0.282 J	<0.098	0.027	0.58	0.034	0.0074	0.0071	0.42
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0000792	<0.0005	0.0022	**<0.0769**	**<0.151**	**<0.157**	<0.005	**0.22**	<0.005	<0.0005	0.00022	**0.13**
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0000792	**<0.0005**	**0.00085 J**	**<0.0769**	**<0.151**	**<0.157**	**<0.002**	**0.064**	**<0.002**	<0.0002	<0.00002	**0.034**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.000129	<0.0005	<0.0005	**<0.125**	**<0.245**	**<0.255**	**<0.003**	<0.0003	**<0.003**	<0.0003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.000603	<0.001	<0.001	**<0.356**	**<0.698**	**<0.725**	<0.0037	<0.00037	<0.0037	<0.00037	<0.000037	0.0014
Chrysene	*0.91*	*2*	<0.0000792	<0.0005	0.0018 J	<0.0769	<0.151	<0.157	<0.0021	0.23	<0.0021	<0.00021	0.00016	0.082
Dibenzofuran	*0.098*	*0.29*	<0.0000792	**0.25**	**0.19**	**0.252 J**	**1.84**	**<0.157**	**0.24**	**1.4**	**0.24**	0.079	**0.19**	**0.72**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.000109	<0.0005	<0.0005	<0.106	<0.208	<0.216	<0.002	<0.0002	<0.002	<0.0002	<0.00002	0.0022
Fluoranthene	*0.98*	*2.9*	<0.0000693	0.0044	0.018	<0.0673	<0.132	<0.137	0.015	**1.4**	0.017	0.0038	0.0035	0.67
Fluorene	*0.98*	*2.9*	<0.0000693	0.17	0.14 J	0.196 J	**1.34**	0.263 J	0.19	**1.4**	0.19	0.056	0.14	0.88
Naphthalene	*0.49*	*1.5*	<0.0000792	**16**	**10**	**13.9**	**139**	**17.9**	**18**	**21**	**19**	**4**	**13 J**	**8.5**
Nitrobenzene	*0.049*	*0.15*	<0.000109	<0.0005	<0.0005	**<0.106**	**<0.208**	**<0.216**	<0.0024	<0.00024	<0.0024	<0.0024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000099	<0.0005	<0.0005	<0.0962	<0.189	**<0.196**	<0.0025	<0.00025	<0.0025	<0.00025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.000604	<0.0005	<0.0005	**<0.587**	**<1.15**	**<1.2**	**<0.0079**	<0.00079	**<0.0079**	<0.00079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	<0.0000594	0.15	0.15	0.169 J	**1.28**	0.307 J	0.16	**3.7**	0.17	0.046	0.087	**2.3**
Phenol	*7.3*	*22*	<0.0000396	**43**	**38**	**63.2**	**420**	**53.3**	**56**	**25**	**39**	5	**33**	0.048
Pyrene	*0.73*	*2.2*	<0.000109	0.005	0.01	<0.106	<0.208	<0.216	0.0079 J	**0.83**	0.0077 J	0.002	0.0023	0.44
Metals														
Arsenic	*0.01*	*0.01*							0.00162 J	0.00142 J	0.00131 J	0.0014 J	0.00128 J	0.000443 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	***C/I Assessment Level***	MW-75B 02/08/2012 DNAPL	MW-75B 07/26/2012 DNAPL	MW-75B 04/02/2013 DNAPL	MW-75B 01/29/2014 DNAPL	MW-75B 07/24/2014 DNAPL	MW-75B 01/17/2020	MW-76B 03/12/2020	MW-76C 07/24/2014	MW-76C 10/03/2014	MW-76C 01/30/2018	MW-76C 03/28/2018	MW-76C 05/25/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	**<0.01**	<0.0025	<0.0028	<0.0007	<0.00014	<0.0002	<0.0002	<0.00014		<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	**0.61**	**0.85**	**0.369**	**0.502**	**0.298**	**0.12**	<0.0002	0.000149 J		<0.0002	<0.0002	0.00021 J
Chlorobenzene	*0.1*	*0.1*	<0.01	<0.0025	<0.0024	<0.0006	<0.00012	<0.0003	<0.0003	<0.00012		<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	0.13	0.1	0.069	0.0773	0.0737	0.037	<0.0003	<0.00011		<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	**<0.013**	<0.005	<0.003	<0.00075	<0.00015	<0.001	<0.001	<0.00015		<0.001	<0.001	<0.001
Toluene	*1*	*1*	0.51	0.5	0.282	0.328	0.273	0.13	<0.0002	0.000156 J		<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*					<0.00011			<0.00011				
Xylenes (total)	*10*	*10*	0.41	0.33	0.247	0.276	0.255	0.11	<0.0003	<0.00026		<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.0005	<0.0005	**<0.00212**	**<0.0519**	**<0.00214**	<0.000021	<0.000022	<0.000104	<0.000107	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	0.18	**0.64**	0.0695	**6.35**	<0.00602	**0.86**	<0.000042	<0.000292	<0.000301	0.0018	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.0005	<0.0005	**<0.0025**	**<0.0613**	**<0.00252**	<0.000058	<0.00006	<0.000123	<0.000126	<0.000058	<0.000058	<0.000059
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0006	<0.0006	**<0.00154**	**<0.0377**	**<0.00155**	<0.000042	<0.000044	<0.0000755	<0.0000777	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.0005	<0.0005	<0.00154	<0.0377	<0.00155	<0.000021	<0.000022	<0.0000755	<0.0000777	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	**0.62**	**0.6 J**	**0.101**	**3.18**	**0.546**	**0.81**	<0.00002	0.000392 J	0.0000976 J	0.0001	0.00012	0.000032 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.0008	<0.0008	**<0.016**	**<0.392**	**<0.0161**	<0.00002	<0.000021	<0.000783	<0.000806	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.0005	<0.0005	<0.0108	**<0.264**	<0.0109	<0.000047	<0.000049	<0.000528	<0.000544	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.34	0.26	0.0697	**2.57**	0.429	0.67	<0.000028	0.000696	0.00024 J	0.00015	0.00023	0.000071 J
Acenaphthylene	*1.5*	*4.4*	0.013	0.0058	<0.00115	0.0672 J	0.0121	0.0086	<0.000016	<0.0000566	<0.0000583	0.0002	<0.000015	<0.000015
Anthracene	*7.3*	*22*	0.035	0.045	0.00948 J	0.605	0.0626	0.39	<0.000015	0.000234 J	0.00011 J	0.00006 J	0.000055 J	0.000048 J
Benzo(a)anthracene	*0.0091*	*0.02*	0.00064 J	0.0047	<0.00154	**0.0667 J**	0.00748 J	**0.12**	<0.000052	<0.0000755	<0.0000777	<0.00005	<0.00005	<0.000051
Benzo(a)pyrene	*0.0002*	*0.0002*	**<0.0005**	**0.0013 J**	**<0.00154**	**<0.0377**	**<0.00155**	**0.035**	<0.000021	<0.0000755	**0.000276 J**	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.0005	<0.0005	**<0.0025**	**<0.0613**	**<0.00252**	<0.00003	<0.000031	<0.000123	<0.000126	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.001	<0.001	**<0.00712**	**<0.175**	**<0.00718**	0.0021	<0.000039	0.000803	0.000714	<0.00024	0.00015 J	0.000096 J
Chrysene	*0.91*	*2*	0.00062 J	0.0042	<0.00154	0.0704 J	0.00677 J	0.095	<0.000022	<0.0000755	<0.0000777	<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	**0.29**	**0.23**	0.0533	**1.56**	**0.214**	**0.54**	<0.000021	0.000507	0.000159 J	0.00012	0.00012	0.000056 J
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.0005	<0.0005	<0.00212	<0.0519	<0.00214	0.0016	0.000025 J	<0.000104	0.000124 J	<0.00002	<0.00002	0.00004 J
Fluoranthene	*0.98*	*2.9*	0.016	0.04	0.0103	0.708	0.0914	0.75	<0.00001	0.000322 J	0.000188 J	0.00019	0.00018	0.00007 J
Fluorene	*0.98*	*2.9*	0.19	0.17 J	0.0425	**1.59**	0.218	0.61	<0.000031	0.000778	0.000264 J	0.00016	0.00014	0.000076 J
Naphthalene	*0.49*	*1.5*	**8.9**	**9.3**	0.211	**27.1**	**5.7**	**7.5**	0.000096 J	0.00176	0.000506	<0.0028	0.0019	0.00036
Nitrobenzene	*0.049*	*0.15*	<0.0005	<0.0005	<0.00212	**<0.0519**	<0.00214	<0.000024	<0.000025	<0.000104	0.000124 J	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0005	<0.0005	<0.00192	<0.0472	<0.00194	<0.000025	<0.000026	<0.0000943	<0.0000971	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.0005	<0.0005	**<0.0117**	**<0.288**	**<0.0118**	<0.000079	<0.000082	**0.00272**	<0.000592	<0.000079	<0.000079	<0.00008
Phenanthrene	*0.73*	*2.2*	0.24	0.27	0.0606	**2.13**	0.238	**1.9**	<0.000022	0.00183	0.000611	0.00051	0.00044	0.00023
Phenol	*7.3*	*22*	0.0066	0.0027	0.0069 J	0.108 J	<0.000777	0.0029	<0.000036	0.00284	0.00163	0.0032	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	0.0098	0.026	0.00617 J	0.416	0.0537	0.51	<0.00002	0.000194 J	0.000161 J	0.00016	0.00012	0.000048 J
Metals														
Arsenic	*0.01*	*0.01*						0.00167 J	0.00115 J			0.00157 J	0.000631 J	0.000527 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-76C 01/23/2019	MW-76C 07/30/2019	MW-76C 01/09/2020	MW-77A 07/24/2014	MW-77A 01/30/2018	MW-77A 03/28/2018	MW-77A 05/24/2018	MW-77A 02/01/2019	MW-77A 07/30/2019	MW-77A 01/09/2020	MW-78A 07/24/2014 DNAPL	MW-78A 01/17/2020 DNAPL
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0007	<0.0002
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.00008	**0.054**	**0.063**	**0.053**	<0.0002	**0.063**	**0.058**	**0.0571**	**0.018**
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0006	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.00011	0.059	0.063	0.044	<0.0003	0.072	0.063	0.0637	0.011
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00075	<0.001
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.00015	0.011	0.011	0.006	<0.0002	0.012	0.0069	0.1	0.033
Vinyl chloride	*0.002*	*0.002*				<0.00011							<0.00055	
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.00026	0.1	0.11	0.058	<0.0003	0.097	0.065	0.158	0.028
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	**<0.00519**	<0.00021	<0.00021	<0.00021	<0.000022	<0.000021	<0.000021	**<0.0259**	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	0.0041	<0.00004	<0.00038	<0.0146	0.014	0.015	0.007	<0.000042	0.062	0.055	**6.66**	**2.5**
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	**<0.00613**	<0.00058	<0.00058	<0.00058	<0.00006	<0.000058	<0.000058	**<0.0307**	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	**<0.00377**	<0.00042	<0.00042	<0.00042	<0.000044	<0.000042	<0.000042	**<0.0189**	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.00377	<0.00021	<0.00021	<0.00021	<0.000022	<0.000021	<0.000021	<0.0189	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	0.00031	<0.000019	<0.00045	0.0571	**0.2**	**0.28**	0.085	<0.00002	**0.2**	**0.22**	**0.879**	**0.13**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	**<0.0392**	<0.0002	<0.0002	<0.0002	<0.000021	<0.00002	<0.00002	**<0.196**	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.0264	0.0044 J	<0.00047	<0.00047	<0.000049	<0.000047	<0.000047	**<0.132**	<0.000047
Acenaphthene	*1.5*	*4.4*	0.00011	<0.000027	<0.00041	0.0456	0.2	0.23	0.079	<0.000028	0.16	0.13	0.497	0.071
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	0.000035 J	<0.00283	0.0032	0.0035	0.0012	<0.000016	0.0013	0.0013	<0.0142	0.0015
Anthracene	*7.3*	*22*	0.000041 J	<0.000014	<0.00017	<0.00236	0.0034	0.0052	0.0025	<0.000015	0.0028	0.0036	0.105 J	0.004
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	0.00014	<0.00377	<0.0005	<0.0005	<0.0005	<0.000052	<0.00005	<0.00005	**0.0336 J**	0.00043
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	0.000037 J	**<0.00377**	<0.0002	<0.0002	<0.0002	<0.000021	<0.00002	<0.00002	**<0.0189**	0.00014
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	**<0.00613**	<0.0003	<0.0003	<0.0003	<0.000031	<0.00003	<0.00003	**<0.0307**	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000091	<0.000037	<0.00016	**<0.0175**	<0.00037	<0.00037	<0.00037	0.0001 J	<0.000037	<0.000077	**<0.0873**	0.00092
Chrysene	*0.91*	*2*	<0.000021	<0.000021	0.00013	<0.00377	<0.00021	<0.00021	<0.00021	<0.000022	<0.000021	0.000041 J	0.0248 J	0.00039
Dibenzofuran	*0.098*	*0.29*	0.00011	<0.00002	<0.00029	0.0229 J	0.086	0.09	0.04	<0.000021	0.096	0.079	**0.411**	0.055
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	0.000027 J	0.000054 J	<0.00002	<0.00519	<0.0002	<0.0002	<0.0002	0.000081 J	<0.00002	<0.00002	<0.0259	0.0016
Fluoranthene	*0.98*	*2.9*	<0.00001	<0.00001	0.001	<0.0033	0.0014	0.0013	0.00067 J	<0.00001	0.00052	0.00071	0.165	0.0029
Fluorene	*0.98*	*2.9*	0.000076 J	<0.00003	<0.00032	0.024	0.076	0.083	0.037	<0.000031	0.078	0.067	0.382	0.04
Naphthalene	*0.49*	*1.5*	0.007	0.00018 J	<0.0038	**0.884**	**7.8**	**6**	**1.5**	<0.000021	**4.9 J**	**4.7**	**7.18**	**3.1**
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.00519	<0.00024	<0.00024	<0.00024	<0.000025	<0.000024	<0.000024	<0.0259	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.00472	<0.00025	<0.00025	<0.00025	<0.000026	<0.000025	<0.000025	<0.0236	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	**<0.0288**	<0.00079	<0.00079	<0.00079	<0.000082	<0.000079	<0.000079	**<0.144**	<0.000079
Phenanthrene	*0.73*	*2.2*	0.000086 J	<0.000021	<0.00069	0.0262	0.026	0.035	0.019	<0.000022	0.032	0.031	0.604	0.031
Phenol	*7.3*	*22*	0.0012	<0.000035	<0.000035	<0.00189	<0.00035	<0.00035	<0.00035	<0.000036	<0.000035	<0.000035	0.192	0.13
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019	0.0007	<0.00519	0.00068 J	0.001	0.00037 J	<0.00002	0.00041	0.00046	0.0967 J	0.0018
Metals														
Arsenic	*0.01*	*0.01*	0.000579 J	0.00216	0.00299		**0.0263**	**0.0187**	**0.019**	0.00207	**0.0231**	**0.0237**		0.00991

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-79A 08/28/2014	MW-79A 01/30/2018	MW-79A 03/28/2018	MW-79A 05/25/2018	MW-79A 01/23/2019	MW-79A 07/30/2019	MW-79A 01/17/2020	MW-80B 08/28/2014	MW-80B 01/30/2018	MW-80B 03/28/2018	MW-80B 05/24/2018	MW-80B 01/10/2019
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0007	<0.0002	<0.0002	<0.0002	<0.002	<0.0002	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	**0.0485**	**1**	**0.3**	**0.36**	**0.45**	**0.013**	**0.12**	0.0000898 J	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0006	<0.0003	<0.0003	<0.0003	<0.003	<0.0003	<0.0003	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	0.0215	0.18	0.12	0.14	0.19	0.0067	0.075	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.00075	<0.001	<0.001	<0.001	**<0.01**	<0.001	<0.001	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	0.076	0.99	0.44	0.48	0.55	0.018	0.26	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	0.0763	0.48	0.31	0.41	0.54	0.023	0.2	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	**<0.00539**	<0.00021	<0.00021	<0.00021	<0.00021	<0.000021	<0.000021	<0.00011	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	**6.11**	**11**	**11**	**20**	**2.5**	0.33	**6.7**	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	**<0.00637**	<0.00058	<0.00058	<0.00058	<0.00058	<0.000058	<0.000058	<0.00013	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	**<0.00392**	<0.00042	<0.00042	<0.00042	<0.00042	<0.000042	<0.000042	<0.00008	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.00392	<0.00021	<0.00021	<0.00021	<0.00021	<0.000021	<0.000021	<0.00008	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	**0.654**	**0.17**	**0.42**	**0.44**	**0.1**	0.051	**0.43**	0.000158 J	<0.000019	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	**<0.0407**	<0.0002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.0275	<0.00047	<0.00047	0.016 J	<0.00047	<0.000047	<0.000047	<0.00056	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.427	0.13	0.17	0.16	0.039	0.034	0.19	0.0000835 J	<0.000027	<0.000027	<0.000027	<0.000027
Acenaphthylene	*1.5*	*4.4*	0.0112 J	0.0045	<0.00015	0.0056	0.0015	0.00076	0.0036	<0.00006	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	*7.3*	*22*	0.0673	0.0057	0.0092	0.0084	0.0021	0.002	0.0094	<0.00005	<0.000014	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*	**0.00985 J**	<0.0005	<0.0005	<0.0005	<0.0005	0.00023	0.00081	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	**<0.00392**	<0.0002	<0.0002	<0.0002	<0.0002	<0.00002	**0.00029**	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	**<0.00637**	<0.0003	<0.0003	<0.0003	<0.0003	<0.00003	<0.00003	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	**<0.0181**	<0.00037	<0.00037	<0.00037	<0.00037	0.00055	<0.000037	0.00106	<0.000069	<0.000037	0.00012 J	<0.000037
Chrysene	*0.91*	*2*	0.00948 J	<0.00021	<0.00021	<0.00021	<0.00021	0.00027	0.00072	<0.00008	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	**0.342**	0.097	**0.14**	0.092	0.037	0.026	**0.14**	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00539	<0.0002	<0.0002	<0.0002	<0.0002	<0.00002	0.00098	<0.00011	<0.00002	<0.00002	0.000047 J	<0.00002
Fluoranthene	*0.98*	*2.9*	0.0713	0.0036	0.0051	0.0023	0.001	0.0012	0.0076	<0.00007	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	*0.98*	*2.9*	0.291	0.063	0.081	0.056	0.022	0.017	0.094	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	*0.49*	*1.5*	**6.89**	**7.9**	**8.5**	**15**	**1.9**	**0.74 J**	**9**	0.00157	<0.00002	<0.00002	<0.00002	0.000068 J
Nitrobenzene	*0.049*	*0.15*	<0.00539	<0.00024	<0.00024	<0.00024	<0.00024	<0.000024	<0.000024	<0.00011	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0049	<0.00025	<0.00025	<0.00025	<0.00025	<0.000025	<0.000025	<0.0001	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	**<0.0299**	<0.00079	<0.00079	<0.00079	<0.00079	<0.000079	<0.000079	<0.00061	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	0.355	0.038	0.049	0.039	0.012	0.0082	0.081	0.0000792 J	<0.000021	<0.000021	<0.000021	<0.000021
Phenol	*7.3*	*22*	1.13	2.6	4	4.2	0.51	0.063	0.35	0.00018 J	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	0.0434	0.0022	0.0038	0.0022	0.00063 J	0.0011	0.0035	<0.00011	<0.000019	<0.000019	<0.000019	<0.000019
Metals														
Arsenic	*0.01*	*0.01*		**0.0184**	**0.0149**	**0.0134**	**0.0133**	0.00991	0.00893		0.00286	0.00187 J	0.00202	0.0018 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-80B 07/30/2019	MW-80B 01/07/2020	MW-81B 07/24/2014	MW-81B 01/29/2018	MW-81B 03/28/2018	MW-81B 05/25/2018	MW-81B 01/10/2019	MW-81B 07/19/2019	MW-81B 01/09/2020	MW-82B 02/01/2018	MW-82B 03/22/2018	MW-82B 06/06/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.00008	<0.0002	<0.0002	0.00021 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.00012	<0.0003	<0.0003	0.00036 J	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.0002	<0.0002	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*			<0.00011									
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.00065 J	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000107	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	0.00028	<0.000301	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000126	<0.000058	<0.000059	0.00079	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.0000777	<0.000042	<0.000042	0.001	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.0000777	<0.000021	<0.000021	0.0018	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.000021 J
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000036	<0.000068	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	0.000019 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.000806	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000544	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	<0.000027	0.000046 J	<0.0000777	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000077	<0.000027	<0.000027	0.000027 J
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.0000583	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	0.000015 J
Anthracene	*7.3*	*22*	<0.000014	0.000026 J	<0.0000485	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	0.000068 J	0.000091 J
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.0000777	<0.00005	<0.000051	<0.000051	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.0000777	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.000126	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00007 J	<0.000069	<0.000359	<0.000037	<0.000037	0.00006 J	0.000058 J	<0.000037	<0.000066	0.00011 J	<0.000037	<0.00056
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.0000777	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	<0.00002	0.000048 J	<0.0000777	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00002 J
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.000107	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	<0.00001	<0.00001	<0.000068	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	*0.98*	*2.9*	<0.00003	0.000032 J	<0.000068	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	0.00003 J
Naphthalene	*0.49*	*1.5*	<0.00002	<0.00034	<0.0000777	<0.00002	<0.00002	<0.00002	0.00016	0.000099 J	<0.00023	0.00019	<0.00015	0.00002 J
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000107	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.0000971	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000592	<0.000079	<0.00008	<0.00008	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	<0.000021	0.000027 J	0.0000944 J	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.0000388	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019	<0.000107	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019
Metals														
Arsenic	*0.01*	*0.01*	0.00162 J	0.00212		0.00207	0.00134 J	0.00203	0.00116 J	0.000563 J	0.0013 J	0.00271	0.00175 J	**0.0103**

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-82B 01/22/2019	MW-82B 07/30/2019	MW-82B 01/21/2020	MW-83B 02/08/2018	MW-83B 03/22/2018	MW-83B 06/07/2018	MW-83B 07/19/2018	MW-83B 01/15/2019	MW-83B 07/18/2019	MW-83B 01/10/2020	MW-83C 02/08/2018	MW-83C 03/22/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	**0.018**	**0.019**	**0.02**	**0.03**	**0.032**	**0.021**	**0.021**	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	0.08	0.1	0.085	0.068	0.091	0.055	0.078	0.00066 J	0.0005 J
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	0.0055	0.0046	0.0049	0.007	0.0082	0.0042	0.0052	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*										<0.0002		
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	0.1	0.11	0.091	0.066	0.1	0.061	0.098	0.0014	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.00021	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.0004	<0.0004	<0.00004	<0.00004	<0.00004	<0.00004	0.000072 J	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.00058	<0.00059	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.00042	<0.00042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.00021	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019	0.0001	**0.15**	**0.75**	**0.23**	0.076	0.086	0.05	0.078	0.0015	0.0015
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.00047	<0.00047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	0.0003 J	<0.000047
Acenaphthene	*1.5*	*4.4*	<0.000027	<0.000027	0.000043 J	0.098	0.33	0.11	0.027	0.026	0.021	0.066	0.00083	0.001
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	0.00086 J	0.0016	0.00064	<0.000015	0.00034	0.00025	0.00047	<0.000015	<0.000015
Anthracene	*7.3*	*22*	0.000042 J	<0.000014	0.000031 J	0.01	0.011	0.007	0.0014	0.0012	0.00099	0.0039	0.000034 J	0.000068 J
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.0005	<0.00051	0.000058 J	<0.00005	<0.00005	<0.00005	0.00007 J	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.0003	<0.0003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	<0.000037	<0.000037	<0.00037	<0.00037	0.00012 J	<0.000037	<0.000064	0.00036	<0.000037	0.00019 J	<0.000037
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	<0.00021	<0.00021	0.00009 J	<0.000021	<0.000021	<0.000021	0.000065 J	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00002	0.00004 J	0.043	**0.17**	0.061	0.023	0.02	0.014	0.023	0.00061	0.00044
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.00002	<0.0002	<0.0002	0.000094 J	0.00021	0.00015 J	0.00012 J	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	<0.00001	<0.00001	<0.00001	0.0035	0.0043	0.0046	0.00057	0.00051	0.00038	0.0033	0.000044 J	<0.00001
Fluorene	*0.98*	*2.9*	<0.00003	<0.00003	0.000037 J	0.046	0.072	0.039	0.0083	0.0099	0.0076	0.024	0.00035	0.00034
Naphthalene	*0.49*	*1.5*	<0.00002	<0.00002	<0.00041	**2.6**	**14**	**2**	**1.5**	**1.6**	**0.77**	**1.2**	0.012	0.016
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.00024	<0.00024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.00025	<0.00025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.00079	<0.0008	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	<0.000021	<0.000021	0.00012	0.04	0.071	0.045	0.0086	0.0074	0.0059	0.021	0.00044	0.00053
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.000035	<0.00035	<0.00035	<0.000035	<0.000035	<0.000035	0.00051	<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019	<0.000019	0.0029	0.0023	0.0026	0.00037	0.0003	0.0002	0.0022	0.000027 J	<0.000019
Metals														
Arsenic	*0.01*	*0.01*	0.00838	0.00873	0.00484	**0.0353**	**0.0185**	**0.0673**	**0.0731**	**0.0916**	**0.0648**	**0.0709**	0.000609 J	<0.0004

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-83C 06/07/2018	MW-83C 01/15/2019	MW-83C 07/18/2019	MW-83C 01/10/2020	MW-84A 03/12/2020	MW-84B 02/08/2018	MW-84B 03/27/2018	MW-84B 06/07/2018	MW-84B 07/19/2018	MW-84B 07/19/2018 Duplicate	MW-84B 01/24/2019	MW-84B 07/30/2019
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	**0.0097**	**0.0086**	0.0017	0.002	0.0019	0.0024	**0.01**
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.039	0.037	0.0036	0.0029	0.0026	0.0051	0.013
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0025	0.00099 J	<0.0002	<0.0002	<0.0002	0.00056 J	0.0015
Vinyl chloride	*0.002*	*0.002*				<0.0002								
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.035	0.031	0.003	0.0019	0.0017	0.0033	0.0041
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	0.000087 J	<0.000021	<0.000021	<0.000021	**0.0014 J**	<0.00021	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.00004	<0.000041	<0.0004	<0.0004	0.0017 J	0.00048	<0.00004	<0.00016	0.00081
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.000058	<0.000059	<0.00058	<0.00058	<0.00058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.000042	<0.000043	<0.00042	<0.00042	<0.00042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00021	<0.00021	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	0.000089 J	<0.000019	0.00012	0.00021	<0.000019	**0.55**	**0.58**	0.025	0.074 J	**0.2 J**	<0.000019	0.0027
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.0002	**0.0038**	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.000048	<0.00047	<0.00047	<0.00047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.00017	<0.000027	0.000094 J	0.00018	<0.000028	0.22	0.27	0.031	0.048 J	0.14 J	0.000032 J	0.008
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	0.003	0.0032	0.00061 J	0.00062	<0.000015	0.000043 J	0.0003
Anthracene	*7.3*	*22*	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	0.02	0.0092	0.0022	0.0027 J	0.0042 J	<0.000014	0.00042
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.00005	<0.000051	<0.0005	<0.0005	<0.0005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	<0.000031	<0.0003	<0.0003	<0.0003	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00012 J	<0.000037	0.00023	<0.000037	<0.000038	0.00056 J	<0.00037	<0.00037	<0.000037	<0.000037	<0.000037	0.00026
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00021	<0.00021	<0.00021	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	0.000046 J	<0.00002	0.00007 J	0.00015	<0.00002	**0.13**	**0.22**	0.019	0.037 J	0.077 J	<0.00002	0.0054
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	0.000092 J	0.00006 J	0.00004 J	<0.00002	<0.00002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	0.000055 J
Fluoranthene	*0.98*	*2.9*	0.000018 J	<0.00001	<0.00001	<0.00001	<0.00001	0.0039	0.0029	0.00069 J	0.0011 J	0.0016 J	<0.00001	0.00015
Fluorene	*0.98*	*2.9*	0.000067 J	<0.00003	<0.00003	0.00012	<0.000031	0.074	0.076	0.011	0.018 J	0.039 J	<0.00003	0.0026
Naphthalene	*0.49*	*1.5*	0.00039	<0.00036	0.0014	0.0018	0.000023 J	**2.4**	**2.2**	0.066	0.49 J	**0.95 J**	<0.00002	0.06 J
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00024	<0.00024	<0.00024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.000026	<0.00025	<0.00025	<0.00025	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.000079	<0.000081	<0.00079	<0.00079	<0.00079	**0.005**	0.000094 J	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	0.000038 J	<0.000021	<0.000021	0.00017	<0.000021	0.088	0.072	0.013	0.024 J	0.043 J	<0.000021	0.0021
Phenol	*7.3*	*22*	<0.000035	0.000038 J	0.000068 J	<0.000035	<0.000036	<0.00035	<0.00035	0.00062 J	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	0.0025	0.0018	0.00036 J	0.00062 J	0.00097 J	<0.000019	0.00011
Metals														
Arsenic	*0.01*	*0.01*	0.00139 J	0.00616	0.00617	0.00564	0.00464	0.00269	0.00277	<0.0004	<0.0004	<0.0004	0.00219	0.00838

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-84B 01/16/2020	MW-85C 02/01/2018	MW-85C 03/28/2018	MW-85C 05/24/2018	MW-85C 02/01/2019	MW-85C 07/30/2019	MW-85C 01/09/2020	MW-86C 02/01/2018	MW-86C 02/01/2018	MW-86C 03/28/2018	MW-86C 03/28/2018 Duplicate	MW-86C 05/25/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	**0.0064**	<0.0002	**0.013**	0.0026	<0.0002	0.00093 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	0.0094	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*								<0.0002	<0.0002	<0.0002		
Xylenes (total)	*10*	*10*	0.0032	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.000069 J	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	0.00048	<0.00004	<0.00004	<0.00004	<0.000041	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.000058	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.000042	<0.000043	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	0.0065	0.0001 J	0.000049 J	0.000067 J	<0.000019	<0.000019	<0.000041	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	0.00035	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.000048	<0.000047	0.00077 J	<0.000047	0.0003 J	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.025	0.00013	<0.000027	<0.000027	<0.000028	<0.000027	<0.000077	0.00091	<0.000027	<0.000027	<0.000027	<0.000027
Acenaphthylene	*1.5*	*4.4*	0.00031	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	*7.3*	*22*	0.00095	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.00005	<0.000051	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.000031 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	<0.000031	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	0.000091 J	0.0002	0.00013 J	<0.000038	<0.000037	<0.00016	0.000053 J	<0.000037	<0.000037	<0.000037	0.000052 J
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.000053 J	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	0.015	0.000087 J	<0.00002	0.000036 J	<0.00002	<0.00002	<0.000059	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	0.00023	<0.00002	0.00003 J	<0.00002	<0.00002	<0.00002	0.000093 J	0.000051 J	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	0.00037	0.000015 J	<0.00001	<0.00001	<0.00001	<0.00001	0.00025	0.00011	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	*0.98*	*2.9*	0.0063	0.00011	<0.00003	0.000034 J	<0.000031	<0.00003	<0.000055	0.00038	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	*0.49*	*1.5*	0.13	0.00069	0.0017	0.0026	<0.00002	0.0012 J	<0.00046	0.000054 J	<0.00002	<0.00002	<0.00002	0.000079 J
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.000026	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	0.00015 J	<0.000081	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	0.0065	0.0001	<0.000021	0.0001	<0.000021	<0.000021	<0.000067	<0.000021	<0.000021	<0.000021	<0.000021	0.000032 J
Phenol	*7.3*	*22*	<0.000035	0.00011 J	<0.000035	<0.000035	<0.000036	<0.000035	<0.000042	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	0.00025	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	0.00021	0.00006 J	<0.000019	<0.000019	<0.000019	<0.000019
Metals														
Arsenic	*0.01*	*0.01*	0.00363	0.00152 J	0.00287	0.00588	0.00136 J	0.000633 J	0.00272	0.00146 J	0.00156 J	0.00612	0.00608	0.00768

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-86C 05/25/2018 Duplicate	MW-86C 01/11/2019	MW-86C 01/11/2019 Duplicate	MW-86C 07/30/2019	MW-86C 07/30/2019 Duplicate	MW-86C 01/17/2020	MW-86C 01/17/2020 Duplicate	MW-87C 02/08/2018	MW-87C 03/27/2018	MW-87C 06/07/2018	MW-87C 01/22/2019	MW-87C 07/17/2019
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0039	0.0045	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*					<0.0002							
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	**0.0028**	0.00041 J	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	0.00018 J	<0.00004	<0.00004	<0.00004	0.00004 J	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	0.000058 J	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	0.000042 J	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.000021 J	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	0.000061 J	0.000066 J	0.00043	0.00014	0.000019 J	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00002 J	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	0.00033 J	<0.000047	0.000047 J	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	0.00042	0.00011	0.000027 J	<0.000027	<0.000027
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	0.000015 J	<0.000015	<0.000015
Anthracene	*7.3*	*22*	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	0.00012	0.000081 J	<0.000014	0.000014 J	<0.000014	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005 J	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00002 J	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	0.00003 J	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.000061 J	<0.000057	<0.0001	0.00006 J	0.00005 J	<0.000037	<0.000053	0.0003	<0.000037	0.00012 J	<0.000037	<0.00018
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.000021 J	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00032	0.000063 J	0.00002 J	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	0.000072 J	0.00011 J	0.00011 J	0.000073 J	<0.00002	<0.00002	<0.00002	<0.00002	0.00002 J	<0.00002	0.00017 J
Fluoranthene	*0.98*	*2.9*	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	0.00001 J	<0.00001	<0.00001
Fluorene	*0.98*	*2.9*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	0.00027	<0.00003	0.00003 J	<0.00003	<0.00003
Naphthalene	*0.49*	*1.5*	<0.00002	0.000079 J	<0.00002	0.00012 J	0.00031 J	<0.00075	<0.00022	0.0014	0.00038	0.00002 J	<0.00002	<0.00017
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	0.000024 J	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	0.000025 J	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	0.000079 J	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.00036	0.00048	0.00015	0.000021 J	<0.000021	<0.000021
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.00011	<0.000035	0.000035 J	<0.000035	0.00013 J
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	0.000019 J	<0.000019	<0.000019
Metals														
Arsenic	*0.01*	*0.01*	0.00824	0.00402	0.00405	0.00236	0.0019 J	0.000645 J	0.000699 J	<0.0004	<0.0004	<0.0004	0.000587 J	<0.0004

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-87C 01/20/2020	MW-88A 03/17/2020	MW-88B 03/17/2020	MW-88C 02/01/2018	MW-88C 03/19/2018	MW-88C 05/24/2018	MW-88C 01/08/2019	MW-88C 07/31/2019	MW-88C 01/14/2020	MW-89B 07/19/2018	MW-89B 01/22/2019	MW-89B 07/18/2019
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*	<0.0002											
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058	<0.000059	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	0.00023	<0.000019	<0.000019	<0.000019	0.000052 J	<0.000019	<0.000019	<0.000019	<0.000019	0.000054 J	<0.000019	0.00005 J
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.00011	0.0015	<0.000027	0.000053 J	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	*7.3*	*22*	0.000088 J	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000051	<0.00005	<0.00005	<0.00005	<0.00005	<0.000051	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	0.000066 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	0.0001 J	<0.000037	0.000052 J	<0.000037	0.00017 J	<0.000037	<0.000037	0.000064 J	0.000065 J	<0.000037	0.00015 J
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	0.00011	<0.00002	<0.00002	0.000023 J	0.000056 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.00002	<0.00002	0.000025 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.000038 J
Fluoranthene	*0.98*	*2.9*	<0.000086	0.00025	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	*0.98*	*2.9*	0.000093 J	0.00026	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	*0.49*	*1.5*	0.0011	<0.00002	<0.00002	0.00011	0.00055	0.00011	<0.000059	<0.00002	<0.00002	0.0009	<0.00002	0.00025
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.00008	<0.000079	<0.000079	<0.000079	<0.000079	<0.00008	<0.000079
Phenanthrene	*0.73*	*2.2*	<0.00028	<0.000021	<0.000021	0.00003 J	<0.000021	0.000035 J	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Phenol	*7.3*	*22*	0.00048	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	0.00055	<0.000035	<0.000035	<0.000035	0.00042
Pyrene	*0.73*	*2.2*	<0.000057	0.00053	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019
Metals														
Arsenic	*0.01*	*0.01*	0.00135 J	0.00355	0.00166 J	0.000557 J	0.000653 J	0.00346	0.000864 J	<0.0004	0.000862 J	0.00138 J	0.000683 J	<0.0004

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	MW-89B 01/16/2020	MW-90B 07/19/2018	MW-90B 01/22/2019	MW-90B 07/18/2019	MW-90B 01/20/2020	MW-91A 03/12/2020	MW-92B 03/12/2020	MW-93B 03/12/2020	MW-94A 03/12/2020	MW-95A 03/17/2020	MW-96B 03/17/2020	MW-96B 03/17/2020 Duplicate
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1*	*1*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.00049 J	0.00092 J	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.002*	*0.002*					<0.0002							
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000022	<0.000021	<0.000021	<0.000022	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	<0.00004	<0.00004	<0.00004	0.000075 J	<0.000042	<0.00004	<0.000041	<0.000041	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.000061	<0.000059	<0.000059	<0.00006	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000044	<0.000042	<0.000043	<0.000043	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000022	<0.000021	<0.000021	<0.000022	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	<0.000032	<0.000019	<0.000019	<0.000019	0.00034	<0.00002	<0.000019	<0.000019	<0.00002	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000021	<0.00002	<0.00002	<0.000021	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000049	<0.000047	<0.000048	<0.000048	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	<0.000083	<0.000027	<0.000027	<0.000027	0.00015	<0.000028	<0.000027	0.000039 J	<0.000028	<0.000027	<0.000027	<0.000027
Acenaphthylene	*1.5*	*4.4*	0.000045 J	<0.000015	<0.000015	<0.000015	<0.000015	<0.000016	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	*7.3*	*22*	0.0002	<0.000014	<0.000014	<0.000014	0.00014	<0.000015	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*	0.00017	<0.00005	<0.00005	<0.00005	<0.00005	<0.000053	<0.000051	<0.000051	<0.000052	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	0.000079 J	<0.00002	<0.00002	<0.00002	0.000052 J	<0.000021	<0.00002	<0.00002	<0.000021	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.000032	<0.00003	<0.000031	<0.000031	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.000099 J	0.000097 J	<0.000037	0.00011 J	<0.000037	<0.000039	<0.000037	<0.000038	0.000056 J	<0.000037	0.00035	0.00013 J
Chrysene	*0.91*	*2*	0.00024	<0.000021	<0.000021	<0.000021	<0.000021	<0.000022	<0.000021	<0.000021	<0.000022	<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	<0.00011	<0.00002	<0.00002	<0.00002	0.00011	<0.000021	<0.00002	0.000071 J	<0.000021	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	0.000034 J	<0.00002	<0.00002	<0.00002	<0.00002	0.000031 J	<0.00002	<0.00002	<0.000021	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	0.0012	<0.00001	<0.00001	<0.00001	<0.00012	<0.000011	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	*0.98*	*2.9*	<0.00018	<0.00003	<0.00003	<0.00003	0.00013	<0.000032	<0.00003	0.000058 J	<0.000031	<0.00003	<0.00003	<0.00003
Naphthalene	*0.49*	*1.5*	<0.00029	<0.00002	0.000045 J	0.000091 J	0.003	0.000083 J	<0.00002	<0.00002	<0.000021	<0.00002	<0.00002	<0.00002
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000025	<0.000024	<0.000024	<0.000025	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000026	<0.000025	<0.000026	<0.000026	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000083	<0.00008	<0.000081	<0.000081	<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	0.00083	<0.000021	<0.000021	<0.000021	0.0004	<0.000022	<0.000021	0.00016	<0.000022	<0.000021	<0.000021	<0.000021
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.000035	<0.000035	0.00019 J	<0.000037	<0.000035	<0.000036	<0.000036	<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	0.00081	<0.000019	<0.000019	<0.000019	<0.000077	<0.00002	<0.000019	<0.000019	<0.00002	<0.000019	<0.000019	<0.000019
Metals														
Arsenic	*0.01*	*0.01*	0.000463 J	0.00169 J	0.00346	**0.0135**	0.0029	0.00989	0.00201	0.00455	0.0054	0.000977 J	0.00312	0.00311

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	***C/I Assessment Level***	MW-97A 03/12/2020	MW-98A 03/12/2020	MW-98B 03/12/2020	MW-99C 03/11/2020	P-10 01/29/2008	P-10 01/29/2008 Duplicate	P-10 07/16/2008	P-10 01/22/2009	P-10 07/22/2009	P-10 07/22/2009 Duplicate	P-10 01/22/2010	P-10 01/22/2010 Duplicate
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002			<0.00052					
Benzene	*0.005*	*0.005*	<0.0002	<0.0002	<0.0002	<0.0002			<0.00025					
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0003	<0.0003	<0.0003			<0.00047					
Ethylbenzene	*0.7*	*0.7*	<0.0003	<0.0003	<0.0003	<0.0003			<0.00025					
Methylene chloride	*0.005*	*0.005*	<0.001	<0.001	<0.001	<0.001			<0.00054					
Toluene	*1*	*1*	<0.0002	0.00065 J	0.002	0.00078 J			<0.00041					
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003			<0.00127					
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.000021	<0.000021	<0.000021								
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00004	0.000078 J	<0.000041	<0.000041								
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000059	<0.000059	<0.000059	<0.000059								
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.000043	<0.000043	<0.000043								
2-Chloronaphthalene	*2*	*5.8*	<0.000021	<0.000021	<0.000021	<0.000021								
2-Methylnaphthalene	*0.098*	*0.29*	<0.000019	<0.000019	<0.000019	0.000086 J								
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00002	<0.00002	<0.00002								
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.000048	<0.000048	<0.000048								
Acenaphthene	*1.5*	*4.4*	<0.000027	0.00004 J	<0.000028	<0.000028	0.00373	0.00854	0.0106	<0.0008	<0.0009	<0.0009	<0.0009	<0.0009
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.000015	<0.00028	<0.00028	0.00053	<0.0007	<0.0005	<0.0005	<0.0005	<0.0005
Anthracene	*7.3*	*22*	<0.000014	<0.000014	<0.000014	<0.000014	0.000703	0.00036 J	0.000747	<0.0007	<0.0006	<0.0006	<0.0006	<0.0006
Benzo(a)anthracene	*0.0091*	*0.02*	<0.000051	<0.000051	<0.000051	<0.000051								
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	<0.00002	<0.00002	<0.00002								
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.000031	<0.000031	<0.000031								
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	<0.000038	<0.000038	0.00007 J	0.00023 J	<0.00019	0.00022 J	<0.0012	<0.0033	<0.0033	<0.0033	<0.0033
Chrysene	*0.91*	*2*	<0.000021	<0.000021	<0.000021	<0.000021								
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00002	<0.00002	<0.00002	0.000713	0.00175	0.00176	<0.0007	<0.0007	<0.0007	<0.0007	<0.0007
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00019	<0.00019	0.00092 J	<0.0007	<0.0005	<0.0005	<0.0005	<0.0005
Fluoranthene	*0.98*	*2.9*	<0.00001	0.000018 J	<0.00001	<0.00001	0.000506	0.00025 J	0.00022 J	<0.0006	<0.0005	<0.0005	<0.0005	<0.0005
Fluorene	*0.98*	*2.9*	<0.00003	<0.000031	<0.000031	<0.000031	0.000668	0.00251	0.00245	<0.0008	<0.0006	<0.0006	<0.0006	<0.0006
Naphthalene	*0.49*	*1.5*	<0.00002	0.000042 J	0.000036 J	0.00018	<0.00038	<0.00037	0.00079	<0.0008	<0.0006	<0.0006	<0.0006	<0.0006
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.000024	<0.000024	<0.000024								
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.000026	<0.000026	<0.000026								
Pentachlorophenol	*0.001*	*0.001*	<0.00008	<0.000081	<0.000081	<0.000081								
Phenanthrene	*0.73*	*2.2*	<0.000021	<0.000021	<0.000021	0.000053 J								
Phenol	*7.3*	*22*	<0.000035	<0.000036	<0.000036	<0.000036	<0.00019	<0.00019	<0.00021	<0.0015	<0.0005	<0.0005	<0.0005	<0.0005
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019	<0.000019	<0.000019	0.00039 J	<0.00019	<0.00021	<0.0009	<0.0005	<0.0005	<0.0005	<0.0005
Metals														
Arsenic	*0.01*	*0.01*	0.00121 J	0.00963	0.00165 J	0.000866 J								

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	P-10 07/14/2010	P-10 07/14/2010 Duplicate	P-10 01/12/2011	P-10 07/12/2011	P-10 07/12/2011 Duplicate	P-10 01/31/2012	P-10 01/31/2012 Duplicate	P-10 07/11/2012	P-10 07/11/2012 Duplicate	P-10 01/10/2013	P-10 01/10/2013 Duplicate	P-10 07/11/2013
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*												
Benzene	*0.005*	*0.005*												
Chlorobenzene	*0.1*	*0.1*												
Ethylbenzene	*0.7*	*0.7*												
Methylene chloride	*0.005*	*0.005*												
Toluene	*1*	*1*												
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*												
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*												
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	<0.0009	<0.0009	<0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0000755	<0.0000755	<0.0000808
Acenaphthylene	*1.5*	*4.4*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0000566	<0.0000566	<0.0000606
Anthracene	*7.3*	*22*	<0.0006	<0.0006	<0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0000472 J	0.000148 J	0.000133 J
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0033	<0.0033	<0.0033	<0.0005	0.0015 J	<0.0005	<0.0005	<0.0005	<0.0005	0.000906	0.00112	0.000492 J
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	<0.0007	<0.0007	<0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0000755	<0.0000755	<0.0000808
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000104	<0.000104	<0.000111
Fluoranthene	*0.98*	*2.9*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000066	<0.000066	<0.0000707
Fluorene	*0.98*	*2.9*	<0.0006	<0.0006	<0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000066	<0.000066	<0.0000707
Naphthalene	*0.49*	*1.5*	<0.0006	<0.0006	<0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0000755	<0.0000755	<0.0000808
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*												
Phenol	*7.3*	*22*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0000377	<0.0000377	<0.0000404
Pyrene	*0.73*	*2.2*	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000104	<0.000104	<0.000111
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	P-10 07/11/2013 Duplicate	P-10 01/09/2014	P-10 01/09/2014 Duplicate	P-10 07/02/2014	P-10 07/02/2014 Duplicate	P-10 01/07/2015	P-10 01/07/2015 Duplicate	P-10 07/08/2015	P-10 07/08/2015 Duplicate	P-10 01/13/2016	P-10 01/13/2016 Duplicate	P-10 07/07/2016
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*												
Benzene	*0.005*	*0.005*												
Chlorobenzene	*0.1*	*0.1*												
Ethylbenzene	*0.7*	*0.7*												
Methylene chloride	*0.005*	*0.005*												
Toluene	*1*	*1*												
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*												
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*				0.0000718 J	0.000891 J							
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	<0.0000812	0.000102 J	0.000966	0.01 J	0.0169 J	<0.0000792	<0.0000792	0.023	0.022	<0.000027	<0.000027	<0.000027
Acenaphthylene	*1.5*	*4.4*	<0.0000609	<0.0000556	0.0000571 J	0.0000588 J	0.000265 J	<0.0000594	<0.0000594	0.00012	0.00012	<0.000015	<0.000015	<0.000015
Anthracene	*7.3*	*22*	0.000181 J	0.000323 J	0.000369 J	0.000375 J	0.000473 J	0.000122 J	0.000115 J	0.00039	0.00033	0.000014 J	0.00007 J	<0.000014
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.000575	<0.000343	<0.000343	0.00127	0.00133	0.000853 J	0.00155 J	0.0006 J	0.00032 J	0.0002 J	0.00035 J	0.00029
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	<0.0000812	<0.0000741	0.000135 J	0.00205 J	0.00304 J	<0.0000792	<0.0000792	0.0024	0.0021	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.000112	<0.000262	<0.000309	0.000108 J	0.000321 J	<0.000109	<0.000119	<0.000044	<0.000059	<0.000058	<0.00011	<0.000046
Fluoranthene	*0.98*	*2.9*	<0.0000711	<0.0000648	<0.0000648	0.00042 J	0.00039 J	0.000114 J	0.000113 J	0.0006	0.00047	<0.00001	<0.00001	<0.00001
Fluorene	*0.98*	*2.9*	<0.0000711	<0.0000648	0.000262 J	0.00393	0.00514	<0.0000693	<0.0000693	0.0046	0.0038	<0.00003	<0.00003	<0.00003
Naphthalene	*0.49*	*1.5*	<0.0000812	<0.0000741	<0.0000741	0.0000784 J	0.000924 J	<0.0000792	<0.0000792	0.019	0.018	<0.00002	<0.00002	<0.00002
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*				0.000575 J	0.000808 J							
Phenol	*7.3*	*22*	<0.0000406	<0.000037	<0.000037	<0.0000392	<0.0000396	<0.0000396	<0.0000396	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	<0.000112	<0.000102	<0.000102	0.000318 J	0.000306 J	<0.000109	<0.000109	0.00038	0.00029	<0.000019	<0.000019	<0.000019
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	P-10 07/07/2016 Duplicate	P-10 01/12/2017	P-10 01/12/2017 Duplicate	P-10 07/13/2017	P-10 07/13/2017 Duplicate	P-10 01/04/2018	P-10 01/04/2018 Duplicate	P-10 07/19/2018	P-10 07/19/2018 Duplicate	P-10 01/08/2019	P-10 01/08/2019 Duplicate	P-10 07/01/2019
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*												
Benzene	*0.005*	*0.005*												
Chlorobenzene	*0.1*	*0.1*												
Ethylbenzene	*0.7*	*0.7*												
Methylene chloride	*0.005*	*0.005*												
Toluene	*1*	*1*												
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*												
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*												
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	<0.000027	0.000027 J	0.000078 J	<0.000027	<0.000027	<0.000027	0.0033	0.041	0.043	<0.000027	<0.000027	0.0028
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	0.00038	0.00032	<0.000015	<0.000015	<0.000015
Anthracene	*7.3*	*22*	<0.000014	0.000014 J	0.000081 J	<0.000014	<0.000014	<0.000014	0.00017	0.00058	0.0006	0.00025	0.00021	0.000065 J
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.0003	0.00025 J	0.00018 J	0.000097 J	0.00016 J	<0.00024	<0.00017	<0.00019	<0.00022	<0.000061	<0.000057	0.00029
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	<0.00002	0.00002 J	0.000055 J	<0.00002	<0.00002	0.00029	0.00093	0.0047	0.0042	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.000031	<0.00002	<0.00002	<0.00002	<0.00002	<0.000042	<0.000034	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	<0.00001	0.00001 J	0.000088 J	<0.00001	<0.00001	0.00017	0.00016	0.00099	0.001	<0.00001	<0.00001	<0.00001
Fluorene	*0.98*	*2.9*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	0.00042	0.0012	0.0073	0.007	<0.00003	0.00003 J	<0.00003
Naphthalene	*0.49*	*1.5*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.0034	0.00014	0.000056 J	<0.00002	<0.00002	0.000063 J
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*												
Phenol	*7.3*	*22*	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	0.0014	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	<0.000019	<0.000019	0.000022 J	<0.000019	<0.000019	<0.000019	<0.000019	0.00049	0.00048	<0.000019	<0.000019	<0.000019
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	P-10 01/13/2020	P-11 01/30/2008	P-11 07/15/2008	P-11 02/04/2009	P-11 01/21/2010	P-11 06/22/2010	P-11 01/18/2011	P-11 07/27/2011	P-11 02/02/2012	P-11 07/26/2012	P-11 02/05/2013	P-11 08/01/2013
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*		<0.00052	<0.00052	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014
Benzene	*0.005*	*0.005*		<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008
Chlorobenzene	*0.1*	*0.1*		<0.00047	<0.00047	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012
Ethylbenzene	*0.7*	*0.7*		<0.00025	<0.00025	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011
Methylene chloride	*0.005*	*0.005*		<0.00054	<0.00054	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015
Toluene	*1*	*1*		<0.00041	<0.00041	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015
Vinyl chloride	*0.002*	*0.002*											<0.00011	
Xylenes (total)	*10*	*10*		<0.00127	<0.00127	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*		<0.00008	<0.00008	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.000104	<0.000105
2,4-Dimethylphenol	*0.49*	*1.5*		<0.00031	<0.00028	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	**R**	<0.000295
2,4-Dinitrotoluene	*0.0013*	*0.003*		<0.00021	<0.00019	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000123	<0.000124
2,6-Dinitrotoluene	*0.0013*	*0.003*		<0.00021	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000755	<0.0000762
2-Chloronaphthalene	*2*	*5.8*		<0.00042	<0.00038	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000762
2-Methylnaphthalene	*0.098*	*0.29*		0.000783	<0.00038	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00023	<0.000052	0.000127 J	<0.0000667
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*		<0.00021	<0.00047	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	**R**	<0.00079
4-Nitrophenol	*0.049*	*0.15*		<0.00026	<0.00024	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	**R**	<0.000533
Acenaphthene	*1.5*	*4.4*	<0.000027	0.0776	<0.00028	0.0057	<0.00009	0.0037	<0.00009	0.00075	0.03	0.018	<0.0000755	<0.0000762
Acenaphthylene	*1.5*	*4.4*	<0.000015	<0.00031	<0.00028	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	0.0002	0.0001 J	<0.0000566	<0.0000571
Anthracene	*7.3*	*22*	<0.000014	0.00356	<0.00019	0.00015 J	<0.00007	0.00012 J	<0.00007	0.00012 J	0.0016	0.00039	0.00025 J	0.0000997 J
Benzo(a)anthracene	*0.0091*	*0.02*		<0.00021	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000762
Benzo(a)pyrene	*0.0002*	*0.0002*		**<0.00021**	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000762
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*		<0.00042	<0.00038	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000123	<0.000124
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	0.00116 J	<0.00019	0.00022	<0.00051	<0.00021	0.0016	0.00018 J	<0.00013	0.00021	0.00036 J	0.000593 J
Chrysene	*0.91*	*2*		<0.00021	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000762
Dibenzofuran	*0.098*	*0.29*	<0.00002	<0.00031	<0.00028	0.00024	<0.00008	0.000093 J	<0.00008	0.00013 J	0.0035	0.00059	0.000135 J	<0.0000762
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	<0.00021	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000104	<0.000105
Fluoranthene	*0.98*	*2.9*	<0.00001	0.0061	<0.00019	<0.00007	<0.00007	0.00042	<0.00007	0.000081 J	0.0022	0.00048	<0.000066	<0.0000667
Fluorene	*0.98*	*2.9*	<0.00003	0.0219	<0.00019	0.0018	<0.00007	0.0016	<0.00007	0.000082 J	0.011	0.0044 J	0.0000769 J	<0.0000667
Naphthalene	*0.49*	*1.5*	0.00017	0.0324	<0.00038	0.0027	<0.0001	0.0027	<0.0001	0.00013 J	0.0017	<0.00026	0.000662	<0.0000762
Nitrobenzene	*0.049*	*0.15*		<0.00042	<0.00038	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000104	<0.000105
N-Nitrosodiphenylamine	*0.19*	*0.42*		<0.00026	<0.00024	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000943	<0.0000952
Pentachlorophenol	*0.001*	*0.001*		<0.00021	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	**R**	<0.000581
Phenanthrene	*0.73*	*2.2*		0.0196	<0.00019	0.00048	<0.00007	0.00053	<0.00007	0.000086 J	0.0045	0.00055	0.0000854 J	<0.0000571
Phenol	*7.3*	*22*	<0.000035	<0.00021	<0.00019	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00015	<0.00005	**R**	<0.0000381
Pyrene	*0.73*	*2.2*	<0.000019	0.00369	<0.00019	<0.00007	<0.00007	0.00015 J	<0.00007	<0.00005	0.0013	0.00023	<0.000104	<0.000105
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	P-11 01/15/2014	P-11 07/29/2014	P-11 01/24/2018	P-11 03/23/2018	P-11 05/24/2018	P-11 01/09/2019	P-11 07/11/2019	P-11 01/14/2020	P-12 01/29/2008	P-12 07/16/2008	P-12 07/16/2008 Duplicate	P-12 01/22/2009
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.00109	<0.00052	
Benzene	*0.005*	*0.005*	0.000207 J	<0.00008	<0.0002	<0.0002	0.00021 J	<0.0002	<0.0002	<0.0002		<0.00112	<0.00025	
Chlorobenzene	*0.1*	*0.1*	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003		<0.0015	<0.00047	
Ethylbenzene	*0.7*	*0.7*	0.000253 J	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003		<0.00142	<0.00025	
Methylene chloride	*0.005*	*0.005*	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.00122	<0.00054	
Toluene	*1*	*1*	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.00138	<0.00041	
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*	<0.00058	<0.00026	<0.0003	<0.0003	0.00032 J	<0.0003	<0.0003	<0.0003		<0.00302	<0.00127	
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000104	<0.000108	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021				
2,4-Dimethylphenol	*0.49*	*1.5*	<0.000292	<0.000304	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004				
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000123	<0.000127	<0.000058	<0.000058	<0.000059	<0.000058	<0.000058	<0.000058				
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.0000755	<0.0000784	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042				
2-Chloronaphthalene	*2*	*5.8*	<0.0000755	<0.0000784	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021				
2-Methylnaphthalene	*0.098*	*0.29*	0.000257 J	<0.0000686	<0.000019	<0.000019	0.00015	<0.000019	0.00005 J	0.000076 J				
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.000783	<0.000814	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002				
4-Nitrophenol	*0.049*	*0.15*	<0.000528	<0.000549	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047				
Acenaphthene	*1.5*	*4.4*	0.00951	0.000653	<0.000027	0.00021	0.081	<0.000027	0.0019	0.0046	<0.00029	<0.0003	<0.0003	<0.0008
Acenaphthylene	*1.5*	*4.4*	<0.0000566	<0.0000588	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.00029	<0.0003	<0.0003	<0.0007
Anthracene	*7.3*	*22*	0.000503	0.000119 J	<0.000014	<0.000014	0.0037	<0.000014	0.000063 J	0.000081 J	0.000645	0.000552	0.000566	<0.0007
Benzo(a)anthracene	*0.0091*	*0.02*	<0.0000755	<0.0000784	<0.00005	<0.00005	<0.000051	<0.00005	<0.00005	<0.00005				
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.0000755	<0.0000784	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002				
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.000123	<0.000127	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003				
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00403	<0.000711	0.00018 J	<0.000037	0.000063 J	<0.000037	0.000087 J	<0.000037	<0.00019	0.00034 J	0.00064 J	<0.0012
Chrysene	*0.91*	*2*	<0.0000755	<0.0000784	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021				
Dibenzofuran	*0.098*	*0.29*	0.00103	0.000176 J	<0.00002	<0.00002	0.0016	<0.00002	0.000079 J	0.00016	<0.00029	<0.0003	<0.0003	<0.0007
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.000104	<0.000108	<0.00002	<0.00002	0.000025 J	<0.00002	<0.00002	<0.00002	<0.00019	0.00085 J	0.00087 J	<0.0007
Fluoranthene	*0.98*	*2.9*	0.000287 J	0.0000771 J	0.000038 J	<0.00001	0.0056	<0.00001	0.00006 J	<0.00001	<0.00019	<0.0002	<0.0002	<0.0006
Fluorene	*0.98*	*2.9*	0.00264	0.000344 J	0.000045 J	<0.00003	0.037	<0.00003	0.00074	0.0013	<0.00019	<0.0002	<0.0002	<0.0008
Naphthalene	*0.49*	*1.5*	0.0554	<0.0000784	<0.00002	<0.00002	0.0024	<0.00002	<0.0018	0.00048	<0.00038	0.000626	0.000639	<0.0008
Nitrobenzene	*0.049*	*0.15*	<0.000104	<0.000108	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024				
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.0000943	<0.000098	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025				
Pentachlorophenol	*0.001*	*0.001*	<0.000575	<0.000598	<0.000079	<0.000079	<0.00008	<0.000079	<0.000079	<0.000079				
Phenanthrene	*0.73*	*2.2*	0.00189	<0.000317	<0.000021	<0.000021	0.04	<0.000021	0.0002	0.00035				
Phenol	*7.3*	*22*	<0.0000377	<0.0000392	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.00019	<0.0002	<0.0002	<0.0015
Pyrene	*0.73*	*2.2*	0.000274 J	<0.000108	0.000039 J	<0.000019	0.0032	<0.000019	0.000036 J	<0.000019	0.00932	0.00211	0.00166	0.0026 J
Metals														
Arsenic	*0.01*	*0.01*			**0.0374**	**0.016**	**0.0622**	**0.0183**	**0.0704**	**0.036**				

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	***C/I Assessment Level***	P-12 01/22/2009 Duplicate	P-12 07/22/2009	P-12 01/22/2010	P-12 07/14/2010	P-12 01/12/2011	P-12 07/12/2011	P-12 01/31/2012	P-12 07/11/2012	P-12 01/09/2013	P-12 07/11/2013	P-12 01/09/2014	P-12 07/02/2014
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*												
Benzene	*0.005*	*0.005*												
Chlorobenzene	*0.1*	*0.1*												
Ethylbenzene	*0.7*	*0.7*												
Methylene chloride	*0.005*	*0.005*												
Toluene	*1*	*1*												
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*												
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												
2,4-Dimethylphenol	*0.49*	*1.5*												
2,4-Dinitrotoluene	*0.0013*	*0.003*												
2,6-Dinitrotoluene	*0.0013*	*0.003*												
2-Chloronaphthalene	*2*	*5.8*												
2-Methylnaphthalene	*0.098*	*0.29*		<0.0009										<0.000066
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												
4-Nitrophenol	*0.049*	*0.15*												
Acenaphthene	*1.5*	*4.4*	<0.0008	<0.0009	<0.0009	<0.0009	<0.0009	<0.0005	<0.0005	<0.0005	<0.0000755	<0.00008	<0.0000741	<0.0000755
Acenaphthylene	*1.5*	*4.4*	<0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0000566	<0.00006	<0.0000556	<0.0000566
Anthracene	*7.3*	*22*	<0.0007	<0.0006	<0.0006	<0.0006	<0.0006	<0.0005	<0.0005	<0.0005	<0.0000472	<0.00005	0.0002 J	0.000189 J
Benzo(a)anthracene	*0.0091*	*0.02*												
Benzo(a)pyrene	*0.0002*	*0.0002*												
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.0012	<0.0033	<0.0033	<0.0033	<0.0033	<0.0005	<0.0005	<0.0005	0.00142 J	0.00039 J	0.000515 J	0.000439 J
Chrysene	*0.91*	*2*												
Dibenzofuran	*0.098*	*0.29*	<0.0007	<0.0007	<0.0007	<0.0007	<0.0007	<0.0005	<0.0005	<0.0005	<0.0000755	<0.00008	<0.0000741	<0.0000755
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.0007	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000104	<0.00011	<0.000416	0.000144 J
Fluoranthene	*0.98*	*2.9*	<0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000066	<0.00007	<0.0000648	<0.000066
Fluorene	*0.98*	*2.9*	<0.0008	<0.0006	<0.0006	<0.0006	<0.0006	<0.0005	<0.0005	<0.0005	<0.000066	<0.00007	<0.0000648	<0.000066
Naphthalene	*0.49*	*1.5*	<0.0008	<0.0006	<0.0006	<0.0006	0.0006 J	<0.0005	<0.0005	<0.0005	<0.0000755	<0.00008	<0.0000741	<0.0000755
Nitrobenzene	*0.049*	*0.15*												
N-Nitrosodiphenylamine	*0.19*	*0.42*												
Pentachlorophenol	*0.001*	*0.001*												
Phenanthrene	*0.73*	*2.2*		<0.0005										<0.0000566
Phenol	*7.3*	*22*	<0.0015	<0.0005	<0.0005	<0.0005	0.0005 J	<0.0005	<0.0005	<0.0005	<0.0000377	<0.00004	<0.000037	<0.0000377
Pyrene	*0.73*	*2.2*	0.0012 J	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.000104	<0.00011	<0.000102	0.00189
Metals														
Arsenic	*0.01*	*0.01*												

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	P-12 01/07/2015	P-12 07/08/2015	P-12 01/13/2016	P-12 07/07/2016	P-12 01/12/2017	P-12 07/13/2017	P-12 01/04/2018	P-12 07/19/2018	P-12 01/07/2019	P-12 07/01/2019	P-12 01/13/2020	TW-41B 01/19/2010
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*												<0.0005
Benzene	*0.005*	*0.005*												<0.0005
Chlorobenzene	*0.1*	*0.1*												<0.0005
Ethylbenzene	*0.7*	*0.7*												<0.0005
Methylene chloride	*0.005*	*0.005*												<0.0005
Toluene	*1*	*1*												<0.0005
Vinyl chloride	*0.002*	*0.002*												
Xylenes (total)	*10*	*10*												<0.001
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*												<0.0001
2,4-Dimethylphenol	*0.49*	*1.5*												<0.00008
2,4-Dinitrotoluene	*0.0013*	*0.003*												<0.00009
2,6-Dinitrotoluene	*0.0013*	*0.003*												<0.00007
2-Chloronaphthalene	*2*	*5.8*												<0.0001
2-Methylnaphthalene	*0.098*	*0.29*												<0.00007
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*												<0.00008
4-Nitrophenol	*0.049*	*0.15*												<0.00007
Acenaphthene	*1.5*	*4.4*	<0.0000792	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.00009
Acenaphthylene	*1.5*	*4.4*	<0.0000594	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.00007
Anthracene	*7.3*	*22*	<0.0000495	<0.000014	<0.000014	0.000026 J	<0.000014	<0.000014	0.000036 J	<0.000014	0.000063 J	0.000052 J	0.0001	<0.00007
Benzo(a)anthracene	*0.0091*	*0.02*												<0.00007
Benzo(a)pyrene	*0.0002*	*0.0002*												<0.00008
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*												<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000366	0.00055	0.00036	0.000086 J	0.00029	0.00026	<0.00012	<0.00009	<0.000037	<0.000037	<0.000037	0.0011
Chrysene	*0.91*	*2*												<0.00007
Dibenzofuran	*0.098*	*0.29*	<0.0000792	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.000109	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.000022	<0.00002	<0.00002	<0.00002	<0.00002	<0.00007
Fluoranthene	*0.98*	*2.9*	<0.0000693	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00007
Fluorene	*0.98*	*2.9*	<0.0000693	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	0.00015 J
Naphthalene	*0.49*	*1.5*	<0.0000792	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.00016	0.00014 J
Nitrobenzene	*0.049*	*0.15*												<0.00009
N-Nitrosodiphenylamine	*0.19*	*0.42*												<0.00009
Pentachlorophenol	*0.001*	*0.001*												<0.00008
Phenanthrene	*0.73*	*2.2*												<0.00007
Phenol	*7.3*	*22*	<0.0000396	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.00007
Pyrene	*0.73*	*2.2*	0.00152 J	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	0.000097 J	<0.000019	<0.000019	<0.000019	0.00063	<0.00007
Metals														
Arsenic	*0.01*	*0.01*												

Notes:
1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	*C/I Assessment Level*	TW-41B 07/27/2011	TW-41B 02/01/2012	TW-41B 07/26/2012	TW-41B 02/05/2013	TW-41B 07/31/2013	TW-41B 01/16/2014	TW-41B 07/25/2014	TW-41B 01/24/2018	TW-41B 03/20/2018	TW-41B 05/16/2018	TW-41B 01/09/2019	TW-41B 07/12/2019
Volatile Organic Compounds														
1,2-Dichloroethane	*0.005*	*0.005*	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.002	<0.0002
Benzene	*0.005*	*0.005*	<0.001	<0.001	<0.0005	<0.00008	0.000347 J	<0.0002	0.000594 J	0.00065 J	0.001 J	0.0013	<0.002	<0.0013
Chlorobenzene	*0.1*	*0.1*	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.003	<0.0003
Ethylbenzene	*0.7*	*0.7*	0.0075	<0.0011	<0.0005	<0.00011	0.00115	<0.00019	0.00501	<0.0003	0.0036	0.0029	<0.003	<0.0011
Methylene chloride	*0.005*	*0.005*	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	**<0.01**	<0.001
Toluene	*1*	*1*	0.0033 J	<0.001	<0.0005	<0.00015	<0.000279	<0.00017	0.00116	<0.0002	0.00068 J	0.0012	<0.002	<0.0011
Vinyl chloride	*0.002*	*0.002*				<0.00011			<0.00011					
Xylenes (total)	*10*	*10*	0.0052 J	<0.0031	<0.0015	<0.00026	0.000386 J	<0.00058	0.0101	0.0079	0.013	0.015	<0.003	0.019
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.00005	<0.00005	<0.00005	<0.000104	<0.000105	<0.000104	<0.000107	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*0.49*	*1.5*	<0.00005	0.00005 J	0.0014	<0.000292	<0.000295	<0.000292	<0.000301	<0.000041	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.00005	0.00005 J	<0.00005	<0.000123	<0.000124	<0.000123	<0.000126	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.00006	0.00006 J	<0.00006	<0.0000755	<0.0000762	<0.0000755	<0.0000777	<0.000043	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*2*	*5.8*	<0.00005	0.00005 J	<0.00005	<0.0000755	<0.0000762	<0.0000755	<0.0000777	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*0.098*	*0.29*	0.015	0.00005 J	<0.0001	<0.000066	0.000256 J	<0.0000846	0.0125	0.0003	0.011	0.026	0.0098	0.067
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00008	<0.00008	<0.00008	<0.000783	<0.00079	<0.000783	<0.000806	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*0.049*	*0.15*	<0.00005	0.00005 J	<0.00005	<0.000528	<0.000533	<0.000528	<0.000544	<0.000048	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	*1.5*	*4.4*	0.041	0.00005 J	0.039	<0.0000755	0.0252	<0.0000755	0.142	0.087	0.072	0.08	0.058	0.15
Acenaphthylene	*1.5*	*4.4*	0.00053	0.00005 J	0.00041	0.0000751 J	0.000409 J	0.0000926 J	0.00185	0.0019	0.0017	0.0016	0.00091	0.0014
Anthracene	*7.3*	*22*	0.0022	0.00016 J	0.0011	0.000979	0.00161	0.00093	0.00697	0.0016	0.0034	0.0039	0.0023	0.0055
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	<0.00005	<0.00005	<0.0000755	0.0000879 J	<0.0000755	<0.0000777	<0.000051	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000762	<0.0000755	<0.0000777	<0.00002	<0.00002	<0.00002	0.000097 J	<0.00002
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00005	0.00005 J	<0.00005	<0.000123	<0.000124	<0.000123	<0.000126	<0.000031	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	0.00022	<0.00023	<0.0001	<0.000349	<0.000352	<0.000349	<0.000359	0.000058 J	<0.000037	<0.000037	<0.000037	<0.000037
Chrysene	*0.91*	*2*	<0.00005	<0.00005	<0.00005	<0.0000755	<0.0000762	<0.0000755	<0.0000777	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	*0.098*	*0.29*	0.029	0.00005 J	0.016	<0.0000755	0.0104	<0.0000755	0.0845	0.022	0.026	0.034	0.026	0.074
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00005	<0.00005	<0.0001	<0.000104	<0.000138	0.000116 J	<0.000107	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	*0.98*	*2.9*	0.0022	<0.00005	0.0015	<0.000066	0.00153	0.000206 J	0.00475	0.0019	0.0026	0.0022	0.0014	0.0034
Fluorene	*0.98*	*2.9*	0.028	0.00005 J	0.0054 J	0.0000917 J	0.00386	<0.000066	<0.0811	0.035	0.037	0.045	0.035	0.085
Naphthalene	*0.49*	*1.5*	0.049	0.00051 J	<0.0013	0.000156 J	0.00309 J	<0.000259	0.149	0.027	0.12	0.28	0.061	**0.69**
Nitrobenzene	*0.049*	*0.15*	<0.00005	0.00005 J	<0.00005	<0.000104	<0.000105	<0.000104	<0.000107	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.00005	<0.00005	<0.00005	<0.0000943	<0.0000952	<0.0000943	<0.0000971	<0.000026	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.001*	*0.001*	<0.00005	0.00005 J	<0.00005	<0.000575	<0.000581	<0.000575	<0.000592	<0.000081	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	*0.73*	*2.2*	0.019	<0.00005	<0.00005	<0.0000566	0.000659	<0.000176	0.0573	0.00048	0.0089	0.013	0.0035	0.027
Phenol	*7.3*	*22*	<0.00005	0.000057 J	0.0016	<0.0000377	<0.0000381	<0.0000377	<0.0000388	<0.000036	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	*0.73*	*2.2*	0.00095	<0.00005	0.00066	<0.000104	0.000702	0.000223 J	0.00209	0.00083	0.0011	0.001	0.00056	0.0014
Metals														
Arsenic	*0.01*	*0.01*								**0.0376**	**0.0953**	**0.0976**	**0.125**	**0.113**

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 2
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 2 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Residential Assessment Level	***C/I Assessment Level***	TW-41B 01/13/2020	TW-56A 01/20/2010	TW-56A 07/14/2011	TW-56A 02/02/2012	TW-56A 07/11/2012	TW-56A 01/31/2013
Volatile Organic Compounds								
1,2-Dichloroethane	*0.005*	*0.005*	<0.0002	**0.023 J**	<0.005	**<0.01**	<0.0025	<0.0014
Benzene	*0.005*	*0.005*	0.00039 J	**0.26**	**0.27**	**0.15**	**0.26**	**0.238**
Chlorobenzene	*0.1*	*0.1*	<0.0003	<0.0025	<0.005	<0.01	<0.0025	0.00412 J
Ethylbenzene	*0.7*	*0.7*	<0.0003	0.36	0.16	0.068	0.14	0.202
Methylene chloride	*0.005*	*0.005*	<0.001	<0.0025	**<0.0065**	**<0.013**	<0.005	<0.0015
Toluene	*1*	*1*	<0.0002	0.32	0.14	0.028 J	0.069	0.0314
Vinyl chloride	*0.002*	*0.002*		**<0.0025**	**0.0069 J**	**0.01 J**	**0.016**	**0.0126 J**
Xylenes (total)	*10*	*10*	0.0021	0.98	0.61	0.53	0.43	0.5
Semivolatile Organic Compounds								
1,2-Diphenylhydrazine	*0.0011*	*0.0026*	<0.000021	<0.0001	<0.00005	<0.0005	<0.00005	**<0.055**
2,4-Dimethylphenol	*0.49*	*1.5*	0.00017 J	**2.9**	**6.8**	**4.2**	**3.8**	**4.81**
2,4-Dinitrotoluene	*0.0013*	*0.003*	<0.000058	<0.00009	<0.00005	<0.0005	<0.00005	**<0.065**
2,6-Dinitrotoluene	*0.0013*	*0.003*	<0.000042	<0.00007	<0.00006	<0.0006	<0.00006	**<0.04**
2-Chloronaphthalene	*2*	*5.8*	0.00012 J	<0.0001	<0.00005	<0.0005	<0.00005	<0.04
2-Methylnaphthalene	*0.098*	*0.29*	0.0071	**0.15**	**0.16**	**0.11**	0.052	**0.123 J**
4,6-Dinitro-2-methylphenol	*0.0024*	*0.0073*	<0.00002	<0.00008	<0.00008	<0.0008	<0.00008	**<0.415**
4-Nitrophenol	*0.049*	*0.15*	<0.000047	<0.00007	<0.00005	<0.0005	<0.00005	**<0.28**
Acenaphthene	*1.5*	*4.4*	0.12	0.077	0.18	0.19	0.095	0.25
Acenaphthylene	*1.5*	*4.4*	0.0011	0.0024	0.004	0.0038	0.0028	<0.03
Anthracene	*7.3*	*22*	0.0031	0.0035	0.021	0.02	0.0083	0.0338 J
Benzo(a)anthracene	*0.0091*	*0.02*	<0.00005	0.00099	0.0014	0.0016 J	0.0024	**<0.04**
Benzo(a)pyrene	*0.0002*	*0.0002*	<0.00002	**0.00031**	**0.00047**	**0.00051 J**	**0.0008**	**<0.04**
bis(2-Chloroethoxy)methane	*0.00083*	*0.0019*	<0.00003	<0.00009	<0.00005	<0.0005	<0.00005	**<0.065**
bis(2-Ethylhexyl)phthalate (DEHP)	*0.006*	*0.006*	<0.000037	<0.00025	<0.0018	<0.001	<0.0001	**<0.185**
Chrysene	*0.91*	*2*	<0.000021	0.00084	0.0014	0.0018 J	0.0022	<0.04
Dibenzofuran	*0.098*	*0.29*	0.055	0.043	0.09	0.049	0.038	**0.108 J**
Di-n-butylphthalate (DBP)	*2.4*	*7.3*	<0.00002	0.00045	<0.00005	<0.0005	<0.00005	<0.055
Fluoranthene	*0.98*	*2.9*	0.0021	0.01	0.021	0.02	0.027	<0.035
Fluorene	*0.98*	*2.9*	0.078	0.033	0.09	0.058	0.047	0.12 J
Naphthalene	*0.49*	*1.5*	0.058	**2.5**	**2.3**	**2.2**	**0.81**	**1.75 J**
Nitrobenzene	*0.049*	*0.15*	<0.000024	<0.00009	<0.00005	<0.0005	<0.00005	**<0.055**
N-Nitrosodiphenylamine	*0.19*	*0.42*	<0.000025	<0.00009	<0.00005	<0.0005	<0.00005	<0.05
Pentachlorophenol	*0.001*	*0.001*	<0.000079	0.00013 J	0.00076 J	<0.0005	0.00091	**<0.305**
Phenanthrene	*0.73*	*2.2*	0.0084	0.06	0.17	0.2	0.073	0.217 J
Phenol	*7.3*	*22*	<0.000035	0.014	<0.00005	0.0063	<0.00005	<0.02
Pyrene	*0.73*	*2.2*	0.00082	0.0067	0.012	0.015	0.018	<0.055
Metals								
Arsenic	*0.01*	*0.01*	**0.0557**					

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.
7. MW-32A was screened in the B-CZ & replaced with MW-32AR
8. Based on historical data, MW-25A and MW-25C were likely mislabeled in March 2018 and results are provided correctly in this table.

TABLE 3
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 3 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Class 3 Residential Assessment	*Class 3 C/I Assessment Level*	MW-32B 02/09/2012 DNAPL	MW-32B 07/16/2012 DNAPL	MW-32B 02/06/2013 DNAPL	MW-32B 01/21/2014 DNAPL	MW-32B 01/20/2020 DNAPL	MW-33B 01/29/2008 DNAPL	MW-33B 07/14/2008 DNAPL	MW-33B 07/14/2008 Duplicate	MW-33B 02/03/2009 DNAPL	MW-33B 01/13/2010 DNAPL	MW-33B 06/29/2010	MW-33B 01/24/2011 DNAPL
Volatile Organic Compounds														
1,2-Dichloroethane	*0.5*	*0.5*	0.025 J	<0.0005	<0.00014	<0.0002	<0.005	<0.00052	<0.00109	<0.00109	<0.005	<0.005	<0.005	<0.005
Benzene	*0.5*	*0.5*	**2.6 J**	<0.0005	0.00428	0.239	**1.8**	**1.92**	**2.73**	**2.69**	**2.4**	**1.2**	**2**	**1**
Chlorobenzene	*10*	*10*	0.025 J	<0.0005	<0.000343	<0.00018	<0.0075	<0.00047	<0.0015	<0.0015	<0.005	<0.005	<0.005	<0.005
Ethylbenzene	*70*	*70*	0.53 J	<0.0005	0.00561	0.254	0.73	0.491	0.626	0.598	0.47	0.41	0.62	0.36
Methylene chloride	*0.5*	*0.5*	0.032 J	<0.001	<0.00015	<0.00022	<0.025	<0.00054	<0.00122	<0.00122	0.0096 J	<0.005	<0.005	<0.005
Toluene	*100*	*100*	2.2 J	<0.0005	0.00261	0.541	2.3	0.1	0.136	0.13	0.084	0.019 J	0.016 J	0.0067 J
Vinyl chloride	*0.2*	*0.2*					<0.005							
Xylenes (total)	*1000*	*1000*	1.5 J	<0.0015	0.0203	0.749	2.1	1.24	1.63	1.58	1.4	1.2	1.5	0.85
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.11*	*0.26*	0.0005 J	<0.00005	<0.0262	<0.00104	<0.00042	<0.01	<0.008	<0.008	<0.0001	<0.0001	<0.0001	<0.0001
2,4-Dimethylphenol	*49*	*150*	46	0.0014	<0.0738	0.178	26	<0.043	<0.028	<0.028	<0.00008	0.0035	<0.00008	0.0029
2,4-Dinitrotoluene	*0.13*	*0.3*	0.0005 J	<0.00005	<0.031	<0.00123	<0.0012	<0.029	<0.019	<0.019	<0.00009	<0.00009	<0.00009	<0.00009
2,6-Dinitrotoluene	*0.13*	*0.3*	0.0006 J	<0.00006	<0.019	<0.000755	<0.00084	<0.029	<0.019	<0.019	<0.00007	<0.00007	<0.00007	<0.00007
2-Chloronaphthalene	*200*	*580*	0.0005 J	<0.00005	<0.019	<0.000755	<0.00042	<0.057	<0.038	<0.038	<0.00012	<0.0001	<0.0001	<0.0001
2-Methylnaphthalene	*9.8*	*29*	0.53	0.00019 J	<0.0167	0.137	**50**	0.443	0.808	0.787	1.9	0.71	0.51	0.52
4,6-Dinitro-2-methylphenol	*0.24*	*0.73*	0.0008 J	<0.00008	<0.198	<0.00783	<0.0004	<0.029	<0.019	<0.019	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*4.9*	*15*	0.0005 J	<0.00005	<0.133	<0.00528	<0.00094	<0.036	<0.024	<0.024	<0.00007	<0.00007	<0.00007	<0.00007
Acenaphthene	*150*	*440*	0.28 J	0.014	0.0416 J	0.0427	26	0.137	0.152	0.182	0.41	0.17	0.096	0.15
Acenaphthylene	*150*	*440*	0.0059 J	0.00085	<0.0143	<0.000566	<0.0003	<0.043	<0.028	<0.028	0.0037	0.0016	0.0011	0.0015
Anthracene	*730*	*2200*	0.059 J	0.0048	<0.0119	0.144	23	<0.029	<0.019	0.035	0.14	0.015	0.011	0.027
Benzo(a)anthracene	*0.91*	*2*	0.0033 J	0.0033	<0.019	0.0195	**2.2**	<0.029	<0.019	<0.019	0.022	0.00019 J	0.000073 J	0.0019
Benzo(a)pyrene	*0.02*	*0.02*	0.0005 J	0.00089	<0.019	0.00649	**0.74**	**<0.029**	<0.019	<0.019	0.0045	<0.00008	<0.00008	0.00073
bis(2-Chloroethoxy)methane	*0.083*	*0.19*	<0.0005	<0.00005	<0.031	<0.00123	<0.0006	<0.057	<0.038	<0.038	<0.00009	<0.00009	<0.00009	<0.00009
bis(2-Ethylhexyl)phthalate (DEHP)	*0.6*	*0.6*	0.001 J	0.00079	<0.0881	<0.00349	<0.00074	<0.029	<0.019	<0.019	0.00031	0.008	<0.00054	0.00091
Chrysene	*91*	*200*	0.0042 J	0.0023	<0.019	0.018	2.4	<0.029	<0.019	<0.019	0.02	0.00018 J	0.000092 J	0.0018
Dibenzofuran	*9.8*	*29*	0.28 J	0.0012	<0.019	0.0428	**28**	0.118	0.17	0.205	0.46	0.18	0.13	0.17
Di-n-butylphthalate (DBP)	*240*	*730*	0.0005 J	<0.00005	<0.0262	<0.00104	<0.0004	<0.029	<0.019	<0.019	<0.00007	<0.00007	<0.00007	<0.00007
Fluoranthene	*98*	*290*	0.03 J	0.031	<0.0167	0.121	21	<0.029	<0.019	0.042	0.2	0.0033	0.0018	0.033
Fluorene	*98*	*290*	0.15 J	0.0021	<0.0167	0.0282	23	0.046	0.0683	0.098	0.26	0.068	0.048	0.069
Naphthalene	*49*	*150*	26	<0.00057	<0.019	2.17 J	**300**	12.5	16	13.1	20	10	2.2	7
Nitrobenzene	*4.9*	*15*	<0.0005	<0.00005	<0.0262	<0.00104	<0.00048	<0.057	<0.038	<0.038	<0.00009	<0.00009	<0.00009	<0.00009
N-Nitrosodiphenylamine	*19*	*42*	0.0005 J	<0.00005	<0.0238	<0.000943	<0.0005	<0.036	<0.024	<0.024	<0.00009	<0.00009	<0.00009	<0.00009
Pentachlorophenol	*0.1*	*0.1*	0.0005 J	<0.00005	**<0.145**	<0.00575	<0.0016	<0.029	<0.019	<0.019	<0.00008	<0.00008	<0.00008	<0.00008
Phenanthrene	*73*	*220*	0.25 J	0.0012	<0.0143	0.0548	69	0.0903	0.0688	0.186	0.72	0.066	0.041	0.09
Phenol	*730*	*2200*	38 J	0.000066 J	<0.00952	0.0357	17	<0.029	<0.019	<0.019	0.003	<0.00007	0.0032	<0.00007
Pyrene	*73*	*220*	0.02 J	0.04	<0.0262	0.0841	14	0.045	<0.019	0.022	0.13	0.0016	0.00092	0.007
Metals														
Arsenic	*1*	*1*					0.00193 J							

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.

TABLE 3
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 3 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Class 3 Residential Assessment	*Class 3 C/I Assessment Level*	MW-33B 07/19/2011 DNAPL	MW-33B 02/15/2012	MW-33B 07/17/2012	MW-33BR 02/06/2013	MW-33BR 08/07/2013	MW-33BR 01/21/2014	MW-33BR 07/28/2014	MW-33BR 01/28/2018	MW-33BR 03/29/2018	MW-33BR 05/31/2018	MW-33BR 01/22/2019	MW-33BR 07/30/2019
Volatile Organic Compounds														
1,2-Dichloroethane	*0.5*	*0.5*	<0.01	<0.005	<0.0005	<0.007	<0.0007	<0.0002	<0.0007	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.5*	*0.5*	**1.6**	**2**	0.3	**1.61**	**1.62**	**0.837**	**1.41**	<0.0002	<0.0002	0.12	0.0025	0.25
Chlorobenzene	*10*	*10*	<0.01	<0.005	<0.0005	<0.006	<0.0006	0.000349 J	<0.0006	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*70*	*70*	0.4	0.46	0.07	0.471	0.389	0.128	0.348	<0.0003	<0.0003	0.0058	0.013	0.065
Methylene chloride	*0.5*	*0.5*	<0.013	<0.0065	<0.001	0.011 J	<0.00075	<0.00022	<0.00075	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*100*	*100*	<0.01	0.12	0.023	0.157	0.0645	0.00942	0.00638	<0.0002	<0.0002	<0.0002	<0.0002	0.0031
Vinyl chloride	*0.2*	*0.2*	<0.01	<0.005	<0.0005	<0.0055	<0.00055	<0.00018	<0.00055	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Xylenes (total)	*1000*	*1000*	1.2	0.82	0.15	0.924	0.182	0.128	0.0649	<0.0003	<0.0003	0.0058	<0.0003	0.016
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.11*	*0.26*	<0.00005	<0.00005	<0.0005	**<0.529**	<0.00519	<0.000529	<0.000107	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*49*	*150*	0.0034	<0.00005	0.0074	<1.49	<0.0146	<0.00149	<0.000301	<0.00004	<0.00004	<0.00004	<0.00004	0.00028
2,4-Dinitrotoluene	*0.13*	*0.3*	<0.00005	<0.00005	<0.0005	**<0.625**	<0.00613	<0.000625	<0.000126	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.13*	*0.3*	<0.00006	<0.00006	<0.0006	**<0.385**	<0.00377	<0.000385	<0.0000777	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*200*	*580*	<0.00005	<0.00005	<0.0005	<0.385	<0.00377	<0.000385	<0.0000777	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*9.8*	*29*	1.6	0.81	0.55	0.993 J	0.198	0.0558	0.277	<0.000019	<0.000019	0.0029	<0.000019	0.014
4,6-Dinitro-2-methylphenol	*0.24*	*0.73*	<0.00008	<0.00008	<0.0008	**<3.99**	<0.0392	<0.00399	<0.000806	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*4.9*	*15*	<0.00005	<0.00005	<0.0005	<2.69	<0.0264	<0.00269	<0.000544	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	*150*	*440*	0.41	0.23	0.099	<0.385	0.0455	0.0625	0.0711	<0.000027	<0.000027	0.0019	0.0013	0.0078
Acenaphthylene	*150*	*440*	0.0033	<0.00005	0.0014 J	<0.288	<0.00283	<0.000679	0.00087	<0.000015	<0.000015	0.000068 J	<0.000015	<0.000015
Anthracene	*730*	*2200*	0.16	0.054	0.011	<0.24	<0.00236	0.0045	0.00564	<0.000014	<0.000014	0.00018	<0.000014	0.00055
Benzo(a)anthracene	*0.91*	*2*	0.032	0.000074 J	<0.0005	<0.385	<0.00377	<0.000385	0.000119 J	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.02*	*0.02*	0.0077	<0.00005	<0.0005	**<0.385**	<0.00377	<0.000385	<0.0000777	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.083*	*0.19*	<0.00005	<0.00005	<0.0005	**<0.625**	<0.00613	<0.000625	<0.000126	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.6*	*0.6*	<0.00046	<0.00018	<0.001	**<1.78**	<0.0175	<0.00178	0.000722	0.000062 J	<0.000037	0.0001 J	<0.000037	0.00007 J
Chrysene	*91*	*200*	0.026	0.000073 J	<0.0005	<0.385	<0.00377	<0.000385	0.000132 J	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	*9.8*	*29*	0.53	0.38	0.15	<0.385	0.0498	0.0769	0.0868	<0.000021	<0.00002	0.0019	0.000079 J	0.012
Di-n-butylphthalate (DBP)	*240*	*730*	<0.00005	<0.00005	<0.0005	<0.529	<0.00519	<0.000529	<0.000384	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	*98*	*290*	0.28	0.0049	0.01	<0.337	<0.0033	0.00107 J	0.00265	0.000049 J	<0.00001	0.0003	0.000053 J	0.00039
Fluorene	*98*	*290*	0.31	0.12	0.051	<0.337	0.0181 J	0.0287	0.035 J	<0.00003	<0.00003	0.00058	<0.00003	0.0042
Naphthalene	*49*	*150*	13	21	7.3	14.9 J	6.54	1.68 J	6.59	<0.00018	<0.00002	0.069	0.00004 J	0.53 J
Nitrobenzene	*4.9*	*15*	<0.00005	<0.00005	<0.0005	<0.529	<0.00519	<0.000529	<0.000107	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*19*	*42*	<0.00005	0.00081	<0.0005	<0.481	<0.00472	<0.000481	<0.0000971	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.1*	*0.1*	<0.00005	<0.00005	<0.0005	**<2.93**	<0.0288	<0.00293	<0.000592	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	*73*	*220*	0.79	0.17	0.091	<0.288	0.0141 J	0.0238	0.0313 J	<0.000047	<0.000021	0.0008	<0.000021	0.0048
Phenol	*730*	*2200*	0.001	0.0043	0.0014 J	<0.192	<0.00189	<0.000192	<0.0000388	<0.000035	<0.000035	<0.000035	<0.000035	0.00021
Pyrene	*73*	*220*	0.17	0.0025	0.0054	<0.529	<0.00519	0.000734 J	0.00126	<0.000019	<0.000019	0.00019	0.00003 J	0.00026
Metals														
Arsenic	*1*	*1*								0.00144 J	0.00187 J	0.00294	0.00143 J	0.00117 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.

TABLE 3
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 3 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Class 3 Residential Assessment	*Class 3 C/I Assessment Level*	MW-33BR 01/15/2020	MW-36B 07/15/2010	MW-36B 07/15/2010 Duplicate	MW-36B 01/20/2011	MW-36B 07/19/2011	MW-36B 02/08/2012	MW-36B 07/17/2012	MW-36B 01/31/2013	MW-36B 08/06/2013	MW-36B 01/16/2014	MW-36B 07/28/2014	MW-36B 01/25/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.5*	*0.5*	<0.0002	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002
Benzene	*0.5*	*0.5*	0.12	<0.0005	<0.0005	0.0018 J	0.0014 J	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002
Chlorobenzene	*10*	*10*	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003
Ethylbenzene	*70*	*70*	0.043	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003
Methylene chloride	*0.5*	*0.5*	<0.001	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001
Toluene	*100*	*100*	<0.0002	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002
Vinyl chloride	*0.2*	*0.2*	<0.0002				<0.001		<0.0005	<0.00011	<0.00011	<0.00018	<0.00011	<0.0002
Xylenes (total)	*1000*	*1000*	0.011	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.11*	*0.26*	<0.000021	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.000104	<0.00011	<0.000104	<0.000107	<0.000021
2,4-Dimethylphenol	*49*	*150*	0.00018 J	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000292	<0.00031	<0.000292	<0.000301	<0.00004
2,4-Dinitrotoluene	*0.13*	*0.3*	<0.000058	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000123	<0.00013	<0.000123	<0.000126	<0.000059
2,6-Dinitrotoluene	*0.13*	*0.3*	<0.000042	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0000755	<0.00008	<0.0000755	<0.0000777	<0.000042
2-Chloronaphthalene	*200*	*580*	<0.000021	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0000755	<0.00008	<0.0000755	<0.0000777	<0.000021
2-Methylnaphthalene	*9.8*	*29*	0.00025	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000762	<0.00007	<0.000271	<0.000068	<0.000019
4,6-Dinitro-2-methylphenol	*0.24*	*0.73*	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.000783	<0.00083	<0.000783	<0.000806	<0.00002
4-Nitrophenol	*4.9*	*15*	<0.000047	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000528	<0.00056	<0.000528	<0.000544	<0.000047
Acenaphthene	*150*	*440*	0.0051	<0.00009	<0.00009	0.00023	0.00014 J	0.00023	0.00016 J	<0.0000755	<0.00008	0.000463 J	<0.0000777	0.00014
Acenaphthylene	*150*	*440*	0.00015	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000566	<0.00006	<0.0000566	<0.0000583	<0.000015
Anthracene	*730*	*2200*	0.00046	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000472	<0.00005	0.00035 J	<0.0000485	<0.000014
Benzo(a)anthracene	*0.91*	*2*	0.0001	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000755	<0.00008	0.00012 J	<0.0000777	<0.000051
Benzo(a)pyrene	*0.02*	*0.02*	0.000039 J	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0000755	<0.00008	<0.0000755	<0.0000777	<0.00002
bis(2-Chloroethoxy)methane	*0.083*	*0.19*	<0.00003	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000123	<0.00013	<0.000123	<0.000126	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.6*	*0.6*	0.00067	0.01	0.0024	<0.00048	<0.00068	<0.00033	0.00021	<0.000349	<0.00037	0.00044 J	<0.000359	0.00015 J
Chrysene	*91*	*200*	0.00011	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0000755	<0.00008	0.000146 J	<0.0000777	<0.000021
Dibenzofuran	*9.8*	*29*	0.0039	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	0.00011 J	<0.000118	<0.00008	<0.000409	<0.0000777	<0.00002
Di-n-butylphthalate (DBP)	*240*	*730*	0.00099	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000104	<0.00011	<0.000104	<0.000107	<0.00002
Fluoranthene	*98*	*290*	0.00082	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000066	<0.00007	0.000756	<0.000068	<0.00001
Fluorene	*98*	*290*	0.0018	<0.00007	<0.00007	<0.00007	<0.00005	0.00011 J	<0.00005	<0.000066	<0.00007	0.000434 J	<0.000068	<0.00003
Naphthalene	*49*	*150*	0.0051	<0.0001	<0.0001	<0.0001	<0.00005	<0.00024	<0.00005	<0.000943	0.0000895 J	0.000825 J	<0.0000777	<0.00002
Nitrobenzene	*4.9*	*15*	<0.000024	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.000104	<0.00011	<0.000104	<0.000107	<0.000024
N-Nitrosodiphenylamine	*19*	*42*	<0.000025	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0000943	<0.0001	<0.0000943	<0.0000971	<0.000025
Pentachlorophenol	*0.1*	*0.1*	<0.000079	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.000575	<0.00061	<0.000575	<0.000592	<0.00008
Phenanthrene	*73*	*220*	0.0013	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00027	<0.0000566	<0.00006	0.00183	<0.0000583	<0.000021
Phenol	*730*	*2200*	0.00018 J	<0.00007	<0.00007	0.000089 J	<0.00005	0.00026	<0.00005	<0.0000377	<0.00004	<0.0000377	<0.0000388	<0.000035
Pyrene	*73*	*220*	0.00057	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.000104	<0.00011	0.00046 J	<0.000107	<0.000019
Metals														
Arsenic	*1*	*1*	0.000877 J											0.00116 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.

TABLE 3
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 3 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Class 3 Residential Assessment	*Class 3 C/I Assessment Level*	MW-36B 03/21/2018	MW-36B 05/31/2018	MW-36B 01/14/2019	MW-36B 07/16/2019	MW-36B 01/09/2020	MW-49B 02/04/2009	MW-49B 01/20/2010	MW-49B 06/24/2010	MW-49B 01/20/2011	MW-49B 01/20/2011 Duplicate	MW-49B 07/22/2011	MW-49B 02/07/2012
Volatile Organic Compounds														
1,2-Dichloroethane	*0.5*	*0.5*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Benzene	*0.5*	*0.5*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.0095	0.013	0.1	0.0057	0.0056	0.056	0.0056
Chlorobenzene	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001
Ethylbenzene	*70*	*70*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.0081	0.024	0.019	0.004 J	0.0046 J	0.0091	0.0042 J
Methylene chloride	*0.5*	*0.5*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013
Toluene	*100*	*100*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.016	0.045	0.071	0.0072	0.0072	0.038	0.0057
Vinyl chloride	*0.2*	*0.2*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002						<0.001	<0.001
Xylenes (total)	*1000*	*1000*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	0.024	0.07	0.047	0.0066 J	0.0073 J	0.02	0.008 J
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.11*	*0.26*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.00005	<0.00005
2,4-Dimethylphenol	*49*	*150*	<0.00004	<0.00004	<0.00004	0.000078 J	<0.000054	0.031	0.013	1.2	0.18	0.16	0.59	0.19
2,4-Dinitrotoluene	*0.13*	*0.3*	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058	<0.00009	<0.00009	<0.00045	<0.00009	<0.00009	<0.00005	<0.00005
2,6-Dinitrotoluene	*0.13*	*0.3*	<0.000042	0.0073	<0.000042	<0.000042	<0.000042	<0.00007	<0.00007	<0.00035	<0.00007	<0.00007	<0.00006	<0.00006
2-Chloronaphthalene	*200*	*580*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.00012	<0.0001	<0.0005	<0.0001	<0.0001	<0.00005	<0.00005
2-Methylnaphthalene	*9.8*	*29*	<0.000019	<0.000019	<0.000019	0.00058	<0.00013	0.14	<0.00007	0.0016	<0.00007	<0.00007	0.0029	0.0095
4,6-Dinitro-2-methylphenol	*0.24*	*0.73*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.0004	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*4.9*	*15*	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.00007	<0.00007	<0.00035	<0.00007	<0.00007	<0.00005	<0.00005
Acenaphthene	*150*	*440*	<0.000027	0.00014	<0.000027	0.00014	<0.00017	0.094	0.017	0.014	0.00067	0.00049	0.0051	0.034
Acenaphthylene	*150*	*440*	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	0.0016	0.0007	0.00063 J	<0.00007	0.000072 J	0.00019 J	0.0007
Anthracene	*730*	*2200*	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	0.019	0.00015 J	<0.00035	0.00031	0.000083 J	0.00093	0.0029
Benzo(a)anthracene	*0.91*	*2*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00035	<0.00007	<0.00035	<0.00007	<0.00007	0.00018 J	<0.00005
Benzo(a)pyrene	*0.02*	*0.02*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.0004	<0.00008	<0.00008	0.000057 J	<0.00005
bis(2-Chloroethoxy)methane	*0.083*	*0.19*	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00009	<0.00009	<0.00045	<0.00009	<0.00009	<0.00005	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.6*	*0.6*	<0.000037	0.00017 J	0.00022	<0.000088	<0.000037	0.00029	<0.00053	<0.001	<0.00055	<0.0015	<0.00024	0.00069
Chrysene	*91*	*200*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	0.00038	<0.00007	<0.00035	<0.00007	<0.00007	0.00016 J	<0.00005
Dibenzofuran	*9.8*	*29*	<0.00002	<0.00002	<0.00002	0.000087 J	<0.00012	0.071	0.0024	0.0026	0.00018 J	0.00012 J	0.0018	0.019
Di-n-butylphthalate (DBP)	*240*	*730*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.0013	0.000083 J	<0.00035	<0.00007	<0.00007	<0.00005	<0.00005
Fluoranthene	*98*	*290*	<0.00001	<0.00001	<0.00001	0.000017 J	0.000051 J	0.014	0.00023	<0.00035	0.00019 J	<0.00007	0.0011	0.0015
Fluorene	*98*	*290*	<0.00003	<0.00003	<0.00003	0.000047 J	<0.00012	0.071	0.0036	0.0016	0.00018 J	<0.00007	0.0014	0.019
Naphthalene	*49*	*150*	<0.00002	<0.00002	<0.00002	0.006	<0.00093	1.4	0.00044	0.23	<0.00052	<0.0002	0.13	0.047
Nitrobenzene	*4.9*	*15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.00009	<0.00009	<0.00045	<0.00009	<0.00009	<0.00005	<0.00005
N-Nitrosodiphenylamine	*19*	*42*	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.00009	<0.00009	<0.00045	<0.00009	<0.00009	<0.00005	<0.00005
Pentachlorophenol	*0.1*	*0.1*	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.00008	<0.00008	<0.0004	<0.00008	<0.00008	<0.00005	<0.00005
Phenanthrene	*73*	*220*	<0.000021	<0.000021	<0.000021	<0.000021	<0.0001	0.11	0.00017 J	<0.00035	<0.00021	<0.0003	0.0025	0.0098
Phenol	*730*	*2200*	<0.000035	<0.000035	<0.000035	<0.00017	<0.000075	<0.00007	<0.00007	0.0053	0.00044	0.0004	0.00021	<0.00005
Pyrene	*73*	*220*	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	0.0074	0.0002	<0.00035	0.00024	0.00017 J	0.00066	0.00083
Metals														
Arsenic	*1*	*1*	0.000942 J	0.000817 J	0.00118 J	0.00127 J	0.001 J							

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.

TABLE 3
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 3 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Class 3 Residential Assessment	***Class 3 C/I Assessment Level***	MW-49B 07/23/2012	MW-49B 02/07/2013 DNAPL	MW-49B 08/01/2013 DNAPL	MW-49B 01/16/2014	MW-49B 07/16/2014	MW-49B 01/29/2018	MW-49B 03/21/2018	MW-49B 05/25/2018	MW-49B 01/27/2020 DNAPL	MW-54B 03/11/2020	MW-57B 02/15/2012 DNAPL	MW-57B 07/24/2012 DNAPL
Volatile Organic Compounds														
1,2-Dichloroethane	*0.5*	*0.5*	<0.0005	<0.00014	<0.0028	<0.0002	<0.0028	<0.0002	<0.0002	<0.0002	<0.01	<0.0002	<0.01	<0.005
Benzene	*0.5*	*0.5*	0.11	0.0631	0.469	0.0691	0.346	0.0073	0.026	0.26	**0.6**	0.00043 J	**1.4**	**1.5**
Chlorobenzene	*10*	*10*	<0.0005	<0.00012	0.0103 J	<0.00018	<0.0024	<0.0003	<0.0003	<0.0003	<0.015	<0.0003	<0.01	<0.005
Ethylbenzene	*70*	*70*	0.023	0.0182	0.0825	0.0425	0.0847	<0.0003	<0.0003	0.048	0.26	0.0011	0.39	0.42
Methylene chloride	*0.5*	*0.5*	<0.001	<0.00015	<0.003	<0.00022	0.0212	<0.001	<0.001	<0.001	<0.05	<0.001	<0.013	0.017 J
Toluene	*100*	*100*	0.089	0.0633	0.345	0.091	0.31	0.0058	0.014	0.23	0.72	<0.0002	1.3	1.4
Vinyl chloride	*0.2*	*0.2*	<0.0005	<0.00011	<0.0022	<0.00018	<0.0022	<0.0002	<0.0002	<0.0002	<0.01			
Xylenes (total)	*1000*	*1000*	0.06	0.0527	0.222	0.112	0.249	0.0095	0.012	0.14	0.71	0.0018	1.2	1.1
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.11*	*0.26*	<0.00005	<0.00524	<0.0105	<0.0259	<0.00208	<0.000021	<0.00021	<0.00021	<0.0013	<0.000021	<0.0005	<0.0005
2,4-Dimethylphenol	*49*	*150*	6.3	1.09	21.4	4.96 J	13.6	0.2	0.34	3.4	25	<0.00004	6.3	16
2,4-Dinitrotoluene	*0.13*	*0.3*	<0.00005	<0.00619	<0.0124	<0.0307	<0.00245	<0.000058	<0.00058	<0.00058	<0.0035	<0.000059	<0.0005	<0.0005
2,6-Dinitrotoluene	*0.13*	*0.3*	<0.00006	<0.00381	<0.00762	<0.0189	<0.00151	0.002	<0.00042	<0.00042	<0.0025	<0.000042	<0.0006	<0.0006
2-Chloronaphthalene	*200*	*580*	<0.00005	<0.00381	<0.00762	<0.0189	<0.00151	<0.000021	<0.00021	<0.00021	<0.0013	<0.000021	<0.0005	<0.0005
2-Methylnaphthalene	*9.8*	*29*	0.18	0.297	0.223	0.691	0.276	0.00011	0.00084 J	0.072	**250**	0.00011	0.92	1.6
4,6-Dinitro-2-methylphenol	*0.24*	*0.73*	<0.00008	<0.0395	<0.079	<0.196	<0.0157	<0.00002	<0.0002	<0.0002	<0.0012	<0.00002	<0.0008	<0.0008
4-Nitrophenol	*4.9*	*15*	<0.00005	<0.0267	<0.0533	<0.132	<0.0106	<0.000047	<0.00047	<0.00047	<0.0028	<0.000047	<0.0005	<0.0005
Acenaphthene	*150*	*440*	0.14	0.248	0.0964	0.622	0.117	0.071	0.066	0.071	**190**	0.0093	0.35	0.44
Acenaphthylene	*150*	*440*	0.0013	<0.00286	<0.00571	<0.0142	0.00432 J	0.0017	0.003	0.0026	2.1	0.000087 J	0.006	0.0087
Anthracene	*730*	*2200*	0.056	0.0876	<0.00476	0.221	0.013	0.003	0.0038	0.0073	87	0.00017	0.023	0.05
Benzo(a)anthracene	*0.91*	*2*	0.013	0.0228 J	<0.00762	0.0671 J	<0.00151	0.000088 J	<0.0005	<0.0005	**23**	<0.000051	0.0011 J	0.0012 J
Benzo(a)pyrene	*0.02*	*0.02*	0.0038	<0.00381	<0.00762	<0.0189	<0.00151	<0.00002	<0.0002	<0.0002	**7.5**	<0.00002	<0.0005	<0.0005
bis(2-Chloroethoxy)methane	*0.083*	*0.19*	<0.00005	<0.00619	<0.0124	<0.0307	<0.00245	<0.00003	<0.0003	<0.0003	<0.0018	<0.00003	<0.0005	<0.0005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.6*	*0.6*	<0.00055	<0.0176	<0.0352	<0.0873	<0.00698	0.00011 J	<0.00037	<0.00037	<0.0022	0.000089 J	0.0019 J	<0.001
Chrysene	*91*	*200*	0.015	0.0207 J	<0.00762	0.0737 J	<0.00151	0.00012	<0.00021	<0.00021	23	<0.000021	0.00099 J	0.0016 J
Dibenzofuran	*9.8*	*29*	0.12	0.2	<0.00762	0.484	0.08	0.0028	0.009	0.03	**160**	0.000076 J	0.28	0.38
Di-n-butylphthalate (DBP)	*240*	*730*	<0.00005	<0.00524	<0.0105	<0.0259	<0.00208	<0.00002	<0.0002	<0.0002	<0.0012	0.000033 J	<0.0005	<0.0005
Fluoranthene	*98*	*290*	0.093	0.167	<0.00667	0.415	0.00456 J	0.0027	0.0038	0.0036	**170**	0.000022 J	0.0081	0.016
Fluorene	*98*	*290*	0.13	0.217	0.049	0.464	0.0633	0.0087	0.018	0.031	**170**	0.00015	0.095	0.23
Naphthalene	*49*	*150*	2.3	1.58 J	9.38	6.75	5.57	0.00042	0.0075	2.5	**1200**	0.0021	24	27
Nitrobenzene	*4.9*	*15*	<0.00005	<0.00524	<0.0105	<0.0259	<0.00208	<0.000024	<0.00024	<0.00024	<0.0014	<0.000024	<0.0005	<0.0005
N-Nitrosodiphenylamine	*19*	*42*	<0.00005	<0.00476	<0.00952	<0.0236	<0.00189	<0.000025	<0.00025	<0.00025	<0.0015	<0.000025	<0.0005	<0.0005
Pentachlorophenol	*0.1*	*0.1*	<0.00005	<0.029	<0.0581	**<0.144**	<0.0115	<0.000079	<0.00079	<0.00079	<0.0047	<0.00008	<0.0005	<0.0005
Phenanthrene	*73*	*220*	0.35	0.466	0.039 J	1.29	0.0458	0.0073	0.011	0.028	**500**	0.0028	0.16	0.24
Phenol	*730*	*2200*	0.0063	<0.0019	<0.00381	0.0445 J	0.0145	<0.000035	<0.00035	<0.00035	<0.0021	<0.000035	0.45	1
Pyrene	*73*	*220*	0.062	0.101	<0.0105	0.262	<0.00208	0.0014	0.002	0.0021	**96**	<0.000019	0.0075	0.011
Metals														
Arsenic	*1*	*1*						0.000564 J	0.000746 J	0.00146 J	0.0107	0.00117 J		

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.

TABLE 3
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 3 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Class 3 Residential Assessment	*Class 3 C/I Assessment Level*	MW-57B 01/31/2013 DNAPL	MW-57B 07/31/2013 DNAPL	MW-57B 01/15/2014 DNAPL	MW-57B 07/29/2014 DNAPL	MW-57B 01/31/2018	MW-57B 04/01/2018	MW-57B 05/25/2018	MW-57B 07/10/2019	MW-57B 01/08/2020	MW-59B 07/15/2010	MW-59B 01/20/2011	MW-59B 07/18/2011
Volatile Organic Compounds														
1,2-Dichloroethane	*0.5*	*0.5*	<0.0035	<0.014	<0.0002	<0.0007	<0.0002	<0.001	<0.0002	<0.0002	<0.002	<0.0005	<0.0005	<0.001
Benzene	*0.5*	*0.5*	**0.733**	**1.49**	**0.716**	**1.25**	0.012	0.01	**0.82**	**0.84**	**0.52**	<0.0005	<0.0005	<0.001
Chlorobenzene	*10*	*10*	<0.003	<0.012	<0.00018	<0.0006	<0.0003	<0.0015	<0.0003	<0.0003	<0.003	<0.0005	<0.0005	<0.001
Ethylbenzene	*70*	*70*	0.193	0.501	0.174	0.371	0.026	0.032	0.3	0.39	0.25	<0.0005	<0.0005	<0.0011
Methylene chloride	*0.5*	*0.5*	<0.00375	0.0405 J	<0.00022	<0.00075	<0.001	<0.005	<0.001	<0.001	<0.01	<0.0005	<0.0005	<0.0013
Toluene	*100*	*100*	0.692	1.62	0.63	1.33	0.0043	0.0019 J	0.84	0.93	0.64	<0.0005	<0.0005	<0.001
Vinyl chloride	*0.2*	*0.2*				0.00299 J				0.00048 J				<0.001
Xylenes (total)	*1000*	*1000*	0.589	1.4	0.574	1.16	0.057	0.055	0.84	1.2	0.7	<0.001	<0.001	<0.0031
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.11*	*0.26*	<0.055	<0.0267	<0.0519	<0.0109	<0.00021	<0.000021	<0.00021	<0.00021	<0.00021	<0.0001	<0.0001	<0.00005
2,4-Dimethylphenol	*49*	*150*	13.8	9.67	19.8 J	15	0.01	<0.00004	3.7	6.5	2.8	<0.00008	<0.00008	<0.00005
2,4-Dinitrotoluene	*0.13*	*0.3*	<0.065	<0.0316	<0.0613	<0.0129	<0.00058	<0.000058	<0.00058	<0.00058	<0.00058	<0.00009	<0.00009	<0.00005
2,6-Dinitrotoluene	*0.13*	*0.3*	<0.04	<0.0194	<0.0377	<0.00792	<0.00042	<0.000042	<0.00042	<0.00042	<0.00042	<0.00007	<0.00007	<0.00006
2-Chloronaphthalene	*200*	*580*	<0.04	<0.0194	<0.0377	<0.00792	<0.00021	<0.000021	<0.00021	<0.00021	<0.00021	<0.0001	<0.0001	<0.00005
2-Methylnaphthalene	*9.8*	*29*	1.75	1.07	0.892	0.945	0.17	0.029	0.61	0.93	1.1	<0.00007	<0.00007	<0.00005
4,6-Dinitro-2-methylphenol	*0.24*	*0.73*	**<0.415**	<0.201	**<0.392**	<0.0822	<0.0002	<0.00002	<0.0002	<0.0002	<0.0002	<0.00008	<0.00008	<0.00008
4-Nitrophenol	*4.9*	*15*	<0.28	<0.136	<0.264	<0.0554	<0.00047	<0.000047	<0.00047	<0.00047	<0.00047	<0.00007	<0.00007	<0.00005
Acenaphthene	*150*	*440*	0.93	0.423	0.524	0.267	0.13	0.13	0.3	0.38	0.55	<0.00009	<0.00009	<0.00005
Acenaphthylene	*150*	*440*	<0.03	<0.0146	<0.0283	<0.00594	0.0029	0.0011	0.0063	0.0051	0.0086	<0.00007	<0.00007	<0.00005
Anthracene	*730*	*2200*	0.292	0.0493 J	0.0844 J	0.0355 J	0.014	0.005	0.44	0.039	0.19	<0.00007	<0.00007	<0.00005
Benzo(a)anthracene	*0.91*	*2*	0.0543 J	<0.0194	<0.0377	<0.00792	0.001	<0.00005	0.03	0.0071	0.04	<0.00007	<0.00007	<0.00005
Benzo(a)pyrene	*0.02*	*0.02*	**<0.04**	<0.0194	**<0.0377**	<0.00792	0.00058 J	<0.00002	0.0094	0.0021	0.012	<0.00008	<0.00008	<0.00005
bis(2-Chloroethoxy)methane	*0.083*	*0.19*	<0.065	<0.0316	<0.0613	<0.0129	<0.0003	<0.00003	<0.0003	<0.0003	<0.0003	<0.00009	<0.00009	<0.00005
bis(2-Ethylhexyl)phthalate (DEHP)	*0.6*	*0.6*	<0.185	<0.0898	<0.175	<0.0366	0.00043 J	0.000095 J	<0.00037	<0.00037	<0.00037	0.002	<0.00021	<0.00031
Chrysene	*91*	*200*	0.0561 J	<0.0194	<0.0377	<0.00792	0.00091 J	<0.000021	0.024	0.0065	0.042	<0.00007	<0.00007	<0.00005
Dibenzofuran	*9.8*	*29*	0.814	0.322	0.392	0.226	0.11	0.081	0.29	0.32	0.49	<0.00008	<0.00008	<0.00005
Di-n-butylphthalate (DBP)	*240*	*730*	<0.055	<0.0267	<0.0519	<0.0109	<0.0002	<0.00002	<0.0002	<0.0002	<0.0002	<0.00007	<0.00007	<0.00005
Fluoranthene	*98*	*290*	0.387	0.0301 J	0.0752 J	0.0109 J	0.012	0.0044	0.19	0.047	0.34	<0.00007	<0.00007	<0.00005
Fluorene	*98*	*290*	0.65	0.208	0.298	0.138	0.081	0.096	0.27	0.21	0.46	<0.00007	<0.00007	<0.00005
Naphthalene	*49*	*150*	18.9 J	18.1	10.6	17	1.8	0.39	12	17	13	0.00014 J	<0.0001	<0.00005
Nitrobenzene	*4.9*	*15*	<0.055	<0.0267	<0.0519	<0.0109	<0.00024	<0.000024	<0.00024	<0.00024	<0.00024	<0.00009	<0.00009	<0.00005
N-Nitrosodiphenylamine	*19*	*42*	<0.05	<0.0243	<0.0472	<0.0099	<0.00025	<0.000025	<0.00025	<0.00025	<0.00025	<0.00009	<0.00009	<0.00005
Pentachlorophenol	*0.1*	*0.1*	**<0.305**	**<0.148**	**<0.288**	<0.0604	<0.00079	<0.000079	<0.00079	<0.00079	<0.00079	<0.00008	<0.00008	<0.00005
Phenanthrene	*73*	*220*	1.39	0.242	0.456	0.127	0.094	0.033	0.63	0.29	1.1	<0.00007	<0.00007	<0.00005
Phenol	*730*	*2200*	1	0.645	1	0.495	<0.00035	<0.000035	0.22	1	0.32	0.0002	<0.00007	<0.00005
Pyrene	*73*	*220*	0.245 J	<0.0267	<0.0519	<0.0109	0.0068	0.003	0.13	0.03	0.21	<0.00007	<0.00007	<0.00005
Metals														
Arsenic	*1*	*1*					0.0419	0.00179 J	0.00285	0.00404	0.00404			

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.

TABLE 3
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 3 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Class 3 Residential Assessment	*Class 3 C/I Assessment Level*	MW-59B 02/06/2012	MW-59B 07/27/2012	MW-59B 01/31/2013	MW-59B 08/01/2013	MW-59B 01/16/2014	MW-59B 07/30/2014	MW-59B 01/29/2018	MW-59B 03/20/2018	MW-59B 05/25/2018	MW-59B 01/23/2019	MW-59B 07/17/2019	MW-59B 01/16/2020
Volatile Organic Compounds														
1,2-Dichloroethane	*0.5*	*0.5*	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.5*	*0.5*	<0.001	<0.0005	<0.00008	0.0000981 J	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*10*	*10*	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*70*	*70*	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.5*	*0.5*	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*100*	*100*	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.18
Vinyl chloride	*0.2*	*0.2*	<0.001	<0.0005	<0.00011	<0.00011	<0.00018	<0.00011	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Xylenes (total)	*1000*	*1000*	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.11*	*0.26*	<0.00005	<0.00005	<0.000104	<0.000105	<0.000104	**R**	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*49*	*150*	0.25	<0.00005	<0.000292	<0.000295	<0.000292	**R**	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.13*	*0.3*	<0.00005	<0.00005	<0.000123	<0.000124	<0.000123	**R**	<0.000058	<0.000059	<0.000059	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.13*	*0.3*	<0.00006	<0.00006	<0.0000755	<0.0000762	<0.0000755	**R**	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*200*	*580*	<0.00005	<0.00005	<0.0000755	<0.0000762	<0.0000755	**R**	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	*9.8*	*29*	<0.00005	<0.00005	<0.000066	<0.0000667	<0.000066	**R**	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000038
4,6-Dinitro-2-methylphenol	*0.24*	*0.73*	<0.00008	<0.00008	<0.000783	<0.00079	<0.000783	**R**	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*4.9*	*15*	<0.00005	<0.00005	<0.000528	<0.000533	<0.000528	**R**	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	*150*	*440*	0.0017	<0.00005	<0.0000755	<0.0000762	<0.0000755	**0.000621U**	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027	<0.000051
Acenaphthylene	*150*	*440*	0.00014 J	<0.00005	<0.0000566	<0.0000571	<0.0000566	**R**	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	*730*	*2200*	0.000054 J	<0.00005	<0.0000472	<0.0000476	<0.0000472	**R**	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014	<0.000031
Benzo(a)anthracene	*0.91*	*2*	<0.00005	<0.00005	<0.0000755	<0.0000762	<0.0000755	**R**	<0.00005	<0.000051	<0.000051	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.02*	*0.02*	<0.00005	<0.00005	<0.0000755	<0.0000762	<0.0000755	**R**	<0.00002	<0.00002	<0.00002	0.000033 J	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.083*	*0.19*	<0.00005	<0.00005	<0.000123	<0.000124	<0.000123	**R**	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.6*	*0.6*	0.00068	0.00018 J	<0.000349	<0.000352	<0.000349	**R**	0.000058 J	<0.000037	<0.000037	<0.000056	<0.00039	<0.000037
Chrysene	*91*	*200*	<0.00005	<0.00005	<0.0000755	<0.0000762	<0.0000755	**R**	<0.000021	<0.000021	<0.000021	0.000036 J	<0.000021	<0.000021
Dibenzofuran	*9.8*	*29*	<0.00005	<0.00005	<0.0000755	<0.0000762	<0.0000755	**0.000201U**	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00005
Di-n-butylphthalate (DBP)	*240*	*730*	<0.00005	<0.00005	<0.000104	0.000115 J	0.000105 J	**R**	<0.00002	<0.00002	<0.00002	<0.00002	0.000055 J	<0.00002
Fluoranthene	*98*	*290*	<0.00005	<0.00005	<0.000066	<0.0000667	<0.000066	**R**	<0.00001	<0.00001	<0.00001	0.000051 J	<0.00001	<0.000025
Fluorene	*98*	*290*	<0.00005	<0.00005	<0.000066	<0.0000667	<0.000066	**0.000189U**	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.000042
Naphthalene	*49*	*150*	0.00012 J	0.00006 J	<0.000269	<0.000166	<0.000172	**0.00627U**	<0.00002	<0.00002	<0.00002	0.000072 J	<0.00015	<0.00024
Nitrobenzene	*4.9*	*15*	<0.00005	<0.00005	<0.000104	<0.000105	<0.000104	**R**	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	*19*	*42*	<0.00005	<0.00005	<0.0000943	<0.0000952	<0.0000943	**R**	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.1*	*0.1*	0.00011 J	<0.00005	<0.000575	<0.000581	<0.000575	**R**	<0.000079	<0.00008	<0.00008	<0.000079	<0.000079	<0.000079
Phenanthrene	*73*	*220*	0.00025	<0.00005	<0.0000566	<0.0000571	<0.000112	**R**	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000099
Phenol	*730*	*2200*	0.00033	<0.00005	<0.0000377	<0.0000381	<0.0000377	**R**	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	*73*	*220*	0.000062 J	<0.00005	<0.000104	<0.000105	<0.000104	**R**	<0.000019	<0.000019	<0.000019	0.000053 J	<0.000019	<0.000021
Metals														
Arsenic	*1*	*1*							<0.0004	<0.0004	<0.0004	0.000983 J	0.000542 J	0.000486 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.

TABLE 3
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 3 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Class 3 Residential Assessment	*Class 3 C/I Assessment Level*	MW60B 03/17/2020	MW61B 03/17/2020	MW-63B 01/13/2010	MW-63B 06/30/2010	MW-63B 01/27/2011	MW-63B 07/19/2011	MW-63B 07/19/2011 Duplicate	MW-63B 02/09/2012	MW-63B 02/09/2012 Duplicate	MW-63B 07/18/2012	MW-63B 07/18/2012 Duplicate	MW-63B 02/07/2013
Volatile Organic Compounds														
1,2-Dichloroethane	*0.5*	*0.5*	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00014
Benzene	*0.5*	*0.5*	<0.0002	<0.0002	0.21	0.015	0.019	0.019	0.024	<0.001	<0.001	0.0015 J	0.0016 J	0.00952
Chlorobenzene	*10*	*10*	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.00012
Ethylbenzene	*70*	*70*	<0.0003	<0.0003	0.2	0.072	0.071	0.04	0.045	0.0012 J	0.0012 J	0.0014 J	0.0014 J	0.0165
Methylene chloride	*0.5*	*0.5*	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.0013	<0.0013	<0.001	<0.001	<0.00015
Toluene	*100*	*100*	<0.0002	<0.0002	0.015	0.0016 J	0.0018 J	0.0017 J	0.0019 J	<0.001	<0.001	0.0038 J	0.0038 J	0.00241
Vinyl chloride	*0.2*	*0.2*												
Xylenes (total)	*1000*	*1000*	<0.0003	<0.0003	0.082	0.02	0.016	0.013 J	0.014 J	<0.0031	<0.0031	<0.0015	<0.0015	0.00629
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.11*	*0.26*	<0.000021	<0.000021	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00524
2,4-Dimethylphenol	*49*	*150*	<0.00004	<0.00004	<0.00008	<0.00008	<0.00008	0.000056 J	<0.00005	0.00005 J	0.00044 J	<0.00005	<0.00005	<0.0148
2,4-Dinitrotoluene	*0.13*	*0.3*	<0.000058	<0.000058	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00619
2,6-Dinitrotoluene	*0.13*	*0.3*	<0.000042	<0.000042	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<0.00381
2-Chloronaphthalene	*200*	*580*	<0.000021	<0.000021	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00381
2-Methylnaphthalene	*9.8*	*29*	<0.000019	<0.000019	0.11	0.031	0.025	0.014	0.013	0.0029	0.0029	0.0034	0.0032	0.0104 J
4,6-Dinitro-2-methylphenol	*0.24*	*0.73*	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.0395
4-Nitrophenol	*4.9*	*15*	<0.000047	<0.000047	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.0267
Acenaphthene	*150*	*440*	<0.000027	<0.000027	0.028	0.013	0.017	0.0053	0.0066	0.002	0.0019	0.0023	0.0022	0.00952 J
Acenaphthylene	*150*	*440*	<0.000015	<0.000015	0.00051	0.00018 J	<0.00007	0.000066 J	0.00011 J	0.00012 J	0.00016 J	<0.00005	<0.00005	<0.00286
Anthracene	*730*	*2200*	<0.000014	<0.000014	0.00068	0.00039	0.0011	0.00011 J	0.0002 J	0.00015 J	0.00015 J	<0.00013	<0.00011	0.00238 J
Benzo(a)anthracene	*0.91*	*2*	<0.00005	<0.00005	<0.00007	<0.00007	0.00087	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00381
Benzo(a)pyrene	*0.02*	*0.02*	<0.00002	<0.00002	<0.00008	<0.00008	0.00027	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00381
bis(2-Chloroethoxy)methane	*0.083*	*0.19*	<0.00003	<0.00003	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00619
bis(2-Ethylhexyl)phthalate (DEHP)	*0.6*	*0.6*	0.00092	0.00015 J	<0.00036	<0.00036	0.0006	<0.00051	<0.00029	0.00096	0.00073	0.00096 J	0.00051 J	<0.0176
Chrysene	*91*	*200*	<0.000021	<0.000021	<0.00007	<0.00007	0.00079	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00381
Dibenzofuran	*9.8*	*29*	<0.00002	<0.00002	0.022	0.008	0.013	0.0041	0.0049	0.0024	0.0019	0.0026	0.0023	0.00576 J
Di-n-butylphthalate (DBP)	*240*	*730*	0.000047 J	<0.00002	0.00019 J	<0.00007	<0.00007	<0.00005	<0.00005	0.00014 J	0.00005 J	<0.00005	<0.00005	0.00524 J
Fluoranthene	*98*	*290*	0.000015 J	<0.00001	<0.00007	<0.00007	0.0042	<0.00005	<0.00005	0.000091 J	0.00005 J	<0.00013	<0.00013	<0.00333
Fluorene	*98*	*290*	<0.00003	<0.00003	0.0078	0.0041	0.0054	0.0019	0.0024	0.00093	0.00078	0.0011	0.001	<0.00333
Naphthalene	*49*	*150*	<0.00002	<0.00002	3.1	0.67	0.76	0.36 J	0.49 J	0.027	0.026	0.044	0.04	0.251
Nitrobenzene	*4.9*	*15*	<0.000024	<0.000024	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00524
N-Nitrosodiphenylamine	*19*	*42*	<0.000025	<0.000025	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00476
Pentachlorophenol	*0.1*	*0.1*	<0.000079	<0.000079	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	0.00018 J	0.00005 J	<0.00005	<0.00005	<0.029
Phenanthrene	*73*	*220*	<0.000021	<0.000021	0.0034	0.00076	0.0044	0.00075	0.00098	0.00072 J	0.0005 J	<0.001	<0.001	0.00286 J
Phenol	*730*	*2200*	<0.000035	<0.000035	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00057 J	0.00095 J	<0.00005	<0.00005	<0.0019
Pyrene	*73*	*220*	<0.000019	<0.000019	<0.00007	<0.00007	0.0029	<0.00005	<0.00005	0.000063 J	<0.00005	<0.00005	<0.00005	<0.00524
Metals														
Arsenic	*1*	*1*	0.00234	0.00461										

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.

TABLE 3
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 3 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Class 3 Residential Assessment	*Class 3 C/I Assessment Level*	MW-63B 02/07/2013 Duplicate	MW-63B 08/07/2013	MW-63B 01/22/2014	MW-63B 07/24/2014	MW-63B 01/28/2018	MW-63B 03/26/2018	MW-63B 06/06/2018	MW-63B 01/14/2019	MW-63B 07/16/2019	MW-63B 01/16/2020	MW-67B 07/15/2010	MW-67B 01/27/2011
Volatile Organic Compounds														
1,2-Dichloroethane	*0.5*	*0.5*	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005
Benzene	*0.5*	*0.5*	0.00919	0.0869	0.0762	0.108	0.0033	0.0026	0.048	0.35	0.11	0.018	<0.0005	<0.0005
Chlorobenzene	*10*	*10*	<0.00012	<0.00012	<0.00018	0.000216 J	<0.0003	<0.0003	<0.0003	0.00073 J	<0.0003	<0.0003	<0.0005	<0.0005
Ethylbenzene	*70*	*70*	0.0163	0.0341	0.0418	0.151	0.012	0.0059	0.048	0.48	0.14	0.051	0.0015 J	<0.0005
Methylene chloride	*0.5*	*0.5*	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005
Toluene	*100*	*100*	0.00231	<0.000434	0.000399 J	0.00257	<0.0002	<0.0002	0.00093 J	0.0071	0.00071 J	<0.0002	<0.0005	<0.0005
Vinyl chloride	*0.2*	*0.2*				<0.00011								
Xylenes (total)	*1000*	*1000*	0.00635	0.0113	0.0156	0.0535	0.0048	0.0016	0.011	0.11	0.041	0.013	0.0012 J	<0.001
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.11*	*0.26*	<0.000105	<0.000104	<0.00109	<0.0011	<0.000021	<0.000021	<0.00021	<0.00021	<0.000021	<0.000021	<0.0001	<0.0001
2,4-Dimethylphenol	*49*	*150*	<0.000295	<0.000292	<0.00307	<0.0031	<0.00004	<0.00004	<0.0004	<0.0004	<0.00004	<0.00004	<0.00008	<0.00008
2,4-Dinitrotoluene	*0.13*	*0.3*	<0.000124	<0.000123	<0.00129	<0.0013	<0.000058	<0.000058	<0.00058	<0.00059	<0.000058	<0.000058	<0.00009	<0.00009
2,6-Dinitrotoluene	*0.13*	*0.3*	<0.0000762	<0.0000755	<0.000792	<0.0008	<0.000042	<0.000042	<0.00042	<0.00042	<0.000042	<0.000042	<0.00007	<0.00007
2-Chloronaphthalene	*200*	*580*	<0.0000762	<0.0000755	<0.000792	<0.0008	<0.000021	<0.000021	<0.00021	<0.00021	<0.000021	<0.000021	<0.0001	<0.0001
2-Methylnaphthalene	*9.8*	*29*	0.00865	0.00242	0.00756	0.0302	0.000059 J	<0.000019	0.0016	0.042	0.037	<0.000056	<0.00007	0.00007 J
4,6-Dinitro-2-methylphenol	*0.24*	*0.73*	<0.00079	<0.000783	<0.00822	<0.0083	<0.00002	<0.00002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00008	<0.00008
4-Nitrophenol	*4.9*	*15*	<0.000533	<0.000528	<0.00554	<0.0056	<0.000047	<0.000047	<0.00047	<0.00047	<0.000047	<0.000047	<0.00007	<0.00007
Acenaphthene	*150*	*440*	0.0065	0.000833	0.00274 J	0.00754	0.00066	<0.000027	0.0027	<0.00027	0.012	<0.000059	0.00011 J	<0.00009
Acenaphthylene	*150*	*440*	<0.0000571	<0.0000566	<0.000594	<0.0006	<0.000015	<0.000015	<0.00015	0.0029	0.00016	0.000032 J	<0.00007	0.00007 J
Anthracene	*730*	*2200*	0.000124 J	<0.0000472	<0.000495	<0.0005	0.00011	0.00022	<0.00014	0.00017 J	0.00034	<0.000081	<0.00007	<0.00007
Benzo(a)anthracene	*0.91*	*2*	<0.0000762	<0.0000755	<0.000792	<0.0008	<0.00005	<0.00005	<0.0005	<0.00051	<0.00005	<0.00005	<0.00007	<0.00007
Benzo(a)pyrene	*0.02*	*0.02*	<0.0000762	<0.0000755	<0.000792	<0.0008	<0.00002	<0.00002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00008	<0.00008
bis(2-Chloroethoxy)methane	*0.083*	*0.19*	<0.000124	<0.000123	<0.00129	<0.0013	<0.00003	<0.00003	<0.0003	<0.0003	<0.00003	<0.00003	<0.00009	0.00009 J
bis(2-Ethylhexyl)phthalate (DEHP)	*0.6*	*0.6*	<0.000376	0.000381 J	<0.00366	<0.0037	<0.000037	<0.000037	<0.00037	<0.00037	<0.000037	0.000065 J	0.0016	0.0022 J
Chrysene	*91*	*200*	<0.0000762	<0.0000755	<0.000792	<0.0008	<0.000021	<0.000021	<0.00021	<0.00021	<0.000021	<0.000021	<0.00007	<0.00007
Dibenzofuran	*9.8*	*29*	0.00514	0.00104	0.002 J	0.00663	0.00065	<0.00002	0.002	0.0087	0.011	<0.000063	<0.00008	0.00008 J
Di-n-butylphthalate (DBP)	*240*	*730*	0.000127 J	<0.000104	<0.00109	<0.0011	<0.00002	<0.00002	<0.0002	<0.0002	<0.00002	0.000034 J	<0.00007	0.000083 J
Fluoranthene	*98*	*290*	<0.0000667	<0.000066	<0.000693	<0.0007	0.0001	<0.00001	<0.0001	<0.0001	<0.00001	<0.000023	<0.00007	<0.00007
Fluorene	*98*	*290*	0.00208	0.000349 J	0.00102 J	0.00248 J	0.00033	<0.00003	0.00099 J	0.0029	0.0037	<0.00012	<0.00007	<0.00007
Naphthalene	*49*	*150*	0.162 J	0.146	0.374	1.69	<0.00066	<0.00002	0.29	2.1	1.5	<0.00035	<0.0001	0.00062
Nitrobenzene	*4.9*	*15*	<0.000105	<0.000104	<0.00109	<0.0011	<0.000024	<0.000024	<0.00024	<0.00024	<0.000024	<0.000024	<0.00009	0.00009 J
N-Nitrosodiphenylamine	*19*	*42*	<0.0000952	<0.0000943	<0.00099	<0.001	<0.000025	<0.000025	<0.00025	<0.00025	<0.000025	<0.000025	<0.00009	<0.00009
Pentachlorophenol	*0.1*	*0.1*	<0.000581	<0.000575	<0.00604	<0.0061	<0.000079	<0.000079	<0.00079	<0.0008	<0.000079	<0.000079	<0.00008	<0.00008
Phenanthrene	*73*	*220*	0.000776 J	<0.0000566	0.00133 J	<0.0006	<0.000075	<0.000021	<0.00021	0.00094 J	0.0013	<0.000072	<0.00007	<0.00007
Phenol	*730*	*2200*	<0.0000381	<0.0000377	0.000889 J	<0.0004	<0.000035	<0.000035	<0.00035	<0.00035	<0.000035	<0.000035	<0.00007	<0.00007
Pyrene	*73*	*220*	<0.000105	<0.000104	<0.00109	<0.0011	<0.000019	<0.000019	<0.00019	<0.00019	<0.000019	<0.000021	<0.00007	<0.00007
Metals														
Arsenic	*1*	*1*					0.00114 J	0.00211	0.000818 J	0.00338	0.00156 J	0.00204		

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.

TABLE 3
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 3 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Class 3 Residential Assessment	*Class 3 C/I Assessment Level*	MW-67B 07/20/2011	MW-67B 02/09/2012	MW-67B 07/17/2012	MW-67B 02/12/2013	MW-67B 08/08/2013	MW-67B 01/23/2014	MW-67B 07/24/2014	MW-67B 01/31/2018	MW-67B 03/27/2018	MW-67B 06/06/2018	MW-67B 01/24/2019	MW-67B 07/31/2019
Volatile Organic Compounds														
1,2-Dichloroethane	*0.5*	*0.5*	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.5*	*0.5*	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*10*	*10*	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*70*	*70*	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.5*	*0.5*	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*100*	*100*	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.2*	*0.2*					<0.00011		<0.00011					
Xylenes (total)	*1000*	*1000*	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.11*	*0.26*	<0.00005	<0.00005	<0.00005	<0.000105	<0.000104	<0.000106	<0.000106	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	*49*	*150*	<0.00005	0.0005 J	<0.00005	<0.000295	<0.000292	<0.000298	<0.000298	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	*0.13*	*0.3*	<0.00005	<0.00005	<0.00005	<0.000124	<0.000123	<0.000125	<0.000125	<0.000058	<0.000058	0.000058 J	<0.000058	<0.000058
2,6-Dinitrotoluene	*0.13*	*0.3*	<0.00006	<0.00006	0.0022 J	<0.0000762	<0.0000755	<0.0000769	<0.0000769	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	*200*	*580*	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000769	<0.0000769	<0.000021	<0.000021	0.000021 J	<0.000021	<0.000021
2-Methylnaphthalene	*9.8*	*29*	<0.00005	0.00023 J	0.000062 J	<0.0000667	<0.000066	<0.0000673	<0.0000673	<0.000031	<0.000019	0.000061 J	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	*0.24*	*0.73*	<0.00008	<0.00008	<0.00008	**R**	<0.000783	<0.000798	<0.000798	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	*4.9*	*15*	<0.00005	<0.00005	<0.00005	<0.000533	<0.000528	<0.000538	<0.000538	<0.000047	<0.000047	0.000047 J	<0.000047	<0.000047
Acenaphthene	*150*	*440*	<0.00005	0.00012 J	<0.00005	<0.0000762	<0.0000755	<0.0000769	<0.0000769	<0.000027	<0.000027	0.000027 J	<0.000027	<0.000027
Acenaphthylene	*150*	*440*	<0.00005	<0.00005	<0.00005	<0.0000571	<0.0000566	<0.0000577	<0.0000577	<0.000015	<0.000015	0.000015 J	<0.000015	<0.000015
Anthracene	*730*	*2200*	<0.00005	<0.00005	<0.00005	<0.0000476	<0.0000472	<0.000424	<0.0000481	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	*0.91*	*2*	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000769	<0.0000769	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	*0.02*	*0.02*	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000769	<0.0000769	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	*0.083*	*0.19*	<0.00005	<0.00005	<0.00005	<0.000124	<0.000123	<0.000125	<0.000125	<0.00003	<0.00003	0.00003 J	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.6*	*0.6*	<0.00094	0.00042	0.00012 J	<0.000352	<0.000349	<0.000356	0.00184	<0.000056	<0.000037	<0.00056	0.000051 J	<0.000037
Chrysene	*91*	*200*	<0.00005	<0.00005	<0.00005	<0.0000762	<0.0000755	<0.0000769	<0.0000769	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	*9.8*	*29*	<0.00005	0.00013 J	<0.00005	<0.0000762	<0.0000755	<0.0000769	<0.0000769	<0.00002	<0.00002	0.000069 J	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	*240*	*730*	<0.00005	<0.00005	<0.00005	<0.000105	0.000119 J	<0.000834	<0.000106	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	*98*	*290*	<0.00005	<0.00005	<0.00005	<0.0000667	<0.000066	<0.0000673	<0.0000673	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	*98*	*290*	<0.00005	0.0001 J	<0.00005	<0.0000667	<0.000066	<0.0000673	<0.0000673	<0.00003	<0.00003	0.00003 J	<0.00003	<0.00003
Naphthalene	*49*	*150*	<0.00005	0.0019	0.00049	<0.0000762	0.000433 J	<0.000711	0.000275 J	<0.00045	0.00013	0.00047 J	<0.00002	0.000079 J
Nitrobenzene	*4.9*	*15*	<0.00005	<0.00005	<0.00005	<0.000105	<0.000104	<0.000106	<0.000106	<0.000024	<0.000024	0.000024 J	<0.000024	<0.000024
N-Nitrosodiphenylamine	*19*	*42*	<0.00005	<0.00005	<0.00005	<0.0000952	<0.0000943	<0.0000962	<0.0000962	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	*0.1*	*0.1*	<0.00005	<0.00005	<0.00005	0.000581 J	<0.000575	<0.000587	<0.000587	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	*73*	*220*	<0.00005	0.00011 J	<0.00005	<0.0000571	<0.0000566	<0.000377	<0.0000577	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Phenol	*730*	*2200*	<0.00005	0.000089 J	<0.00005	<0.0000381	<0.0000377	<0.0000385	<0.0000385	0.00018 J	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	*73*	*220*	<0.00005	<0.00005	<0.00005	<0.000105	<0.000104	<0.000106	<0.000106	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019
Metals														
Arsenic	*1*	*1*								0.000751 J	0.000565 J	0.000416 J	<0.0004	0.000494 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.

TABLE 3
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 3 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Class 3 Residential Assessment	*Class 3 C/I Assessment Level*	MW-67B 01/15/2020	MW-70B 07/17/2012 DNAPL	MW-70B 02/07/2013 DNAPL	MW-70B 01/22/2014 DNAPL	MW-70B 07/28/2014 DNAPL	MW-70B 01/20/2020 DNAPL	MW-71B 02/08/2012	MW-71B 07/18/2012	MW-71B 02/07/2013	MW-71B 08/07/2013	MW-71B 01/24/2014	MW-71B 07/28/2014
Volatile Organic Compounds														
1,2-Dichloroethane	*0.5*	*0.5*	<0.0002	<0.0025	<0.007	<0.0002	<0.0014	<0.01	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014
Benzene	*0.5*	*0.5*	<0.0002	0.21	**2.01**	**2.39**	**2.55**	**1.9**	0.012	0.0014 J	0.0124	0.103	0.039	0.00155
Chlorobenzene	*10*	*10*	<0.0003	<0.0025	0.0317 J	0.000715	<0.0012	<0.015	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012
Ethylbenzene	*70*	*70*	<0.0003	0.058	0.524	0.621	0.742	0.57	0.0045 J	0.0075	0.00541	0.0354	0.00793	<0.00011
Methylene chloride	*0.5*	*0.5*	<0.001	<0.005	<0.0075	<0.00022	<0.0015	<0.05	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015
Toluene	*100*	*100*	<0.0002	0.22	1.65	2.31	2.76	2.1	0.0077	0.0078	0.0104	0.0355	0.00918	0.00423
Vinyl chloride	*0.2*	*0.2*						<0.01				<0.00011		
Xylenes (total)	*1000*	*1000*	<0.0003	0.19	1.51	1.68	2.11	1.5	0.016	0.033	0.0143	0.0615	0.0202	0.0126
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.11*	*0.26*	<0.000021	<0.0005	<0.075	<0.0157	<0.0107	<0.00042	<0.00005	<0.00005	<0.000105	<0.00519	<0.000106	<0.000107
2,4-Dimethylphenol	*49*	*150*	<0.00004	2.6	<2.11	**72**	**50.8**	49	0.0034	<0.00005	<0.000295	<0.0146	0.0225	<0.000301
2,4-Dinitrotoluene	*0.13*	*0.3*	<0.000058	<0.0005	<0.0886	<0.0186	<0.0126	<0.0012	<0.00005	<0.00005	<0.000124	<0.00613	<0.000125	<0.000126
2,6-Dinitrotoluene	*0.13*	*0.3*	<0.000042	<0.0006	<0.0545	<0.0114	<0.00777	<0.00084	<0.00006	<0.00006	<0.0000762	<0.00377	<0.0000769	<0.0000777
2-Chloronaphthalene	*200*	*580*	<0.000021	<0.0005	<0.0545	<0.0114	<0.00777	<0.00042	<0.00005	<0.00005	<0.0000762	<0.00377	<0.0000769	<0.0000777
2-Methylnaphthalene	*9.8*	*29*	<0.000019	0.94	1.21	1.4	1.31	**10**	0.0076	<0.0004	0.000377 J	0.114	0.0476	<0.000068
4,6-Dinitro-2-methylphenol	*0.24*	*0.73*	<0.00002	<0.0008	**<0.566**	<0.119	<0.0806	<0.0004	<0.00008	<0.00008	<0.00079	<0.0392	<0.000798	<0.000806
4-Nitrophenol	*4.9*	*15*	<0.000047	<0.0005	<0.382	<0.08	<0.0544	<0.00094	<0.00005	<0.00005	<0.000533	<0.0264	<0.000538	<0.000544
Acenaphthene	*150*	*440*	<0.000027	0.91	0.515	0.454	0.374	7.1	0.0039	<0.00017	0.0044	0.0346	0.0212	0.000785
Acenaphthylene	*150*	*440*	<0.000015	0.011	0.0424 J	<0.00857	0.0114 J	0.079	0.00019 J	<0.00005	0.000135 J	<0.00283	0.00122	<0.0000583
Anthracene	*730*	*2200*	<0.000014	0.096	0.051 J	0.0423 J	0.0387 J	5.8	0.00056	<0.00013	0.000452 J	0.00383 J	0.00198	<0.0000485
Benzo(a)anthracene	*0.91*	*2*	<0.00005	0.016	<0.0545	<0.0114	<0.00777	0.52	0.000081 J	0.00011 J	<0.0000762	<0.00377	<0.0000769	<0.0000777
Benzo(a)pyrene	*0.02*	*0.02*	<0.00002	0.0041	**<0.0545**	<0.0114	<0.00777	**0.13**	0.00012 J	0.00014 J	<0.0000762	<0.00377	<0.0000769	<0.0000777
bis(2-Chloroethoxy)methane	*0.083*	*0.19*	<0.00003	<0.0005	**<0.0886**	<0.0186	<0.0126	<0.0006	<0.00005	<0.00005	<0.000124	<0.00613	<0.000125	<0.000126
bis(2-Ethylhexyl)phthalate (DEHP)	*0.6*	*0.6*	0.00009 J	0.0068	<0.252	<0.0529	<0.0359	0.0039 J	<0.0013	0.00012 J	<0.000352	<0.0175	<0.000356	<0.000359
Chrysene	*91*	*200*	<0.000021	0.013	<0.0545	<0.0114	<0.00777	0.63	0.000089 J	0.00015 J	<0.0000762	<0.00377	<0.0000769	<0.0000777
Dibenzofuran	*9.8*	*29*	<0.00002	0.69	0.345	0.355	0.278	6.2	0.0031	<0.00016	0.00244	0.0292	0.0175	<0.0000777
Di-n-butylphthalate (DBP)	*240*	*730*	<0.00002	<0.0005	<0.075	<0.0157	<0.0107	<0.0004	<0.00005	<0.00005	<0.000105	<0.00519	<0.00085	<0.000107
Fluoranthene	*98*	*290*	<0.00001	0.28	<0.0477	0.0105 J	0.013 J	4.7	0.00053	<0.00026	0.000387 J	<0.0033	0.000712	0.000149 J
Fluorene	*98*	*290*	<0.00003	0.66	0.211 J	0.217	0.186	6.7	0.002	<0.00023	0.00168	0.0127 J	0.0104	<0.000068
Naphthalene	*49*	*150*	<0.00002	5.3	17.3 J	30.1	18.1	**71**	0.051	<0.0019	0.0000937 J	2.07	0.504	<0.000471
Nitrobenzene	*4.9*	*15*	<0.000024	<0.0005	<0.075	<0.0157	<0.0107	<0.00048	<0.00005	<0.00005	<0.000105	<0.00519	<0.000106	<0.000107
N-Nitrosodiphenylamine	*19*	*42*	<0.000025	<0.0005	<0.0682	<0.0143	<0.00971	<0.0005	<0.00005	<0.00005	<0.0000952	<0.00472	<0.0000962	<0.0000971
Pentachlorophenol	*0.1*	*0.1*	<0.000079	<0.0005	**<0.416**	<0.0871	<0.0592	<0.0016	0.00022	<0.00005	<0.000581	<0.0288	<0.000587	<0.000592
Phenanthrene	*73*	*220*	<0.000021	0.93	0.227 J	0.175	0.162	14	0.0025	<0.00034	0.00127	0.0124 J	0.00677	<0.0000583
Phenol	*730*	*2200*	<0.000035	0.077	2.87	3.86	1.69	3.4	0.00037	<0.00005	<0.0000381	<0.00189	<0.0000385	<0.0000388
Pyrene	*73*	*220*	<0.000019	0.094	<0.075	<0.0157	<0.0107	3.2	0.00057	<0.00026	0.000253 J	<0.00519	0.000353 J	<0.000107
Metals														
Arsenic	*1*	*1*	0.000467 J					0.0012 J						

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.

TABLE 3
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 3 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Class 3 Residential Assessment	*Class 3 C/I Assessment Level*	MW-71B 01/25/2018	MW-71B 03/26/2018	MW-71B 06/06/2018	MW-71B 01/15/2019	MW-71B 07/17/2019	MW-71B 01/15/2020	MW-72B 07/12/2012	MW-72B 02/01/2013	MW-72B 07/29/2013	MW-72B 01/15/2014	MW-72B 02/08/2018	MW-72B 03/19/2018
Volatile Organic Compounds														
1,2-Dichloroethane	*0.5*	*0.5*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.005	<0.007	<0.014	<0.0002	0.018	<0.0002
Benzene	*0.5*	*0.5*	<0.0002	0.0042	0.027	0.0024	0.13	0.0021	**1.4**	**1.45**	**1.23**	**0.932**	**0.8**	**1.1**
Chlorobenzene	*10*	*10*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.005	<0.006	<0.012	0.00029 J	0.00033 J	<0.0003
Ethylbenzene	*70*	*70*	<0.0003	0.00065 J	0.0055	0.00093 J	0.031	0.0013	0.31	0.321	0.332	0.224	0.26	0.31
Methylene chloride	*0.5*	*0.5*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01	<0.0075	0.291	<0.00022	<0.001	<0.001
Toluene	*100*	*100*	<0.0002	0.00094 J	0.0033	<0.0002	0.023	<0.0002	1.1	1.18	1.12	0.724	0.72	0.99
Vinyl chloride	*0.2*	*0.2*												
Xylenes (total)	*1000*	*1000*	<0.0003	0.0044	0.013	0.00084 J	0.054	0.003	0.88	0.96	0.928	0.661	0.87	0.94
Semivolatile Organic Compounds														
1,2-Diphenylhydrazine	*0.11*	*0.26*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0005	<0.0524	<0.0267	**<0.156**	<0.00021	<0.00021
2,4-Dimethylphenol	*49*	*150*	<0.000041	<0.000041	0.00044	<0.00004	<0.00004	<0.00004	20	**98.1**	29.9	**182 J**	10	16
2,4-Dinitrotoluene	*0.13*	*0.3*	<0.000059	<0.000059	<0.000058	<0.000058	<0.000058	<0.000058	<0.0005	<0.0619	<0.0316	**<0.184**	<0.00058	<0.00058
2,6-Dinitrotoluene	*0.13*	*0.3*	<0.000043	<0.000043	<0.000042	<0.000042	<0.000042	<0.000042	<0.0006	<0.0381	<0.0194	<0.113	<0.00042	<0.00042
2-Chloronaphthalene	*200*	*580*	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.0005	<0.0381	<0.0194	<0.113	<0.00021	<0.00021
2-Methylnaphthalene	*9.8*	*29*	<0.000019	0.0017	0.00031	<0.000019	0.024	0.006	0.74	1.39	1.19	3.37	0.33	0.42
4,6-Dinitro-2-methylphenol	*0.24*	*0.73*	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.0008	**<0.395**	<0.201	**<1.17**	<0.0002	<0.0002
4-Nitrophenol	*4.9*	*15*	<0.000048	<0.000048	<0.000047	<0.000047	<0.000047	<0.000047	<0.0005	<0.267	<0.136	<0.792	<0.00047	<0.00047
Acenaphthene	*150*	*440*	<0.000028	0.0043	0.0023	<0.000027	0.016	0.0053	0.23	0.584	0.476	1.6	0.07	0.15
Acenaphthylene	*150*	*440*	<0.000015	0.000066 J	0.00011	<0.000015	0.00033	0.00015	0.0073	<0.0286	<0.0146	<0.0849	0.0021	<0.00015
Anthracene	*730*	*2200*	0.000064 J	0.0022	0.00041	<0.000014	0.0066	0.0039	0.017	0.0646 J	0.033 J	0.179 J	0.0085	0.02
Benzo(a)anthracene	*0.91*	*2*	0.00015	0.00067	0.00013	<0.00005	0.0026	0.0011	<0.0005	<0.0381	<0.0194	<0.113	<0.0005	<0.0005
Benzo(a)pyrene	*0.02*	*0.02*	0.0002	0.00029	0.00018	0.000021 J	0.00083	0.00052	<0.0005	**<0.0381**	<0.0194	**<0.113**	<0.0002	<0.0002
bis(2-Chloroethoxy)methane	*0.083*	*0.19*	<0.000031	<0.000031	<0.00003	<0.00003	<0.00003	<0.00003	<0.0005	<0.0619	<0.0316	**<0.184**	<0.0003	<0.0003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.6*	*0.6*	0.00018 J	0.000081 J	<0.00056	<0.000037	<0.00014	0.00063	<0.001	<0.176	<0.0898	<0.524	<0.00037	<0.00037
Chrysene	*91*	*200*	0.00023	0.00077	0.00025	<0.000021	0.0024	0.0011	<0.0005	<0.0381	<0.0194	<0.113	<0.00021	<0.00021
Dibenzofuran	*9.8*	*29*	<0.00002	0.004	0.0019	<0.00002	0.016	0.0049	0.18	0.355	0.348	1.21	0.06	0.13
Di-n-butylphthalate (DBP)	*240*	*730*	<0.00002	<0.00002	<0.00002	0.000022 J	<0.00002	0.00098	<0.0005	<0.0524	<0.0267	<0.156	<0.0002	<0.0002
Fluoranthene	*98*	*290*	0.00033	0.0045	0.0005	0.000039 J	0.017	0.0057	0.0034	<0.0333	<0.017	<0.0991	<0.0001	0.0015
Fluorene	*98*	*290*	<0.000031	0.0032	0.0013	<0.00003	0.0093	0.0038	0.11	0.253	0.224	0.7 J	0.032	0.069
Naphthalene	*49*	*150*	<0.00002	0.00048	0.00011	<0.00002	0.44	0.0064	16	**88.5 J**	25	**82.8**	7.5	13
Nitrobenzene	*4.9*	*15*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.0005	<0.0524	<0.0267	<0.156	<0.00024	<0.00024
N-Nitrosodiphenylamine	*19*	*42*	<0.000026	<0.000026	<0.000025	<0.000025	<0.000025	<0.000025	<0.0005	<0.0476	<0.0243	<0.142	<0.00025	<0.00025
Pentachlorophenol	*0.1*	*0.1*	<0.000081	<0.000081	<0.000079	<0.000079	<0.000079	<0.000079	<0.0005	**<0.29**	**<0.148**	**<0.863**	<0.00079	<0.00079
Phenanthrene	*73*	*220*	0.00012	0.012	0.0016	<0.000021	0.03	0.017	0.079	0.264	0.182	0.76	0.02	0.084
Phenol	*730*	*2200*	<0.000036	<0.000036	<0.000035	<0.000035	0.000051 J	<0.000035	3.4	7.51	6.31	31.4	4.2	4.2
Pyrene	*73*	*220*	0.00031	0.0028	0.00064	0.000037 J	0.0088	0.0042	0.0019 J	<0.0524	<0.0267	<0.156	<0.00019	0.0012
Metals														
Arsenic	*1*	*1*	0.00174 J	0.00214	0.000851 J	0.00158 J	0.000626 J	0.00279					0.00127 J	0.000624 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.

TABLE 3
ANALYTICAL RESULTS SUMMARY (2008 - 2020)
CLASS 3 GROUNDWATER
HOUSTON, TX - WOOD PRESERVING WORKS

	Class 3 Residential Assessment	***Class 3 C/I Assessment Level***	MW-72B 05/16/2018	MW-72B 01/24/2019	MW-72B 07/10/2019	MW-72B 01/09/2020
Volatile Organic Compounds						
1,2-Dichloroethane	*0.5*	*0.5*	<0.001	0.011	<0.0002	<0.002
Benzene	*0.5*	*0.5*	**1.2**	**0.63**	**1.1**	**0.7**
Chlorobenzene	*10*	*10*	<0.0015	<0.003	<0.0003	<0.003
Ethylbenzene	*70*	*70*	0.34	0.2	0.3	0.13
Methylene chloride	*0.5*	*0.5*	<0.005	<0.01	<0.001	<0.01
Toluene	*100*	*100*	0.95	0.58	0.96	0.58
Vinyl chloride	*0.2*	*0.2*				
Xylenes (total)	*1000*	*1000*	1.1	0.63	0.97	0.36
Semivolatile Organic Compounds						
1,2-Diphenylhydrazine	*0.11*	*0.26*	<0.00021	<0.00021	<0.00021	<0.00021
2,4-Dimethylphenol	*49*	*150*	14	2	19	13
2,4-Dinitrotoluene	*0.13*	*0.3*	<0.00058	<0.00058	<0.00058	<0.00058
2,6-Dinitrotoluene	*0.13*	*0.3*	<0.00042	<0.00042	<0.00042	<0.00042
2-Chloronaphthalene	*200*	*580*	<0.00021	<0.00021	<0.00021	<0.00021
2-Methylnaphthalene	*9.8*	*29*	0.23	0.071	0.57	0.22
4,6-Dinitro-2-methylphenol	*0.24*	*0.73*	<0.0002	<0.0002	<0.0002	<0.0002
4-Nitrophenol	*4.9*	*15*	<0.00047	0.0073 J	<0.00047	<0.00047
Acenaphthene	*150*	*440*	0.12	0.019	0.2	0.079
Acenaphthylene	*150*	*440*	0.003	0.00069 J	0.0044	0.0023
Anthracene	*730*	*2200*	<0.00014	0.0015	0.034	0.02
Benzo(a)anthracene	*0.91*	*2*	<0.0005	<0.0005	0.0069	0.0031
Benzo(a)pyrene	*0.02*	*0.02*	<0.0002	<0.0002	0.0019	0.0011
bis(2-Chloroethoxy)methane	*0.083*	*0.19*	<0.0003	<0.0003	<0.0003	<0.0003
bis(2-Ethylhexyl)phthalate (DEHP)	*0.6*	*0.6*	<0.00037	<0.00037	<0.00037	<0.00037
Chrysene	*91*	*200*	<0.00021	<0.00021	0.0069	0.0033
Dibenzofuran	*9.8*	*29*	0.082	0.017	0.16	0.061
Di-n-butylphthalate (DBP)	*240*	*730*	<0.0002	<0.0002	<0.0002	<0.0002
Fluoranthene	*98*	*290*	0.00095 J	<0.0001	0.046	0.024
Fluorene	*98*	*290*	0.051	0.0091	0.12	0.049
Naphthalene	*49*	*150*	12	1.2	12	2
Nitrobenzene	*4.9*	*15*	<0.00024	<0.00024	<0.00024	<0.00024
N-Nitrosodiphenylamine	*19*	*42*	<0.00025	<0.00025	<0.00025	<0.00025
Pentachlorophenol	*0.1*	*0.1*	<0.00079	<0.00079	<0.00079	<0.00079
Phenanthrene	*73*	*220*	0.045	0.0042	0.16	0.075
Phenol	*730*	*2200*	2.3	0.58	9.3	5.2
Pyrene	*73*	*220*	0.00074 J	<0.00019	0.029	0.013
Metals						
Arsenic	*1*	*1*	0.000951 J	0.00106 J	0.000861 J	0.00105 J

Notes:

1. All values in milligrams per liter (mg/L).
2. Concentrations > RAL and non-detects are highlighted light gray.
3. Concentrations > C/I AL and non-detects are highlighted dark gray
4. TRRP PCLs (30 TAC §350, Table 3), updated November 2019.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = not detected at the specified detection limit.

TABLE 4

Analytical Results Summary - A-TZ Wells - VISL Comparison
Houston, tx - Wood Preserving Works

Location ID: / *Sample Date:*	*Target Groundwater Concentration (TCR=1E-05 or THQ=0.1) Cgw,Target (mg/L)*	MW-25A 07/16/2019	MW-25A 01/15/2020	MW-26A 07/17/2019	MW-26A 01/16/2020	MW-27A 07/18/2019	MW-27A 01/15/2020	MW-28A 07/16/2019	MW-28A 01/16/2020
Semivolatile Organic Compounds (mg/L)									
Benzo(a)anthracene	*0.344*	<0.00005	0.00012	<0.00005	<0.00005	<0.00005	<0.00005	0.000055 J	0.000073 J
Naphthalene	*0.0174*	0.00023	0.0001	<0.00032	<0.00017	0.0026	0.000053 J	0.0013	<0.0006
Nitrobenzene	*0.715*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Volatile Organic Compounds (mg/L)									
1,2-Dichloroethane	*0.0151*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.0138*	<0.0002	<0.0002	0.00036 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.041*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.0349*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.471*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1.92*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.00147*	<0.0002	<0.0002	NA	NA	NA	NA	NA	NA
Xylenes (total)	*0.0385*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003

Notes: VISL Calculator output for target groundwater screening level with inputs: residential scenario, hazard quotient of 0.1, carcinogenic risk of 10-5, and groundwater temperature of 25 degree Celsius (EPA, 2019).

J = Estimated value

< = Compound not detected at the specified detection limit.

TABLE 4

Analytical Results Summary - A-TZ Wells - VISL Comparison
Houston, tx - Wood Preserving Works

Location ID: / *Sample Date:*	*Target Groundwater Concentration (TCR=1E-05 or THQ=0.1) Cgw,Target (mg/L)*	MW-32AR 07/30/2019	MW-32AR 01/20/2020	MW-33A 07/17/2019	MW-33A (DUP 07/17/2019	MW-33A 01/20/2020	MW-33A (DUP 01/20/2020	MW-35A 07/18/2019	MW-35A 01/10/2020	MW-36A 07/16/2019	MW-36A 01/09/2020
Semivolatile Organic Compounds (mg/L)											
Benzo(a)anthracene	*0.344*	0.000054 J	<0.00005	<0.00005	<0.00005	0.00012	0.00012	<0.00005	<0.00005	<0.00005	<0.00005
Naphthalene	*0.0174*	<0.00002	<0.00014	<0.000076	<0.000096	<0.0005	<0.00066	0.00083	<0.0002	0.00015	<0.00034
Nitrobenzene	*0.715*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Volatile Organic Compounds (mg/L)											
1,2-Dichloroethane	*0.0151*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.0138*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.041*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.0349*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.471*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1.92*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.00147*	NA	<0.0002	NA	NA	<0.0002	<0.0002	NA	<0.0002	<0.0002	<0.0002
Xylenes (total)	*0.0385*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003

Notes: VISL Calculator output for target groundwater screening level with inputs: residential scenario, hazard quotient of 0.1, carcinogenic risk of 10-5, and groundwater temperature of 25 degree Celsius (EPA, 2019).

J = Estimated value

< = Compound not detected at the specified detection limit.

TABLE 4

Analytical Results Summary - A-TZ Wells - VISL Comparison
Houston, tx - Wood Preserving Works

Location ID: / *Sample Date:*	*Target Groundwater Concentration (TCR=1E-05 or THQ=0.1) Cgw,Target (mg/L)*	MW-38A 07/31/2019	MW-38A 01/21/2020	MW-44A 07/17/2019	MW-44A 01/09/2020	MW-47A 03/20/2020	MW-59A 07/17/2019	MW-59A 01/16/2020	MW-60A 07/17/2019	MW-60AR 03/20/2020
Semivolatile Organic Compounds (mg/L)										
Benzo(a)anthracene	*0.344*	0.000087 J	<0.00005	0.000085 J	0.000054 J	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Naphthalene	*0.0174*	0.000068 J	0.0011	<0.00019	<0.003	<0.00002	<0.00012	<0.0012	<0.00013	<0.00002
Nitrobenzene	*0.715*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Volatile Organic Compounds (mg/L)										
1,2-Dichloroethane	*0.0151*	0.00031 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.0138*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.041*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.0349*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.471*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1.92*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.00147*	NA	NA	<0.0002	NA	NA	<0.0002	<0.0002	<0.0002	NA
Xylenes (total)	*0.0385*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003

Notes: VISL Calculator output for target groundwater screening level with inputs: residential scenario, hazard quotient of 0.1, carcinogenic risk of 10-5, and groundwater temperature of 25 degree Celsius (EPA, 2019).

J = Estimated value

< = Compound not detected at the specified detection limit.

TABLE 4

Analytical Results Summary - A-TZ Wells - VISL Comparison
Houston, tx - Wood Preserving Works

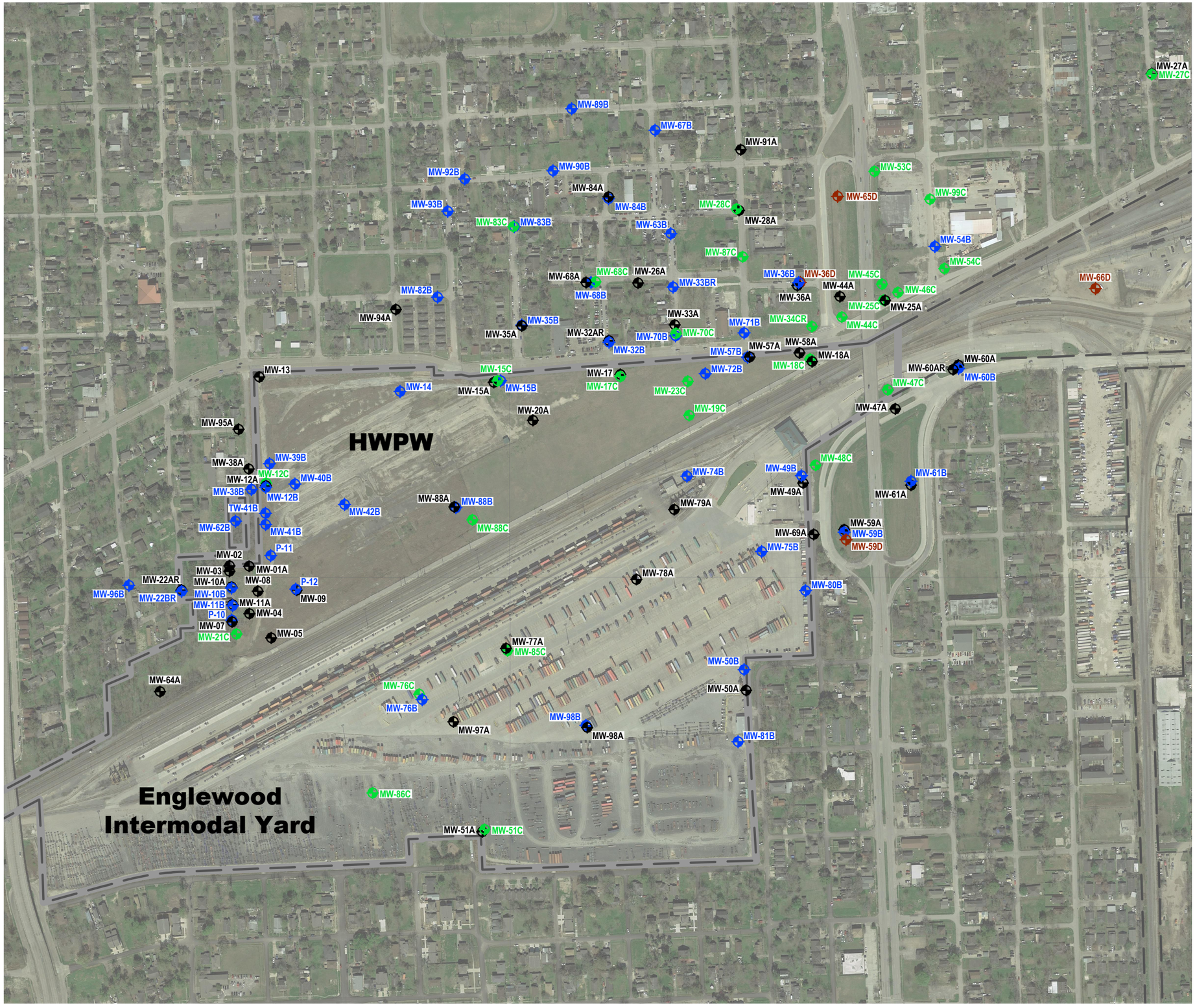
Location ID: / *Sample Date:*	*Target Groundwater Concentration (TCR=1E-05 or THQ=0.1) Cgw,Target (mg/L)*	MW-61A 07/17/2019	MW-61A 01/16/2020	MW-68A 07/18/2019	MW-68A 01/17/2020	MW-69A 07/17/2019	MW-84A 03/12/2020	MW-91A 03/12/2020	MW-94A 03/12/2020	MW-95A 03/17/2020
Semivolatile Organic Compounds (mg/L)										
Benzo(a)anthracene	*0.344*	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000051	<0.000053	<0.000052	<0.00005
Naphthalene	*0.0174*	<0.00002	<0.00021	0.00035	<0.00022	<0.000078	0.000023 J	0.000083 J	<0.000021	<0.00002
Nitrobenzene	*0.715*	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024	<0.000025	<0.000025	<0.000024
Volatile Organic Compounds (mg/L)										
1,2-Dichloroethane	*0.0151*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	*0.0138*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	*0.041*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	*0.0349*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	*0.471*	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	*1.92*	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	*0.00147*	<0.0002	<0.0002	NA	NA	<0.0002	NA	NA	NA	NA
Xylenes (total)	*0.0385*	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003

Notes: VISL Calculator output for target groundwater screening level with inputs: residential scenario, hazard quotient of 0.1, carcinogenic risk of 10-5, and groundwater temperature of 25 degree Celsius (EPA, 2019).

J = Estimated value

< = Compound not detected at the specified detection limit.

FIGURES



LEGEND

- UPRR PROPERTY BOUNDARY
- A-TZ MONITORING WELL LOCATION
- B-CZ/B-TZ MONITORING WELL LOCATION
- C-TZ MONITORING WELL LOCATION
- D-TZ MONITORING WELL LOCATION

REFERENCE(S)

PARCEL BOUNDARIES: CITY OF HOUSTON GEOGRAPHIC INFORMATION & MANAGEMENT SYSTEMS (GIMS).
AERIAL: GOOGLE EARTH, IMAGERY DATED 2/23/19.

0 200 400
1" = 400' FEET

UNION PACIFIC RAILROAD CO.

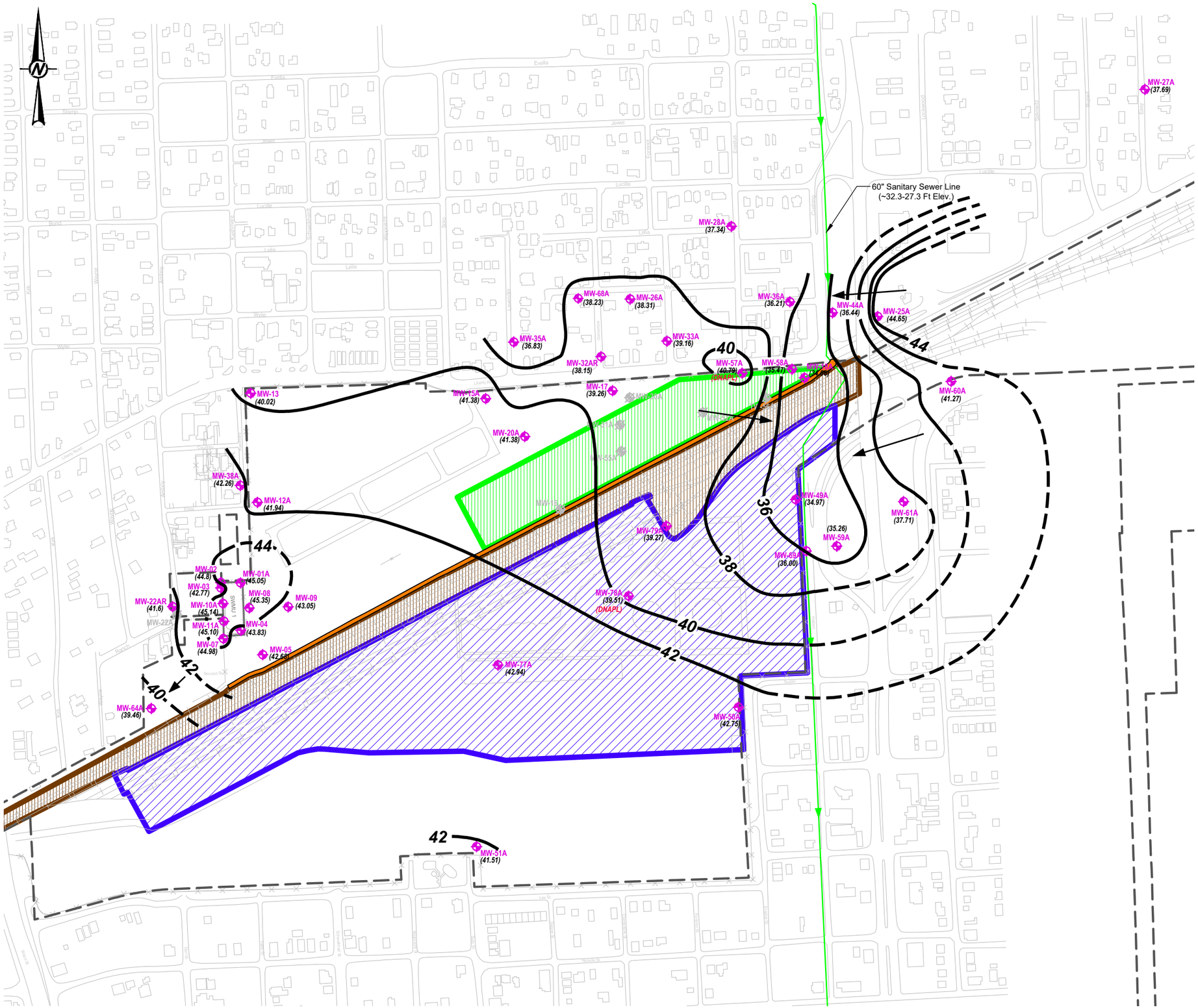
HOUSTON WOOD PRESERVING WORKS

MONITORING WELL LOCATION MAP

	2020-03-18
	AJD
	AJD
	MH
	ECM

GOLDER

19119232 0 FIGURE 1



LEGEND

- UPRR PROPERTY BOUNDARY
- HISTORIC STRUCTURE AND FEATURE
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- (37.71) GROUNDWATER ELEVATION (FT, HVD) (NM = NOT MEASURED)
- 39 GROUNDWATER ELEVATION CONTOUR (FT, HVD) C.I. = 2 FT
- INFERRED GROUNDWATER FLOW DIRECTION
- RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- SOIL CAP
- CONCRETE CAP AREA

NOTE(S)

1. VERTICAL DATUM BASED ON CITY OF HOUSTON VERTICAL DATUM (HVD).
2. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
3. ** - NOT USED TO DEVELOP POTENTIOMETRIC SURFACE.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

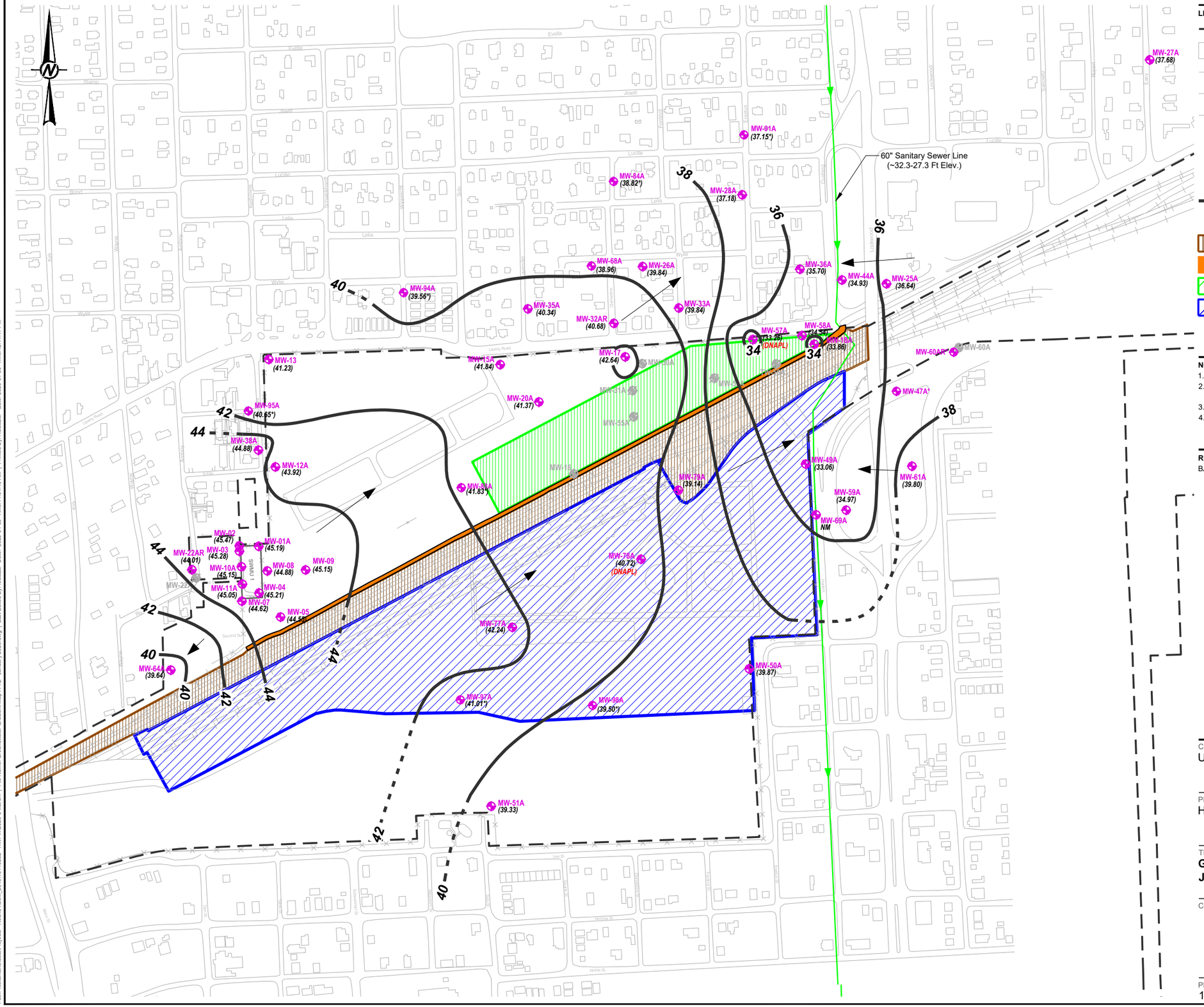
PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER GRADIENT MAP A-TZ
JULY 2019

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5A-1a



LEGEND

- UPRR PROPERTY BOUNDARY
- HISTORIC STRUCTURE AND FEATURE
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- (37.71) GROUNDWATER ELEVATION (FT, HVD) (NM = NOT MEASURED)
- 39 GROUNDWATER ELEVATION CONTOUR (FT, HVD) C.I. = 2 FT
- INFERRED GROUNDWATER FLOW DIRECTION
- RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- SOIL CAP
- CONCRETE CAP AREA

NOTE(S)

1. VERTICAL DATUM BASED ON CITY OF HOUSTON VERTICAL DATUM (HVD).
2. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
3. ** - NOT USED TO DEVELOP POTENTIOMETRIC SURFACE.
4. * - WATER ELEVATION MEASURED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER GRADIENT MAP - A-TZ
JANUARY-MARCH 2020

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5A-1b

CLASS 2 GW

CLASS 3 GW

MW-89B (36.83)
MW-67B (34.84)
MW-90B (40.26)
(37.41) MW-84B
MW-83B (39.22)
MW-63B (40.52)
MW-82B (40.61)
MW-68B (38.85)
MW-33BR (38.43)
MW-36B (42.21)
MW-35B (39.21)
(DNAPL) (38.29) MW-70B
(43.97) MW-71B
MW-32B (38.80) (DNAPL)
MW-57B (37.19)
MW-14 (41.09)
MW-15B (40.97)
MW-72B (36.69)
MW-58B
MW-73B
MW-74B (38.99)
MW-49B (34.20)
MW-59B (35.30)
MW-75B (37.89) (DNAPL)
MW-80B (36.09)
MW-81B (38.86)
(42.11) MW-39B
(42.36) MW-40B
MW-38B (42.25)
MW-12B (43.35) (DNAPL)
MW-42B (43.10)
TW-41B (41.45)
MW-41B (41.80) (DNAPL)
MW-62B (46.82)
P-11 (43.67)
MW-22BR (41.30)
MW-22B
MW-10B (45.14)
MW-11B (45.03)
P-12 (45.70)
P-10 (44.58)

36 38 40 42 38 36 42 44 42 40

LEGEND

- UPRR PROPERTY BOUNDARY
- HISTORIC STRUCTURE AND FEATURE
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- B-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- B-CZ (CLASS 3 GW) / B-TZ (CLASS 2 GW): B-TZ/B-CZ BOUNDARY
- (39.98): GROUNDWATER ELEVATION (FT, HVD) (NM = NOT MEASURED)
- 36: GROUNDWATER ELEVATION CONTOUR (FT, HVD) C.I. = 2 FT
- INFERRED GROUNDWATER FLOW DIRECTION
- RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- SOIL CAP
- CONCRETE CAP AREA

NOTE(S)

1. VERTICAL DATUM BASED ON CITY OF HOUSTON VERTICAL DATUM (HVD).
2. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
3. ** - NOT USED TO GENERATE CONTOURS.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER GRADIENT MAP B-TZ AND B-CZ
JULY 2019

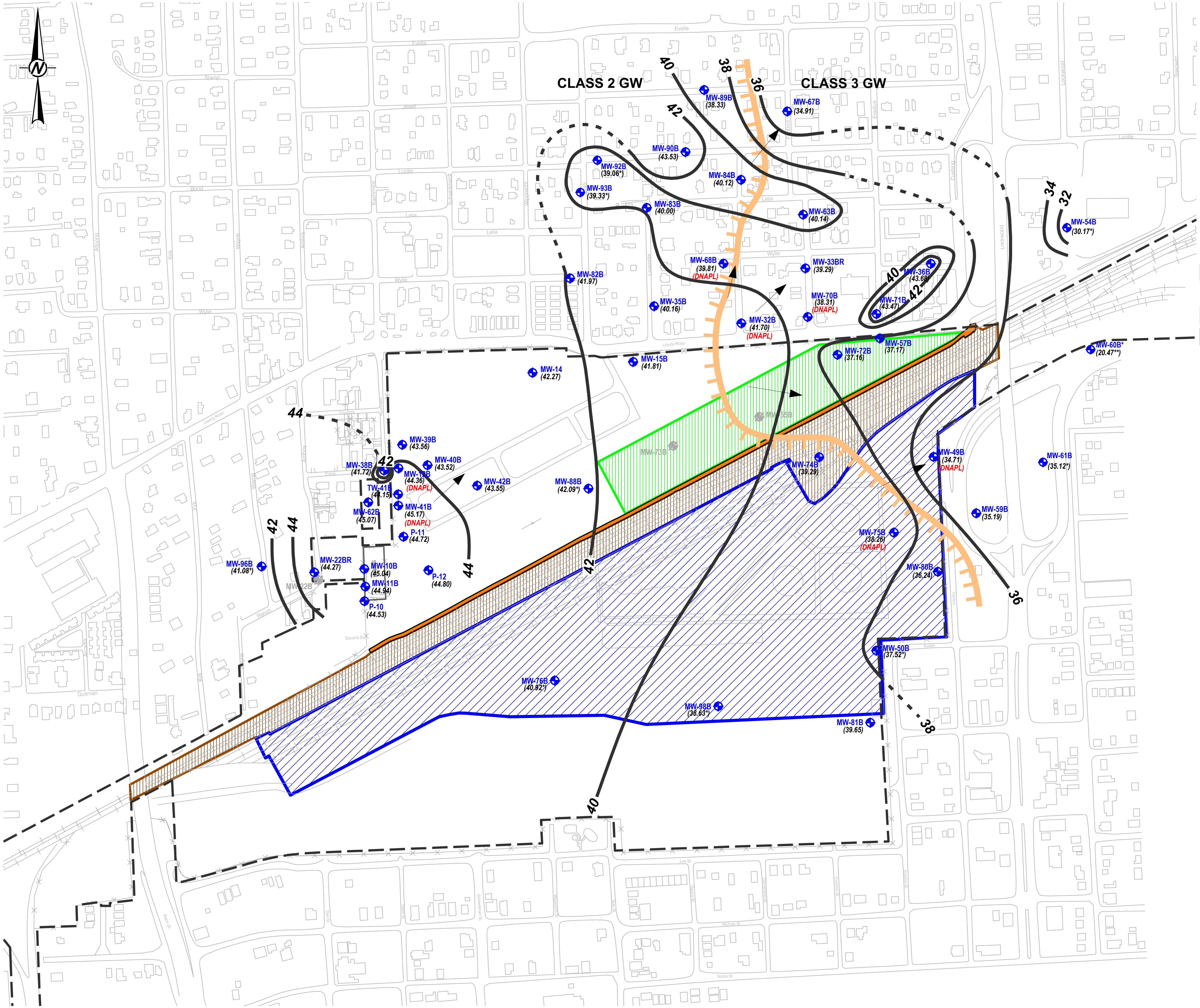
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5A-2a

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texas\kana\data\projects - round rock\ 2019\19119232 - hwpw\2019-10 Oct\ | File Name: FIG 5A-2 - Groundwater Gradient Map B-TZ-B-CZ - July 2019.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:12:45:50 PM | Printed By: RSalazar Date: 2020-04-30 Time:12:45:50 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- HISTORIC STRUCTURE AND FEATURE
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- B-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- B-CZ (CLASS 3 GW) / B-TZ (CLASS 2 GW) — B-TZ/B-CZ BOUNDARY
- (39.98) — GROUNDWATER ELEVATION (FT, HVD) (NM = NOT MEASURED)
- 36 — GROUNDWATER ELEVATION CONTOUR (FT, HVD) C.I. = 2 FT
- INFERRED GROUNDWATER FLOW DIRECTION
- RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- SOIL CAP
- CONCRETE CAP AREA

NOTE(S)

1. VERTICAL DATUM BASED ON CITY OF HOUSTON VERTICAL DATUM (HVD).
2. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
3. ** - NOT USED TO GENERATE CONTOURS.
4. * - WATER ELEVATION MEASURED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS — ERIC C. MATZNER — GEOLOGY LIC. # 795 — LICENSED PROFESSIONAL GEOSCIENTIST — 4/30/20

0 200 400 — 1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

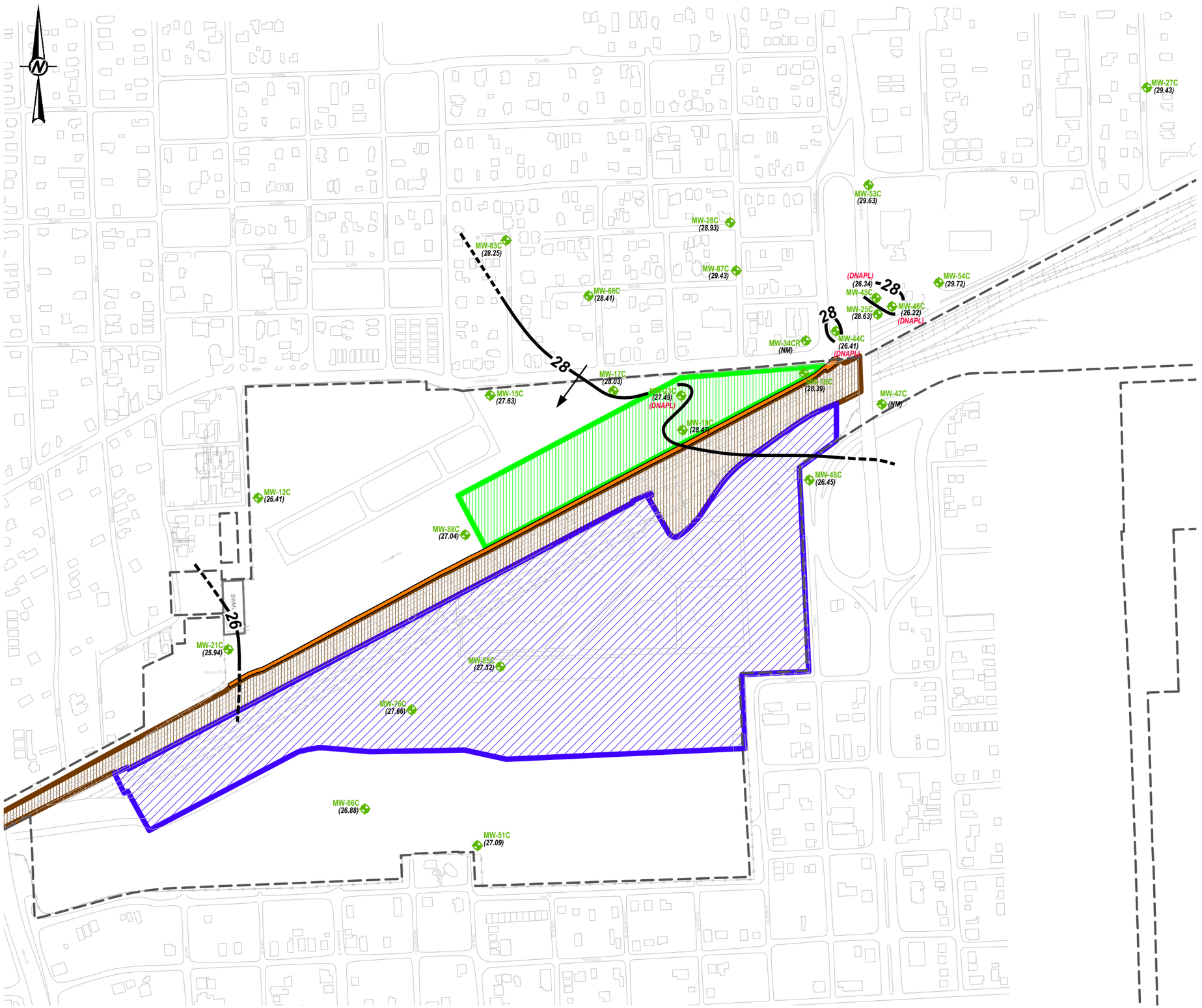
TITLE
GROUNDWATER GRADIENT MAP - B-TZ/B-CZ JANUARY-MARCH 2020

CONSULTANT: GOLDER — TEXAS GEOSCIENCE FIRM NO. 50369, TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 — REV. 0 — FIGURE 5A-2b

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- UPRR PROPERTY BOUNDARY
- HISTORIC STRUCTURE AND FEATURE
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- C-TZ MONITORING WELL LOCATION
- (26.04) GROUNDWATER ELEVATION (FT, HVD) (NM = NOT MEASURED)
- 26 GROUNDWATER ELEVATION CONTOUR (FT, HVD) C.I. = 2 FT
- INFERRED GROUNDWATER FLOW DIRECTION
- RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- SOIL CAP
- CONCRETE CAP AREA

NOTE(S)

1. VERTICAL DATUM BASED ON CITY OF HOUSTON VERTICAL DATUM (HVD).
2. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
3. ** NOT USED TO CREATE POTENTIOMETRIC SURFACE.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER GRADIENT MAP C-TZ
JULY 2019

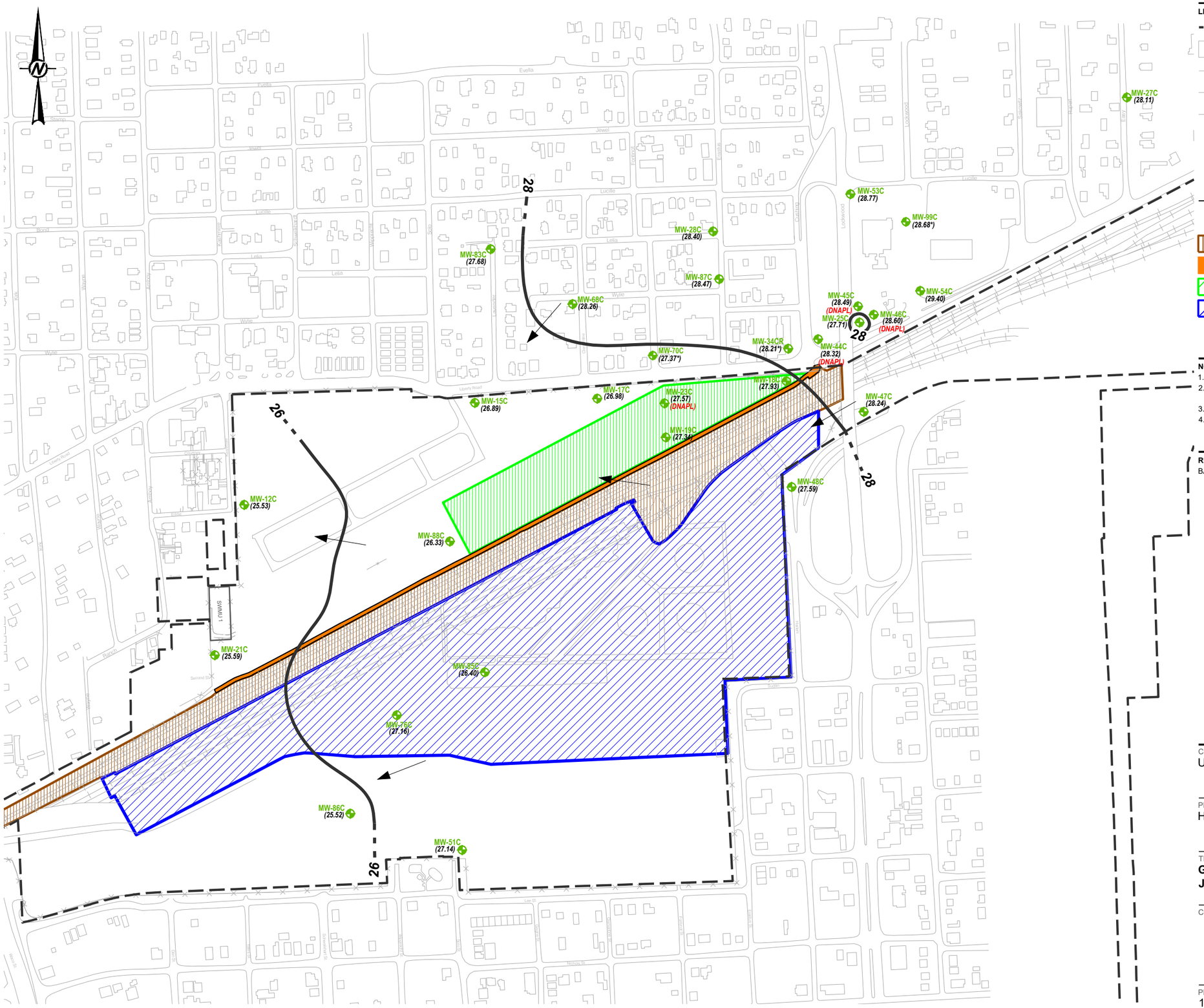
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5A-3a

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\projects - round rock\ 2019\19119232 - hwpw\2019-10 Oct\ | File Name: FIG 5A-3 - Groundwater Gradient Map C-TZ - July 2019.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:1:09:00 PM | Printed By: RSalazar Date: 2020-04-30 Time:1:23:55 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- HISTORIC STRUCTURE AND FEATURE
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- C-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- (29.40) GROUNDWATER ELEVATION (FT, HVD) (NM = NOT MEASURED)
- 28 GROUNDWATER ELEVATION CONTOUR (FT, HVD) C.I. = 2 FT
- INFERRED GROUNDWATER FLOW DIRECTION
- RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- SOIL CAP
- CONCRETE CAP AREA

NOTE(S)

1. VERTICAL DATUM BASED ON CITY OF HOUSTON VERTICAL DATUM (HVD).
2. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
3. ** - NOT USED TO DEVELOP POTENTIOMETRIC SURFACE.
4. * - WATER ELEVATION MEASURED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER GRADIENT MAP - C-TZ
JANUARY-MARCH 2020

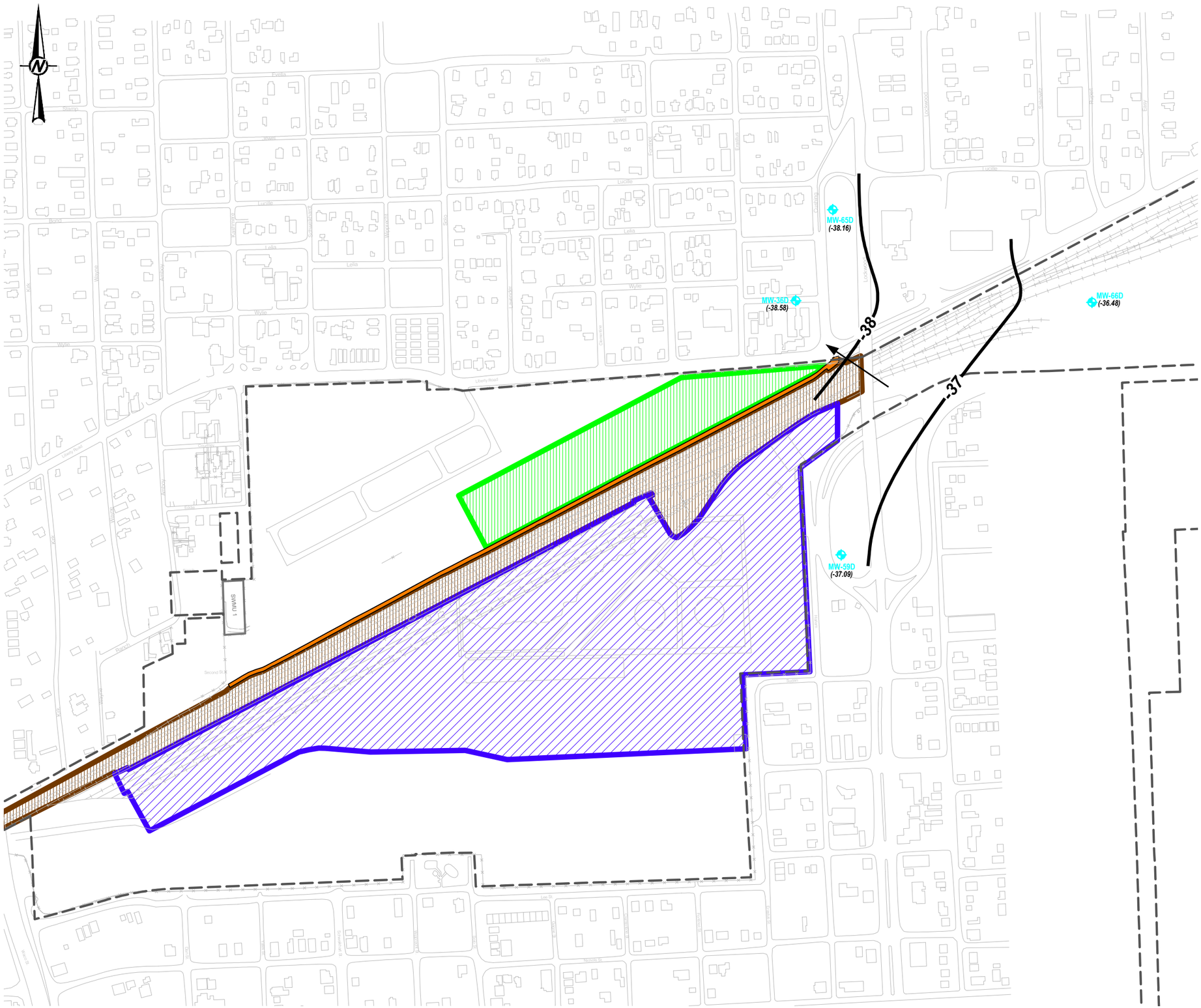
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5A-3b

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\Projects - Round Rock_2019\19119232 - HWPW\2020-3 March\ | File Name: Groundwater Gradient Map C-TZ - January 2020.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:11:03:38 AM | Printed By: RSalazar Date: 2020-04-30 Time:12:12:14 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- HISTORIC STRUCTURE AND FEATURE
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- D-TZ MONITORING WELL LOCATION
- (-38.37) GROUNDWATER ELEVATION (FT, HVD) (NM = NOT MEASURED)
- -39 GROUNDWATER ELEVATION CONTOUR (FT, HVD) C.I. = 1 FT
- INFERRED GROUNDWATER FLOW DIRECTION
- RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- SOIL CAP
- CONCRETE CAP AREA

NOTE(S)

1. VERTICAL DATUM BASED ON CITY OF HOUSTON VERTICAL DATUM (HVD).
2. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER GRADIENT MAP D-TZ
JULY 2019

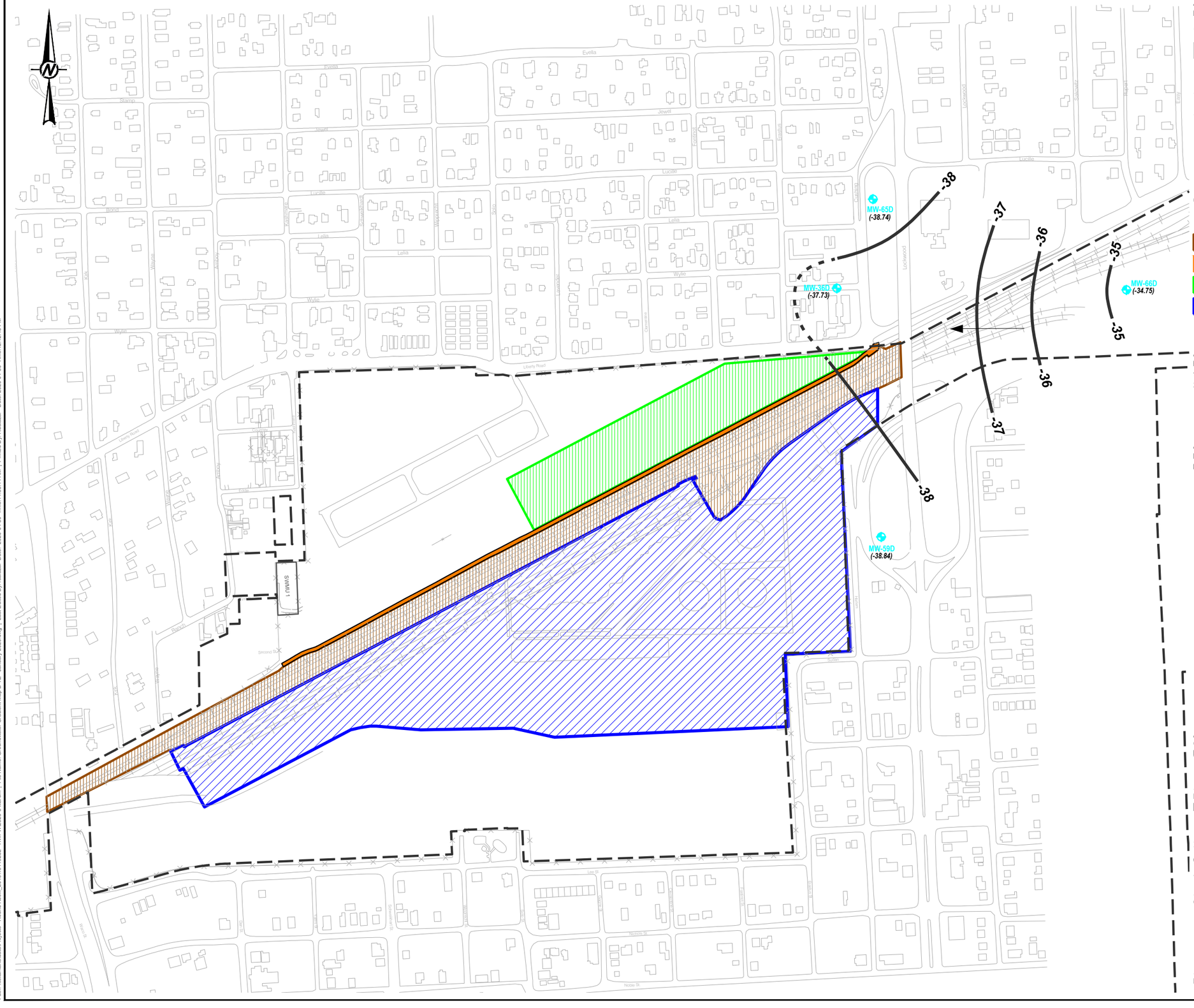
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5A-4a

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\projects - round rock_2019\19119232 - hwpw\2019-10 Oct\ | File Name: FIG 5A-4 - Groundwater Gradient Map D-TZ - July 2019.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time: 1:18:00 PM | Printed By: RSalazar Date: 2020-04-30 Time: 1:25:00 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- HISTORIC STRUCTURE AND FEATURE
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- D-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- (37.71) GROUNDWATER ELEVATION (FT, HVD) (NM = NOT MEASURED)
- 39 GROUNDWATER ELEVATION CONTOUR (FT, HVD) C.I. = 2 FT
- INFERRED GROUNDWATER FLOW DIRECTION
- RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- SOIL CAP
- CONCRETE CAP AREA

NOTE(S)

1. VERTICAL DATUM BASED ON CITY OF HOUSTON VERTICAL DATUM (HVD).
2. DNAPL = DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER GRADIENT MAP - D-TZ
JANUARY-MARCH 2020

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5A-4b

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\Projects - Round Rock\ 19191919232 - HWPW\2020-3 March\ | File Name: Groundwater Gradient Map D-TZ - January 2020.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:11:03:14 AM | Printed By: RSalazar Date: 2020-04-30 Time:12:12:45 PM

ATTACHMENT A

Monitoring Well Construction Logs

TABLE A-1
SUMMARY OF GROUNDWATER MONITORING WELLS
HOUSTON, TX - WOOD PRESERVING WORKS

WELL NO.	DATE INSTALLED	NORTHING	EASTING	TOP OF CASING ELEVATION (FT HVD)	TOTAL DEPTH (FT BGS)	Top Screen Interval (FT BGS)	Bottom Screen Interval (FT BGS)	Zone	Plugged
SWMU No. 1 Monitoring Wells									
MW-01A[1]	1/0/1900	728,006	3,165,936	47.90	19	8.5	18.5	A-TZ	
MW-02[1]	4/17/1984	728,007	3,165,857	47.89	18.5	8.5	18.5	A-TZ	
MW-07[1]	3/27/1991	727,779	3,165,867	48.91	23	14.1	19.1	A-TZ	
MW-08[1]	3/27/1991	727,903	3,165,972	49.33	24	14.2	19.2	A-TZ	
MW-10A[1]	9/13/1994	727,921	3,165,866	49.83	23	11	20.5	A-TZ	
MW-10B[1]	9/14/1994	727,916	3,165,866	49.96	46	27.1	41.6	B-TZ	
MW-11A[1]	9/15/1994	727,849	3,165,869	50.16	22	10	19.3	A-TZ	
MW-11B[1]	9/19/1994	727,845	3,165,869	50.24	44	27.5	41.2	B-TZ	
P-10[1]	3/26/1991	727,786	3,165,866	47.71	50	36.2	38.2	B-TZ	
P-12[1]	3/27/1991	727,912	3,166,127	48.76	50	36.3	38.3	B-TZ	
Site-Wide Monitoring Wells									
MW-03	4/17/1984	727,985	3,165,857	48.34	18.5	8.5	18.5	A-TZ	
MW-04	4/18/1984	727,813	3,165,938	49.85	21	11	21	A-TZ	
MW-05	----	727,715	3,166,026	49.24	26	10	25	A-TZ	
MW-09	3/26/1991	727,908	3,166,130	49.26	24	14.8	19.8	A-TZ	
MW-12A	2/27/1997	728,333	3,166,004	49.96	30	17.5	27.5	A-TZ	
MW-12B	2/27/1997	728,328	3,166,004	50.02	45	32.5	42.5	B-TZ	
MW-12C	4/21/1997	728,345	3,166,005	50.14	75.3	69	73.5	C-TZ	
MW-13	2/25/1997	728,777	3,165,977	50.65	25	9	22.5	A-TZ	
MW-14	2/27/1997	728,718	3,166,550	50.66	45	28	42.5	B-TZ	
MW-15A	2/25/1997	728,755	3,166,931	50.41	30	12	26.1	A-TZ	
MW-15B	12/19/2011	728,761	3,166,960	47.05	40	28	38	B-TZ	
MW-15C	4/25/1997	728,761	3,166,947	50.01	75	64	73.5	C-TZ	
MW-16	2/26/1997	728,305	3,167,235	51.51	30	12.5	27	A-TZ	P
MW-17	3/25/1997	728,787	3,167,447	50.92	35	18	32.5	A-TZ	
MW-17C	12/10/2003	728,779	3,167,446	50.17	70	59.5	69.5	C-TZ	
MW-18A	2/26/1997	728,839	3,168,227	51.57	35	18	32.5	A-TZ	P
MW-18C	4/25/1997	728,849	3,168,219	51.47	80.2	62	76.5	C-TZ	P
MW-19C	10/15/1998	728,620	3,167,727	53.05	73	63	73	C-TZ	
MW-20A	9/28/1998	728,600	3,167,091	50.43	30	15	25	A-TZ	
MW-21C	10/26/1998	727,730	3,165,884	49.05	72.5	62.5	72.5	C-TZ	
MW-22A	10/1/1998	727,876	3,165,677	46.07	25	10	20	A-TZ	P
MW-22AR	1/24/2018	727,909	3,165,660	45.56	25	9.6	19.6	A-TZ	
MW-22B	10/27/1998	727,871	3,165,678	45.86	38	27.5	37.5	B-TZ	P
MW-22BR	1/24/2018	727,904	3,165,660	45.71	39	27.6	37.6	B-TZ	
MW-23C	10/14/1998	728,759	3,167,722	54.16*	72.5	62.5	72.5	C-TZ	
MW-24AR	1/27/2009	727,531	3,165,207	45.65	21	11	21	A-TZ	
MW-24B	3/7/2000	727,534	3,165,208	46.06	50	38.5	48.5	B-TZ	
MW-24C	3/8/2000	727,542	3,165,206	46.05	74	63	73	C-TZ	
MW-25A	3/7/2000	729,089	3,168,524	44.65	29	18.5	28.5	A-TZ	
MW-25C	3/7/2000	729,089	3,168,518	44.49	74	58	68	C-TZ	
MW-26A	3/7/2000	729,159	3,167,519	44.62	26	14.5	24.5	A-TZ	
MW-27A	3/26/2001	730,002	3,169,610	44.90	30	17	27	A-TZ	
MW-27C	4/16/2001	730,009	3,169,610	45.04	73.5	60.5	70.5	C-TZ	
MW-28A	3/26/2001	729,462	3,167,926	43.86	28	16	26	A-TZ	
MW-28C	4/12/2001	729,461	3,167,920	43.96	88	75	85	C-TZ	
MW-29A	4/19/2001	727,310	3,164,239	46.59	23	9	19	A-TZ	P
MW-29B	4/12/2001	727,303	3,164,239	46.26	57	44	54	B-TZ	P
MW-29C	4/27/2001	727,293	3,164,240	46.46	75	62.5	72.5	C-TZ	P
MW-30A	12/8/2003	728,759	3,167,517	50.45	31	19.5	29.5	A-TZ	P
MW-31A	12/8/2003	728,648	3,167,477	52.08	33	21.5	31.5	A-TZ	P
MW-32A	12/29/203	728,914	3,167,401	43.77	33	20.5	30.5	A-TZ	P
MW-32AR	12/15/2011	728,925	3,167,400	44.74	22	10	20	A-TZ	
MW-32B	12/15/2011	728,918	3,167,400	44.73	40	26	36	B-TZ	
MW-33A	12/30/2003	728,989	3,167,668	44.25	25	13	23	A-TZ	
MW-33B	2/23/2007	729,150	3,167,661	44.35	75	32	42	B-CZ	P
MW-33BR	12/19/2011	729,142	3,167,662	44.86	40	28	38	B-CZ	
MW-33C	8/14/2006	729,092	3,167,663	NA	40	NA	NA	C-TZ	P
MW-34C	1/13/2004	728,934	3,168,160	45.31	72.5	60	70	C-TZ	P
MW-34CR	5/9/2014	728,982	3,168,227	46.47	70	60	70	C-TZ	
MW-35A	2/21/2007	728,985	3,167,045	44.75	28	13	28	A-TZ	
MW-35B	2/26/2007	728,988	3,167,045	44.83	42	32	42	B-CZ	
MW-35C	8/14/2006	729,021	3,167,040	NA	40	NA	NA	C-TZ	P
MW-36A	2/22/2007	729,148	3,168,167	44.53	28	18	28	A-TZ	
MW-36B	6/24/2010	729,161	3,168,172	44.07	43	38	43	B-CZ	
MW-36D	6/23/2010	729,162	3,168,180	44.33	110	100	110	D-TZ	
MW-37A	8/16/2006	728,896	3,166,210	NA	25	NA	NA	A-TZ	P
MW-38A	2/21/2007	728,402	3,165,934	46.39	22	12	22	A-TZ	
MW-38B	12/31/2003	728,319	3,165,945	45.51	37	25.5	35.5	B-TZ	
MW-39B	12/16/2003	728,424	3,166,019	49.58	40	29.5	39.5	B-TZ	

TABLE A-1
SUMMARY OF GROUNDWATER MONITORING WELLS
HOUSTON, TX - WOOD PRESERVING WORKS

WELL NO.	DATE INSTALLED	NORTHING	EASTING	TOP OF CASING ELEVATION (FT HVD)	TOTAL DEPTH (FT BGS)	Top Screen Interval (FT BGS)	Bottom Screen Interval (FT BGS)	Zone	Plugged
MW-40B	12/15/2004	728,341	3,166,122	49.59	40	29.5	39.5	B-TZ	
MW-41B	1/7/2003	728,176	3,166,003	49.37	40	29.5	39.5	B-TZ	
MW-42B	8/24/2006	728,257	3,166,324	50.52	42	30	40	B-TZ	
MW-44A	2/22/2007	729,021	3,168,349	45.11	28	18	28	A-TZ	
MW-44C	1/16/2004	729,021	3,168,349	45.13	70	57.5	67.5	C-TZ	
MW-45C	1/20/2004	729,155	3,168,512	44.73	70	58	68	C-TZ	
MW-46C	1/9/2004	729,121	3,168,576	44.94	72	60	70	C-TZ	
MW-47A	3/17/2020	728,644	3,168,558	43.92	26	16	26	A-TZ	
MW-47C	3/16/2007	728,725	3,168,535	45.52	71	61	71	C-TZ	
MW-48C	2/2/2004	728,417	3,168,241	44.68	72	60	70	C-TZ	
MW-49A	2/28/2007	728,345	3,168,191	46.18	30	20	30	A-TZ	
MW-49B	1/24/2009	728,375	3,168,184	46.43	35	30	35	B-CZ	
MW-50A	3/1/2007	727,501	3,167,958	46.96	25	15	25	A-TZ	
MW 50B	2/7/2020	727,585	3,167,950	45.89	40	34.5	39.5	B-TZ	
MW-51A	2/28/2007	726,925	3,166,885	47.80	25	15	25	A-TZ	
MW-51C	5/10/2014	726,935	3,166,894	47.48	80	62	72	C-TZ	
MW-52A	2/27/2007	728,699	3,167,814	51.91	30	20	30	A-TZ	P
MW-53C	8/15/2006	729,613	3,168,481	45.49	72	60	70	C-TZ	
MW 54B	2/22/2020	729,308	3,168,727	43.59	40	34.6	39.6	B-CZ	
MW-54C	8/15/2006	729,218	3,168,766	44.99	72	60	70	C-TZ	
MW-55A	1/12/2009	728,540	3,167,482	52.01	25	10	25	A-TZ	P
MW-55B	12/14/2011	728,538	3,167,474	49.15	40	32	37	B-TZ	P
MW-55C	8/22/2006	728,540	3,167,440	NA	30	NA	NA	C-TZ	P
MW-57A	1/22/2009	728,859	3,167,973	50.89*	27	12	27	A-TZ	
MW-57B	12/21/2011	728,857	3,167,965	47.93	40	34	39	B-TZ	
MW-58A	1/23/2009	728,875	3,168,176	47.76	29	14	29	A-TZ	
MW-59A	1/28/2009	728,155	3,168,358	44.18	21	11	21	A-TZ	
MW-59B	6/26/2010	728,145	3,168,358	44.36	33	28	33	B-CZ	
MW-59D	1/27/2009	728,114	3,168,365	44.22	118	108	118	D-TZ	
MW-60A	1/26/2009	728,825	3,168,823	46.79	28.5	18.5	28.5	A-TZ	
MW-60AR	3/17/2020	728,810	3,168,818	45.43	30	20	30	A-TZ	
MW-60B	2/27/2020	728,812	3,168,824	45.38	40	35	40	B-CZ	
MW-61A	1/26/2009	728,336	3,168,630	44.67	22	12	22	A-TZ	
MW-61B	2/23/2020	728,352	3,168,630	43.43	40	28	33	B-CZ	
MW-62B	1/21/2009	728,190	3,165,880	48.16	35	25	35	B-TZ	
MW-63B	1/28/2009	729,361	3,167,652	44.48	36	31	36	B-CZ	
MW-64A	1/26/2009	727,496	3,165,573	44.55	19.5	14.5	19.5	A-TZ	
MW-65D	1/17/2009	729,512	3,168,331	44.55	110	100	110	D-TZ	
MW-66D	1/20/2009	729,137	3,169,381	46.51	103	93	103	D-TZ	
MW-67B	6/26/2010	729,782	3,167,588	43.93	40	35	40	B-CZ	
MW-68A	5/21/2019	729,160	3,167,324	43.24	23.4	13	23	A-TZ	
MW-68B	12/15/2011	729,162	3,167,328	44.93	40	28	38	B-TZ	
MW-68C	6/25/2010	729,164	3,167,346	44.80	70	60	70	C-TZ	
MW-69A	6/23/2010	728,136	3,168,234	45.71	18.5	8.5	18.5	A-TZ	
MW-70B	12/14/2011	728,944	3,167,671	45.02	40	25	35	B-CZ	
MW 70C	2/21/2020	728,954	3,167,674	43.41	70	58	68	C-TZ	
MW-71B	12/13/2011	728,956	3,167,951	45.06	40	32	37	B-TZ	
MW-72B	12/21/2011	728,790	3,167,792	48.69	41	32	37	B-TZ	
MW-73B	12/13/2011	728,419	3,167,123	48.66	55	47	52	B-TZ	P
MW-74B	12/20/2011	728,373	3,167,718	47.83	40	26.5	36.5	B-TZ	
MW-75B	12/20/2011	728,066	3,168,022	47.18	40	32.2	37.2	B-TZ	P
MW 76B	2/12/2020	727,463	3,166,640	46.32	40	31	36	B-TZ	
MW-76C	5/7/2014	727,485	3,166,628	47.84	70	60	70	C-TZ	
MW-77A	5/7/2014	727,672	3,166,981	49.05	25	13	23	A-TZ	
MW-78A	5/6/2014	727,953	3,167,512	48.68	30	15	25	A-TZ	
MW-79A	5/7/2014	728,237	3,167,666	48.95	30	17	27	A-TZ	
MW-80B	5/8/2014	727,907	3,168,201	47.11	35	29	34	B-TZ	
MW-81B	5/11/2014	727,292	3,167,926	46.77	40	29	34	B-TZ	
MW-82B	1/22/2018	729,102	3,166,703	44.64	38	29.6	34.6	B-TZ	
MW-83B	1/30/2018	729,389	3,167,015	45.33	37	29.6	34.6	B-TZ	
MW-83C	2/2/2018	729,389	3,167,011	45.42	70	58.6	68.6	C-TZ	
MW 84A	2/19/2020	729,510	3,167,399	43.01	24	13.5	23.5	A-TZ	
MW-84B	1/23/2018	729,503	3,167,399	44.50	43	34.6	39.6	B-TZ	
MW-85C	1/20/2018	727,661	3,166,988	49.10	75	59.9	69.9	C-TZ	
MW-86C	1/18/2018	727,083	3,166,438	46.61	70	59.6	69.6	C-TZ	
MW-87C	1/31/2018	729,266	3,167,944	44.26	70	57.6	67.6	C-TZ	
MW-88A	2/22/2020	728,247	3,166,771	49.83	24	13	23	A-TZ	
MW-88B	2/19/2020	728,245	3,166,778	49.91	24	35	40	B-TZ	
MW-88C	1/21/2018	728,195	3,166,845	51.17	75	64.6	74.6	C-TZ	
MW-89B	7/12/2018	729,869	3,167,249	44.57	40.4	30	40	B-TZ	
MW-90B	7/13/2018	729,616	3,167,173	44.39	35.4	30	35	B-TZ	
MW-91A	2/19/2020	729,702	3,167,937	42.36	25	14.5	24.5	A-TZ	
MW-92B	2/20/2020	729,583	3,166,814	43.25	35.5	30	35	B-TZ	

TABLE A-1
SUMMARY OF GROUNDWATER MONITORING WELLS
HOUSTON, TX - WOOD PRESERVING WORKS

WELL NO.	DATE INSTALLED	NORTHING	EASTING	TOP OF CASING ELEVATION (FT HVD)	TOTAL DEPTH (FT BGS)	Top Screen Interval (FT BGS)	Bottom Screen Interval (FT BGS)	Zone	Plugged
MW-93B	2/26/2020	729,451	3,166,744	43.39	35.5	30	35	B-TZ	
MW-94A	2/18/2020	729,052	3,166,533	43.55	22	11.5	21.5	A-TZ	
MW-95A	2/19/2020	728,564	3,165,893	44.53	21	15	25	A-TZ	
MW-96B	2/24/2020	727,929	3,165,446	45.36	22	27	37	B-TZ	
MW-97A	2/13/2020	727,373	3,166,767	46.11	21	10.5	20.5	A-TZ	
MW-98A	2/10/2020	727,350	3,167,312	46.69	21	10.5	20.5	A-TZ	
MW-98B	2/11/2020	727,359	3,167,306	46.93	40.5	35	40	B-TZ	
MW-99C	2/23/2020	729,500	3,168,707	43.67	70	59.5	69.5	C-TZ	
TW-03	3/12/2007	727,734	3,167,007	NA	25	14	24	NA	
TW-41B	1/22/2009	728,222	3,166,002	49.67	40	30	40	B-TZ	
TW-56A	1/23/2009	728,758	3,168,070	51.89	31	21	31	A-TZ	P
GB-1	1/14/2009	729,146	3,169,447	NA	135	NA	NA	NA	
P-11	3/25/1991	728,049	3,166,025	48.98	50	36.2	38.2	B-TZ	

Notes:

1 - Point of Compliance Wells for SWMU No. 1 (resurveyed every 5 years)

BGS=Below Ground Surface

HVD = Elevations relative to Houston Vertical Datum, Houston Monument System

Northing/Easting = Coordinates based on NAD 1927 Texas State Plane, South Central Zone, US Survey Feet

* Wells were resurveyed after casings were modified from above ground to flush grade during soil cap construction (2016).

LOG OF BORING:
MW-47A

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	8
Completion Date:	3/17/2020	Total Depth (ft):	26
Driller:	Davis Ocana	Water Level (ft bgl):	--
Driller's License:	TX 59380	Northing:	728644.1
Logged By:	K. Worley	Easting:	3168558.3
Drilling Method:	HSA	TOC Elev. (ft AMSL):	43.92
Sampling Method:	2" x 5' Core	Ground Elev. (ft AMSL):	43.80

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/13/22
Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0		0.0/15.0		NR	(0 - 15) No Recovery - Hydrovac to 15.0'
16		5.0/5.0	0.9	SP	(15 - 24.8) SAND, SP, tan to gray, fine, poorly sorted, soft, unconsolidated, interbedded tan silty clay lenses, no odor, color change to gray at 17.3', fine to medium grained at 17.9', interbedded gray fine sand and brown medium sand at 24.2'
18			0.7		
20			0.0		
22		5.0/5.0	0.1		
24			0.0		
26		1.0/1.0	0.0	CL	(24.8 - 26) Sandy, Silty, CLAY, CL, brown to reddish brown, medium density, wet, no odor, clay content increases with depth.

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 15.0' drilled out with a hydrovac to clear for utilities.

Casing Materials
(0.0 - 16.0) 2" SCH-40 PVC Casing
(16.0 - 26.0) 2" SCH-40 PVC 0.010" Slotted Screen
(26.0 - 26.5) End Cap

Annular Materials
(0.0 - 1.0) Concrete
(1.0 - 14.0) 3/8" Bentonite Chips
(14.0 - 26.0) 16/30 Silica Sand

LOG OF BORING:
MW-50B

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/7/2020	Total Depth (ft):	40
Driller:	Joey Lester	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	727585.1
Logged By:	K. Worley	Easting:	3167950.5
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	45.89
Sampling Method:	4" x 10' Core	Ground Elev. (ft AMSL):	46.16

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST

Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0					
2					
4		0.0/10.0		NR	(0 - 10) No Recovery - Hydrovac to 10.0'.
6					
8					
10			0.0		
12			0.0	CL	(10 - 14.8) Sandy CLAY, CL, tan with gray mottling, 20% fine sand, high plasticity clay, medium stiff to firm, slight odor.
14			0.0		
16		10.0/10.0	0.0	SC	(14.8 - 16.5) Clayey SAND, SC, light brown to gray, soft, fine to very fine sand, sand content increases with depth, no odor, wet.
18			0.0		
20			0.0	SP	(16.5 - 22) Sand, SP, gray, poorly sorted, fine grained, unconsolidated, no odor, wet.
22			0.0	SC	(22 - 23.2) Sandy CLAY, SC, gray to brown, medium plasticity.
24		5.0/5.0	0.0	CL	(23.2 - 25) CLAY, CL, gray to brown with orange mottling, stiff, low plasticity, moist.
26			0.0		
28			0.0		
30		10.0/10.0	0.0		(25 - 40) Silty CLAY, CH, gray, becomes red brown at 27.2', stiff, medium plasticity at 31.2', no plasticity at 33', carbonate gravel abundant at 33' to 37.2', silty sand seam, moist, strong odor at 37.8' to 38.7'
32			0.0	CH	
34			0.0		
36			0.0		
38		5.0/5.0	0.0		
40					

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.
2.) 8.0" Sonic isolation casing to 27.0'. Removed during grouting.

Casing Materials
(0.0 - 34.5) 2" SCH-40 PVC Casing
(34.5 - 39.5) 2" SCH-40 PVC 0.010" Slotted Screen
(39.5 - 40.0) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 26.0) Grout
(26.0 - 32.0) 3/8" Bentonite Chips
(32.0 - 40.0) 16/30 Silica Sand

LOG OF BORING:
MW-54B

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/22/2020	Total Depth (ft):	40
Driller:	Joey Lester	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	729308
Logged By:	M. Hermiston	Easting:	3168726.9
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	43.59
Sampling Method:	6" x 10' Core	Ground Elev. (ft AMSL):	--

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST

Texas Geoscience Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0					(0 - 10) No Recovery - Hydrovac to 10.0'.
2					
4		0.0/10.0		NR	
6					
8					
10		2.5/2.5	0.0	CL	(10 - 17.8) Silty CLAY, CL, light gray GLEY1 7/ with yellow 2.5Y 7/8 mottling, black staining, moist, no odor, white beds/mottling throughout 11.5' to 13.5', yellowish reddish 5YR 5/8 with reddish brown 5YR 5/4 mottling to 15.2', calcareous nodules abundant from 16' to 17.8', moderately firm, medium plasticity
12			0.0		
14		2.5/2.5	0.0		
16		2.5/2.5	0.0		
18		2.5/2.5	0.0	ML/CL	(17.8 - 20.2) Clayey SILT/ silty CLAY, ML/CL, light gray GLEY1 7/ with reddish brown 5YR 5/4 mottling, trace yellow 2.5Y 7/8 mottling, moist, no odor, cobble (2.4"x1"x1') at 19.8', sand content increases with depth.
20		2.5/2.5	0.0	ML/SC	(20.2 - 23.8) Sandy, clayey SILT / Clayey, silty SAND, ML/SC, reddish brown with some gray pockets, sand is very fine, wet, interbedded silty clay beds.
22		2.5/2.5	0.0		
24		2.5/2.5	0.0	CL	(23.8 - 25) Silty CLAY, CL, reddish brown 5YR 5/4, very firm, some calcareous nodules present.
26		2.5/2.5	0.0	SM	(25 - 27.8) Silty SAND, SM, reddish brown 5YR 5/4, very fine grained, wet.
28		2.5/2.5	0.0	CL	(27.8 - 30.2) Silty CLAY, CL, reddish brown 5YR 5/4 and red 2.5 YR 4/8, thin sand lenses present.
30		5.0/5.0			(30.2 - 40) Silty CLAY, CL, light gray GLEY1 7/ with yellow 2.5Y 7/8 mottling, silt content decreases with depth, firm to hard, trace calcareous nodules throuought 32.4' to 40', calcareous gravel near 36', red mottling from 38' to 40'.
32					
34					
36		5.0/5.0			
38					
40					

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.
2.) 7" Sonic isolation casing to 25'. Removed during grouting.

Casing Materials
(0.0 - 34.5) 2" SCH-40 PVC Casing
(34.5 - 39.5) 2" SCH-40 PVC 0.010" Slotted Screen
(39.5 - 40.0) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 30.0) Grout
(30.0 - 33.0) 3/8" Bentonite Chips
(33.0 - 40.0) 16/30 Silica Sand

LOG OF BORING:
MW-60AR

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	8
Completion Date:	3/17/2020	Total Depth (ft):	30
Driller:	Davis Ocana	Water Level (ft bgl):	--
Driller's License:	TX 59380	Northing:	728810.3
Logged By:	K. Worley	Easting:	3168817.9
Drilling Method:	HSA	TOC Elev. (ft AMSL):	45.43
Sampling Method:	2" x 5' Core	Ground Elev. (ft AMSL):	45.42

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST

Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0		0.0/15.0		NR	(0 - 15) No Recovery - Hydrovac to 15.0'.
16		5.0/5.0	0.5	SC	(15 - 16.3) Clayey SAND, SC, gray, very fine to fine grained, saturated, no odor, soft.
18			0.9	SP	(16.3 - 29.4) SAND, SP, greenish gray, poorly sorted, fine grained, wet, no odor, fine to medium grained, gray at 19.2' to 19.5', begins grading to reddish brown at 20.0', saturated at 22', brown at 27.3'.
20			1.0		
22		5.0/5.0	0.8		
24			0.8		
26		5.0/5.0	0.6		
28			0.3		
30				CL	(29.4 - 30) Silty CLAY, CL, reddish brown, firm, moist, no odor.

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 15.0' drilled out with a hydrovac to clear for utilities.

Casing Materials
(0.0 - 20.0) 2" SCH-40 PVC Casing
(20.0 - 30.0) 2" SCH-40 PVC 0.010" Slotted Screen
(30.0 - 30.5) End Cap

Annular Materials
(0.0 - 1.0) Concrete
(1.0 - 16.0) 3/8" Bentonite Chips
(16.0 - 30.0) 16/30 Silica Sand

LOG OF BORING: **MW-60B**

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/27/2020	Total Depth (ft):	40
Driller:	Jesse Van Kirk	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	728811.6
Logged By:	S. Ruiz	Easting:	3168823.6
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	45.38
Sampling Method:	6" x 10' Core	Ground Elev. (ft AMSL):	45.64

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST

Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0		0.0/10.0		NR	(0 - 11.2) No Recovery - Hydrovac to 10.0'.
10		0.0/5.0		CL	(11.2 - 20.9) Sandy CLAY, CL, bluish gray with yellow-orange mottle, low plasticity, firm, wet. Abundant black streaks, very stiff from 18.1' - 18.8'.
16		8.8/10.0	0.1		
18			0.2		
20			0.3	SP	(20.9 - 24.2) SAND, SP, fine, poorly sorted, light gray with brown streaks, wet, very soft.
22			0.3		
24			0.2	SM	(24.2 - 27.6) Silty SAND, SM, brown with light gray, wet, soft, slow dilatancy. Interbedded silt and clay lenses throughout, localized clay lenses with medium plasticity.
26		10.0/10.0	0.1		
28			0.1	CL	(27.6 - 40) Silty CLAY, CL, reddish brown with bluish gray mottle, some yellow-orange and black streaks, moist, firm to very firm, medium plasticity, laminated. Less cohesive from 30.0' - 32.5'. Color change to light brown with light gray mottle with brown-red streaks below 34.5. Localized black gravel pockets, small to medium size, at 34.5', 35.1', 37.8', and 39.4'. Trace calcareous nodules below 38.0'.
30			0.2		
32			0.2		
34			0.2		
36		5.0/5.0	0.3		
38			0.2		
40					

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 15.0' drilled out with a hydrovac to clear for utilities.
2.) 8.0" Sonic isolation casing to 30.0'. Removed during grouting.

Casing Materials
(0.0 - 35.0) 2" SCH-40 PVC Casing
(35.0 - 40.0) 2" SCH-40 PVC 0.010" Slotted Screen
(40.0 - 40.5) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 30.0) Grout
(30.0 - 33.0) 3/8" Bentonite Chips
(33.0 - 40.0) 16/30 Silica Sand

LOG OF BORING:
MW-61B

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/23/2020	Total Depth (ft):	40
Driller:	Joey Lester	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	728352.3
Logged By:	M. Hermiston	Easting:	3168629.6
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	43.43
Sampling Method:	6" x 10' Core	Ground Elev. (ft AMSL):	43.58

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST

Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0		0.0/10.0		NR	(0 - 10) No Recovery - Hydrovac to 10.0'.
10		5.0/5.0	1.7	CL	(10 - 14) Sandy Silty CLAY, CL, light gray 7.5YR 7/1 with yellow 10YR 7/8 mottling and pinkish gray 7.5YR 7/2, no odor, sand content increases with depth.
12			0.4		
14		5.0/5.0	3.5	SM	(14 - 21.4) Silty SAND, SM, interbedded / mottled light gray 7.5YR 7/1 and strong brown 7.5YR 5/8, light gray sand has higher % fines, becomes light gray from 19.7' to 21.4', no odor, wet.
16			3.4		
18			3.5		
20		5.0/5.0	0.0		
22			0.0	CL	(21.4 - 35) Silty CLAY, CL, reddish brown 2.5YR 5/4 /red 2.5YR 5/8 /yellowish red 5YR 5/8 with gray mottling, moist, firm, black staining from 24' to 25', becomes more firm with depth, becomes red with depth near 28.5', calcareous gravel beds from 28.3' to 28.4', gravel beds with ironstone at 30.7' and 32.2', wet from 28' to 32.5', moist from 32.5' to 35', interbedded clayey silt / silty clay from 33' to 35', moist , soft to firm, no odor.
24			0.0		
26		2.5/2.5	0.0		
28		5.0/5.0	0.0		
30			0.0		
32		2.5/2.5	0.0		
34			0.0		
36		5.0/5.0	0.0		(35 - 40) CLAY, CL, red 2.5YR 5/4 with trace gray, low silt content, trace nodules, dry, very firm, no odor.
38			0.0		
40					

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.
2.) 7.0" sonic isolation casing to 25.0'. Removed during grouting.
3.) Photoionization detector (PID) readings were inconsistent.

Casing Materials
(0.0 - 28.0) 2" SCH-40 PVC Casing
(28.0 - 33.0) 2" SCH-40 PVC 0.010" Slotted Screen
(33.0 - 33.5) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 22.5) Grout
(22.5 - 26.0) 3/8" Bentonite Chips
(26.0 - 33.0) 16/30 Silica Sand

LOG OF BORING: **MW-70C**

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	8
Completion Date:	2/21/2020	Total Depth (ft):	70
Driller:	Jesse Van Kirk	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	728954.390
Logged By:	S. Ruiz	Easting:	3167673.513
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	43.41
Sampling Method:	6" & 4" x 10' Core	Ground Elev. (ft AMSL):	--

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST

Texas Geosciences Firm No. 50869

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0		0.0/10.0		NR	(0 - 10) No Recovery - Hydrovac to 10.0'.
10		10.0/10.0	1.7	SP	(10 - 15.7) Fine SAND, SP, bluish gray with light gray with localized brown discoloration, wet, very soft, rapid dilatancy.
			2.2		
15			2.3	CL	(15.7 - 16.5) Sandy CLAY, CL, bluish gray with red-brown mottle, moist, firm, medium plasticity.
			2.5	SM	(16.5 - 22.9) Silty SAND, SM, light brown with bluish gray, wet, very soft, slow dilatancy, trace iron (Fe) staining at 17.5', odor.
20		7.0/7.0	3.3		
			7.4		
			16.3	CH	(22.9 - 24.3) Silty CLAY, CH, red-brown with light gray mottle, dry, very firm, high plasticity.
25			13.2	CL	(24.3 - 37) CLAY, CL, light gray with light brown mottle, dry, very firm, medium plasticity, strong odor. Color transitions to tan with light gray mottle, streaks of black, red-brown, and yellow-orange, then to red-brown with light gray mottle below 32.0'. Strong odor throughout. Large calcareous gravel layers at 32.8' - 34.5', with thinner gravel lenses starting at 29.5' to 33.0'. Gravel lenses are moist and stained, with visible sheen on clay between 27.0' - 29.0'. Clay is very moist below 30.0', with thin, interbedded, stained silt lenses.
			201.3		
30		10.0/10.0	234.2		
			42.3		
			21.3		
35			362.5		
		7.0/7.0	59.5	CH	(37 - 45) CLAY, CH, red-brown with bluish gray mottle, moist, very firm and stiff, medium to high plasticity, trace black organic staining, slight odor.
			6.2		
40			5.1		
			6.9		
45		5.0/5.0	12.0	ML	(45 - 46.5) SILT, ML, red-brown silt with interbedded clay nodules, moist, very soft, low plasticity.
			10.1	CH	(46.5 - 58.6) Silty CLAY, CH, red-brown with trace black streaks, dry, very firm to hard, high plasticity, strong cementation, concretions from 47.6' - 47.8'. Calcareous lenses below 55.8'.
50			4.2		

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.
2.) 12.0" Sonic isolation casing to 50.0'. Removed during grouting of 7.0" permanent casing. 7.0" permanent isolation casing to 52.0'.

Casing Materials
(2.0 - 52.0) 7" Permanent Steel Isolation Casing
(0.0 - 58.0) 2" SCH-40 PVC Casing
(58.0 - 68.0) 2" SCH-40 PVC 0.010" Slotted Screen
(68.0 - 68.5) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 50.0) Grout
(50.0 - 58.0) 3/8" Bentonite Chips
(58.0 - 68.0) 16/30 Silica Sand

LOG OF BORING: **MW-70C**

Union Pacific Railroad

SITE INFORMATION	PROJECT AND DRILLING INFORMATION			
Houston Wood Preserving Works Houston, TX	Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	8
	Completion Date:	2/21/2020	Total Depth (ft):	70
	Driller:	Jesse Van Kirk	Water Level (ft bgl):	--
	Driller's License:	TX 59618M	Northing:	728954.390
	Logged By:	S. Ruiz	Easting:	3167673.513
Project No. 19119232	Drilling Method:	Sonic	TOC Elev. (ft AMSL):	43.41
	Sampling Method:	6" & 4" x 10' Core	Ground Elev. (ft AMSL):	--

Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
55		10.0/10.0	3.2	CH	
			1.8		
			2.1		
			3.4		
			1.4	ML	(58.6 - 59.3) SILT, ML, red-brown silt, wet, very soft, low plasticity, increasing clay content with depth, odor.
60		10.0/10.0	10.0	CH	(59.3 - 62.3) Silty CLAY, CH, red-brown, wet, firm, high plasticity, silt seams throughout.
			23.5	SM	(62.3 - 67.5) Silty SAND, SM, red-brown, very fine, wet, very soft, slow dilatancy, trace black staining and odor throughout. Clay lenses from 64.8' - 65.5', small concretions with small to medium gravel from 65.5' - 66.1'.
65			4.8		
			2.0		
			1.6	CH	(67.5 - 70) Silty CLAY, CH, red-brown with black streaks, moist, very firm to hard, high plasticity, laminated, trace silt seams.
70					

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.
2.) 12.0" Sonic isolation casing to 50.0'. Removed during grouting of 7.0" permanent casing. 7.0" permanent isolation casing to 52.0'.

Casing Materials	Annular Materials
(2.0 - 52.0) 7" Permanent Steel Isolation Casing	(0.0 - 2.0) Concrete
(0.0 - 58.0) 2" SCH-40 PVC Casing	(2.0 - 50.0) Grout
(58.0 - 68.0) 2" SCH-40 PVC 0.010" Slotted Screen	(50.0 - 58.0) 3/8" Bentonite Chips
(68.0 - 68.5) End Cap	(58.0 - 68.0) 16/30 Silica Sand

LOG OF BORING:
MW-76B

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/12/2020	Total Depth (ft):	40
Driller:	Jesse Van Kirk	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	727463.2
Logged By:	S. Ruiz	Easting:	3166640.1
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	46.32
Sampling Method:	6" x 10' Core	Ground Elev. (ft AMSL):	46.69

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST

Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0					
2					
4		0.0/0.0		NR	(0 - 10) No recovery - Hydrovac to 10.0'.
6					
8					
10					
12					(10 - 19.9) Silty CLAY, CL, gray with yellow-orange mottle, moist, firm to very firm, medium plasticity. Calcareous lens from 12.9' - 13.3', black organic staining above 13.7', trace red mottle. Thin fine sand seams from 15.7' - 16.9'. Increasing orange mottle with depth.
14			0.2		
16			0.4	CL	
18		12.5/15.0	0.4		
20			0.5		
22			0.5	SC/SM	(19.9 - 21.5) Silty SAND, SM/SC, tan with red-brown, fine to very fine with clay nodules throughout, some light gray, wet, soft, slow dilatancy, low plasticity.
24			0.4		(21.5 - 40) Silty CLAY, CL, light gray with orange mottle, trace fine sand, moist, firm to very firm, medium to high plasticity. Increasing red-brown mottle with depth. Wet calcareous gravel, small to medium, mixed with silt layers from 29.2' - 29.8', 32.3' - 32.5', 32.9' - 33.2', 34.8' - 35.1'. Clay is dryer below 35', with dry calcareous nodule layers at 36.9' - 37.4' and 38.9' - 39.3'. Color change to red-brown with light gray mottle below 35.5, with increasing firmness, becoming very hard below 36.0'.
26			0.5		
28			1.0		
30		10.0/10.0	0.6		
32			0.9	CL	
34			1.0		
36			0.9		
38		5.0/5.0	1.1		
40			0.8		

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.
2.) 8.0" Sonic isolation casing to 27.0'. Removed during grouting.

Casing Materials
(0.0 - 31.0) 2" SCH-40 PVC Casing
(31.0 - 36.0) 2" SCH-40 PVC 0.010" Slotted Screen
(36.0 - 36.5) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 26.0) Grout
(26.0 - 29.0) 3/8" Bentonite Chips
(29.0 - 36.0) 16/30 Silica Sand

LOG OF BORING: **MW-84A**

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/19/2020	Total Depth (ft):	25
Driller:	Jesse Van Kirk	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	729510.3
Logged By:	S. Ruiz	Easting:	3167398.8
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	43.01
Sampling Method:	6" x 10' Core	Ground Elev. (ft AMSL):	--

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0					
2					
4		0.0/10.0		NR	(0 - 10) No recovery - Hydrovac to 10.0'
6					
8					
10					(10 - 11.7) No recovery - lost
12			0.8		(11.7 - 18.3) Silty SAND, SM, light gray, very fine with clay nodules throughout, trace iron (Fe) staining at 13', wet, soft, slow dilatancy, low plasticity.
14		8.3/10.0	0.8	SM	
16			0.6		
18			0.8	CL	(18.3 - 18.8) Sandy CLAY, CL, bluish gray with reddish brown mottle, wet, firm, medium plasticity.
20					(18.8 - 23.9) Silty SAND, SM, light gray, very fine, wet.
22		5.0/5.0	0.6	SM	
24			0.4	CL	(23.9 - 25) CLAY, CL, reddish brown with light gray mottle, moist, firm to very firm, medium to high plasticity.
26					

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.

Casing Materials
(0.0 - 13.5) 2" SCH-40 PVC Casing
(13.5 - 23.5) 2" SCH-40 PVC 0.010" Slotted Screen
(23.5 - 24) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 11.5) 3/8" Bentonite Chips
(11.5 - 24) 16/30 Silica Sand

LOG OF BORING:
MW-88A

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/22/2020	Total Depth (ft):	25
Driller:	Joey Lester	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	728247.4
Logged By:	M. Hermiston	Easting:	3166771
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	49.83
Sampling Method:	6" x 10' Core	Ground Elev. (ft AMSL):	46.95

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/13/2020

Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0		0.0/10.0		NR	(0 - 10) No recovery - Hydrovac to 10.0'
10		5.0/5.0	0.0	CL	(10 - 15) Silty CLAY, CL, gray 7.5 YR 7/1 / greenish gray GLEY1 6/1 with yellow 2.5Y 7/8 mottling from 10' to 12.5', no mottling from 12.5' to 15', firm, moist to wet, no odor, med plasticity.
			0.2		
15		5.0/5.0	0.0	ML	(15 - 17.8) Clayey SILT, ML, light bluish gray GLEY2 7/1, interbedded clay, mostly silt, wet, no odor, grades into sand unit below.
			0.0		
18			0.0	SM	(17.8 - 21.8) Silty SAND, SM, light gray 7.5YR 7/1, wet
20		2.0/2.0	0.2		
22		3.0/3.0	0.2	CL	(21.8 - 25) Silty CLAY, CL, light gray with yellow mottling, moderate plasticity.
24			0.2		
26					

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.

Casing Materials
(+2.9 - 13.0) 2" SCH-40 PVC Casing
(13.0 - 23.0) 2" SCH-40 PVC 0.010" Slotted Screen
(23.0 - 23.5) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 11.0) 3/8" Bentonite Chips
(11.0 - 23.0) 16/30 Silica Sand

LOG OF BORING: **MW-88B**

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/19/2020	Total Depth (ft):	45
Driller:	Jesse Van Kirk	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	728245
Logged By:	S. Ruiz	Easting:	3166777.6
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	49.91
Sampling Method:	6" x 10' Core	Ground Elev. (ft AMSL):	46.86

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0					
4		0.0/10.0		NR	(0 - 10) No recovery - Hydrovac to 10.0'
8					
12			1.7	CL	(10 - 16.1) Silty CLAY, CL, bluish gray with reddish brown, orange yellow streaks with green and black streaks, moist, weak cementation, firm, medium plasticity, soft below 14' silt content increases with depth.
			1.4		
16			1.4	ML	(16.1 - 16.8) SILT, ML, light blueish gray with orange and some black organic staining, some clay, moist, soft, low plasticity.
		15.0/15.0	1.4	SM	(16.8 - 20.3) Silty SAND, SM, light gray with yellow and orange streaks, with blueish gray, at 18.5 transitions to light gray, wet, moderate cementation, very firm, high plasticity.
20			1.2	CH	
				ML/CL	(20.3 - 20.7) Silty CLAY, CH, bluish gray clay with reddish brown streaks, clear boundary, moist, very firm, high plasticity.
			1.4		(20.7 - 21.5) SILT with clay nodules, ML/CL, light gray, moist, very soft, medium to high plasticity.
24			1.5		
			0.6		(21.5 - 40) Silty CLAY, CL, light grey with yellow streaks and reddish brown streaks below 24', moist, very soft, medium to high plasticity. Color transitions from light gray to red brown, with interbedded moist, soft, silt seams below 30'.
28		5.0/5.0	0.8		
			0.5		
32				CL	
		10/0/10.0	0.6		
36					
			0.6		
40					
		5.0/5.0	--	CH	(40 - 45) Silty CLAY, CH, reddish brown, with silt lenses, light gray mottle, calcareous nodules and gravel mixed throughout, wet, very firm to hard, moderate plasticity.
44					
48					

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.
2.) 8.0" Sonic isolation casing to 30.0'. Removed during sanding.

Casing Materials
(0.0 - 35.0) 2" SCH-40 PVC Casing
(35.0 - 40.0) 2" SCH-40 PVC 0.010" Slotted Screen
(40.0 - 40.5) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 30.0) Grout
(30.0 - 33.0) 3/8" Bentonite Chips
(33.0 - 40.0) 16/30 Silica Sand

LOG OF BORING:
MW-91A

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/19/2020	Total Depth (ft):	30
Driller:	Jesse Van Kirk	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	729702.2
Logged By:	S. Ruiz	Easting:	3167936.8
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	42.36
Sampling Method:	6" x 10' Core	Ground Elev. (ft AMSL):	--

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0		0.0/10.0		NR	(0 - 10) No recovery - Hydrovac to 10.0'
10					(10 - 10.7) No recovery - lost
12		6.3/7.0	1.3	CL	(10.7 - 17) Sandy CLAY, CL, light gray with reddish brown and yellow orange mottle with blueish streaks, moist, firm, medium to high plasticity, color change to light gray with just reddish brown mottle below 14', trace black streaks.
14			1.2		
16			1.1		
18		7.0/8.0	0.8	SM	(17 - 24.5) Silty SAND, SM, light orange brown with streaks of gray, trace clay nodules, color change to light brown below 21', with gray streaks, very fine, wet, very soft, rapid dilatancy.
20			0.8		
22			1.0		
24			0.9		
26		5.0/5.0	1.5	CL	(24.5 - 30) Silty CLAY, CL, light brown with small light gray mottle, trace lenses of black staining at 26.5', moist, firm to very firm, medium to high plasticity.
28			--		
30			--		

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.

Casing Materials
(0.0 - 14.5) 2" SCH-40 PVC Casing
(14.5 - 24.5) 2" SCH-40 PVC 0.010" Slotted Screen
(24.5 - 25) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 12.5) 3/8" Bentonite Chips
(12.5 - 25) 16/30 Silica Sand

LOG OF BORING: **MW-92B**

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/20/2020	Total Depth (ft):	40
Driller:	Jesse Van Kirk	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	729582.6
Logged By:	S. Ruiz	Easting:	3166813.6
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	43.25
Sampling Method:	6" x 10' Core	Ground Elev. (ft AMSL):	--

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST

Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0					
2					
4					
6		0.0/10.0		NR	(0 - 10) No recovery - Hydrovac to 10.0'
8					
10					(10 - 11.8) No recovery
12			0.7		
14			0.7	SP	(11.8 - 17.5) Fine SAND, SP, light gray with some Iron (Fe) staining, wet below 13', soft, low plasticity.
16			0.7		
18		13.2/15.0	0.7	CL	(17.5 - 19) Silty CLAY, CL, light gray with reddish brown mottle, trace calcareous nodules, clear boundary, moist, moderate cementation, very firm, medium plasticity.
20			6.7	SM	(19 - 21.9) Silty SAND, SM, light gray, wet, no cementation, very soft, rounded, no plasticity.
22			6.5		
24			6.6	CL	(21.9 - 26.8) Silty CLAY, CL, light gray with red mottle to 23', thin light gray with yellow mottling, clear boundary, sands increasing with depth, moist, moderate cementation, very firm, medium plasticity.
26			0.9		
28			0.8		
30			0.7	SM/SC	(26.8 - 33.2) Silty SAND Clayey SAND, SM/SC, tan with some light gray, moist to wet, weak cementation, soft, slow dilatancy, low plasticity.
32		15.0/15.0	1.0		
34			1.1		
36			1.0	CL	(33.2 - 40) CLAY, CL, brownish red with light brown, some blue streaks, moist, moderate cementation, very firm to hard, low to medium plasticity, calc gravel from 33.34' to 41.8' with trace calc noddules below.
38			0.6		
40			0.7		

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.
2.) 8.0" Sonic isolation casing to 25.0'. Removed during grouting.

Casing Materials
(0.0 - 30.0) 2" SCH-40 PVC Casing
(30.0 - 35.0) 2" SCH-40 PVC 0.010" Slotted Screen
(35.0 - 35.5) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 24.0) Grout
(24.0 - 27.0) 3/8" Bentonite Chips
(27.0 - 35.0) 16/30 Silica Sand

LOG OF BORING: **MW-93B**

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/26/2020	Total Depth (ft):	40
Driller:	Jesse Van Kirk	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	729451.5
Logged By:	S. Ruiz	Easting:	3166744.3
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	43.39
Sampling Method:	6" x 10' Core	Ground Elev. (ft AMSL):	--

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/13/20

Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0					
2					
4		0.0/10.0		NR	(0 - 10) No recovery - Hydrovac to 10.0'
6					
8					
10					
12		4.0/5.0		SP	(10 - 16.8) Fine SAND, SP, tan fine to medium grained, small unit of light gray sand at 14.3' to 14.6', wet, soft, subang, slow dilatancy.
14					
16			0.3		
18			0.0	SM	(16.8 - 21.6) Silty SAND, SM, light gray that transitions to bluish gray below 20.8', increasing clay content with depth, wet, weak cementation, very soft, slow dilatancy, low plasticity.
20		8.0/8.0	0.1		
22			0.1	SC	(21.6 - 22.8) Clayey SAND, SC, light gray with tan, wet, weak cementation, soft, low plasticity.
24		2.0/2.0	0.1	CL	(22.8 - 26.8) Sandy CLAY, CL, bluish gray with tan mottle, sand grains above 25.5 are fine grained, light gray with tan and orange yellow mottle, moist, weak cementation, firm, low to medium plasticity.
26			0.2		
28			0.2	ML/SM	(26.8 - 31.5) SILT and Silty SAND, ML/SM, light gray with reddish brown, silty sand, clay nodules throughout, wet, weak cementation, soft, slow dilatancy, low plasticity.
30		10/0/10.0	0.0		
32			0.3		
34			0.2	CL	(31.5 - 34.8) Silty CLAY, CL, reddish brown with light gray, calc nodules from 32.5' to 34', some yellowish streaks, wet, moderate cementation, firm, subangular, high dry strength, medium plasticity.
36			0.1		(34.8 - 40) Silty Clay, CL, reddish brown with light bluish gray streaks, trace black streaks throughout, dry, strong cementation, very firm to hard, low plasticity.
38		5.0/5.0	0.1		
40			0.0		

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.
2.) 8.0" Sonic isolation casing to 25.0'. Removed during grouting.

Casing Materials
(0.0 - 30.0) 2" SCH-40 PVC Casing
(30.0 - 35.0) 2" SCH-40 PVC 0.010" Slotted Screen
(35.0 - 35.5) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 24.0) Grout
(24.0 - 27.0) 3/8" Bentonite Chips
(27.0 - 35.0) 16/30 Silica Sand

LOG OF BORING: **MW-94A**

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/18/2020	Total Depth (ft):	22
Driller:	Jesse Van Kirk	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	729051.6
Logged By:	S. Ruiz	Easting:	3166533.1
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	43.55
Sampling Method:	6" x 10' Core	Ground Elev. (ft AMSL):	--

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/13/22
Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0		0.0/10.0		NR	(0 - 10) No recovery - Hydrovac to 10.0'
10		3.0/5.0	--		(10 - 12) No recovery - lost
12				SC	(12 - 17) Clayey SAND, light gray with tan, fine grained, wet.
16		6.0/8.0	--		
18			0.9	CL	(17 - 18.2) CLAY, CL, tan with light gray, mottled, moist firm, medium plasticity.
				SM	(18.2 - 20.1) Silty SAND, SM, tan with light gray, mottled clay, moist, firm, medium plasticity.
20			0.8	CL	(20.1 - 20.8) CLAY, CL, tan with light gray, mottled, moist firm, medium plasticity.
				SM	(20.8 - 21.4) Silty SAND, SM, light gray, wet, soft, very fine grain.
22			0.8	CL	(21.4 - 22) CLAY, CL, light gray, gravel, firm orange mottling with brownish red streaks below 22.5', dry, firm, medium plasticity.

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.

Casing Materials
(0.0 - 11.5) 2" SCH-40 PVC Casing
(11.5 - 21.5) 2" SCH-40 PVC 0.010" Slotted Screen
(21.5 - 22) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 9.5) 3/8" Bentonite Chips
(9.5 - 22) 16/30 Silica Sand

LOG OF BORING:
MW-95A

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/19/2020	Total Depth (ft):	25
Driller:	Joey Lester	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	728563.9
Logged By:	K. Worley	Easting:	3165892.7
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	44.53
Sampling Method:	6" x 10' Core	Ground Elev. (ft AMSL):	45.57

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
5/13/22

Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0		0.0/10.0		NR	(0 - 10) No recovery - Hydrovac to 10.0'
10		5.0/5.0	0.0	SC	(10 - 15.8) Clayey SAND, SC, gray to beige, orange mottling, iron staining, no odor, sand content increases with depth, moist.
12			0.0		
14			0.1		
16		5.0/5.0	0.0	SP	(15.8 - 21.5) SAND, SP, gray, poorly sorted, fine grained, unconsolidated, no odor, wet
18			0.0		
20		5.0/5.0	0.0		
22			0.0	CL	(21.5 - 24.2) Sandy CLAY, CL, gray, orange mottling, medium plasticity, moist.
24					(24.2 - 25) CLAY, CL, gray to brown, medium stiff, < 10% silt, no odor.
26					

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.
2.) 8.0" Sonic isolation casing to 15.0'. Removed during sanding.

Casing Materials
(0.0 - 15.0) 2" SCH-40 PVC Casing
(15.0 - 25.0) 2" SCH-40 PVC 0.010" Slotted Screen
(25.0 - 25.5) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 12.0) 3/8" Bentonite Chips
(12.0 - 25.0) 16/30 Silica Sand

LOG OF BORING:
MW-96B

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/24/2020	Total Depth (ft):	40
Driller:	Joey Lester	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	727928.5
Logged By:	M. Hermiston	Easting:	3165445.9
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	45.36
Sampling Method:	6" x 10' Core	Ground Elev. (ft AMSL):	45.57

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST

Texas Geoscience Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0		0.0/10.0		NR	(0 - 10) No recovery - Hydrovac to 10.0'
10		5.0/5.0	2.0	CL	(10 - 13.4) Silty CLAY, CL, light gray with reddish yellow mottling and black staining, trace white pockets, silt content increases with depth, no odor.
12			6.3		
14			5.7	SM	(13.4 - 19.4) Silty SAND, SM, light gray with strong brown mottling from 16' to 19.4', no odor, wet.
16		5.0/5.0	4.8		
18			4.3		
20		5.0/5.0	3.7	CL	(19.4 - 23) CLAY, CL, light gray with yellow mottling, becomes red mottling near 23' with black mottling near 23.5', more abundant red mottling with depth, no odor, firm , moderate plasticity.
22			3.4		
24			4.4		(23 - 37) Silty CLAY, CL,light gray with red mottling, calcareous nodules at 25.2', 28' to 29', 30.2' to 31.4', interbedded and friable clay from 33' to 34', moist from 35' to 37', some silt at 37', no odor.
26		5.0/5.0	4.3		
28			3.6		
30		5.0/5.0	3.7		
32			5.7		
34			5.1		
36		2.0/2.0	4.7		
38		3.0/3.0	3.2		(37 - 40) CLAY, CL, red with some gray mottling, moist, very firm, no odor, moderate plasticity.
40					

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.
2.) 7.0" Sonic isolation casing to 25.0'. Removed during grouting.

Casing Materials
(0.0 - 27.0) 2" SCH-40 PVC Casing
(27.0 - 37.0) 2" SCH-40 PVC 0.010" Slotted Screen
(37.0 - 37.5) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 22.0) Grout
(22.0 - 25.0) 3/8" Bentonite Chips
(25.0 - 37.0) 16/30 Silica Sand

LOG OF BORING: **MW-97A**

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/13/2020	Total Depth (ft):	23
Driller:	Jesse Van Kirk	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	727373
Logged By:	S. Ruiz	Easting:	3166767.2
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	46.21
Sampling Method:	6" x 10' Core	Ground Elev. (ft AMSL):	46.52

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/13/20
Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0		0.0/10.0		NR	(0 - 10) No recovery - Hydrovac to 10.0'
10		8.9/10.0		NR	(10 - 11.1) No recovery
12			0.4	CL	(11.1 - 15.2) Sandy CLAY, CL, light gray with orange and yellow mottle and streaks of black, moist, firm, medium plasticity.
14			0.2		
16				SC	(15.2 - 15.8) Clayey SAND, SC, light gray with yellow and orange mottling, trace black organic staining, wet, firm to soft, slow dilatancy, low plasticity.
			0.3	CL	(15.8 - 17.8) CLAY, CL, light gray with reddish brown mottle and trace black organic staining, wet, very stiff.
18			0.4	SM/SC	(17.8 - 20.2) Silty SAND and Clayey SAND, SM/SC, light gray with tan, interbedded clay nodules, very fine, wet, no cementation, soft to very soft, slow dilatancy.
20		3.0/3.0	0.4	CL	(20.2 - 23) Sandy CLAY, CL, light gray, yellow and reddish brown mottle below 22', moist, very firm to stiff, medium to high plasticity.
22			0.4		
24					

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.

Casing Materials
(0.0 - 10.5) 2" SCH-40 PVC Casing
(10.5 - 20.5) 2" SCH-40 PVC 0.010" Slotted Screen
(20.5 - 21) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 8.5) 3/8" Bentonite Chips
(8.5 - 21) 16/30 Silica Sand

LOG OF BORING:
MW-98A

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/10/2020	Total Depth (ft):	25
Driller:	Jesse Van Kirk	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	727349.7
Logged By:	S. Ruiz	Easting:	3167312
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	46.69
Sampling Method:	6" x 10' Core	Ground Elev. (ft AMSL):	47.13

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST

Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0					
2					
4		0.0/10.0		NR	(0 - 10) No recovery - Hydrovac to 10.0'
6					
8					
10			0.1		
12			0.0		
14		10.0/10.0	0.0	CL	(10 - 19) CLAY, CL, light gray with tan and yellow orange mottle, abundant calcareous, color change to bluish gray below 15', gravel layer from 17.5' to 18.6', small to medium, moist, firm to very firm, medium to high plasticity.
16			0.2		
18			0.1		
20				SM	(19 - 20.6) Silty SAND, SM, light gray, gradual boundary, fine to very fine grain, wet, very soft, slow dilatancy.
22			0.1		
24		5.0/5.0	0.0	CL	(20.6 - 25) Silty CLAY, CL, light gray, light brown mottling, increasing light brown color with depth, moist, very firm , medium to high plasticity.
26			0.0		

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.

Casing Materials
(0.0 - 10.5) 2" SCH-40 PVC Casing
(10.5 - 20.5) 2" SCH-40 PVC 0.010" Slotted Screen
(20.5 - 21) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 8.5) 3/8" Bentonite Chips
(8.5 - 21) 16/30 Silica Sand

LOG OF BORING:
MW-98B

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/11/2020	Total Depth (ft):	40
Driller:	Jesse Van Kirk	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	727358.6
Logged By:	S. Ruiz	Easting:	3167306.4
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	46.93
Sampling Method:	6" x 10' Core	Ground Elev. (ft AMSL):	47.17

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/13/20
Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0					
2					
4					
6					
8					
10		0.0/10.0		NR	(0 - 10) No recovery - Hydrovac to 10.0'
12				CH	(10 - 14.4) CLAY, CH, gray with bluish gray and orange mottle, black organic staining from 15.0' to 15.5', small sand seams, moist, firm, medium to high plasticity.
14			0.3		
16		8.0/10.0	0.3	SC	(14.4 - 16.8) Clayey SAND, SC, light gray with bluish gray and orange mottle, fine grain sand, moist, firm to soft, gradual boundary, low to medium plasticity.
18			0.3	SM	(16.8 - 21.1) Silty SAND, SM, light gray with light brown mottle above 17', clay nodules above 17.6', fine grain sand, wet at 17.6', very moist to wet, soft to very soft, slow dilatancy, diffused boundary, low plasticity.
20			0.2		
22		5.0/5.0	0.6	CH	(21.1 - 33.8) CLAY, CH, gray with bluish gray and orange mottle, black organic staining from 15.0' to 15.5', small sand seams, calcareous nodules, moist, firm, medium to high plasticity.
24			0.2		
26			0.0		
28		3.0/5.0	0.1		
30					
32			0.7		
34		10.0/10.0	0.8	SC	(33.8 - 34.7) Clayey SAND, SC, gray with red below 31', calcareous nodules at 33', moist, soft, low to medium plasticity.
36			1.1	CL	(34.7 - 40) CLAY, CL, red to gray, color change to reddish brown below 34', 32.1' to 32.9' clayey sand, calcareous nodules at 33.3' with sandy clay below, silty sand seem at 39.3' to 39.61', dry, very hard, medium to high plasticity.
38			1.3		
40			1.2		

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.
2.) 8.0" Sonic isolation casing to 28.0'. Removed during grouting.

Casing Materials
(0.0 - 35.0) 2" SCH-40 PVC Casing
(35.0 - 40.0) 2" SCH-40 PVC 0.010" Slotted Screen
(40.0 - 40.5) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 28.0) Grout
(28.0 - 31.0) 3/8" Bentonite Chips
(21.0 - 40.0) 16/30 Silica Sand

LOG OF BORING: **MW-99C**

Union Pacific Railroad

SITE INFORMATION

Houston Wood Preserving Works
Houston, TX

Project No. 19119232

PROJECT AND DRILLING INFORMATION

Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
Completion Date:	2/23/2020	Total Depth (ft):	70
Driller:	Jesse Van Kirk	Water Level (ft bgl):	--
Driller's License:	TX 59618M	Northing:	729500.354
Logged By:	S. Ruiz	Easting:	3168707.132
Drilling Method:	Sonic	TOC Elev. (ft AMSL):	43.67
Sampling Method:	6" & 4" x 10' Core	Ground Elev. (ft AMSL):	--

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/13/22

Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
0		0.0/10.0		NR	(0 - 11.5) No recovery - Hydrovac to 10.0'
5					
10			0.7		
		8.5/10.0	0.1	CL	(11.5 - 15.9) CLAY, CL, dark gray with greenish gray, calcareous nodules throughout, color change to light gray with reddish brown mottle below 18', some black streaks, increasing sand with depth, moist, weak cementation, soft, subangular grains, high plasticity.
15			0.1		
			0.0	SM	(15.9 - 22.5) Silty SAND, SM, clayey sand from 15.9 to 16.2, brown sand with lite gray interbedded clay lenses, wet, soft, slow dilatancy, low plasticity.
			0.0		
20			0.0		
			0.0	CL	(22.5 - 23.6) CLAY, CL, silty sand, brown with light gray, calc nodules, thin silt seams, moist to wet, firm, low plasticity.
25		10.0/10.0	0.3	SM	(23.6 - 26.1) Silty SAND, SM, brown with light gray above 24.5', very fine grain, wet, weak cementation, slow dilatancy.
			0.3	CH	(26.1 - 56.1) Silty CLAY, CH, reddish brown and gray with orange and yellow mottling below 30.51, abundant calcareous nodules below 35.51, some black streaks at 38.5' with gravel, orange and yellow mottle becomes reddish brown below 38', trace calcareous with localized black staining around black organic concentrations, dry silt seam with calcareous nodules from 52.6' to 54.8', dry, moderate cementation, firm, subangular grains, med dry strength.
			0.2		
30					
			0.5		
		10.0/10.0	0.7		
35			0.3		
			0.4		
			0.6		
40					
			0.0		
			0.0		
45			0.2		
		15.0/15.0	0.1		
50			0.0		

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.
2.) 8.0" Sonic isolation casing to 30.0', 7" Sonic isolation casing to 45.0'. Both removed during grouting.

Casing Materials
(0.0 - 59.5) 2" SCH-40 PVC Casing
(59.5 - 69.5) 2" SCH-40 PVC 0.010" Slotted Screen
(69.5 - 70.0) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 51.0) Grout
(51.0 - 56.0) 3/8" Bentonite Chips
(56.0 - 70.0) 16/30 Silica Sand

LOG OF BORING:
MW-99C

Union Pacific Railroad

SITE INFORMATION	PROJECT AND DRILLING INFORMATION			
Houston Wood Preserving Works Houston, TX	Drilling Company:	Cascade Drilling	Borehole Diameter (in.):	6
	Completion Date:	2/23/2020	Total Depth (ft):	70
	Driller:	Jesse Van Kirk	Water Level (ft bgl):	--
	Driller's License:	TX 59618M	Northing:	729500.354
	Logged By:	S. Ruiz	Easting:	3168707.132
Project No. 19119232	Drilling Method:	Sonic	TOC Elev. (ft AMSL):	43.67
	Sampling Method:	6" & 4" x 10' Core	Ground Elev. (ft AMSL):	--

Texas Geosciences Firm No. 50369

Depth (ft)	Well Materials	Recovery (ft/ft)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION
55			0.0		
			0.3		
			0.1		
60		15.0/15.0	0.3	SM	(56.1 - 68.8) Silty SAND, SM, red, very fine grain, poorly sorted, clay nodules with calcareous nodules from 57' to 58', clay lenses from 60' to 61' with silt seams, clay nodules, calcareous nodules, wet, very soft
			0.2		
			0.5		
65			0.5		
			0.3		
			0.0		
70			0.4	CH	(68.8 - 70) Silty CLAY, CH, red with trace black streaks, moist, moderate cementation, very firm to hard, med toughness, high plasticity.

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
O·512.671.3434 F·512.671.3446

Notes: 1.) Top 10.0' drilled out with a hydrovac to clear for utilities.
2.) 8.0" Sonic isolation casing to 30.0', 7" Sonic isolation casing to 45.0'. Both removed during grouting.

Casing Materials
(0.0 - 59.5) 2" SCH-40 PVC Casing
(59.5 - 69.5) 2" SCH-40 PVC 0.010" Slotted Screen
(69.5 - 70.0) End Cap

Annular Materials
(0.0 - 2.0) Concrete
(2.0 - 51.0) Grout
(51.0 - 56.0) 3/8" Bentonite Chips
(56.0 - 70.0) 16/30 Silica Sand

ATTACHMENT B

Data Usability Summary and Analytical Reports from July 2019 through March 2020 Site-Wide Sampling Events

JULY 2019

Memorandum

August 22, 2019

To:	Eric Matzner	Ref. No.:	11183954-1620
From:	Chris G. Knight/eew/353-NF	Tel:	512-506-8803
cc:	Jesse Orth, Jon Lang; Julie Lidstone		

Subject: **Data Usability Summary**
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
July 2019

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 - Site-Wide Monitoring at the Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works site during July 2019. Samples were submitted to ALS Environmental (ALS), located in Houston, Texas and are reported in data packages HS19070575, HS19070609, HS19070735, HS19070864, HS19070994, HS19080069, and HS19080113. The intended use of the data is to support the HWPW - Site-Wide Monitoring 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, field quality assurance/quality control (QA/QC) samples, the laboratory review checklists (LRC), and the laboratory exception reports (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 # TX104704231 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 trip blank samples, field blank samples, field duplicate sample sets, and 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 with the following exceptions:

i) HS19070864 – One of the sample vials for WG-1620-MW36A-20190716 mislabeled. It was logged in using the chain of custody. No further action was required.

ii) HS19070994 – An additional trip blank sample was submitted but not listed on the chain of custody. The samples was logged in as WG-1620-TB06-20190719 for volatile organic compounds (VOCs) analysis. No further action was required.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

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.

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 packages.

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 packages.

The method blank result was non-detect or below the method quantitation limit (MQL), indicating that laboratory contamination was not a factor for this investigation.

4.5 Internal Standard and Surrogate Spike Recoveries

Recoveries of internal standards are addressed in the LRC of the data packages. 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 VOCs and semi-volatile organic compounds (SVOCs) 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. Sample analyzed at elevated sample dilutions (five times or greater) were not assessed.

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/or RPDs were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision (where applicable).

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/matrix spike duplicate (MSD) samples. The RPD between the MS and MSD is used to assess analytical precision.

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

The MS/MSD samples were spiked with all analytes specified in the methods. All percent recoveries and the RPD value were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision with the following exceptions (see Table 4):

i) Several MS/MSDs were reported with outlying recoveries and/or elevated RPDs for VOCs and/or SVOCs analyses due to possible matrix interferences and were not assessed. No further action was required.

ii) One MS/MSD was reported with an elevated RPD for naphthalene. All associated detected sample results were qualified as estimated.

The laboratory also performed additional MS/MSD 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 for arsenic. The RPDs established by the laboratory are adopted as the acceptance criteria for the project.

All duplicate analyses performed were acceptable, demonstrating acceptable analytical precision.

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 QA/QC Samples

The field QA/QC consisted of nine trip blank samples, five field blank samples, and five field duplicate sample sets.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, nine trip blank samples were submitted to the laboratory for VOCs analysis. All results were non-detect for the compounds of interest.

Field Blank Sample Analysis

To assess ambient conditions at the site, five field blank samples were submitted for analysis, as identified in Table 1. All results were non-detect for the analytes of interest with the following exceptions (see Table 5):

i) All field blanks submitted yielded low level detections for various VOCs and/or SVOCs. Associated sample results that were significantly greater than the concentrations found in the field blanks or were non-detect were not impacted. No further action was required. Associated sample results with comparable concentrations to the field blank detections were qualified as non-detect.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, two field duplicate sample sets were collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than thirty percent for water samples. The RPDs are only used when sample concentrations are above the estimated regions of detection.

Field duplicate summary data are presented in Table 2. All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision with the following exceptions (see Table 6):

i) WG-1620-MW21C-20190716 and WG-1620-FD01-20190716 did show some variability in SVOCs results and were qualified as estimated.

ii) WG-1620-MW68B-20190718 and WG-1620-FD03-20190718 did show some variability in SVOCs results and were qualified as estimated.

4.10 Field Procedures

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

4.11 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 otherwise 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 - Site-Wide Monitoring at the site by providing current concentration of chemicals of concern with the specific qualifications noted herein.

Table 1

Sample Collection and Analysis Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

					Analysis/Parameters			
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**Arsenic**	**Comments**
WG-1620-MW18A-20190710	MW-18A	Water	07/10/2019	07:20	X	X	X	
WG-1620-MW18C-20190710	MW-18C	Water	07/10/2019	08:05	X	X	X	
WG-1620-MW58A-20190710	MW-58A	Water	07/10/2019	08:55	X	X	X	
WG-1620-MW57A-20190710	MW-57A	Water	07/10/2019	09:55	X	X	X	
WG-1620-MW57B-20190710	MW-57B	Water	07/10/2019	10:40	X	X	X	
WG-1620-MW72B-20190710	MW-72B	Water	07/10/2019	11:35	X	X	X	
WG-1620-MW19C-20190710	MW-19C	Water	07/10/2019	12:25	X	X	X	MS/MSD-P
WG-1620-MW17C-20190710	MW-17C	Water	07/10/2019	13:25	X	X	X	
WG-1620-MW17-20190710	MW-17	Water	07/10/2019	14:15	X	X	X	
WG-1620-MW20A-20190710	MW-20A	Water	07/10/2019	15:10	X	X	X	
WG-1620-MW15A-20190710	MW-15A	Water	07/10/2019	16:10	X	X	X	MS/MSD-P; DUP
WG-1620-MW15C-20190710	MW-15C	Water	07/10/2019	17:05	X	X	X	
WG-1620-MW15B-20190710	MW-15B	Water	07/10/2019	18:00	X	X	X	
WG-1620-FB01-20190710	-	Water	07/10/2019	18:15	X	X	X	Field Blank
WQ-1620-TB01-20190710	-	Water	07/10/2019	-	X			Trip Blank
WQ-1620-TB02-20190710	-	Water	07/10/2019	-	X			Trip Blank
WG-1620-MW14-20190711	MW-14	Water	07/11/2019	07:20	X	X	X	
WG-1620-MW13-20190711	MW-13	Water	07/11/2019	08:15	X	X	X	
WG-1620-MW39B-20190711	MW-39B	Water	07/11/2019	09:15	X	X	X	
WG-1620-MW12C-20190711	MW-12C	Water	07/11/2019	10:00	X	X	X	
WG-1620-MW12A-20190711	MW-12A	Water	07/11/2019	10:55	X	X	X	MS/MSD-P; DUP
WG-1620-MW40B-20190711	MW-40B	Water	07/11/2019	12:00	X	X	X	
WG-1620-MW42B-20190711	MW-42B	Water	07/11/2019	13:00	X	X	X	
WG-1620-P11-20190711	P-11	Water	07/11/2019	13:55	X	X	X	

Table 1

Sample Collection and Analysis Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

					Analysis/Parameters			
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**Arsenic**	**Comments**
WG-1620-MW05-20190711	MW-05	Water	07/11/2019	14:50	X	X	X	
WG-1620-MW64A-20190711	MW-64A	Water	07/11/2019	15:50	X	X	X	MS/MSD-P; DUP
WG-1620-FB02-20190711	-	Water	07/11/2019	16:05	X	X	X	Field Blank
WG-1620-TB02-20190711	-	Water	07/11/2019	-	X			Trip Blank
WG-1620-MW09-20190712	MW-09	Water	07/12/2019	07:35	X	X	X	MS/MSD-P; DUP
WG-1620-MW03-20190712	MW-03	Water	07/12/2019	08:35	X	X	X	
WG-1620-MW04-20190712	MW-04	Water	07/12/2019	09:25	X	X	X	
WG-1620-TW41B-20190712	TW-41B	Water	07/12/2019	10:40	X	X	X	
WG-1620-FB03-20190712	-	Water	07/12/2019	11:00	X	X	X	Field Blank
WG-1620-TB03-20190712	-	Water	07/12/2019	-	X			Trip Blank
WG-1620-MW21C-20190716	MW-21C	Water	07/16/2019	07:35	X	X	X	
WG-1620-FD01-20190716	MW-21C	Water	07/16/2019	07:35	X	X	X	Field duplicate of MW-21C
WG-1620-MW62B-20190716	MW-62B	Water	07/16/2019	08:25	X	X	X	
WG-1620-MW53C-20190716	MW-53C	Water	07/16/2019	10:15	X	X	X	
WG-1620-MW54C-20190716	MW-54C	Water	07/16/2019	11:15	X	X	X	
WG-1620-MW25C-20190716	MW-25C	Water	07/16/2019	12:15	X	X	X	
WG-1620-MW25A-20190716	MW-25A	Water	07/16/2019	13:10	X	X	X	
WG-1620-MW36B-20190716	MW-36B	Water	07/16/2019	14:20	X	X	X	MS/MSD-P
WG-1620-MW36A-20190716	MW-36A	Water	07/16/2019	15:20	X	X	X	
WG-1620-MW28C-20190716	MW-28C	Water	07/16/2019	16:15	X	X	X	MS/MSD; DUP
WG-1620-MW28A-20190716	MW-28A	Water	07/16/2019	17:00	X	X	X	
WG-1620-MW63B-20190716	MW-63B	Water	07/16/2019	17:55	X	X	X	
WG-1620-FB04-20190716	-	Water	07/16/2019	18:20	X	X	X	Field Blank
WG-1620-TB04-20190716	-	Water	07/16/2019	-	X			Trip Blank

Table 1

Sample Collection and Analysis Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

					Analysis/Parameters			
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**Arsenic**	**Comments**
WG-1620-MW61A-20190717	MW-61A	Water	07/17/2019	07:50	X	X	X	MS/MSD; DUP
WG-1620-MW60A-20190717	MW-60A	Water	07/17/2019	08:35	X	X	X	
WG-1620-MW69A-20190717	MW-69A	Water	07/17/2019	09:35	X	X	X	
WG-1620-MW47C-20190717	MW-47C	Water	07/17/2019	10:25	X	X	X	
WG-1620-MW48C-20190717	MW-48C	Water	07/17/2019	11:20	X	X	X	
WG-1620-MW59A-20190717	MW-59A	Water	07/17/2019	12:20	X	X	X	
WG-1620-MW59B-20190717	MW-59B	Water	07/17/2019	13:10	X	X	X	
WG-1620-MW44A-20190717	MW-44A	Water	07/17/2019	14:00	X	X	X	
WG-1620-MW87C-20190717	MW-87C	Water	07/17/2019	15:40	X	X	X	
WG-1620-MW71B-20190717	MW-71B	Water	07/17/2019	16:40	X	X	X	
WG-1620-MW33A-20190717	MW-33A	Water	07/17/2019	17:50	X	X	X	
WG-1620-FD02-20190717	MW-33A	Water	07/17/2019	17:50	X	X	X	Field duplicate of MW-33A
WG-1620-MW26A-20190717	MW-26A	Water	07/17/2019	18:45	X	X	X	
WG-1620-FB05-20190717	-	Water	07/17/2019	19:05	X	X	X	Field Blank
WG-1620-MW68A-20190718	MW-68A	Water	07/18/2019	07:55	X	X	X	
WG-1620-MW68B-20190718	MW-68B	Water	07/18/2019	08:55	X	X	X	
WG-1620-FD03-20190718	MW-68B	Water	07/18/2019	08:55	X	X	X	Field duplicate of MW-68B
WG-1620-MW68C-20190718	MW-68C	Water	07/18/2019	09:45	X	X	X	
WG-1620-MW83B-20190718	MW-83B	Water	07/18/2019	10:40	X	X	X	
WG-1620-MW83C-20190718	MW-83C	Water	07/18/2019	11:30	X	X	X	MS/MSD-P; DUP
WG-1620-MW35A-20190718	MW-35A	Water	07/18/2019	12:40	X	X	X	
WG-1620-MW35B-20190718	MW-35B	Water	07/18/2019	13:30	X	X	X	
WG-1620-MW90B-20190718	MW-90B	Water	07/18/2019	14:25	X	X	X	
WG-1620-MW89B-20190718	MW-89B	Water	07/18/2019	15:15	X	X	X	

Table 1

Sample Collection and Analysis Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

					Analysis/Parameters			
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**Arsenic**	**Comments**
WG-1620-MW38B-20190718	MW-38B	Water	07/18/2019	16:10	X	X	X	
WG-1620-MW27A-20190718	MW-27A	Water	07/18/2019	17:15	X	X	X	
WG-1620-MW27C-20190718	MW-27C	Water	07/18/2019	18:05	X	X	X	
WG-1620-MW51A-20190719	MW-51A	Water	07/19/2019	07:25	X	X	X	
WG-1620-MW51C-20190719	MW-51C	Water	07/19/2019	08:55	X	X	X	
WG-1620-MW81B-20190719	MW-81B	Water	07/19/2019	09:45	X	X	X	
WG-1620-MW50A-20190719	MW-50A	Water	07/19/2019	10:40	X	X	X	
WG-1620-TB05-20190719	-	Water	07/19/2019	-	X			Trip Blank
WG-1620-TB06-20190719	-	Water	07/19/2019	-	X			Trip Blank
WG-1620-MW32AR-20190730	MW-32AR	Water	07/30/2019	07:25	X	X	X	
WG-1620-MW33BR-20190730	MW-33BR	Water	07/30/2019	08:20	X	X	X	
WG-1620-MW84B-20190730	MW-84B	Water	07/30/2019	09:15	X	X	X	
WG-1620-MW82B-20190730	MW-82B	Water	07/30/2019	10:10	X	X	X	MS/MSD; DUP
WG-1620-MW80B-20190730	MW-80B	Water	07/30/2019	11:10	X	X	X	
WG-1620-MW77A-20190730	MW-77A	Water	07/30/2019	11:55	X	X	X	
WG-1620-MW85C-20190730	MW-85C	Water	07/30/2019	15:35	X	X	X	
WG-1620-MW86C-20190730	MW-86C	Water	07/30/2019	16:40	X	X	X	
WG-1620-FD04-20190730	MW-86C	Water	07/30/2019	16:40	X	X	X	Field duplicate of MW-86C
WG-1620-MW76C-20190730	MW-76C	Water	07/30/2019	17:30	X	X	X	
WG-1620-MW74B-20190730	MW-74B	Water	07/30/2019	18:20	X	X	X	
WG-1620-MW79A-20190730	MW-79A	Water	07/30/2019	19:10	X	X	X	
WG-1620-TB05-20190730	-	Water	07/30/2019	-	X			Trip Blank
WG-1620-MW36D-20190731	MW-36D	Water	07/31/2019	07:40	X	X	X	
WG-1620-MW38A-20190731	MW-38A	Water	07/31/2019	08:35	X	X	X	

Table 1

Sample Collection and Analysis Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

					Analysis/Parameters			
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**Arsenic**	**Comments**
WG-1620-MW65D-20190731	MW-65D	Water	07/31/2019	09:45	X	X	X	MS/MSD-P; DUP
WG-1620-MW66D-20190731	MW-66D	Water	07/31/2019	10:45	X	X	X	
WG-1620-MW59D-20190731	MW-59D	Water	07/31/2019	11:50	X	X	X	
WG-1620-FD05-20190731	MW-59D	Water	07/31/2019	11:50	X	X	X	Field duplicate of MW-59D
WG-1620-MW22AR-20190731	MW-22AR	Water	07/31/2019	13:05	X	X	X	MS/MSD-P
WG-1620-MW22BR-20190731	MW-22BR	Water	07/31/2019	13:50	X	X	X	
WG-1620-MW88C-20190731	MW-88C	Water	07/31/2019	15:45	X	X	X	
WG-1620-MW67B-20190731	MW-67B	Water	07/31/2019	16:45	X	X	X	MS/MSD; DUP
WG-1620-MW49A-20190731	MW-49A	Water	07/31/2019	17:45	X	X	X	
WG-1620-TB06-20190731	-	Water	07/31/2019	-	X			Trip Blank

Notes:

VOCs - Volatile Organic Compounds
SVOCs - Semi-volatile Organic Compounds
MS/MSD - Matrix Spike/ Matrix Spike Duplicate
MS/MSD-P - Matrix Spike/ Matrix Spike Duplicate (partial parameters)
DUP - Laboratory Duplicate
"-" - Not Applicable

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-03	MW-04	MW-05	MW-09	MW-12A
Sample Name:		WG-1620-MW03-20190712	WG-1620-MW04-20190712	WG-1620-MW05-20190711	WG-1620-MW09-20190712	WG-1620-MW12A-20190711
Sample Date:		07/12/2019	07/12/2019	07/11/2019	07/12/2019	07/11/2019
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	--	--	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	0.00060 J
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.000059	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.000035	<0.000059	0.000087 J	<0.000019	0.013
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	<0.000027	0.00052	0.00043	<0.000027	0.19
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	<0.000015	0.0013
Anthracene	mg/L	0.000055 J	<0.000014	0.000097 J	0.000061 J	0.0087
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	0.00041
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	0.00012
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	<0.000037	<0.000037	<0.000037	0.00031
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	0.00034
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	<0.000020	<0.000058	0.000051 J	<0.000020	0.14
Fluoranthene	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	0.0097
Fluorene	mg/L	<0.000030	0.000053 J	0.000064 J	<0.000030	0.16
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	<0.00029	<0.00053	<0.00071	<0.00015	<0.0012

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-03	MW-04	MW-05	MW-09	MW-12A
Sample Name:		WG-1620-MW03-20190712	WG-1620-MW04-20190712	WG-1620-MW05-20190711	WG-1620-MW09-20190712	WG-1620-MW12A-20190711
Sample Date:		07/12/2019	07/12/2019	07/11/2019	07/12/2019	07/11/2019
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	0.063
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	0.000020 J	0.00016	0.00019	<0.000019	0.0047
Metals						
Arsenic	mg/L	0.000582 J	0.0127	0.0171	0.000901 J	0.00192 J

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-12C	MW-13	MW-14	MW-15A	MW-15B
Sample Name:		WG-1620-MW12C-20190711	WG-1620-MW13-20190711	WG-1620-MW14-20190711	WG-1620-MW15A-20190710	WG-1620-MW15B-20190710
Sample Date:		07/11/2019	07/11/2019	07/11/2019	07/10/2019	07/10/2019
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	0.00074 J	0.0023
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	0.00035 J	0.0031
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	--	--	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	0.0026	0.0025
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	0.00043	<0.000063	<0.00013	<0.00024	<0.00016
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.00021	0.000077 J	0.00019	0.0077	0.016
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	0.000071 J	0.000066 J	0.00010	0.11	0.029
Acenaphthylene	mg/L	<0.000015	0.000033 J	<0.000015	0.00045	0.00034
Anthracene	mg/L	0.000030 J	0.00047	0.000089 J	0.0026	0.0016
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	0.00016
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	0.000054 J	<0.000037	<0.000037	<0.000037
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	0.00013
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	0.000070 J	0.000039 J	0.000087 J	0.035	0.013
Fluoranthene	mg/L	<0.000010	0.000032 J	0.000067 J	0.0018	0.0042
Fluorene	mg/L	0.000052 J	0.000042 J	0.000069 J	0.054	0.010
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	<0.0031	<0.0011	<0.0020	<0.0066	0.33

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-12C	MW-13	MW-14	MW-15A	MW-15B
Sample Name:		WG-1620-MW12C-20190711	WG-1620-MW13-20190711	WG-1620-MW14-20190711	WG-1620-MW15A-20190710	WG-1620-MW15B-20190710
Sample Date:		07/11/2019	07/11/2019	07/11/2019	07/10/2019	07/10/2019
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	0.000039 J	<0.000021	0.000059 J	0.0095	0.0065
Phenol	mg/L	0.00040	<0.000035	0.00019 J	0.00039	<0.00019
Pyrene	mg/L	<0.000019	0.000084 J	0.000032 J	0.00075	0.0018
Metals						
Arsenic	mg/L	0.00200	0.0715	0.00133 J	0.0251	0.0133

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-15C	MW-17	MW-17C	MW-18A	MW-18C
Sample Name:		WG-1620-MW15C-20190710	WG-1620-MW17-20190710	WG-1620-MW17C-20190710	WG-1620-MW18A-20190710	WG-1620-MW18C-20190710
Sample Date:		07/10/2019	07/10/2019	07/10/2019	07/10/2019	07/10/2019
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	0.00050 J	0.54	0.0097	0.16	1.2
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	0.0017	0.00052 J
Ethylbenzene	mg/L	<0.00030	0.23	0.027	0.28	0.32
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	0.83	0.0073	0.057	1.0
Vinyl chloride	mg/L	--	--	--	0.0013	<0.00020
Xylenes (total)	mg/L	<0.00030	0.78	0.039	0.47	1.0
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.00021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	0.0052	5.9	0.21	0.72	0.0051
2,4-Dinitrotoluene	mg/L	<0.000058	<0.00058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.00042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.00021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.00066	0.39	0.026	0.47	0.28
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.00020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.00047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	0.017	0.16	0.035	0.30	0.058
Acenaphthylene	mg/L	0.0015	0.0042	0.00037	0.0056	0.0050
Anthracene	mg/L	0.00064	0.0092	0.0013	0.0063	0.0056
Benzo(a)anthracene	mg/L	<0.000050	<0.00050	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.00020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.00030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	<0.00037	0.00056	<0.000037	<0.000037
Chrysene	mg/L	<0.000021	<0.00021	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.00020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	0.0039	0.12	0.027	0.19	0.054
Fluoranthene	mg/L	0.00086	0.0039	0.00090	0.0022	0.0019
Fluorene	mg/L	0.00097	0.060	0.014	0.091	0.024
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.00025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	0.019	8.9	0.97	5.6	9.9

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-15C	MW-17	MW-17C	MW-18A	MW-18C
Sample Name:		WG-1620-MW15C-20190710	WG-1620-MW17-20190710	WG-1620-MW17C-20190710	WG-1620-MW18A-20190710	WG-1620-MW18C-20190710
Sample Date:		07/10/2019	07/10/2019	07/10/2019	07/10/2019	07/10/2019
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Nitrobenzene	mg/L	<0.000024	<0.00024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.00079	<0.000079	<0.000079	0.034
Phenanthrene	mg/L	<0.00039	0.045	0.0100	0.075	0.026
Phenol	mg/L	<0.00026	9.9	0.00073	0.00048	0.0050
Pyrene	mg/L	0.00043	0.0018	0.00046	0.0011	0.0014
Metals						
Arsenic	mg/L	0.000889 J	0.0460	0.000854 J	0.0248	0.00358

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-19C	MW-20A	MW-21C	MW-21C	MW-22AR
Sample Name:		WG-1620-MW19C-20190710	WG-1620-MW20A-20190710	WG-1620-MW21C-20190716	WG-1620-FD01-20190716	WG-1620-MW22AR-20190731
Sample Date:		07/10/2019	07/10/2019	07/16/2019	07/16/2019 Duplicate	07/31/2019
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	0.00040 J	0.013	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	0.00096 J	0.0079	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.00086 J	0.0011	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	<0.00020	--	--	--	--
Xylenes (total)	mg/L	0.0022	0.022	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	0.000082 J	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.00056	0.0035	0.00010 J	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.000071	0.072	0.00040 J	0.000050 J	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	0.0010	0.14	0.0057 J	0.00081 J	<0.000027
Acenaphthylene	mg/L	0.000030 J	0.00078	0.000074 J	<0.000015	<0.000015
Anthracene	mg/L	<0.000066	0.0062	0.00044 J	0.000050 J	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	<0.000037	<0.000040	<0.000037	<0.000037
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	<0.00057	0.077	0.0032 J	0.00040 J	<0.000020
Fluoranthene	mg/L	0.00056	0.00058	0.00081 J	0.000087 J	<0.000010
Fluorene	mg/L	<0.00031	0.068	0.0019 J	0.00025 J	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	<0.0012	1.9	0.0044 J	0.00080 J	<0.000020

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-19C	MW-20A	MW-21C	MW-21C	MW-22AR
Sample Name:		WG-1620-MW19C-20190710	WG-1620-MW20A-20190710	WG-1620-MW21C-20190716	WG-1620-FD01-20190716	WG-1620-MW22AR-20190731
Sample Date:		07/10/2019	07/10/2019	07/16/2019	07/16/2019 Duplicate	07/31/2019
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.00014	0.026	0.00087 J	0.00011 J	<0.000021
Phenol	mg/L	<0.00015	0.00096	<0.00018 J	0.00081 J	<0.000035
Pyrene	mg/L	0.00064	0.00026	0.00039 J	0.000033 J	<0.000019
Metals						
Arsenic	mg/L	0.00166 J	0.00574	0.00130 J	0.00326	0.000481 J

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-22BR	MW-25A	MW-25C	MW-26A	MW-27A
Sample Name:		WG-1620-MW22BR-20190731	WG-1620-MW25A-20190716	WG-1620-MW25C-20190716	WG-1620-MW26A-20190717	WG-1620-MW27A-20190718
Sample Date:		07/31/2019	07/16/2019	07/16/2019	07/17/2019	07/18/2019
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	0.0013	0.00036 J	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	0.035	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	0.011	<0.00020	<0.00020
Vinyl chloride	mg/L	--	<0.00020	<0.00020	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	0.25	<0.00030	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.00021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	0.0075	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.00058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.00042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.00021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	0.000057 J	0.54	0.000059 J	0.00034
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.00020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.00047	<0.000047	<0.000047
Acenaphthene	mg/L	<0.000027	<0.000027	0.20	0.028	0.00011
Acenaphthylene	mg/L	<0.000015	<0.000015	0.0020	0.00013	<0.000015
Anthracene	mg/L	<0.000014	<0.000014	0.016	0.00047	0.000036 J
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	0.0013	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	0.00037 J	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.00030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	<0.000037	<0.00037	<0.00019	0.00020
Chrysene	mg/L	<0.000021	<0.000021	0.0014	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.00020	<0.000020	0.000034 J
Dibenzofuran	mg/L	<0.000020	<0.000020	0.19	0.00021	0.00014
Fluoranthene	mg/L	<0.000010	<0.000010	0.014	0.0029	0.000024 J
Fluorene	mg/L	<0.000030	<0.000030	0.081	0.0017	0.000074 J
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.00025	<0.000025	<0.000025
Naphthalene	mg/L	<0.000020	0.00023	4.2	<0.00032	0.0026

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-22BR	MW-25A	MW-25C	MW-26A	MW-27A
Sample Name:		WG-1620-MW22BR-20190731	WG-1620-MW25A-20190716	WG-1620-MW25C-20190716	WG-1620-MW26A-20190717	WG-1620-MW27A-20190718
Sample Date:		07/31/2019	07/16/2019	07/16/2019	07/17/2019	07/18/2019
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.00024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.00079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000021	<0.000021	0.12	0.000083 J	0.00013
Phenol	mg/L	0.00069	<0.000035	<0.00035	<0.000035	<0.000035
Pyrene	mg/L	<0.000019	<0.000019	0.0085	0.0015	<0.000019
Metals						
Arsenic	mg/L	0.000559 J	0.00285	0.00487	0.0933	0.000498 J

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-27C	MW-28A	MW-28C	MW-32AR	MW-33A
Sample Name:		WG-1620-MW27C-20190718	WG-1620-MW28A-20190716	WG-1620-MW28C-20190716	WG-1620-MW32AR-20190730	WG-1620-MW33A-20190717
Sample Date:		07/18/2019	07/16/2019	07/16/2019	07/30/2019	07/17/2019
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	--	--	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.000040	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	0.00020	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	<0.000027	0.000082 J	<0.000027	<0.000027	0.000098 J
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	mg/L	<0.000014	0.000036 J	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	0.000055 J	<0.000050	0.000054 J	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	0.000095 J	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.000092 J	<0.00023	<0.00013	0.000074 J	<0.00022
Chrysene	mg/L	<0.000021	0.00010	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	<0.000020	0.000084 J	<0.000020	<0.000020	<0.000020
Fluoranthene	mg/L	<0.000010	0.00012	0.000015 J	<0.000010	0.00016
Fluorene	mg/L	<0.000030	0.000053 J	<0.000030	<0.000030	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	0.000066 J	0.0013	0.000095 J	<0.000020	<0.000076

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-27C	MW-28A	MW-28C	MW-32AR	MW-33A
Sample Name:		WG-1620-MW27C-20190718	WG-1620-MW28A-20190716	WG-1620-MW28C-20190716	WG-1620-MW32AR-20190730	WG-1620-MW33A-20190717
Sample Date:		07/18/2019	07/16/2019	07/16/2019	07/30/2019	07/17/2019
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000021	0.000049 J	<0.000021	<0.000021	<0.000021
Phenol	mg/L	0.00023	<0.000073	0.0025	<0.000035	0.00011 J
Pyrene	mg/L	<0.000019	0.00016	<0.000019	0.00045	0.00028
Metals						
Arsenic	mg/L	0.000428 J	0.00920	0.000456 J	0.0628	0.0155

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-33A	MW-33BR	MW-35A	MW-35B	MW-36A
Sample Name:		WG-1620-FD02-20190717	WG-1620-MW33BR-20190730	WG-1620-MW35A-20190718	WG-1620-MW35B-20190718	WG-1620-MW36A-20190716
Sample Date:		07/17/2019	07/30/2019	07/18/2019	07/18/2019	07/16/2019
		Duplicate				
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	0.25	<0.00020	0.0045	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	0.065	<0.00030	0.014	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	0.0031	<0.00020	0.00054 J	<0.00020
Vinyl chloride	mg/L	--	<0.00020	--	--	<0.00020
Xylenes (total)	mg/L	<0.00030	0.016	<0.00030	0.0062	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	0.00028	<0.000040	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	0.014	0.00012	0.041	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	<0.000027	0.0078	0.0028	0.029	<0.000027
Acenaphthylene	mg/L	<0.000015	<0.000015	0.000071 J	0.00022	<0.000015
Anthracene	mg/L	<0.000014	0.00055	0.00011	0.0022	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	0.000083 J	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	0.000053 J	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000084	0.000070 J	0.000057 J	0.00012 J	<0.000037
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	0.000091 J	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	<0.000020	0.012	0.00039	0.029	<0.000020
Fluoranthene	mg/L	0.00017	0.00039	0.00015	0.0017	<0.000010
Fluorene	mg/L	<0.000030	0.0042	0.00036	0.014	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	<0.000096	0.53 J	0.00083	1.1	0.00015

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-33A	MW-33BR	MW-35A	MW-35B	MW-36A
Sample Name:		WG-1620-FD02-20190717	WG-1620-MW33BR-20190730	WG-1620-MW35A-20190718	WG-1620-MW35B-20190718	WG-1620-MW36A-20190716
Sample Date:		07/17/2019	07/30/2019	07/18/2019	07/18/2019	07/16/2019
		Duplicate				
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000021	0.0048	0.000042 J	0.019	<0.000021
Phenol	mg/L	0.000053 J	0.00021	<0.000035	0.00017 J	<0.00014
Pyrene	mg/L	0.00069	0.00026	0.000096 J	0.00079	<0.000019
Metals						
Arsenic	mg/L	0.0147	0.00117 J	0.0548	0.00120 J	0.00244

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-36B	MW-36D	MW-38A	MW-38B	MW-39B
Sample Name:		WG-1620-MW36B-20190716	WG-1620-MW36D-20190731	WG-1620-MW38A-20190731	WG-1620-MW38B-20190718	WG-1620-MW39B-20190711
Sample Date:		07/16/2019	07/31/2019	07/31/2019	07/18/2019	07/11/2019
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	0.00031 J	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	<0.00020	--	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	0.000078 J	<0.000040	<0.000040	0.000056 J	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.00058	<0.000019	<0.000019	0.00030	<0.000027
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	0.00014	<0.000027	<0.000027	0.00012	0.00065
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	<0.000015	0.000021 J
Anthracene	mg/L	<0.000014	0.000017 J	0.000022 J	0.000037 J	0.00021
Benzo(a)anthracene	mg/L	<0.000050	0.000053 J	0.000087 J	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	0.000087 J	0.00012	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000088	0.000080 J	0.000084 J	0.00031	0.000042 J
Chrysene	mg/L	<0.000021	0.000058 J	0.000092 J	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	0.000087 J	<0.000020	<0.000020	0.00014	0.000037 J
Fluoranthene	mg/L	0.000017 J	0.00011	0.00018	<0.000010	0.000048 J
Fluorene	mg/L	0.000047 J	<0.000030	<0.000030	0.000060 J	0.000044 J
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	0.0060	<0.000020	0.000068 J	0.0026	<0.00041

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-36B	MW-36D	MW-38A	MW-38B	MW-39B
Sample Name:		WG-1620-MW36B-20190716	WG-1620-MW36D-20190731	WG-1620-MW38A-20190731	WG-1620-MW38B-20190718	WG-1620-MW39B-20190711
Sample Date:		07/16/2019	07/31/2019	07/31/2019	07/18/2019	07/11/2019
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000021	0.000066 J	0.00010	0.000079 J	<0.000021
Phenol	mg/L	<0.00017	<0.000035	<0.000035	0.000056 J	<0.000035
Pyrene	mg/L	<0.000019	0.000099 J	0.00014	<0.000019	0.000072 J
Metals						
Arsenic	mg/L	0.00127 J	<0.000400	<0.000400	0.000553 J	0.00144 J

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-40B	MW-42B	MW-44A	MW-47C	MW-48C
Sample Name:		WG-1620-MW40B-20190711	WG-1620-MW42B-20190711	WG-1620-MW44A-20190717	WG-1620-MW47C-20190717	WG-1620-MW48C-20190717
Sample Date:		07/11/2019	07/11/2019	07/17/2019	07/17/2019	07/17/2019
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	0.0088	<0.00020	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	0.082	<0.00030	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.014	<0.00020	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	--	--	<0.00020	--	--
Xylenes (total)	mg/L	0.13	<0.00030	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	0.0013	<0.000040	<0.000040	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.18	<0.000019	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	0.21	0.000068 J	0.056	<0.000027	<0.000027
Acenaphthylene	mg/L	0.0021	<0.000015	0.00028	<0.000015	<0.000015
Anthracene	mg/L	0.011	0.000064 J	0.00089	<0.000014	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	0.000085 J	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	0.00015 J	<0.00025	<0.00027	<0.00030
Chrysene	mg/L	<0.000021	<0.000021	0.000052 J	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	0.13	0.000038 J	<0.000020	<0.000020	<0.000020
Fluoranthene	mg/L	0.0059	0.000040 J	0.0091	<0.000010	0.000035 J
Fluorene	mg/L	0.13	0.000057 J	0.014	<0.000030	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	3.6	<0.00043	<0.00019	<0.000020	<0.000020

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-40B	MW-42B	MW-44A	MW-47C	MW-48C
Sample Name:		WG-1620-MW40B-20190711	WG-1620-MW42B-20190711	WG-1620-MW44A-20190717	WG-1620-MW47C-20190717	WG-1620-MW48C-20190717
Sample Date:		07/11/2019	07/11/2019	07/17/2019	07/17/2019	07/17/2019
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	0.093	0.000034 J	0.00012	<0.000021	<0.000021
Phenol	mg/L	0.000053 J	<0.000035	<0.000035	<0.000035	0.000074 J
Pyrene	mg/L	0.0024	0.000033 J	0.0057	<0.000019	0.000036 J
Metals						
Arsenic	mg/L	0.0520	0.00220	0.0303	0.000440 J	0.00167 J

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-49A	MW-50A	MW-51A	MW-51C	MW-53C
Sample Name:		WG-1620-MW49A-20190731	WG-1620-MW50A-20190719	WG-1620-MW51A-20190719	WG-1620-MW51C-20190719	WG-1620-MW53C-20190716
Sample Date:		07/31/2019	07/19/2019	07/19/2019	07/19/2019	07/16/2019
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	<0.00020	--	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.000040	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	0.0028
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	<0.000019	0.000067 J	<0.000019	0.000071 J
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	mg/L	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	<0.000037	0.00013 J	0.000079 J	<0.000037
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	<0.000020	<0.000020	0.000030 J	<0.000020	<0.000020
Fluoranthene	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	<0.000020	0.00027	0.00055	0.00023	0.00013

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-49A	MW-50A	MW-51A	MW-51C	MW-53C
Sample Name:		WG-1620-MW49A-20190731	WG-1620-MW50A-20190719	WG-1620-MW51A-20190719	WG-1620-MW51C-20190719	WG-1620-MW53C-20190716
Sample Date:		07/31/2019	07/19/2019	07/19/2019	07/19/2019	07/16/2019
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000021	<0.000021	0.000026 J	<0.000021	<0.000021
Phenol	mg/L	0.00064	0.00016 J	0.00019 J	0.00027	<0.00016
Pyrene	mg/L	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019
Metals						
Arsenic	mg/L	0.000658 J	0.000642 J	<0.000400	<0.000400	0.000569 J

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-54C	MW-57A	MW-57B	MW-58A	MW-59A
Sample Name:		WG-1620-MW54C-20190716	WG-1620-MW57A-20190710	WG-1620-MW57B-20190710	WG-1620-MW58A-20190710	WG-1620-MW59A-20190717
Sample Date:		07/16/2019	07/10/2019	07/10/2019	07/10/2019	07/17/2019
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	0.00057 J	0.84	0.0049	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	0.00080 J	<0.00030
Ethylbenzene	mg/L	<0.00030	0.00085 J	0.39	0.017	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	0.93	<0.00020	<0.00020
Vinyl chloride	mg/L	--	<0.00020	0.00048 J	<0.00020	<0.00020
Xylenes (total)	mg/L	<0.00030	<0.00030	1.2	0.028	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.00021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.00059	6.5	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.00058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.00042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.00021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.0021	0.19	0.93	0.015	0.000036 J
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.00020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.00047	<0.000047	<0.000047
Acenaphthene	mg/L	0.041	0.099	0.38	0.11	<0.000027
Acenaphthylene	mg/L	0.00037	0.0019	0.0051	0.00087	<0.000015
Anthracene	mg/L	0.0023	0.0084	0.039	0.062	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	0.00100	0.0071	0.00082	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	0.00054	0.0021	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.00030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	0.00021	<0.00037	<0.000037	<0.000050
Chrysene	mg/L	<0.000021	0.00100	0.0065	0.00084	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.00020	<0.000020	0.000064 J
Dibenzofuran	mg/L	0.032	0.076	0.32	0.059	<0.000020
Fluoranthene	mg/L	0.0033	0.0091	0.047	0.020	<0.000010
Fluorene	mg/L	0.018	0.059	0.21	0.15	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.00025	<0.000025	<0.000025
Naphthalene	mg/L	0.032	0.61	17	0.46	<0.00012

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-54C	MW-57A	MW-57B	MW-58A	MW-59A
Sample Name:		WG-1620-MW54C-20190716	WG-1620-MW57A-20190710	WG-1620-MW57B-20190710	WG-1620-MW58A-20190710	WG-1620-MW59A-20190717
Sample Date:		07/16/2019	07/10/2019	07/10/2019	07/10/2019	07/17/2019
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.00024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	0.00059	<0.00079	<0.000079	<0.000079
Phenanthrene	mg/L	0.0065	0.059	0.29	0.036	<0.000021
Phenol	mg/L	0.00044	<0.00016	1.0	<0.000035	0.000058 J
Pyrene	mg/L	0.0016	0.0055	0.030	0.0099	<0.000019
Metals						
Arsenic	mg/L	0.00103 J	0.00447	0.00404	0.00748	0.00455

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-59B	MW-59D	MW-59D	MW-60A	MW-61A
Sample Name:		WG-1620-MW59B-20190717	WG-1620-MW59D-20190731	WG-1620-FD05-20190731	WG-1620-MW60A-20190717	WG-1620-MW61A-20190717
Sample Date:		07/17/2019	07/31/2019	07/31/2019 Duplicate	07/17/2019	07/17/2019
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	<0.00020	--	--	<0.00020	<0.00020
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.000040	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	<0.000019	<0.000019	0.000072 J	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	mg/L	<0.000014	<0.000014	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.00039	<0.000037	<0.000037	<0.00055	<0.00037
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	0.000055 J	<0.000020	<0.000020	0.000075 J	0.000056 J
Dibenzofuran	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Fluoranthene	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	<0.00015	<0.000020	<0.000020	<0.00013	<0.000020

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-59B	MW-59D	MW-59D	MW-60A	MW-61A
Sample Name:		WG-1620-MW59B-20190717	WG-1620-MW59D-20190731	WG-1620-FD05-20190731	WG-1620-MW60A-20190717	WG-1620-MW61A-20190717
Sample Date:		07/17/2019	07/31/2019	07/31/2019 Duplicate	07/17/2019	07/17/2019
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Phenol	mg/L	<0.000035	0.00011 J	<0.000035	<0.000035	0.00011 J
Pyrene	mg/L	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019
Metals						
Arsenic	mg/L	0.000542 J	<0.000400	0.000502 J	0.000440 J	0.00117 J

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-62B	MW-63B	MW-64A	MW-65D	MW-66D
Sample Name:		WG-1620-MW62B-20190716	WG-1620-MW63B-20190716	WG-1620-MW64A-20190711	WG-1620-MW65D-20190731	WG-1620-MW66D-20190731
Sample Date:		07/16/2019	07/16/2019	07/11/2019	07/31/2019	07/31/2019
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	0.11	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	0.14	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	0.00071 J	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	--	--	--	--	--
Xylenes (total)	mg/L	<0.00030	0.041	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.000040	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.000096 J	0.037	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	0.000099 J	0.012	0.00030	<0.000027	<0.000027
Acenaphthylene	mg/L	<0.000015	0.00016	<0.000015	<0.000015	<0.000015
Anthracene	mg/L	<0.000014	0.00034	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	<0.000037	<0.000037	0.00016 J	0.00022
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	0.000048 J	0.011	<0.000020	<0.000020	<0.000020
Fluoranthene	mg/L	0.000017 J	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.000036 J	0.0037	0.000031 J	<0.000030	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	0.00028	1.5	<0.00033	<0.000020	<0.000020

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-62B	MW-63B	MW-64A	MW-65D	MW-66D
Sample Name:		WG-1620-MW62B-20190716	WG-1620-MW63B-20190716	WG-1620-MW64A-20190711	WG-1620-MW65D-20190731	WG-1620-MW66D-20190731
Sample Date:		07/16/2019	07/16/2019	07/11/2019	07/31/2019	07/31/2019
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	0.000021 J	0.0013	<0.000021	<0.000021	<0.000021
Phenol	mg/L	0.00056	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	<0.000019	<0.000019	0.00015	<0.000019	<0.000019
Metals						
Arsenic	mg/L	0.00194 J	0.00156 J	0.00939	0.00135 J	0.00124 J

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-67B	MW-68A	MW-68B	MW-68B	MW-68C
Sample Name:		WG-1620-MW67B-20190731	WG-1620-MW68A-20190718	WG-1620-MW68B-20190718	WG-1620-FD03-20190718	WG-1620-MW68C-20190718
Sample Date:		07/31/2019	07/18/2019	07/18/2019	07/18/2019 Duplicate	07/18/2019
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.0020	<0.0020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	1.4	1.4	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.0030	<0.0030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	0.52	0.51	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.010	<0.010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	0.37	0.37	<0.00020
Vinyl chloride	mg/L	--	--	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	1.5	1.4	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.00021	<0.00021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	0.076	0.076	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.00058	<0.00058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.00042	<0.00042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.00021	<0.00021	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	0.00012	0.72	0.66	0.000072 J
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.00020	<0.00020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.00047	<0.00047	<0.000047
Acenaphthene	mg/L	<0.000027	0.0019	0.20	0.17	0.00012
Acenaphthylene	mg/L	<0.000015	<0.000015	0.0027	0.0022	0.000053 J
Anthracene	mg/L	<0.000014	0.000028 J	0.030 J	0.022 J	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	0.0051 J	0.0030 J	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	0.0018	0.0012	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.00030	<0.00030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	0.00024	<0.00037	<0.00037	0.00032
Chrysene	mg/L	<0.000021	<0.000021	0.0050 J	0.0029 J	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	0.00015 J	<0.00020	<0.00020	0.000067 J
Dibenzofuran	mg/L	<0.000020	0.000082 J	0.21	0.18	0.000064 J
Fluoranthene	mg/L	<0.000010	<0.000010	0.043 J	0.027 J	<0.000010
Fluorene	mg/L	<0.000030	0.00012	0.11	0.083	0.000051 J
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.00025	<0.00025	<0.000025
Naphthalene	mg/L	0.000079 J	0.00035	9.6	9.9	0.0011

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-67B	MW-68A	MW-68B	MW-68B	MW-68C
Sample Name:		WG-1620-MW67B-20190731	WG-1620-MW68A-20190718	WG-1620-MW68B-20190718	WG-1620-FD03-20190718	WG-1620-MW68C-20190718
Sample Date:		07/31/2019	07/18/2019	07/18/2019	07/18/2019 Duplicate	07/18/2019
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.00024	<0.00024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.00079	<0.00079	<0.000079
Phenanthrene	mg/L	<0.000021	0.000062 J	0.21	0.16	<0.000021
Phenol	mg/L	<0.000035	<0.000035	<0.00035	<0.00035	0.00026
Pyrene	mg/L	<0.000019	<0.000019	0.025 J	0.015 J	<0.000019
Metals						
Arsenic	mg/L	0.000494 J	0.0353	0.0134	0.0129	<0.000400

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-69A	MW-71B	MW-72B	MW-74B	MW-76C
Sample Name:		WG-1620-MW69A-20190717	WG-1620-MW71B-20190717	WG-1620-MW72B-20190710	WG-1620-MW74B-20190730	WG-1620-MW76C-20190730
Sample Date:		07/17/2019	07/17/2019	07/10/2019	07/30/2019	07/30/2019
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.0010	<0.00020
Benzene	mg/L	<0.00020	0.13	1.1	0.59	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.0015	<0.00030
Ethylbenzene	mg/L	<0.00030	0.031	0.30	0.15	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0050	<0.0010
Toluene	mg/L	<0.00020	0.023	0.96	0.52	<0.00020
Vinyl chloride	mg/L	<0.00020	--	--	--	--
Xylenes (total)	mg/L	<0.00030	0.054	0.97	0.42	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.00021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	19	37	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.00058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.00042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.00021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	0.024	0.57	0.48	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.00020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.00047	<0.000047	<0.000047
Acenaphthene	mg/L	<0.000027	0.016	0.20	0.24	<0.000027
Acenaphthylene	mg/L	<0.000015	0.00033	0.0044	0.0037	<0.000015
Anthracene	mg/L	<0.000014	0.0066	0.034	0.0071	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	0.0026	0.0069	0.00022	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	0.00083	0.0019	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.00030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.00034	<0.00014	<0.00037	<0.000037	<0.000037
Chrysene	mg/L	<0.000021	0.0024	0.0069	0.00016	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.00020	<0.000020	0.000054 J
Dibenzofuran	mg/L	<0.000020	0.016	0.16	0.19	<0.000020
Fluoranthene	mg/L	<0.000010	0.017	0.046	0.0035	<0.000010
Fluorene	mg/L	<0.000030	0.0093	0.12	0.14	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.00025	<0.000025	<0.000025
Naphthalene	mg/L	<0.000078	0.44	12	13 J	0.00018 J

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-69A	MW-71B	MW-72B	MW-74B	MW-76C
Sample Name:		WG-1620-MW69A-20190717	WG-1620-MW71B-20190717	WG-1620-MW72B-20190710	WG-1620-MW74B-20190730	WG-1620-MW76C-20190730
Sample Date:		07/17/2019	07/17/2019	07/10/2019	07/30/2019	07/30/2019
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.00024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.00079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000021	0.030	0.16	0.087	<0.000021
Phenol	mg/L	<0.000035	0.000051 J	9.3	33	<0.000035
Pyrene	mg/L	<0.000019	0.0088	0.029	0.0023	<0.000019
Metals						
Arsenic	mg/L	0.000642 J	0.000626 J	0.000861 J	0.00128 J	0.00216

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-77A	MW-79A	MW-80B	MW-81B	MW-82B
Sample Name:		WG-1620-MW77A-20190730	WG-1620-MW79A-20190730	WG-1620-MW80B-20190730	WG-1620-MW81B-20190719	WG-1620-MW82B-20190730
Sample Date:		07/30/2019	07/30/2019	07/30/2019	07/19/2019	07/30/2019
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	0.063	0.013	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	0.072	0.0067	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.012	0.018	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	--	--	--	--	--
Xylenes (total)	mg/L	0.097	0.023	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	0.062	0.33	<0.000040	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.20	0.051	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	0.16	0.034	<0.000027	<0.000027	<0.000027
Acenaphthylene	mg/L	0.0013	0.00076	<0.000015	<0.000015	<0.000015
Anthracene	mg/L	0.0028	0.0020	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	0.00023	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	0.00055	0.000070 J	<0.000037	<0.000037
Chrysene	mg/L	<0.000021	0.00027	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	0.096	0.026	<0.000020	<0.000020	<0.000020
Fluoranthene	mg/L	0.00052	0.0012	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.078	0.017	<0.000030	<0.000030	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	4.9 J	0.74 J	<0.000020	0.000099 J	<0.000020

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-77A	MW-79A	MW-80B	MW-81B	MW-82B
Sample Name:		WG-1620-MW77A-20190730	WG-1620-MW79A-20190730	WG-1620-MW80B-20190730	WG-1620-MW81B-20190719	WG-1620-MW82B-20190730
Sample Date:		07/30/2019	07/30/2019	07/30/2019	07/19/2019	07/30/2019
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	0.032	0.0082	<0.000021	<0.000021	<0.000021
Phenol	mg/L	<0.000035	0.063	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	0.00041	0.0011	<0.000019	<0.000019	<0.000019
Metals						
Arsenic	mg/L	0.0231	0.00991	0.00162 J	0.000563 J	0.00873

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-83B	MW-83C	MW-84B	MW-85C
Sample Name:		WG-1620-MW83B-20190718	WG-1620-MW83C-20190718	WG-1620-MW84B-20190730	WG-1620-MW85C-20190730
Sample Date:		07/18/2019	07/18/2019	07/30/2019	07/30/2019
Parameters	**Unit**				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	0.021	<0.00020	0.010	0.00093 J
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	0.055	<0.00030	0.013	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.0042	<0.00020	0.0015	<0.00020
Vinyl chloride	mg/L	--	--	--	--
Xylenes (total)	mg/L	0.061	<0.00030	0.0041	<0.00030
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	0.00081	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.050	0.00012	0.0027	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	0.021	0.000094 J	0.0080	<0.000027
Acenaphthylene	mg/L	0.00025	<0.000015	0.00030	<0.000015
Anthracene	mg/L	0.00099	<0.000014	0.00042	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.00036	0.00023	0.00026	<0.000037
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	0.00012 J	0.000040 J	0.000055 J	<0.000020
Dibenzofuran	mg/L	0.014	0.000070 J	0.0054	<0.000020
Fluoranthene	mg/L	0.00038	<0.000010	0.00015	<0.000010
Fluorene	mg/L	0.0076	<0.000030	0.0026	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	0.77	0.0014	0.060 J	0.0012 J

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-83B	MW-83C	MW-84B	MW-85C
Sample Name:		WG-1620-MW83B-20190718	WG-1620-MW83C-20190718	WG-1620-MW84B-20190730	WG-1620-MW85C-20190730
Sample Date:		07/18/2019	07/18/2019	07/30/2019	07/30/2019
Parameters	**Unit**				
Semi-volatile Organic Compounds (Continued)					
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	0.0059	<0.000021	0.0021	<0.000021
Phenol	mg/L	0.00051	0.000068 J	<0.000035	<0.000035
Pyrene	mg/L	0.00020	<0.000019	0.00011	<0.000019
Metals					
Arsenic	mg/L	0.0648	0.00617	0.00838	0.000633 J

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-86C	MW-86C	MW-87C	MW-88C
Sample Name:		WG-1620-MW86C-20190730	WG-1620-FD04-20190730	WG-1620-MW87C-20190717	WG-1620-MW88C-20190731
Sample Date:		07/30/2019	07/30/2019 Duplicate	07/17/2019	07/31/2019
Parameters	**Unit**				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	--	<0.00020	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	<0.000027	<0.000027	<0.000027	<0.000027
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	mg/L	<0.000014	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.000060 J	0.000050 J	<0.00018	<0.000037
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	0.00011 J	0.000073 J	0.00017 J	<0.000020
Dibenzofuran	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
Fluoranthene	mg/L	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	<0.000030	<0.000030	<0.000030	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	0.00012 J	0.00031 J	<0.00017	<0.000020

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-86C	MW-86C	MW-87C	MW-88C
Sample Name:		WG-1620-MW86C-20190730	WG-1620-FD04-20190730	WG-1620-MW87C-20190717	WG-1620-MW88C-20190731
Sample Date:		07/30/2019	07/30/2019	07/17/2019	07/31/2019
			Duplicate		
Parameters	**Unit**				
Semi-volatile Organic Compounds (Continued)					
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
Phenol	mg/L	<0.000035	<0.000035	0.00013 J	0.00055
Pyrene	mg/L	<0.000019	<0.000019	<0.000019	<0.000019
Metals					
Arsenic	mg/L	0.00236	0.00190 J	<0.000400	<0.000400

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-89B	MW-90B	P-11	TW-41B
Sample Name:		WG-1620-MW89B-20190718	WG-1620-MW90B-20190718	WG-1620-P11-20190711	WG-1620-TW41B-20190712
Sample Date:		07/18/2019	07/18/2019	07/11/2019	07/12/2019
Parameters	**Unit**				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.0013
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.0011
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	<0.0011
Vinyl chloride	mg/L	--	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	0.019
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.000050 J	<0.000019	0.000050 J	0.067
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	<0.000027	<0.000027	0.0019	0.15
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	0.0014
Anthracene	mg/L	<0.000014	<0.000014	0.000063 J	0.0055
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.00015 J	0.00011 J	0.000087 J	<0.000037
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	0.000038 J	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	<0.000020	<0.000020	0.000079 J	0.074
Fluoranthene	mg/L	<0.000010	<0.000010	0.000060 J	0.0034
Fluorene	mg/L	<0.000030	<0.000030	0.00074	0.085
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	0.00025	0.000091 J	<0.0018	0.69

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Location ID:		MW-89B	MW-90B	P-11	TW-41B
Sample Name:		WG-1620-MW89B-20190718	WG-1620-MW90B-20190718	WG-1620-P11-20190711	WG-1620-TW41B-20190712
Sample Date:		07/18/2019	07/18/2019	07/11/2019	07/12/2019
Parameters	**Unit**				
Semi-volatile Organic Compounds (Continued)					
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000021	<0.000021	0.00020	0.027
Phenol	mg/L	0.00042	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	<0.000019	<0.000019	0.000036 J	0.0014
Metals					
Arsenic	mg/L	<0.000400	0.0135	0.0704	0.113

Notes:

< - Not detected at the associated reporting limit
J - Estimated concentration
"--" - Not applicable

Table 3

Analytical Methods
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Extraction to Analysis (Days)
VOCs	SW-846 8260C	Water	-	14
SVOCs	SW-846 8270D	Water	7	40
Arsenic	SW-846 6020A	Water	-	180

Notes:

VOCs - Volatile Organic Compounds
SVOCs - Semi-volatile Organic Compounds
"-" - Not Applicable

Method References:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

Table 4

Qualified Sample Results Due to Outlying MS/MSD Results
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Parameter	Sample ID	Analyte	MS % Recovery	MSD % Recovery	RPD (percent)	Control Limits % Recovery	Control Limits RPD	Qualified Result	Units
SVOCs	WG-1620-FD04-20190730	Naphthalene	65.1	104	46.1	70-127	20	0.00031 J	mg/L
	WG-1620-MW33BR-20190730							0.53 J	mg/L
	WG-1620-MW74B-20190730							13 J	mg/L
	WG-1620-MW76C-20190730							0.00018 J	mg/L
	WG-1620-MW77A-20190730							4.9 J	mg/L
	WG-1620-MW79A-20190730							0.74 J	mg/L
	WG-1620-MW84B-20190730							0.060 J	mg/L
	WG-1620-MW85C-20190730							0.0012 J	mg/L
	WG-1620-MW86C-20190730							0.00012 J	mg/L

Notes:

MS - Matrix Spike
MSD - Matrix Spike Duplicate
RPD - Relative Percent Difference
SVOCs - Semi-volatile Organic Compounds
J - Estimated concentration

Table 5

Qualified Sample Data Due to Analyte Concentrations in the Field Blanks
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Parameter	Field Blank ID	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
SVOCs	WG-1620-FB01-20190710	07/10/2019	2,4-Dimethylphenol	0.00037	WG-1620-MW15A-20190710	0.00024	<0.00024	mg/L
					WG-1620-MW15B-20190710	0.00016 J	<0.00016	mg/L
					WG-1620-MW19C-20190710	0.00056	<0.00056	mg/L
					WG-1620-MW57A-20190710	0.00059	<0.00059	mg/L
			2-Methylnaphthalene	0.00038	WG-1620-MW15C-20190710	0.00066	<0.00066	mg/L
					WG-1620-MW19C-20190710	0.000071 J	<0.000071	mg/L
			Anthracene	0.000032 J	WG-1620-MW19C-20190710	0.000066 J	<0.000066	mg/L
			Dibenzofuran	0.00018	WG-1620-MW19C-20190710	0.00057	<0.00057	mg/L
			Fluorene	0.00011	WG-1620-MW19C-20190710	0.00031	<0.00031	mg/L
			Naphthalene	0.0035	WG-1620-MW15A-20190710	0.0066	<0.0066	mg/L
					WG-1620-MW19C-20190710	0.0012	<0.0012	mg/L
			Phenanthrene	0.00013	WG-1620-MW15C-20190710	0.00039	<0.00039	mg/L
					WG-1620-MW19C-20190710	0.00014	<0.00014	mg/L
			Phenol	0.000071 J	WG-1620-MW15B-20190710	0.00019 J	<0.00019	mg/L
					WG-1620-MW15C-20190710	0.00026	<0.00026	mg/L
					WG-1620-MW19C-20190710	0.00015 J	<0.00015	mg/L
					WG-1620-MW57A-20190710	0.00016 J	<0.00016	mg/L
SVOCs	WG-1620-FB02-20190711	07/11/2019	2,4-Dimethylphenol	0.000064 J	WG-1620-MW05-20190711	0.000059 J	<0.000059	mg/L
					WG-1620-MW13-20190711	0.000063 J	<0.000063	mg/L
					WG-1620-MW14-20190711	0.00013 J	<0.00013	mg/L
			2-Methylnaphthalene	0.000077 J	WG-1620-MW39B-20190711	0.000027 J	<0.000027	mg/L

Table 5

Qualified Sample Data Due to Analyte Concentrations in the Field Blanks
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Parameter	Field Blank ID	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
SVOCs	WG-1620-FB02-20190711		Naphthalene	0.0062	WG-1620-MW05-20190711	0.00071	<0.00071	mg/L
					WG-1620-MW12A-20190711	0.0012	<0.0012	mg/L
					WG-1620-MW12C-20190711	0.0031	<0.0031	mg/L
					WG-1620-MW13-20190711	0.0011	<0.0011	mg/L
					WG-1620-MW14-20190711	0.0020	<0.0020	mg/L
					WG-1620-MW39B-20190711	0.00041	<0.00041	mg/L
					WG-1620-MW42B-20190711	0.00043	<0.00043	mg/L
					WG-1620-MW64A-20190711	0.00033	<0.00033	mg/L
					WG-1620-P11-20190711	0.0018	<0.0018	mg/L
VOCs	WG-1620-FB03-20190712	07/12/2019	Benzene	0.00052 J	WG-1620-TW41B-20190712	0.0013	<0.0013	mg/L
			Ethylbenzene	0.00032 J	WG-1620-TW41B-20190712	0.0011	<0.0011	mg/L
VOCs	WG-1620-FB03-20190712	07/12/2019	Toluene	0.00037 J	WG-1620-TW41B-20190712	0.0011	<0.0011	mg/L
SVOCs			2-Methylnaphthalene	0.000052 J	WG-1620-MW03-20190712	0.000035 J	<0.000035	mg/L
					WG-1620-MW04-20190712	0.000059 J	<0.000059	mg/L
			Dibenzofuran	0.000026 J	WG-1620-MW04-20190712	0.000058 J	<0.000058	mg/L
			Naphthalene	0.00028	WG-1620-MW03-20190712	0.00029	<0.00029	mg/L
					WG-1620-MW04-20190712	0.00053	<0.00053	mg/L
					WG-1620-MW09-20190712	0.00015	<0.00015	mg/L

Table 5

Qualified Sample Data Due to Analyte Concentrations in the Field Blanks
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Parameter	Field Blank ID	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
SVOCs	WG-1620-FB04-20190716	07/16/2019	bis(2-Ethylhexyl)phthalate (DEHP)	0.00045	WG-1620-MW21C-20190716	0.000040 J	<0.000040	mg/L
					WG-1620-MW28A-20190716	0.00023	<0.00023	mg/L
					WG-1620-MW28C-20190716	0.00013 J	<0.00013	mg/L
					WG-1620-MW36B-20190716	0.000088 J	<0.000088	mg/L
			Di-n-butylphthalate (DBP)	0.000043 J	WG-1620-FD01-20190716	0.000020 J	<0.000020	mg/L
			Phenol	0.000084 J	WG-1620-MW21C-20190716	0.00018 J	<0.00018 J	mg/L
					WG-1620-MW28A-20190716	0.000073 J	<0.000073	mg/L
					WG-1620-MW36A-20190716	0.00014 J	<0.00014	mg/L
					WG-1620-MW36B-20190716	0.00017 J	<0.00017	mg/L
					WG-1620-MW53C-20190716	0.00016 J	<0.00016	mg/L
SVOCs	WG-1620-FB05-20190717	07/17/2019	bis(2-Ethylhexyl)phthalate (DEHP)	0.00023	WG-1620-FD02-20190717	0.000084 J	<0.000084	mg/L
					WG-1620-MW26A-20190717	0.00019 J	<0.00019	mg/L
					WG-1620-MW33A-20190717	0.00022	<0.00022	mg/L
					WG-1620-MW44A-20190717	0.00025	<0.00025	mg/L
					WG-1620-MW47C-20190717	0.00027	<0.00027	mg/L
					WG-1620-MW48C-20190717	0.00030	<0.00030	mg/L
					WG-1620-MW59A-20190717	.000050	.000050	mg/L
					WG-1620-MW59B-20190717	0.00039	<0.00039	mg/L
					WG-1620-MW60A-20190717	0.00055	<0.00055	mg/L

Table 5

Qualified Sample Data Due to Analyte Concentrations in the Field Blanks
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Parameter	Field Blank ID	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
SVOCs	WG-1620-FB05-20190717	07/17/2019	bis(2-Ethylhexyl)phthalate (DEHP)	0.00023	WG-1620-MW61A-20190717	0.00037	<0.00037	mg/L
					WG-1620-MW69A-20190717	0.00034	<0.00034	mg/L
					WG-1620-MW71B-20190717	0.00014 J	<0.00014	mg/L
					WG-1620-MW87C-20190717	0.00018 J	<0.00018	mg/L
			Naphthalene	0.00023	WG-1620-FD02-20190717	0.000096 J	<0.000096	mg/L
					WG-1620-MW26A-20190717	0.00032	<0.00032	mg/L
					WG-1620-MW33A-20190717	0.000076 J	<0.000076	mg/L
					WG-1620-MW44A-20190717	0.00019	<0.00019	mg/L
					WG-1620-MW59A-20190717	0.00012	<0.00012	mg/L
					WG-1620-MW59B-20190717	0.00015	<0.00015	mg/L
					WG-1620-MW60A-20190717	0.00013	<0.00013	mg/L
					WG-1620-MW69A-20190717	0.000078 J	<0.000078	mg/L
					WG-1620-MW87C-20190717	0.00017	<0.00017	mg/L

Notes:

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

Table 6

Qualified Sample Data Due to Variability in Field Duplicate Results
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
July 2019

Parameter	Analyte	RPD	Sample ID	Qualified Result	Field Duplicate Sample ID	Qualified Result	Units
SVOCs	2-Methylnaphthalene	155	WG-1620-MW21C-20190716	0.00040 J	WG-1620-FD01-20190716	0.000050 J	mg/L
	Acenaphthene	150		0.0057 J		0.00081 J	mg/L
	Anthracene	159		0.00044 J		0.000050 J	mg/L
	Dibenzofuran	155		0.0032 J		0.00040 J	mg/L
	Fluoranthene	161		0.00081 J		0.000087 J	mg/L
	Fluorene	153		0.0019 J		0.00025 J	mg/L
	Naphthalene	138		0.0044 J		0.00080 J	mg/L
	Phenanthrene	155		0.00087 J		0.00011 J	mg/L
	Phenol	120		<0.00020 J		0.00081 J	mg/L
	Pyrene	168		0.00039 J		0.000033 J	mg/L
SVOCs	Anthracene	30.8	WG-1620-MW68B-20190718	0.030 J	WG-1620-FD03-20190718	0.022 J	mg/L
	Benzo(a)anthracene	51.9		0.0051 J		0.0030 J	mg/L
	Chrysene	53.2		0.0050 J		0.0029 J	mg/L
	Fluoranthene	45.7		0.043 J		0.027 J	mg/L
	Pyrene	50.0		0.025 J		0.015 J	mg/L

Notes:

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

Attachment A
Laboratory NELAP Certificate

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Drinking Water***

Method EPA 1613

Analyte	AB	Analyte ID	Method ID
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10120408

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Copper	TX	1055	10014605
Lead	TX	1075	10014605

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	TX	1780	10116606

Method EPA 120.1

Analyte	AB	Analyte ID	Method ID
Conductivity	TX	1610	10006403

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	TX	849	10118806

Method EPA 1312

Analyte	AB	Analyte ID	Method ID
SPLP	TX	850	10119003

Method EPA 160.4

Analyte	AB	Analyte ID	Method ID
Residue-volatile	TX	1970	10010409

Method EPA 1613

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	TX	9516	10120408
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	TX	9519	10120408
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	TX	9420	10120408
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	TX	9426	10120408
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	TX	9423	10120408
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	TX	9471	10120408
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	TX	9453	10120408
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	TX	9474	10120408
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	TX	9456	10120408
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	TX	9477	10120408
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	TX	9459	10120408
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	TX	9543	10120408
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	TX	9540	10120408
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	TX	9480	10120408

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	TX	9549	10120408
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	TX	9612	10120408
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10120408
Total Heptachlorodibenzofuran (Total HpCDF)	TX	9444	10120408
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	TX	9438	10120408
Total Hexachlorodibenzofuran (Total HxCDF)	TX	9483	10120408
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	TX	9468	10120408
Total Pentachlorodibenzofuran (Total PeCDF)	TX	9552	10120408
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	TX	9555	10120408
Total Tetrachlorodibenzofuran (Total TCDF)	TX	9615	10120408
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	TX	9609	10120408

Method EPA 1664

Analyte	**AB**	**Analyte ID**	**Method ID**
n-Hexane Extractable Material (HEM) (O&G)	TX	1803	10127807

Method EPA 180.1

Analyte	**AB**	**Analyte ID**	**Method ID**
Turbidity	TX	2055	10011606

Method EPA 200.8

Analyte	**AB**	**Analyte ID**	**Method ID**
Aluminum	TX	1000	10014605
Antimony	TX	1005	10014605
Arsenic	TX	1010	10014605
Barium	TX	1015	10014605
Beryllium	TX	1020	10014605
Boron	TX	1025	10014605
Cadmium	TX	1030	10014605
Calcium	TX	1035	10014605
Chromium	TX	1040	10014605
Cobalt	TX	1050	10014605
Copper	TX	1055	10014605
Iron	TX	1070	10014605

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Lead	TX	1075	10014605
Magnesium	TX	1085	10014605
Manganese	TX	1090	10014605
Molybdenum	TX	1100	10014605
Nickel	TX	1105	10014605
Potassium	TX	1125	10014605
Selenium	TX	1140	10014605
Silver	TX	1150	10014605
Sodium	TX	1155	10014605
Strontium	TX	1160	10014605
Thallium	TX	1165	10014605
Tin	TX	1175	10014605
Titanium	TX	1180	10014605
Uranium	TX	3035	10014605
Vanadium	TX	1185	10014605
Zinc	TX	1190	10014605

Method EPA 245.1

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10036609

Method EPA 300.0

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

Method EPA 325.1

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

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Chloride	TX	1575	10056801

Method EPA 335.1

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	TX	1510	10060001

Method EPA 335.2

Analyte	AB	Analyte ID	Method ID
Total cyanide	TX	1645	10278203

Method EPA 335.4

Analyte	AB	Analyte ID	Method ID
Total cyanide	TX	1645	10061402

Method EPA 350.3

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	10064401

Method EPA 365.3

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	TX	1870	10070801
Phosphorus	TX	1910	10070801

Method EPA 375.4

Analyte	AB	Analyte ID	Method ID
Sulfate	TX	2000	10073800

Method EPA 376.1

Analyte	AB	Analyte ID	Method ID
Sulfide	TX	2005	10074201

Method EPA 410.4

Analyte	AB	Analyte ID	Method ID
Chemical oxygen demand (COD)	TX	1565	10077404

Method EPA 415.1

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	10078407

Method EPA 420.1

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10079400

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 420.4

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10080203

Method EPA 6020

Analyte	AB	Analyte ID	Method ID
Aluminum	TX	1000	10156419
Antimony	TX	1005	10156419
Arsenic	TX	1010	10156419
Barium	TX	1015	10156419
Beryllium	TX	1020	10156419
Boron	TX	1025	10156419
Cadmium	TX	1030	10156419
Calcium	TX	1035	10156419
Chromium	TX	1040	10156419
Cobalt	TX	1050	10156419
Copper	TX	1055	10156419
Iron	TX	1070	10156419
Lead	TX	1075	10156419
Lithium	TX	1080	10156419
Magnesium	TX	1085	10156419
Manganese	TX	1090	10156419
Molybdenum	TX	1100	10156419
Nickel	TX	1105	10156419
Potassium	TX	1125	10156419
Selenium	TX	1140	10156419
Silver	TX	1150	10156419
Sodium	TX	1155	10156419
Strontium	TX	1160	10156419
Thallium	TX	1165	10156419
Tin	TX	1175	10156419
Titanium	TX	1180	10156419

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Vanadium	TX	1185	10156419
Zinc	TX	1190	10156419

Method EPA 608

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	TX	7355	10103603
4,4'-DDE	TX	7360	10103603
4,4'-DDT	TX	7365	10103603
Aldrin	TX	7025	10103603
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10103603
alpha-Chlordane	TX	7240	10103603
Aroclor-1016 (PCB-1016)	TX	8880	10103603
Aroclor-1221 (PCB-1221)	TX	8885	10103603
Aroclor-1232 (PCB-1232)	TX	8890	10103603
Aroclor-1242 (PCB-1242)	TX	8895	10103603
Aroclor-1248 (PCB-1248)	TX	8900	10103603
Aroclor-1254 (PCB-1254)	TX	8905	10103603
Aroclor-1260 (PCB-1260)	TX	8910	10103603
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10103603
Chlordane (tech.)	TX	7250	10103603
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10103603
Dieldrin	TX	7470	10103603
Endosulfan I	TX	7510	10103603
Endosulfan II	TX	7515	10103603
Endosulfan sulfate	TX	7520	10103603
Endrin	TX	7540	10103603
Endrin aldehyde	TX	7530	10103603
Endrin ketone	TX	7535	10103603
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10103603
gamma-Chlordane	TX	7245	10103603
Heptachlor	TX	7685	10103603

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Heptachlor epoxide	TX	7690	10103603
Methoxychlor	TX	7810	10103603
Toxaphene (Chlorinated camphene)	TX	8250	10103603

Method EPA 624

Analyte	AB	Analyte ID	Method ID
1,1,1-Trichloroethane	TX	5160	10107207
1,1,2,2-Tetrachloroethane	TX	5110	10107207
1,1,2-Trichloroethane	TX	5165	10107207
1,1-Dichloroethane	TX	4630	10107207
1,1-Dichloroethylene	TX	4640	10107207
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10107207
1,2-Dichlorobenzene	TX	4610	10107207
1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10107207
1,2-Dichloropropane	TX	4655	10107207
1,3-Dichlorobenzene	TX	4615	10107207
1,4-Dichlorobenzene	TX	4620	10107207
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10107207
2-Chloroethyl vinyl ether	TX	4500	10107207
Acetone (2-Propanone)	TX	4315	10107207
Acrolein (Propenal)	TX	4325	10107207
Acrylonitrile	TX	4340	10107207
Benzene	TX	4375	10107207
Bromodichloromethane	TX	4395	10107207
Bromoform	TX	4400	10107207
Carbon tetrachloride	TX	4455	10107207
Chlorobenzene	TX	4475	10107207
Chlorodibromomethane	TX	4575	10107207
Chloroethane (Ethyl chloride)	TX	4485	10107207
Chloroform	TX	4505	10107207
cis-1,2-Dichloroethylene	TX	4645	10107207

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

cis-1,3-Dichloropropene	TX	4680	10107207
Ethylbenzene	TX	4765	10107207
m+p-xylene	TX	5240	10107207
Methyl bromide (Bromomethane)	TX	4950	10107207
Methyl chloride (Chloromethane)	TX	4960	10107207
Methyl tert-butyl ether (MTBE)	TX	5000	10107207
Methylene chloride (Dichloromethane)	TX	4975	10107207
Naphthalene	TX	5005	10107207
o-Xylene	TX	5250	10107207
Tetrachloroethylene (Perchloroethylene)	TX	5115	10107207
Toluene	TX	5140	10107207
trans-1,2-Dichloroethylene	TX	4700	10107207
trans-1,3-Dichloropropylene	TX	4685	10107207
Trichloroethene (Trichloroethylene)	TX	5170	10107207
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10107207
Vinyl chloride	TX	5235	10107207
Xylene (total)	TX	5260	10107207

Method EPA 625

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,4,5-Tetrachlorobenzene	TX	6715	10107401
1,2,4-Trichlorobenzene	TX	5155	10107401
1,2-Dichlorobenzene	TX	4610	10107401
1,2-Diphenylhydrazine	TX	6220	10107401
1,3-Dichlorobenzene	TX	4615	10107401
1,4-Dichlorobenzene	TX	4620	10107401
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	TX	4659	10107401
2,4,5-Trichlorophenol	TX	6835	10107401
2,4,6-Trichlorophenol	TX	6840	10107401
2,4-Dichlorophenol	TX	6000	10107401
2,4-Dimethylphenol	TX	6130	10107401

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

2,4-Dinitrophenol	TX	6175	10107401
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10107401
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10107401
2-Chloronaphthalene	TX	5795	10107401
2-Chlorophenol	TX	5800	10107401
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	TX	6360	10107401
2-Methylphenol (o-Cresol)	TX	6400	10107401
2-Nitrophenol	TX	6490	10107401
3,3'-Dichlorobenzidine	TX	5945	10107401
4-Bromophenyl phenyl ether (BDE-3)	TX	5660	10107401
4-Chloro-3-methylphenol	TX	5700	10107401
4-Chlorophenyl phenylether	TX	5825	10107401
4-Methylphenol (p-Cresol)	TX	6410	10107401
4-Nitrophenol	TX	6500	10107401
Acenaphthene	TX	5500	10107401
Acenaphthylene	TX	5505	10107401
Anthracene	TX	5555	10107401
Benzidine	TX	5595	10107401
Benzo(a)anthracene	TX	5575	10107401
Benzo(a)pyrene	TX	5580	10107401
Benzo(b)fluoranthene	TX	5585	10107401
Benzo(g,h,i)perylene	TX	5590	10107401
Benzo(k)fluoranthene	TX	5600	10107401
bis(2-Chloroethoxy)methane	TX	5760	10107401
bis(2-Chloroethyl) ether	TX	5765	10107401
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	TX	6065	10107401
Butyl benzyl phthalate	TX	5670	10107401
Chrysene	TX	5855	10107401
Dibenz(a,h) anthracene	TX	5895	10107401
Diethyl phthalate	TX	6070	10107401

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Dimethyl phthalate	TX	6135	10107401
Di-n-butyl phthalate	TX	5925	10107401
Di-n-octyl phthalate	TX	6200	10107401
Fluoranthene	TX	6265	10107401
Fluorene	TX	6270	10107401
Hexachlorobenzene	TX	6275	10107401
Hexachlorobutadiene	TX	4835	10107401
Hexachlorocyclopentadiene	TX	6285	10107401
Hexachloroethane	TX	4840	10107401
Indeno(1,2,3-cd) pyrene	TX	6315	10107401
Isophorone	TX	6320	10107401
Naphthalene	TX	5005	10107401
Nitrobenzene	TX	5015	10107401
n-Nitrosodiethylamine	TX	6525	10107401
n-Nitrosodimethylamine	TX	6530	10107401
n-Nitrosodi-n-butylamine	TX	5025	10107401
n-Nitrosodi-n-propylamine	TX	6545	10107401
n-Nitrosodiphenylamine	TX	6535	10107401
Pentachlorobenzene	TX	6590	10107401
Pentachlorophenol	TX	6605	10107401
Phenanthrene	TX	6615	10107401
Phenol	TX	6625	10107401
Pyrene	TX	6665	10107401
Pyridine	TX	5095	10107401

Method EPA 7196

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	TX	1045	10162206

Method EPA 7470

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10165603

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 8011

Analyte	AB	Analyte ID	Method ID
1,2,3-Trichloropropane	TX	5180	10173009
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10173009
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10173009

Method EPA 8015

Analyte	AB	Analyte ID	Method ID
Diesel range organics (DRO)	TX	9369	10173203
Ethanol	TX	4750	10173203
Ethylene glycol	TX	4785	10173203
Gasoline range organics (GRO)	TX	9408	10173203
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10173203
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10173203
Methanol	TX	4930	10173203
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10173203
n-Propanol (1-Propanol)	TX	5055	10173203
Propylene Glycol	TX	6657	10173203
tert-Butyl alcohol	TX	4420	10173203

Method EPA 8021

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

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	TX	7355	10178402
4,4'-DDE	TX	7360	10178402

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

4,4'-DDT	TX	7365	10178402
Aldrin	TX	7025	10178402
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10178402
alpha-Chlordane	TX	7240	10178402
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10178402
Chlordane (tech.)	TX	7250	10178402
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10178402
Dieldrin	TX	7470	10178402
Endosulfan I	TX	7510	10178402
Endosulfan II	TX	7515	10178402
Endosulfan sulfate	TX	7520	10178402
Endrin	TX	7540	10178402
Endrin aldehyde	TX	7530	10178402
Endrin ketone	TX	7535	10178402
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10178402
gamma-Chlordane	TX	7245	10178402
Heptachlor	TX	7685	10178402
Heptachlor epoxide	TX	7690	10178402
Hexachlorobenzene	TX	6275	10178402
Methoxychlor	TX	7810	10178402
Mirex	TX	7870	10178402
Toxaphene (Chlorinated camphene)	TX	8250	10178402

Method EPA 8082

Analyte	**AB**	**Analyte ID**	**Method ID**
Aroclor-1016 (PCB-1016)	TX	8880	10179201
Aroclor-1221 (PCB-1221)	TX	8885	10179201
Aroclor-1232 (PCB-1232)	TX	8890	10179201
Aroclor-1242 (PCB-1242)	TX	8895	10179201
Aroclor-1248 (PCB-1248)	TX	8900	10179201
Aroclor-1254 (PCB-1254)	TX	8905	10179201

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Aroclor-1260 (PCB-1260)	TX	8910	10179201
PCBs (total)	TX	8870	10179201

Method EPA 8151

Analyte	AB	Analyte ID	Method ID
2,4,5-T	TX	8655	10183003
2,4-D	TX	8545	10183003
2,4-DB	TX	8560	10183003
Dalapon	TX	8555	10183003
Dicamba	TX	8595	10183003
Dichloroprop (Dichlorprop, Weedone)	TX	8605	10183003
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10183003
MCPA	TX	7775	10183003
MCPP	TX	7780	10183003
Silvex (2,4,5-TP)	TX	8650	10183003

Method EPA 8260

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

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10184404
1,2-Dichloropropane	TX	4655	10184404
1,3,5-Trimethylbenzene	TX	5215	10184404
1,3-Dichlorobenzene	TX	4615	10184404
1,3-Dichloropropane	TX	4660	10184404
1,4-Dichlorobenzene	TX	4620	10184404
1,4-Dioxane (1,4-Diethyleneoxide)	TX	4735	10184404
1-Chlorohexane	TX	4510	10184404
1-Propanol	TX	5060	10184404
2,2-Dichloropropane	TX	4665	10184404
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10184404
2-Chloroethyl vinyl ether	TX	4500	10184404
2-Chlorotoluene	TX	4535	10184404
2-Hexanone (MBK)	TX	4860	10184404
2-Pentanone	TX	5045	10184404
4-Chlorotoluene	TX	4540	10184404
4-Isopropyltoluene (p-Cymene)	TX	4915	10184404
4-Methyl-2-pentanone (MIBK)	TX	4995	10184404
Acetone (2-Propanone)	TX	4315	10184404
Acetonitrile	TX	4320	10184404
Acrolein (Propenal)	TX	4325	10184404
Acrylonitrile	TX	4340	10184404
Allyl alcohol	TX	4350	10184404
Allyl chloride (3-Chloropropene)	TX	4355	10184404
Benzene	TX	4375	10184404
Benzyl chloride	TX	5635	10184404
Bromobenzene	TX	4385	10184404
Bromochloromethane	TX	4390	10184404
Bromodichloromethane	TX	4395	10184404
Bromoform	TX	4400	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Carbon disulfide	TX	4450	10184404
Carbon tetrachloride	TX	4455	10184404
Chlorobenzene	TX	4475	10184404
Chlorodibromomethane	TX	4575	10184404
Chloroethane (Ethyl chloride)	TX	4485	10184404
Chloroform	TX	4505	10184404
Chloroprene (2-Chloro-1,3-butadiene)	TX	4525	10184404
cis-1,2-Dichloroethylene	TX	4645	10184404
cis-1,3-Dichloropropene	TX	4680	10184404
Dibromofluoromethane	TX	4590	10184404
Dibromomethane (Methylene bromide)	TX	4595	10184404
Dichlorodifluoromethane (Freon-12)	TX	4625	10184404
Diethyl ether	TX	4725	10184404
Di-isopropylether (DIPE)	TX	9375	10184404
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	TX	4745	10184404
Ethanol	TX	4750	10184404
Ethyl acetate	TX	4755	10184404
Ethyl methacrylate	TX	4810	10184404
Ethylbenzene	TX	4765	10184404
Ethylene oxide	TX	4795	10184404
Ethyl-t-butylether (ETBE) (2-Ethoxy-2-methylpropane)	TX	4770	10184404
Hexachlorobutadiene	TX	4835	10184404
Iodomethane (Methyl iodide)	TX	4870	10184404
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10184404
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10184404
Isopropylbenzene (Cumene)	TX	4900	10184404
m+p-xylene	TX	5240	10184404
Methacrylonitrile	TX	4925	10184404
Methyl acetate	TX	4940	10184404
Methyl acrylate	TX	4945	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Methyl bromide (Bromomethane)	TX	4950	10184404
Methyl chloride (Chloromethane)	TX	4960	10184404
Methyl methacrylate	TX	4990	10184404
Methyl tert-butyl ether (MTBE)	TX	5000	10184404
Methylcyclohexane	TX	4965	10184404
Methylene chloride (Dichloromethane)	TX	4975	10184404
Naphthalene	TX	5005	10184404
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10184404
n-Butylbenzene	TX	4435	10184404
n-Propylbenzene	TX	5090	10184404
o-Xylene	TX	5250	10184404
Pentachloroethane	TX	5035	10184404
Propionitrile (Ethyl cyanide)	TX	5080	10184404
Pyridine	TX	5095	10184404
sec-Butylbenzene	TX	4440	10184404
Styrene	TX	5100	10184404
T-amylmethylether (TAME)	TX	4370	10184404
tert-Butyl alcohol	TX	4420	10184404
tert-Butylbenzene	TX	4445	10184404
Tetrachloroethylene (Perchloroethylene)	TX	5115	10184404
Toluene	TX	5140	10184404
trans-1,2-Dichloroethylene	TX	4700	10184404
trans-1,3-Dichloropropylene	TX	4685	10184404
trans-1,4-Dichloro-2-butene	TX	4605	10184404
Trichloroethene (Trichloroethylene)	TX	5170	10184404
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10184404
Vinyl acetate	TX	5225	10184404
Vinyl chloride	TX	5235	10184404
Xylene (total)	TX	5260	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
1,2,4,5-Tetrachlorobenzene	TX	6715	10185203
1,2,4-Trichlorobenzene	TX	5155	10185203
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10185203
1,2-Dichlorobenzene	TX	4610	10185203
1,2-Dinitrobenzene	TX	6155	10185203
1,2-Diphenylhydrazine	TX	6220	10185203
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10185203
1,3-Dichlorobenzene	TX	4615	10185203
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10185203
1,4-Dichlorobenzene	TX	4620	10185203
1,4-Dinitrobenzene	TX	6165	10185203
1,4-Naphthoquinone	TX	6420	10185203
1,4-Phenylenediamine	TX	6630	10185203
1-Chloronaphthalene	TX	5790	10185203
1-Naphthylamine	TX	6425	10185203
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	TX	4659	10185203
2,3,4,6-Tetrachlorophenol	TX	6735	10185203
2,4,5-Trichlorophenol	TX	6835	10185203
2,4,5-Trimethylaniline	TX	6880	10185203
2,4,6-Trichlorophenol	TX	6840	10185203
2,4-Diaminotoluene	TX	5880	10185203
2,4-Dichlorophenol	TX	6000	10185203
2,4-Dimethylphenol	TX	6130	10185203
2,4-Dinitrophenol	TX	6175	10185203
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10185203
2,6-Dichlorophenol	TX	6005	10185203
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10185203
2-Acetylaminofluorene	TX	5515	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

2-Chloronaphthalene	TX	5795	10185203
2-Chlorophenol	TX	5800	10185203
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	TX	6360	10185203
2-Methylaniline (o-Toluidine)	TX	5145	10185203
2-Methylnaphthalene	TX	6385	10185203
2-Methylphenol (o-Cresol)	TX	6400	10185203
2-Naphthylamine	TX	6430	10185203
2-Nitroaniline	TX	6460	10185203
2-Nitrophenol	TX	6490	10185203
2-Picoline (2-Methylpyridine)	TX	5050	10185203
3,3'-Dichlorobenzidine	TX	5945	10185203
3,3'-Dimethylbenzidine	TX	6120	10185203
3-Methylcholanthrene	TX	6355	10185203
3-Methylphenol (m-Cresol)	TX	6405	10185203
3-Nitroaniline	TX	6465	10185203
4-Aminobiphenyl	TX	5540	10185203
4-Bromophenyl phenyl ether (BDE-3)	TX	5660	10185203
4-Chloro-3-methylphenol	TX	5700	10185203
4-Chloroaniline	TX	5745	10185203
4-Chlorophenyl phenylether	TX	5825	10185203
4-Dimethyl aminoazobenzene	TX	6105	10185203
4-Methylphenol (p-Cresol)	TX	6410	10185203
4-Nitroaniline	TX	6470	10185203
4-Nitrobiphenyl	TX	6480	10185203
4-Nitrophenol	TX	6500	10185203
4-Nitroquinoline-1-oxide	TX	6510	10185203
5-Chloro-2-methylaniline	TX	5695	10185203
5-Nitro-o-toluidine	TX	6570	10185203
7,12-Dimethylbenz(a) anthracene	TX	6115	10185203
a-a-Dimethylphenethylamine	TX	6125	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Acenaphthene	TX	5500	10185203
Acenaphthylene	TX	5505	10185203
Acetophenone	TX	5510	10185203
Aniline	TX	5545	10185203
Anthracene	TX	5555	10185203
Aramite	TX	5560	10185203
Atrazine	TX	7065	10185203
Azinphos-methyl (Guthion)	TX	7075	10185203
Azobenzene	TX	5562	10185203
Benzenethiol (Thiophenol)	TX	6750	10185203
Benzidine	TX	5595	10185203
Benzo(a)anthracene	TX	5575	10185203
Benzo(a)pyrene	TX	5580	10185203
Benzo(b)fluoranthene	TX	5585	10185203
Benzo(e)pyrene	TX	5605	10185203
Benzo(g,h,i)perylene	TX	5590	10185203
Benzo(k)fluoranthene	TX	5600	10185203
Benzoic acid	TX	5610	10185203
Benzyl alcohol	TX	5630	10185203
Biphenyl	TX	5640	10185203
bis(2-Chloroethoxy)methane	TX	5760	10185203
bis(2-Chloroethyl) ether	TX	5765	10185203
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	TX	6065	10185203
Butyl benzyl phthalate	TX	5670	10185203
Caprolactam	TX	7180	10185203
Captan	TX	7190	10185203
Carbaryl (Sevin)	TX	7195	10185203
Carbazole	TX	5680	10185203
Carbophenothion	TX	7220	10185203
Chlorobenzilate	TX	7260	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Chrysene	TX	5855	10185203
Coumaphos	TX	7315	10185203
Demeton	TX	7390	10185203
Demeton	TX	7390	10185203
Demeton-o	TX	7395	10185203
Demeton-s	TX	7385	10185203
Diallate	TX	7405	10185203
Dibenz(a,h) anthracene	TX	5895	10185203
Dibenz(a,j) acridine	TX	5900	10185203
Dibenzofuran	TX	5905	10185203
Dichlorovos (DDVP, Dichlorvos)	TX	8610	10185203
Diethyl phthalate	TX	6070	10185203
Dimethoate	TX	7475	10185203
Dimethoate	TX	7475	10185203
Dimethyl phthalate	TX	6135	10185203
Di-n-butyl phthalate	TX	5925	10185203
Di-n-octyl phthalate	TX	6200	10185203
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10185203
Dioxathion	TX	7495	10185203
Diphenylamine	TX	6205	10185203
Disulfoton	TX	8625	10185203
Ethion	TX	7565	10185203
Ethyl methanesulfonate	TX	6260	10185203
Famphur	TX	7580	10185203
Fluoranthene	TX	6265	10185203
Fluorene	TX	6270	10185203
Hexachlorobenzene	TX	6275	10185203
Hexachlorobutadiene	TX	4835	10185203
Hexachlorocyclopentadiene	TX	6285	10185203
Hexachloroethane	TX	4840	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Hexachlorophene	TX	6290	10185203
Hexachloropropene	TX	6295	10185203
Indeno(1,2,3-cd) pyrene	TX	6315	10185203
Isodrin	TX	7725	10185203
Isophorone	TX	6320	10185203
Isosafrole	TX	6325	10185203
Kepone	TX	7740	10185203
Maleic anhydride	TX	6335	10185203
Methapyrilene	TX	6345	10185203
Methyl methanesulfonate	TX	6375	10185203
Methyl parathion (Parathion, methyl)	TX	7825	10185203
Mevinphos	TX	7850	10185203
Naled	TX	7905	10185203
Naphthalene	TX	5005	10185203
Nitrobenzene	TX	5015	10185203
n-Nitrosodiethylamine	TX	6525	10185203
n-Nitrosodimethylamine	TX	6530	10185203
n-Nitrosodi-n-butylamine	TX	5025	10185203
n-Nitrosodi-n-propylamine	TX	6545	10185203
n-Nitrosodiphenylamine	TX	6535	10185203
n-Nitrosomethylethylamine	TX	6550	10185203
n-Nitrosomorpholine	TX	6555	10185203
n-Nitrosopiperidine	TX	6560	10185203
n-Nitrosopyrrolidine	TX	6565	10185203
o,o,o-Triethyl phosphorothioate	TX	8290	10185203
o-Anisidine	TX	5550	10185203
Parathion, ethyl	TX	7955	10185203
p-Cresidine	TX	5860	10185203
Pentachlorobenzene	TX	6590	10185203
Pentachloronitrobenzene (PCNB)	TX	6600	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Pentachlorophenol	TX	6605	10185203
Phenacetin	TX	6610	10185203
Phenanthrene	TX	6615	10185203
Phenol	TX	6625	10185203
Phorate	TX	7985	10185203
Phosmet (Imidan)	TX	8000	10185203
Phthalic anhydride	TX	6640	10185203
Pronamide (Kerb)	TX	6650	10185203
Pyrene	TX	6665	10185203
Pyridine	TX	5095	10185203
Quinoline	TX	6670	10185203
Resorcinol	TX	6680	10185203
Safrole	TX	6685	10185203
Sulfotepp	TX	8155	10185203
Terbufos	TX	8185	10185203
Tetrachlorvinphos (Stirophos, Gardona)	TX	8197	10185203
Thionazin (Zinophos)	TX	8235	10185203
Toluene diisocyanate	TX	6775	10185203
Trifluralin (Treflan)	TX	8295	10185203

Method EPA 8290

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	TX	9516	10187209
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	TX	9519	10187209
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	TX	9420	10187209
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	TX	9426	10187209
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	TX	9423	10187209
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	TX	9471	10187209
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	TX	9453	10187209
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	TX	9474	10187209
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	TX	9456	10187209

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	TX	9477	10187209
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	TX	9459	10187209
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	TX	9543	10187209
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	TX	9540	10187209
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	TX	9480	10187209
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	TX	9549	10187209
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	TX	9612	10187209
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10187209
Total Heptachlorodibenzofuran (Total HpCDF)	TX	9444	10187209
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	TX	9438	10187209
Total Hexachlorodibenzofuran (Total HxCDF)	TX	9483	10187209
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	TX	9468	10187209
Total Pentachlorodibenzofuran (Total PeCDF)	TX	9552	10187209
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	TX	9555	10187209
Total Tetrachlorodibenzofuran (Total TCDF)	TX	9615	10187209
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	TX	9609	10187209

Method EPA 8316

Analyte	**AB**	**Analyte ID**	**Method ID**
Acrylamide	TX	4330	10188202

Method EPA 8330

Analyte	**AB**	**Analyte ID**	**Method ID**
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10189807
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10189807
2,4,6-Trinitrotoluene (2,4,6-TNT)	TX	9651	10189807
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10189807
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10189807
2-Amino-4,6-dinitrotoluene (2-am-dnt)	TX	9303	10189807
2-Nitrotoluene	TX	9507	10189807
3-Nitrotoluene	TX	9510	10189807
4-Amino-2,6-dinitrotoluene (4-am-dnt)	TX	9306	10189807
4-Nitrotoluene	TX	9513	10189807

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Methyl-2,4,6-trinitrophenylnitramine (tetryl)	TX	6415	10189807
Nitrobenzene	TX	5015	10189807
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	TX	9522	10189807
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	TX	9432	10189807

Method EPA 9014

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	TX	1510	10193803
Total cyanide	TX	1645	10193803

Method EPA 9038

Analyte	**AB**	**Analyte ID**	**Method ID**
Sulfate	TX	2000	10196608

Method EPA 9040

Analyte	**AB**	**Analyte ID**	**Method ID**
pH	TX	1900	10196802

Method EPA 9050

Analyte	**AB**	**Analyte ID**	**Method ID**
Conductivity	TX	1610	10198604

Method EPA 9056

Analyte	**AB**	**Analyte ID**	**Method ID**
Bromide	TX	1540	10199209
Chloride	TX	1575	10199209
Fluoride	TX	1730	10199209
Nitrate as N	TX	1810	10199209
Nitrate-nitrite	TX	1820	10199209
Nitrite as N	TX	1840	10199209
Orthophosphate as P	TX	1870	10199209
Sulfate	TX	2000	10199209

Method EPA 9060

Analyte	**AB**	**Analyte ID**	**Method ID**
Total Organic Carbon (TOC)	TX	2040	10200201

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 9065

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10200405

Method EPA 9066

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10200609

Method EPA 9250

Analyte	AB	Analyte ID	Method ID
Chloride	TX	1575	10207202

Method EPA RSK 175

Analyte	AB	Analyte ID	Method ID
2-methylpropane (Isobutane)	TX	4942	10212905
Ethane	TX	4747	10212905
Ethene	TX	4752	10212905
Methane	TX	4926	10212905
n-Butane	TX	5007	10212905
n-Propane	TX	5029	10212905

Method HACH 8000

Analyte	AB	Analyte ID	Method ID
Chemical oxygen demand (COD)	TX	1565	60003001

Method SM 2120 B

Analyte	AB	Analyte ID	Method ID
Color	TX	1605	20223807

Method SM 2310 B (4a)

Analyte	AB	Analyte ID	Method ID
Acidity, as CaCO3	TX	1500	20002806

Method SM 2320 B

Analyte	AB	Analyte ID	Method ID
Alkalinity as CaCO3	TX	1505	20045005

Method SM 2340 B

Analyte	AB	Analyte ID	Method ID

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Total hardness as CaCO3	TX	1755	20046008

Method SM 2510 B

Analyte	AB	Analyte ID	Method ID
Conductivity	TX	1610	20048004

Method SM 2540 B

Analyte	AB	Analyte ID	Method ID
Residue-total (total solids)	TX	1950	20004608

Method SM 2540 C

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

Method SM 2540 D

Analyte	AB	Analyte ID	Method ID
Residue-nonfilterable (TSS)	TX	1960	20004802

Method SM 3500-Cr B

Analyte	AB	Analyte ID	Method ID
Chromium (VI)	TX	1045	20065809

Method SM 4500-Cl F

Analyte	AB	Analyte ID	Method ID
Total residual chlorine	TX	1940	20080482

Method SM 4500-Cl^- E

Analyte	AB	Analyte ID	Method ID
Chloride	TX	1575	20019209

Method SM 4500-CN^- C

Analyte	AB	Analyte ID	Method ID
Total cyanide	TX	1645	20020808

Method SM 4500-CN^- E

Analyte	AB	Analyte ID	Method ID
Total cyanide	TX	1645	20021209

Method SM 4500-CN^- G

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	TX	1510	20021607

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method SM 4500-H+ B

Analyte	AB	Analyte ID	Method ID
pH	TX	1900	20104603

Method SM 4500-NH3 D

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	20108809
Kjeldahl Nitrogen (Total Kjeldahl Nitrogen-TKN)	TX	1790	20108809

Method SM 4500-NH3 F

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	20023001

Method SM 4500-O G

Analyte	AB	Analyte ID	Method ID
Oxygen, dissolved	TX	1880	20025405

Method SM 4500-P E

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	TX	1870	20025803
Phosphorus	TX	1910	20025803

Method SM 4500-$S2^{-}$ F

Analyte	AB	Analyte ID	Method ID
Sulfide	TX	2005	20126209

Method SM 4500-SiO2 D

Analyte	AB	Analyte ID	Method ID
Silica as SiO2	TX	1990	20127202

Method SM 4500-$SO3^{-}$ B

Analyte	AB	Analyte ID	Method ID
Sulfite	TX	2015	20026806

Method SM 5210 B

Analyte	AB	Analyte ID	Method ID
Biochemical oxygen demand (BOD)	TX	1530	20027401
Carbonaceous BOD, CBOD	TX	1555	20027401

Method SM 5310 B

Analyte	AB	Analyte ID	Method ID

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Total Organic Carbon (TOC)	TX	2040	20137206

Method SM 5310 C

Analyte	**AB**	**Analyte ID**	**Method ID**
Total Organic Carbon (TOC)	TX	2040	20138209

Method SM 5540 C

Analyte	**AB**	**Analyte ID**	**Method ID**
Surfactants - MBAS	TX	2025	20144405

Method TCEQ 1005

Analyte	**AB**	**Analyte ID**	**Method ID**
Total Petroleum Hydrocarbons (TPH)	TX	2050	90019208

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Method ASTM D2216

Analyte	AB	Analyte ID	Method ID
Moisture	TX	10337	ASTM D2216-05

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	TX	1780	10116606

Method EPA 1030

Analyte	AB	Analyte ID	Method ID
Ignitability	TX	1780	10117201

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	TX	849	10118806

Method EPA 1312

Analyte	AB	Analyte ID	Method ID
SPLP	TX	850	10119003

Method EPA 1668

Analyte	AB	Analyte ID	Method ID
Decachlorobiphenyls	TX	10332	10262007
Dichlorobiphenyls	TX	464	10262007
Heptachlorobiphenyls	TX	486	10262007
Hexachlorobiphenyls	TX	487	10262007
Monochlorobiphenyls	TX	501	10262007
Nonachlorobiphenyls	TX	507	10262007
Octachlorobiphenyls	TX	508	10262007
Pentachlorobiphenyls	TX	515	10262007
Tetrachlorobiphenyls	TX	528	10262007
Trichlorobiphenyls	TX	541	10262007

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Uranium	TX	3035	10014605

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Method EPA 300.0

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

Method EPA 310.1

Analyte	AB	Analyte ID	Method ID
Alkalinity as CaCO3	TX	1505	10054805

Method EPA 350.3

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	10064401

Method EPA 365.3

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	TX	1870	10070801
Phosphorus	TX	1910	10070801

Method EPA 6020

Analyte	AB	Analyte ID	Method ID
Aluminum	TX	1000	10156204
Antimony	TX	1005	10156204
Arsenic	TX	1010	10156204
Barium	TX	1015	10156204
Beryllium	TX	1020	10156204
Boron	TX	1025	10156204
Cadmium	TX	1030	10156204
Calcium	TX	1035	10156204
Chromium	TX	1040	10156204

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Cobalt	TX	1050	10156204
Copper	TX	1055	10156204
Iron	TX	1070	10156204
Lead	TX	1075	10156204
Lithium	TX	1080	10156204
Magnesium	TX	1085	10156204
Manganese	TX	1090	10156204
Molybdenum	TX	1100	10156204
Nickel	TX	1105	10156204
Potassium	TX	1125	10156204
Selenium	TX	1140	10156204
Silver	TX	1150	10156204
Sodium	TX	1155	10156204
Strontium	TX	1160	10156204
Thallium	TX	1165	10156204
Tin	TX	1175	10156204
Titanium	TX	1180	10156204
Vanadium	TX	1185	10156204
Zinc	TX	1190	10156204

Method EPA 7196

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	TX	1045	10162206

Method EPA 7470

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10165603

Method EPA 7471

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10166004

Method EPA 8015

Analyte	**AB**	**Analyte ID**	**Method ID**
Diesel range organics (DRO)	TX	9369	10173203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Ethanol	TX	4750	10173203
Ethylene glycol	TX	4785	10173203
Gasoline range organics (GRO)	TX	9408	10173203
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10173203
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10173203
Methanol	TX	4930	10173203
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10173203
n-Propanol (1-Propanol)	TX	5055	10173203
Propylene Glycol	TX	6657	10173203
tert-Butyl alcohol	TX	4420	10173203

Method EPA 8021

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

Method EPA 8081

Analyte	**AB**	**Analyte ID**	**Method ID**
4,4'-DDD	TX	7355	10178402
4,4'-DDE	TX	7360	10178402
4,4'-DDT	TX	7365	10178402
Aldrin	TX	7025	10178402
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10178402
alpha-Chlordane	TX	7240	10178402
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10178402
Chlordane (tech.)	TX	7250	10178402
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10178402
Dieldrin	TX	7470	10178402

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Endosulfan I	TX	7510	10178402
Endosulfan II	TX	7515	10178402
Endosulfan sulfate	TX	7520	10178402
Endrin	TX	7540	10178402
Endrin aldehyde	TX	7530	10178402
Endrin ketone	TX	7535	10178402
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10178402
gamma-Chlordane	TX	7245	10178402
Heptachlor	TX	7685	10178402
Heptachlor epoxide	TX	7690	10178402
Methoxychlor	TX	7810	10178402
Mirex	TX	7870	10178402
Toxaphene (Chlorinated camphene)	TX	8250	10178402

Method EPA 8082

Analyte	**AB**	**Analyte ID**	**Method ID**
Aroclor-1016 (PCB-1016)	TX	8880	10179201
Aroclor-1221 (PCB-1221)	TX	8885	10179201
Aroclor-1232 (PCB-1232)	TX	8890	10179201
Aroclor-1242 (PCB-1242)	TX	8895	10179201
Aroclor-1248 (PCB-1248)	TX	8900	10179201
Aroclor-1254 (PCB-1254)	TX	8905	10179201
Aroclor-1260 (PCB-1260)	TX	8910	10179201
PCBs (total)	TX	8870	10179201

Method EPA 8260

Analyte	**AB**	**Analyte ID**	**Method ID**
1,1,1,2-Tetrachloroethane	TX	5105	10184404
1,1,1-Trichloroethane	TX	5160	10184404
1,1,2,2-Tetrachloroethane	TX	5110	10184404
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	TX	5195	10184404
1,1,2-Trichloroethane	TX	5165	10184404
1,1-Dichloroethane	TX	4630	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

1,1-Dichloroethylene	TX	4640	10184404
1,1-Dichloropropene	TX	4670	10184404
1,2,3-Trichlorobenzene	TX	5150	10184404
1,2,3-Trichloropropane	TX	5180	10184404
1,2,4-Trichlorobenzene	TX	5155	10184404
1,2,4-Trimethylbenzene	TX	5210	10184404
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10184404
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10184404
1,2-Dichlorobenzene	TX	4610	10184404
1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10184404
1,2-Dichloropropane	TX	4655	10184404
1,3,5-Trimethylbenzene	TX	5215	10184404
1,3-Dichlorobenzene	TX	4615	10184404
1,3-Dichloropropane	TX	4660	10184404
1,4-Dichlorobenzene	TX	4620	10184404
1,4-Dioxane (1,4-Diethyleneoxide)	TX	4735	10184404
1-Chlorohexane	TX	4510	10184404
1-Propanol	TX	5060	10184404
2,2-Dichloropropane	TX	4665	10184404
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10184404
2-Chloroethyl vinyl ether	TX	4500	10184404
2-Chlorotoluene	TX	4535	10184404
2-Hexanone (MBK)	TX	4860	10184404
4-Chlorotoluene	TX	4540	10184404
4-Isopropyltoluene (p-Cymene)	TX	4915	10184404
4-Methyl-2-pentanone (MIBK)	TX	4995	10184404
Acetone (2-Propanone)	TX	4315	10184404
Acetonitrile	TX	4320	10184404
Acrolein (Propenal)	TX	4325	10184404
Acrylonitrile	TX	4340	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Allyl chloride (3-Chloropropene)	TX	4355	10184404
Benzene	TX	4375	10184404
Benzyl chloride	TX	5635	10184404
Bromobenzene	TX	4385	10184404
Bromochloromethane	TX	4390	10184404
Bromodichloromethane	TX	4395	10184404
Bromoform	TX	4400	10184404
Carbon disulfide	TX	4450	10184404
Carbon tetrachloride	TX	4455	10184404
Chlorobenzene	TX	4475	10184404
Chlorodibromomethane	TX	4575	10184404
Chloroethane (Ethyl chloride)	TX	4485	10184404
Chloroform	TX	4505	10184404
Chloroprene (2-Chloro-1,3-butadiene)	TX	4525	10184404
cis-1,2-Dichloroethylene	TX	4645	10184404
cis-1,3-Dichloropropene	TX	4680	10184404
Dibromofluoromethane	TX	4590	10184404
Dibromomethane (Methylene bromide)	TX	4595	10184404
Dichlorodifluoromethane (Freon-12)	TX	4625	10184404
Diethyl ether	TX	4725	10184404
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	TX	4745	10184404
Ethanol	TX	4750	10184404
Ethyl acetate	TX	4755	10184404
Ethyl methacrylate	TX	4810	10184404
Ethylbenzene	TX	4765	10184404
Ethylene oxide	TX	4795	10184404
Hexachlorobutadiene	TX	4835	10184404
Iodomethane (Methyl iodide)	TX	4870	10184404
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10184404
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Isopropylbenzene (Cumene)	TX	4900	10184404
m+p-xylene	TX	5240	10184404
Methacrylonitrile	TX	4925	10184404
Methyl acetate	TX	4940	10184404
Methyl acrylate	TX	4945	10184404
Methyl bromide (Bromomethane)	TX	4950	10184404
Methyl chloride (Chloromethane)	TX	4960	10184404
Methyl methacrylate	TX	4990	10184404
Methyl tert-butyl ether (MTBE)	TX	5000	10184404
Methylcyclohexane	TX	4965	10184404
Methylene chloride (Dichloromethane)	TX	4975	10184404
Naphthalene	TX	5005	10184404
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10184404
n-Butylbenzene	TX	4435	10184404
n-Propylbenzene	TX	5090	10184404
o-Xylene	TX	5250	10184404
Pentachloroethane	TX	5035	10184404
Propionitrile (Ethyl cyanide)	TX	5080	10184404
Pyridine	TX	5095	10184404
sec-Butylbenzene	TX	4440	10184404
Styrene	TX	5100	10184404
tert-Butyl alcohol	TX	4420	10184404
tert-Butylbenzene	TX	4445	10184404
Tetrachloroethylene (Perchloroethylene)	TX	5115	10184404
Toluene	TX	5140	10184404
trans-1,2-Dichloroethylene	TX	4700	10184404
trans-1,3-Dichloropropylene	TX	4685	10184404
trans-1,4-Dichloro-2-butene	TX	4605	10184404
Trichloroethene (Trichloroethylene)	TX	5170	10184404
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Vinyl acetate	TX	5225	10184404
Vinyl chloride	TX	5235	10184404
Xylene (total)	TX	5260	10184404

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
1,2,4,5-Tetrachlorobenzene	TX	6715	10185203
1,2,4-Trichlorobenzene	TX	5155	10185203
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10185203
1,2-Dichlorobenzene	TX	4610	10185203
1,2-Dinitrobenzene	TX	6155	10185203
1,2-Diphenylhydrazine	TX	6220	10185203
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10185203
1,3-Dichlorobenzene	TX	4615	10185203
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10185203
1,4-Dichlorobenzene	TX	4620	10185203
1,4-Dinitrobenzene	TX	6165	10185203
1,4-Naphthoquinone	TX	6420	10185203
1,4-Phenylenediamine	TX	6630	10185203
1-Chloronaphthalene	TX	5790	10185203
1-Naphthylamine	TX	6425	10185203
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	TX	4659	10185203
2,3,4,6-Tetrachlorophenol	TX	6735	10185203
2,4,5-Trichlorophenol	TX	6835	10185203
2,4,5-Trimethylaniline	TX	6880	10185203
2,4,6-Trichlorophenol	TX	6840	10185203
2,4-Diaminotoluene	TX	5880	10185203
2,4-Dichlorophenol	TX	6000	10185203
2,4-Dimethylphenol	TX	6130	10185203
2,4-Dinitrophenol	TX	6175	10185203
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

2,6-Dichlorophenol	TX	6005	10185203
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10185203
2-Acetylaminofluorene	TX	5515	10185203
2-Chloronaphthalene	TX	5795	10185203
2-Chlorophenol	TX	5800	10185203
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	TX	6360	10185203
2-Methylaniline (o-Toluidine)	TX	5145	10185203
2-Methylnaphthalene	TX	6385	10185203
2-Methylphenol (o-Cresol)	TX	6400	10185203
2-Naphthylamine	TX	6430	10185203
2-Nitroaniline	TX	6460	10185203
2-Nitrophenol	TX	6490	10185203
2-Picoline (2-Methylpyridine)	TX	5050	10185203
3,3'-Dichlorobenzidine	TX	5945	10185203
3,3'-Dimethylbenzidine	TX	6120	10185203
3-Methylcholanthrene	TX	6355	10185203
3-Methylphenol (m-Cresol)	TX	6405	10185203
3-Nitroaniline	TX	6465	10185203
4-Aminobiphenyl	TX	5540	10185203
4-Bromophenyl phenyl ether (BDE-3)	TX	5660	10185203
4-Chloro-3-methylphenol	TX	5700	10185203
4-Chloroaniline	TX	5745	10185203
4-Chlorophenyl phenylether	TX	5825	10185203
4-Methylphenol (p-Cresol)	TX	6410	10185203
4-Nitroaniline	TX	6470	10185203
4-Nitrophenol	TX	6500	10185203
4-Nitroquinoline-1-oxide	TX	6510	10185203
5-Nitro-o-toluidine	TX	6570	10185203
7,12-Dimethylbenz(a) anthracene	TX	6115	10185203
a-a-Dimethylphenethylamine	TX	6125	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Acenaphthene	TX	5500	10185203
Acenaphthylene	TX	5505	10185203
Acetophenone	TX	5510	10185203
Aniline	TX	5545	10185203
Anthracene	TX	5555	10185203
Aramite	TX	5560	10185203
Atrazine	TX	7065	10185203
Azinphos-methyl (Guthion)	TX	7075	10185203
Azobenzene	TX	5562	10185203
Benzenethiol (Thiophenol)	TX	6750	10185203
Benzidine	TX	5595	10185203
Benzo(a)anthracene	TX	5575	10185203
Benzo(a)pyrene	TX	5580	10185203
Benzo(b)fluoranthene	TX	5585	10185203
Benzo(e)pyrene	TX	5605	10185203
Benzo(g,h,i)perylene	TX	5590	10185203
Benzo(k)fluoranthene	TX	5600	10185203
Benzoic acid	TX	5610	10185203
Benzyl alcohol	TX	5630	10185203
Biphenyl	TX	5640	10185203
bis(2-Chloroethoxy)methane	TX	5760	10185203
bis(2-Chloroethyl) ether	TX	5765	10185203
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	TX	6065	10185203
Butyl benzyl phthalate	TX	5670	10185203
Caprolactam	TX	7180	10185203
Carbaryl (Sevin)	TX	7195	10185203
Carbazole	TX	5680	10185203
Carbophenothion	TX	7220	10185203
Chlorobenzilate	TX	7260	10185203
Chrysene	TX	5855	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Demeton	TX	7390	10185203
Demeton-o	TX	7395	10185203
Demeton-s	TX	7385	10185203
Diallate	TX	7405	10185203
Dibenz(a,h) anthracene	TX	5895	10185203
Dibenz(a,j) acridine	TX	5900	10185203
Dibenzo(a,e) pyrene	TX	5890	10185203
Dibenzofuran	TX	5905	10185203
Dichlorovos (DDVP, Dichlorvos)	TX	8610	10185203
Diethyl phthalate	TX	6070	10185203
Dimethoate	TX	7475	10185203
Dimethyl phthalate	TX	6135	10185203
Di-n-butyl phthalate	TX	5925	10185203
Di-n-octyl phthalate	TX	6200	10185203
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10185203
Diphenylamine	TX	6205	10185203
Disulfoton	TX	8625	10185203
Ethyl methanesulfonate	TX	6260	10185203
Fluoranthene	TX	6265	10185203
Fluorene	TX	6270	10185203
Hexachlorobenzene	TX	6275	10185203
Hexachlorobutadiene	TX	4835	10185203
Hexachlorocyclopentadiene	TX	6285	10185203
Hexachloroethane	TX	4840	10185203
Hexachlorophene	TX	6290	10185203
Hexachloropropene	TX	6295	10185203
Indeno(1,2,3-cd) pyrene	TX	6315	10185203
Isodrin	TX	7725	10185203
Isophorone	TX	6320	10185203
Isosafrole	TX	6325	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Kepone	TX	7740	10185203
Malathion	TX	7770	10185203
Methapyrilene	TX	6345	10185203
Methyl methanesulfonate	TX	6375	10185203
Methyl parathion (Parathion, methyl)	TX	7825	10185203
Mevinphos	TX	7850	10185203
Naphthalene	TX	5005	10185203
Nitrobenzene	TX	5015	10185203
n-Nitrosodiethylamine	TX	6525	10185203
n-Nitrosodimethylamine	TX	6530	10185203
n-Nitrosodi-n-butylamine	TX	5025	10185203
n-Nitrosodi-n-propylamine	TX	6545	10185203
n-Nitrosodiphenylamine	TX	6535	10185203
n-Nitrosomethylethylamine	TX	6550	10185203
n-Nitrosomorpholine	TX	6555	10185203
n-Nitrosopiperidine	TX	6560	10185203
n-Nitrosopyrrolidine	TX	6565	10185203
o,o,o-Triethyl phosphorothioate	TX	8290	10185203
o-Anisidine	TX	5550	10185203
Parathion, ethyl	TX	7955	10185203
p-Cresidine	TX	5860	10185203
Pentachlorobenzene	TX	6590	10185203
Pentachloronitrobenzene (PCNB)	TX	6600	10185203
Pentachlorophenol	TX	6605	10185203
Phenacetin	TX	6610	10185203
Phenanthrene	TX	6615	10185203
Phenol	TX	6625	10185203
Phorate	TX	7985	10185203
Pronamide (Kerb)	TX	6650	10185203
Pyrene	TX	6665	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Pyridine	TX	5095	10185203
Quinoline	TX	6670	10185203
Safrole	TX	6685	10185203
Sulfotepp	TX	8155	10185203
Terbufos	TX	8185	10185203
Tetrachlorvinphos (Stirophos, Gardona)	TX	8197	10185203
Thionazin (Zinophos)	TX	8235	10185203
Toluene diisocyanate	TX	6775	10185203

Method EPA 8290

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	TX	9516	10187209
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	TX	9519	10187209
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	TX	9420	10187209
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	TX	9426	10187209
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	TX	9423	10187209
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	TX	9471	10187209
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	TX	9453	10187209
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	TX	9474	10187209
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	TX	9456	10187209
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	TX	9477	10187209
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	TX	9459	10187209
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	TX	9543	10187209
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	TX	9540	10187209
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	TX	9480	10187209
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	TX	9549	10187209
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	TX	9612	10187209
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10187209
Total Heptachlorodibenzofuran (Total HpCDF)	TX	9444	10187209
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	TX	9438	10187209
Total Hexachlorodibenzofuran (Total HxCDF)	TX	9483	10187209

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	TX	9468	10187209
Total Pentachlorodibenzofuran (Total PeCDF)	TX	9552	10187209
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	TX	9555	10187209
Total Tetrachlorodibenzofuran (Total TCDF)	TX	9615	10187209
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	TX	9609	10187209

Method EPA 8316

Analyte	**AB**	**Analyte ID**	**Method ID**
Acrylamide	TX	4330	10188202

Method EPA 8330

Analyte	**AB**	**Analyte ID**	**Method ID**
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10189807
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10189807
2,4,6-Trinitrotoluene (2,4,6-TNT)	TX	9651	10189807
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10189807
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10189807
2-Amino-4,6-dinitrotoluene (2-am-dnt)	TX	9303	10189807
2-Nitrotoluene	TX	9507	10189807
3-Nitrotoluene	TX	9510	10189807
4-Amino-2,6-dinitrotoluene (4-am-dnt)	TX	9306	10189807
4-Nitrotoluene	TX	9513	10189807
Methyl-2,4,6-trinitrophenylnitramine (tetryl)	TX	6415	10189807
Nitrobenzene	TX	5015	10189807
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	TX	9522	10189807
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	TX	9432	10189807

Method EPA 9014

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	TX	1510	10193803
Total cyanide	TX	1645	10193803

Method EPA 9038

Analyte	**AB**	**Analyte ID**	**Method ID**
Sulfate	TX	2000	10196608

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Method EPA 9040

Analyte	AB	Analyte ID	Method ID
Corrosivity	TX	1615	10197203
pH	TX	1900	10196802

Method EPA 9045

Analyte	AB	Analyte ID	Method ID
Corrosivity	TX	1615	10197805
pH	TX	1900	10197805

Method EPA 9050

Analyte	AB	Analyte ID	Method ID
Conductivity	TX	1610	10198604

Method EPA 9056

Analyte	AB	Analyte ID	Method ID
Bromide	TX	1540	10199209
Chloride	TX	1575	10199209
Fluoride	TX	1730	10199209
Nitrate as N	TX	1810	10199209
Nitrate-nitrite	TX	1820	10199209
Nitrite as N	TX	1840	10199209
Orthophosphate as P	TX	1870	10199209
Sulfate	TX	2000	10199209

Method EPA 9060

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	10200201

Method EPA 9065

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10200405

Method EPA 9071

Analyte	AB	Analyte ID	Method ID
n-Hexane Extractable Material (HEM) (O&G)	TX	1803	10201204

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Method	Analyte	AB	Analyte ID	Method ID
EPA 9095	Paint Filter Liquids Test	TX	10312	10204009
EPA 9250	Chloride	TX	1575	10207202
SM 2320 B	Alkalinity as CaCO3	TX	1505	20045005
SM 2510 B	Conductivity	TX	1610	20048004
SM 2540 G	Residue-total (total solids)	TX	1950	20005203
SSA/ASA Part 3:34	Carbon, organic (Walkley-Black)	TX	10340	SSA/ASA Pt 3:34
TCEQ 1005	Total Petroleum Hydrocarbons (TPH)	TX	2050	90019208

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

July 19, 2019

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS19070575**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 21 sample(s) on Jul 11, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS19070575**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS19070575**	

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 07/19/2019					
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS19070575					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 143014,143067,143129,R342400,R342410,R342474					
#[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					
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X					
		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 SW-846 Method 5035?			X			
		If required for the project, 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			1	
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 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					
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			2	
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X					
		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					
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					
		Were all necessary corrective actions performed for the reported data?	X					
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				3	
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X					

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 07/19/2019				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS19070575				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 143014,143067,143129,R342400,R342410,R342474				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group		LRC Date: 07/19/2019
Project Name: Houston TX-Wood Preserving Works		Laboratory Job Number: HS19070575
Reviewer Name: Dane Wacasey		Prep Batch Number(s): 143014,143067,143129,R342400,R342410,R342474
ER#[5]	**Description**	
1	Semivolatile Organics Method SW8270, samples WG-1620-MW18A-20190710, WG-1620-MW18C-20190710, WG-1620-MW58A-20190710, WG-1620-MW57A-20190710, WG-1620-MW57B-20190710, WG-1620-MW72B-20190710, WG-1620-MW17C-20190710, WG-1620-MW17-20190710, WG-1620-MW20A-20190710, WG-1620-MW15B-20190710, WG-1620-MW12A-20190711, the surrogate recoveries could not be determined due to dilution below the calibration range.	
2	Batch 143014, Semivolatile Organics Method SW8270, LCS/LCSD were analyzed and reported in lieu of an MS/MSD for this batch.	
3	Batch 143014, Semivolatile Organics Method SW8270, samples WG-1620-MW57B-20190710, WG-1620-MW72B-20190710, WG-1620-MW17-20190710, the GCMS semi-volatile extract of the samples were run at a dilution due to a high level of matrix interference.	

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19070575

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19070575-01	WG-1620-MW18A-20190710	Water		10-Jul-2019 07:20	11-Jul-2019 16:45	☐
HS19070575-02	WG-1620-MW18C-20190710	Water		10-Jul-2019 08:05	11-Jul-2019 16:45	☐
HS19070575-03	WG-1620-MW58A-20190710	Water		10-Jul-2019 08:55	11-Jul-2019 16:45	☐
HS19070575-04	WG-1620-MW57A-20190710	Water		10-Jul-2019 09:55	11-Jul-2019 16:45	☐
HS19070575-05	WG-1620-MW57B-20190710	Water		10-Jul-2019 10:40	11-Jul-2019 16:45	☐
HS19070575-06	WG-1620-MW72B-20190710	Water		10-Jul-2019 11:35	11-Jul-2019 16:45	☐
HS19070575-07	WG-1620-MW19C-20190710	Water		10-Jul-2019 12:25	11-Jul-2019 16:45	☐
HS19070575-08	WG-1620-MW17C-20190710	Water		10-Jul-2019 13:25	11-Jul-2019 16:45	☐
HS19070575-09	WG-1620-MW17-20190710	Water		10-Jul-2019 14:15	11-Jul-2019 16:45	☐
HS19070575-10	WG-1620-MW20A-20190710	Water		10-Jul-2019 15:10	11-Jul-2019 16:45	☐
HS19070575-11	WG-1620-MW15A-20190710	Water		10-Jul-2019 16:10	11-Jul-2019 16:45	☐
HS19070575-12	WG-1620-MW15C-20190710	Water		10-Jul-2019 17:05	11-Jul-2019 16:45	☐
HS19070575-13	WG-1620-MW15B-20190710	Water		10-Jul-2019 18:00	11-Jul-2019 16:45	☐
HS19070575-14	WG-1620-FB01-20190710	Water		10-Jul-2019 18:15	11-Jul-2019 16:45	☐
HS19070575-15	WG-1620-MW14-20190711	Water		11-Jul-2019 07:20	11-Jul-2019 16:45	☐
HS19070575-16	WG-1620-MW13-20190711	Water		11-Jul-2019 08:15	11-Jul-2019 16:45	☐
HS19070575-17	WG-1620-MW39B-20190711	Water		11-Jul-2019 09:15	11-Jul-2019 16:45	☐
HS19070575-18	WG-1620-MW12C-20190711	Water		11-Jul-2019 10:00	11-Jul-2019 16:45	☐
HS19070575-19	WG-1620-MW12A-20190711	Water		11-Jul-2019 10:55	11-Jul-2019 16:45	☐
HS19070575-20	WQ-1620-TB01-20190710	Water	C&G-062119-76	10-Jul-2019 00:00	11-Jul-2019 16:45	☐
HS19070575-21	WQ-1620-TB02-20190710	Water	C&G-062119-84	10-Jul-2019 00:00	11-Jul-2019 16:45	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW18A-20190710
Collection Date: 10-Jul-2019 07:20

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jul-2019 04:56
Benzene	**0.16**		**0.00020**	**0.0010**	**mg/L**	1	14-Jul-2019 04:56
Chlorobenzene	**0.0017**		**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 04:56
Ethylbenzene	**0.28**		**0.0015**	**0.0050**	**mg/L**	5	15-Jul-2019 19:23
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jul-2019 04:56
Toluene	**0.057**		**0.00020**	**0.0010**	**mg/L**	1	14-Jul-2019 04:56
Vinyl chloride	**0.0013**		**0.00020**	**0.0010**	**mg/L**	1	14-Jul-2019 04:56
Xylenes, Total	**0.47**		**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 04:56
Surr: 1,2-Dichloroethane-d4	*83.0*			*70-126*	*%REC*	*1*	*14-Jul-2019 04:56*
Surr: 1,2-Dichloroethane-d4	*87.9*			*70-126*	*%REC*	*5*	*15-Jul-2019 19:23*
Surr: 4-Bromofluorobenzene	*98.6*			*81-113*	*%REC*	*1*	*14-Jul-2019 04:56*
Surr: 4-Bromofluorobenzene	*94.8*			*81-113*	*%REC*	*5*	*15-Jul-2019 19:23*
Surr: Dibromofluoromethane	*98.1*			*77-123*	*%REC*	*1*	*14-Jul-2019 04:56*
Surr: Dibromofluoromethane	*97.2*			*77-123*	*%REC*	*5*	*15-Jul-2019 19:23*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*14-Jul-2019 04:56*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*5*	*15-Jul-2019 19:23*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW18A-20190710
Collection Date: 10-Jul-2019 07:20

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jul-2019 13:05
2,4-Dimethylphenol	**0.72**		**0.0040**	**0.020**	**mg/L**	100	15-Jul-2019 19:37
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jul-2019 13:05
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jul-2019 13:05
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jul-2019 13:05
2-Methylnaphthalene	**0.47**		**0.0019**	**0.010**	**mg/L**	100	15-Jul-2019 19:37
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jul-2019 13:05
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jul-2019 13:05
Acenaphthene	**0.30**		**0.0027**	**0.010**	**mg/L**	100	15-Jul-2019 19:37
Acenaphthylene	**0.0056**		**0.000015**	**0.00010**	**mg/L**	1	15-Jul-2019 13:05
Anthracene	**0.0063**		**0.000014**	**0.00010**	**mg/L**	1	15-Jul-2019 13:05
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jul-2019 13:05
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jul-2019 13:05
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jul-2019 13:05
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	15-Jul-2019 13:05
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jul-2019 13:05
Dibenzofuran	**0.19**		**0.0020**	**0.010**	**mg/L**	100	15-Jul-2019 19:37
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jul-2019 13:05
Fluoranthene	**0.0022**		**0.000010**	**0.00010**	**mg/L**	1	15-Jul-2019 13:05
Fluorene	**0.091**		**0.00030**	**0.0010**	**mg/L**	10	15-Jul-2019 19:17
Naphthalene	**5.6**		**0.020**	**0.10**	**mg/L**	1000	15-Jul-2019 19:56
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jul-2019 13:05
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jul-2019 13:05
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jul-2019 13:05
Phenanthrene	**0.075**		**0.00021**	**0.0010**	**mg/L**	10	15-Jul-2019 19:17
Phenol	**0.00048**		**0.000035**	**0.00020**	**mg/L**	1	15-Jul-2019 13:05
Pyrene	**0.0011**		**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 13:05
Surr: 2,4,6-Tribromophenol	*77.5*			*34-129*	*%REC*	*1*	*15-Jul-2019 13:05*
Surr: 2,4,6-Tribromophenol	*89.8*			*34-129*	*%REC*	*10*	*15-Jul-2019 19:17*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*15-Jul-2019 19:37*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*1000*	*15-Jul-2019 19:56*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*1000*	*15-Jul-2019 19:56*
Surr: 2-Fluorobiphenyl	*49.1*			*40-125*	*%REC*	*1*	*15-Jul-2019 13:05*
Surr: 2-Fluorobiphenyl	*62.1*			*40-125*	*%REC*	*10*	*15-Jul-2019 19:17*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*15-Jul-2019 19:37*
Surr: 2-Fluorophenol	*80.2*			*20-120*	*%REC*	*1*	*15-Jul-2019 13:05*
Surr: 2-Fluorophenol	*74.7*			*20-120*	*%REC*	*10*	*15-Jul-2019 19:17*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*15-Jul-2019 19:37*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*1000*	*15-Jul-2019 19:56*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW18A-20190710
Collection Date: 10-Jul-2019 07:20

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jul-2019		Analyst: GEY
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*1000*	*15-Jul-2019 19:56*
Surr: 4-Terphenyl-d14	*69.4*			*40-135*	*%REC*	*1*	*15-Jul-2019 13:05*
Surr: 4-Terphenyl-d14	*92.2*			*40-135*	*%REC*	*10*	*15-Jul-2019 19:17*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*15-Jul-2019 19:37*
Surr: Nitrobenzene-d5	*56.3*			*41-120*	*%REC*	*1*	*15-Jul-2019 13:05*
Surr: Nitrobenzene-d5	*71.1*			*41-120*	*%REC*	*10*	*15-Jul-2019 19:17*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*15-Jul-2019 19:37*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*1000*	*15-Jul-2019 19:56*
Surr: Phenol-d6	*71.2*			*20-120*	*%REC*	*1*	*15-Jul-2019 13:05*
Surr: Phenol-d6	*65.2*			*20-120*	*%REC*	*10*	*15-Jul-2019 19:17*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*15-Jul-2019 19:37*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*1000*	*15-Jul-2019 19:56*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	**0.0248**		**0.000400**	**0.00200**	**mg/L**	1	16-Jul-2019 22:38

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070575
Sample ID: WG-1620-MW18C-20190710
Lab ID:HS19070575-02
Collection Date: 10-Jul-2019 08:05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jul-2019 06:09
Benzene	**1.2**		**0.0020**	**0.010**	**mg/L**	10	15-Jul-2019 19:50
Chlorobenzene	**0.00052**	J	**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 06:09
Ethylbenzene	**0.32**		**0.0030**	**0.010**	**mg/L**	10	15-Jul-2019 19:50
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jul-2019 06:09
Toluene	**1.0**		**0.0020**	**0.010**	**mg/L**	10	15-Jul-2019 19:50
Vinyl chloride	U		0.00020	0.0010	mg/L	1	14-Jul-2019 06:09
Xylenes, Total	**1.0**		**0.0030**	**0.010**	**mg/L**	10	15-Jul-2019 19:50
Surr: 1,2-Dichloroethane-d4	*81.7*			*70-126*	*%REC*	*1*	*14-Jul-2019 06:09*
Surr: 1,2-Dichloroethane-d4	*87.1*			*70-126*	*%REC*	*10*	*15-Jul-2019 19:50*
Surr: 4-Bromofluorobenzene	*99.2*			*81-113*	*%REC*	*1*	*14-Jul-2019 06:09*
Surr: 4-Bromofluorobenzene	*96.3*			*81-113*	*%REC*	*10*	*15-Jul-2019 19:50*
Surr: Dibromofluoromethane	*97.5*			*77-123*	*%REC*	*1*	*14-Jul-2019 06:09*
Surr: Dibromofluoromethane	*97.9*			*77-123*	*%REC*	*10*	*15-Jul-2019 19:50*
Surr: Toluene-d8	*100.0*			*82-127*	*%REC*	*1*	*14-Jul-2019 06:09*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*10*	*15-Jul-2019 19:50*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW18C-20190710
Collection Date: 10-Jul-2019 08:05

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jul-2019 13:25
2,4-Dimethylphenol	**0.0051**		**0.000040**	**0.00020**	**mg/L**	1	15-Jul-2019 13:25
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jul-2019 13:25
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jul-2019 13:25
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jul-2019 13:25
2-Methylnaphthalene	**0.28**		**0.0019**	**0.010**	**mg/L**	100	15-Jul-2019 20:36
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jul-2019 13:25
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jul-2019 13:25
Acenaphthene	**0.058**		**0.00027**	**0.0010**	**mg/L**	10	15-Jul-2019 20:16
Acenaphthylene	**0.0050**		**0.000015**	**0.00010**	**mg/L**	1	15-Jul-2019 13:25
Anthracene	**0.0056**		**0.000014**	**0.00010**	**mg/L**	1	15-Jul-2019 13:25
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jul-2019 13:25
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jul-2019 13:25
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jul-2019 13:25
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	15-Jul-2019 13:25
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jul-2019 13:25
Dibenzofuran	**0.054**		**0.00020**	**0.0010**	**mg/L**	10	15-Jul-2019 20:16
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jul-2019 13:25
Fluoranthene	**0.0019**		**0.000010**	**0.00010**	**mg/L**	1	15-Jul-2019 13:25
Fluorene	**0.024**		**0.00030**	**0.0010**	**mg/L**	10	15-Jul-2019 20:16
Naphthalene	**9.9**		**0.10**	**0.50**	**mg/L**	5000	16-Jul-2019 13:47
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jul-2019 13:25
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jul-2019 13:25
Pentachlorophenol	**0.034**		**0.00079**	**0.0020**	**mg/L**	10	15-Jul-2019 20:16
Phenanthrene	**0.026**		**0.00021**	**0.0010**	**mg/L**	10	15-Jul-2019 20:16
Phenol	**0.0050**		**0.000035**	**0.00020**	**mg/L**	1	15-Jul-2019 13:25
Pyrene	**0.0014**		**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 13:25
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*5000*	*16-Jul-2019 13:47*
Surr: 2,4,6-Tribromophenol	*38.0*			*34-129*	*%REC*	*1*	*15-Jul-2019 13:25*
Surr: 2,4,6-Tribromophenol	*91.7*			*34-129*	*%REC*	*10*	*15-Jul-2019 20:16*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*15-Jul-2019 20:36*
Surr: 2-Fluorobiphenyl	*68.1*			*40-125*	*%REC*	*10*	*15-Jul-2019 20:16*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*15-Jul-2019 20:36*
Surr: 2-Fluorobiphenyl	*42.6*			*40-125*	*%REC*	*1*	*15-Jul-2019 13:25*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*5000*	*16-Jul-2019 13:47*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*5000*	*16-Jul-2019 13:47*
Surr: 2-Fluorophenol	*43.8*			*20-120*	*%REC*	*1*	*15-Jul-2019 13:25*
Surr: 2-Fluorophenol	*114*			*20-120*	*%REC*	*10*	*15-Jul-2019 20:16*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*15-Jul-2019 20:36*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW18C-20190710
Collection Date: 10-Jul-2019 08:05

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jul-2019		Analyst: GEY
Surr: 4-Terphenyl-d14	*74.9*			*40-135*	*%REC*	*10*	*15-Jul-2019 20:16*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*15-Jul-2019 20:36*
Surr: 4-Terphenyl-d14	*68.0*			*40-135*	*%REC*	*1*	*15-Jul-2019 13:25*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*5000*	*16-Jul-2019 13:47*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*5000*	*16-Jul-2019 13:47*
Surr: Nitrobenzene-d5	*57.2*			*41-120*	*%REC*	*1*	*15-Jul-2019 13:25*
Surr: Nitrobenzene-d5	*44.0*			*41-120*	*%REC*	*10*	*15-Jul-2019 20:16*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*15-Jul-2019 20:36*
Surr: Phenol-d6	*45.4*			*20-120*	*%REC*	*1*	*15-Jul-2019 13:25*
Surr: Phenol-d6	*71.7*			*20-120*	*%REC*	*10*	*15-Jul-2019 20:16*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*15-Jul-2019 20:36*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*5000*	*16-Jul-2019 13:47*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	**0.00358**		**0.000400**	**0.00200**	**mg/L**	1	16-Jul-2019 22:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070575
Sample ID: WG-1620-MW58A-20190710
Lab ID:HS19070575-03
Collection Date: 10-Jul-2019 08:55
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jul-2019 05:20
Benzene	**0.0049**		**0.00020**	**0.0010**	**mg/L**	1	14-Jul-2019 05:20
Chlorobenzene	**0.00080**	J	**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 05:20
Ethylbenzene	**0.017**		**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 05:20
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jul-2019 05:20
Toluene	U		0.00020	0.0010	mg/L	1	14-Jul-2019 05:20
Vinyl chloride	U		0.00020	0.0010	mg/L	1	14-Jul-2019 05:20
Xylenes, Total	**0.028**		**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 05:20
Surr: 1,2-Dichloroethane-d4	*86.6*			*70-126*	*%REC*	*1*	*14-Jul-2019 05:20*
Surr: 4-Bromofluorobenzene	*96.1*			*81-113*	*%REC*	*1*	*14-Jul-2019 05:20*
Surr: Dibromofluoromethane	*99.0*			*77-123*	*%REC*	*1*	*14-Jul-2019 05:20*
Surr: Toluene-d8	*99.4*			*82-127*	*%REC*	*1*	*14-Jul-2019 05:20*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070575
Sample ID: WG-1620-MW58A-20190710
Lab ID:HS19070575-03
Collection Date: 10-Jul-2019 08:55
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jul-2019 13:45
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	15-Jul-2019 13:45
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jul-2019 13:45
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jul-2019 13:45
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jul-2019 13:45
2-Methylnaphthalene	**0.015**		**0.00019**	**0.0010**	**mg/L**	10	15-Jul-2019 21:15
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jul-2019 13:45
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jul-2019 13:45
Acenaphthene	**0.11**		**0.0027**	**0.010**	**mg/L**	100	15-Jul-2019 21:34
Acenaphthylene	**0.00087**		**0.000015**	**0.00010**	**mg/L**	1	15-Jul-2019 13:45
Anthracene	**0.062**		**0.00014**	**0.0010**	**mg/L**	10	15-Jul-2019 21:15
Benz(a)anthracene	**0.00082**		**0.000050**	**0.00010**	**mg/L**	1	15-Jul-2019 13:45
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jul-2019 13:45
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jul-2019 13:45
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	15-Jul-2019 13:45
Chrysene	**0.00084**		**0.000021**	**0.00010**	**mg/L**	1	15-Jul-2019 13:45
Dibenzofuran	**0.059**		**0.00020**	**0.0010**	**mg/L**	10	15-Jul-2019 21:15
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jul-2019 13:45
Fluoranthene	**0.020**		**0.00010**	**0.0010**	**mg/L**	10	15-Jul-2019 21:15
Fluorene	**0.15**		**0.0030**	**0.010**	**mg/L**	100	15-Jul-2019 21:34
Naphthalene	**0.46**		**0.0020**	**0.010**	**mg/L**	100	15-Jul-2019 21:34
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jul-2019 13:45
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jul-2019 13:45
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jul-2019 13:45
Phenanthrene	**0.036**		**0.00021**	**0.0010**	**mg/L**	10	15-Jul-2019 21:15
Phenol	U		0.000035	0.00020	mg/L	1	15-Jul-2019 13:45
Pyrene	**0.0099**		**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 13:45
Surr: 2,4,6-Tribromophenol	*93.8*			*34-129*	*%REC*	*10*	*15-Jul-2019 21:15*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*15-Jul-2019 21:34*
Surr: 2,4,6-Tribromophenol	*74.0*			*34-129*	*%REC*	*1*	*15-Jul-2019 13:45*
Surr: 2-Fluorobiphenyl	*47.7*			*40-125*	*%REC*	*1*	*15-Jul-2019 13:45*
Surr: 2-Fluorobiphenyl	*68.2*			*40-125*	*%REC*	*10*	*15-Jul-2019 21:15*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*15-Jul-2019 21:34*
Surr: 2-Fluorophenol	*76.7*			*20-120*	*%REC*	*10*	*15-Jul-2019 21:15*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*15-Jul-2019 21:34*
Surr: 2-Fluorophenol	*59.4*			*20-120*	*%REC*	*1*	*15-Jul-2019 13:45*
Surr: 4-Terphenyl-d14	*67.0*			*40-135*	*%REC*	*1*	*15-Jul-2019 13:45*
Surr: 4-Terphenyl-d14	*86.4*			*40-135*	*%REC*	*10*	*15-Jul-2019 21:15*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*15-Jul-2019 21:34*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070575
Sample ID: WG-1620-MW58A-20190710
Lab ID:HS19070575-03
Collection Date: 10-Jul-2019 08:55
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jul-2019		Analyst: GEY
Surr: Nitrobenzene-d5	*57.0*			*41-120*	*%REC*	*1*	*15-Jul-2019 13:45*
Surr: Nitrobenzene-d5	*78.8*			*41-120*	*%REC*	*10*	*15-Jul-2019 21:15*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*15-Jul-2019 21:34*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*15-Jul-2019 21:34*
Surr: Phenol-d6	*62.6*			*20-120*	*%REC*	*1*	*15-Jul-2019 13:45*
Surr: Phenol-d6	*69.9*			*20-120*	*%REC*	*10*	*15-Jul-2019 21:15*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	**0.00748**		**0.000400**	**0.00200**	**mg/L**	1	16-Jul-2019 22:43

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW57A-20190710
Collection Date: 10-Jul-2019 09:55

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jul-2019 05:45
Benzene	**0.00057**	J	**0.00020**	**0.0010**	**mg/L**	1	14-Jul-2019 05:45
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jul-2019 05:45
Ethylbenzene	**0.00085**	J	**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 05:45
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jul-2019 05:45
Toluene	U		0.00020	0.0010	mg/L	1	14-Jul-2019 05:45
Vinyl chloride	U		0.00020	0.0010	mg/L	1	14-Jul-2019 05:45
Xylenes, Total	U		0.00030	0.0010	mg/L	1	14-Jul-2019 05:45
Surr: 1,2-Dichloroethane-d4	*87.8*			*70-126*	*%REC*	*1*	*14-Jul-2019 05:45*
Surr: 4-Bromofluorobenzene	*96.0*			*81-113*	*%REC*	*1*	*14-Jul-2019 05:45*
Surr: Dibromofluoromethane	*97.9*			*77-123*	*%REC*	*1*	*14-Jul-2019 05:45*
Surr: Toluene-d8	*99.9*			*82-127*	*%REC*	*1*	*14-Jul-2019 05:45*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070575
Sample ID: WG-1620-MW57A-20190710
Lab ID:HS19070575-04
Collection Date: 10-Jul-2019 09:55
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jul-2019 14:04
2,4-Dimethylphenol	**0.00059**		**0.000040**	**0.00020**	**mg/L**	1	15-Jul-2019 14:04
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jul-2019 14:04
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jul-2019 14:04
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jul-2019 14:04
2-Methylnaphthalene	**0.19**		**0.0019**	**0.010**	**mg/L**	100	15-Jul-2019 22:13
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jul-2019 14:04
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jul-2019 14:04
Acenaphthene	**0.099**		**0.00027**	**0.0010**	**mg/L**	10	15-Jul-2019 21:54
Acenaphthylene	**0.0019**		**0.000015**	**0.00010**	**mg/L**	1	15-Jul-2019 14:04
Anthracene	**0.0084**		**0.000014**	**0.00010**	**mg/L**	1	15-Jul-2019 14:04
Benz(a)anthracene	**0.00100**		**0.000050**	**0.00010**	**mg/L**	1	15-Jul-2019 14:04
Benzo(a)pyrene	**0.00054**		**0.000020**	**0.00010**	**mg/L**	1	15-Jul-2019 14:04
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jul-2019 14:04
Bis(2-ethylhexyl)phthalate	**0.00021**		**0.000037**	**0.00020**	**mg/L**	1	15-Jul-2019 14:04
Chrysene	**0.00100**		**0.000021**	**0.00010**	**mg/L**	1	15-Jul-2019 14:04
Dibenzofuran	**0.076**		**0.00020**	**0.0010**	**mg/L**	10	15-Jul-2019 21:54
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jul-2019 14:04
Fluoranthene	**0.0091**		**0.000010**	**0.00010**	**mg/L**	1	15-Jul-2019 14:04
Fluorene	**0.059**		**0.00030**	**0.0010**	**mg/L**	10	15-Jul-2019 21:54
Naphthalene	**0.61**		**0.0020**	**0.010**	**mg/L**	100	15-Jul-2019 22:13
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jul-2019 14:04
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jul-2019 14:04
Pentachlorophenol	**0.00059**		**0.000079**	**0.00020**	**mg/L**	1	15-Jul-2019 14:04
Phenanthrene	**0.059**		**0.00021**	**0.0010**	**mg/L**	10	15-Jul-2019 21:54
Phenol	**0.00016**	J	**0.000035**	**0.00020**	**mg/L**	1	15-Jul-2019 14:04
Pyrene	**0.0055**		**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 14:04
Surr: 2,4,6-Tribromophenol	*117*			*34-129*	*%REC*	*10*	*15-Jul-2019 21:54*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*15-Jul-2019 22:13*
Surr: 2,4,6-Tribromophenol	*74.0*			*34-129*	*%REC*	*1*	*15-Jul-2019 14:04*
Surr: 2-Fluorobiphenyl	*54.5*			*40-125*	*%REC*	*1*	*15-Jul-2019 14:04*
Surr: 2-Fluorobiphenyl	*80.3*			*40-125*	*%REC*	*10*	*15-Jul-2019 21:54*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*15-Jul-2019 22:13*
Surr: 2-Fluorophenol	*61.2*			*20-120*	*%REC*	*1*	*15-Jul-2019 14:04*
Surr: 2-Fluorophenol	*80.0*			*20-120*	*%REC*	*10*	*15-Jul-2019 21:54*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*15-Jul-2019 22:13*
Surr: 4-Terphenyl-d14	*65.2*			*40-135*	*%REC*	*1*	*15-Jul-2019 14:04*
Surr: 4-Terphenyl-d14	*97.9*			*40-135*	*%REC*	*10*	*15-Jul-2019 21:54*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*15-Jul-2019 22:13*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070575
Sample ID: WG-1620-MW57A-20190710
Lab ID:HS19070575-04
Collection Date: 10-Jul-2019 09:55
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jul-2019		Analyst: GEY
Surr: Nitrobenzene-d5	*58.0*			*41-120*	*%REC*	*1*	*15-Jul-2019 14:04*
Surr: Nitrobenzene-d5	*89.3*			*41-120*	*%REC*	*10*	*15-Jul-2019 21:54*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*15-Jul-2019 22:13*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*15-Jul-2019 22:13*
Surr: Phenol-d6	*70.1*			*20-120*	*%REC*	*1*	*15-Jul-2019 14:04*
Surr: Phenol-d6	*87.2*			*20-120*	*%REC*	*10*	*15-Jul-2019 21:54*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	**0.00447**		**0.000400**	**0.00200**	**mg/L**	1	16-Jul-2019 22:45

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW57B-20190710
Collection Date: 10-Jul-2019 10:40

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jul-2019 06:19
Benzene	**0.84**		**0.0020**	**0.010**	**mg/L**	10	14-Jul-2019 06:47
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jul-2019 06:19
Ethylbenzene	**0.39**		**0.0030**	**0.010**	**mg/L**	10	14-Jul-2019 06:47
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jul-2019 06:19
Toluene	**0.93**		**0.0020**	**0.010**	**mg/L**	10	14-Jul-2019 06:47
Vinyl chloride	**0.00048**	J	**0.00020**	**0.0010**	**mg/L**	1	14-Jul-2019 06:19
Xylenes, Total	**1.2**		**0.0030**	**0.010**	**mg/L**	10	14-Jul-2019 06:47
Surr: 1,2-Dichloroethane-d4	*97.4*			*70-126*	*%REC*	*10*	*14-Jul-2019 06:47*
Surr: 1,2-Dichloroethane-d4	*96.3*			*70-126*	*%REC*	*1*	*14-Jul-2019 06:19*
Surr: 4-Bromofluorobenzene	*102*			*81-113*	*%REC*	*1*	*14-Jul-2019 06:19*
Surr: 4-Bromofluorobenzene	*103*			*81-113*	*%REC*	*10*	*14-Jul-2019 06:47*
Surr: Dibromofluoromethane	*97.4*			*77-123*	*%REC*	*1*	*14-Jul-2019 06:19*
Surr: Dibromofluoromethane	*98.2*			*77-123*	*%REC*	*10*	*14-Jul-2019 06:47*
Surr: Toluene-d8	*99.8*			*82-127*	*%REC*	*1*	*14-Jul-2019 06:19*
Surr: Toluene-d8	*99.1*			*82-127*	*%REC*	*10*	*14-Jul-2019 06:47*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc. **ANALYTICAL REPORT**
Project: Houston TX-Wood Preserving Works WorkOrder:HS19070575
Sample ID: WG-1620-MW57B-20190710 Lab ID:HS19070575-05
Collection Date: 10-Jul-2019 10:40 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	15-Jul-2019 14:24
2,4-Dimethylphenol	**6.5**		**0.040**	**0.20**	**mg/L**	1000	16-Jul-2019 14:06
2,4-Dinitrotoluene	U		0.00058	0.0020	mg/L	10	15-Jul-2019 14:24
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	15-Jul-2019 14:24
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	15-Jul-2019 14:24
2-Methylnaphthalene	**0.93**		**0.0019**	**0.010**	**mg/L**	100	15-Jul-2019 22:33
4,6-Dinitro-2-methylphenol	U		0.00020	0.0020	mg/L	10	15-Jul-2019 14:24
4-Nitrophenol	U		0.00047	0.010	mg/L	10	15-Jul-2019 14:24
Acenaphthene	**0.38**		**0.0027**	**0.010**	**mg/L**	100	15-Jul-2019 22:33
Acenaphthylene	**0.0051**		**0.00015**	**0.0010**	**mg/L**	10	15-Jul-2019 14:24
Anthracene	**0.039**		**0.00014**	**0.0010**	**mg/L**	10	15-Jul-2019 14:24
Benz(a)anthracene	**0.0071**		**0.00050**	**0.0010**	**mg/L**	10	15-Jul-2019 14:24
Benzo(a)pyrene	**0.0021**		**0.00020**	**0.0010**	**mg/L**	10	15-Jul-2019 14:24
Bis(2-chloroethoxy)methane	U		0.00030	0.0020	mg/L	10	15-Jul-2019 14:24
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	15-Jul-2019 14:24
Chrysene	**0.0065**		**0.00021**	**0.0010**	**mg/L**	10	15-Jul-2019 14:24
Dibenzofuran	**0.32**		**0.0020**	**0.010**	**mg/L**	100	15-Jul-2019 22:33
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	15-Jul-2019 14:24
Fluoranthene	**0.047**		**0.00010**	**0.0010**	**mg/L**	10	15-Jul-2019 14:24
Fluorene	**0.21**		**0.0030**	**0.010**	**mg/L**	100	15-Jul-2019 22:33
Naphthalene	**17**		**0.10**	**0.50**	**mg/L**	5000	16-Jul-2019 14:26
Nitrobenzene	U		0.00024	0.0020	mg/L	10	15-Jul-2019 14:24
N-Nitrosodiphenylamine	U		0.00025	0.0020	mg/L	10	15-Jul-2019 14:24
Pentachlorophenol	U		0.00079	0.0020	mg/L	10	15-Jul-2019 14:24
Phenanthrene	**0.29**		**0.0021**	**0.010**	**mg/L**	100	15-Jul-2019 22:33
Phenol	**1.0**		**0.035**	**0.20**	**mg/L**	1000	16-Jul-2019 14:06
Pyrene	**0.030**		**0.00019**	**0.0010**	**mg/L**	10	15-Jul-2019 14:24
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*1000*	*16-Jul-2019 14:06*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*5000*	*16-Jul-2019 14:26*
Surr: 2,4,6-Tribromophenol	*72.0*			*34-129*	*%REC*	*10*	*15-Jul-2019 14:24*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*15-Jul-2019 22:33*
Surr: 2-Fluorobiphenyl	*63.8*			*40-125*	*%REC*	*10*	*15-Jul-2019 14:24*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*15-Jul-2019 22:33*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*1000*	*16-Jul-2019 14:06*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*5000*	*16-Jul-2019 14:26*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*1000*	*16-Jul-2019 14:06*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*5000*	*16-Jul-2019 14:26*
Surr: 2-Fluorophenol	*70.5*			*20-120*	*%REC*	*10*	*15-Jul-2019 14:24*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*15-Jul-2019 22:33*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW57B-20190710
Collection Date: 10-Jul-2019 10:40

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jul-2019		Analyst: GEY
Surr: 4-Terphenyl-d14	*77.3*			*40-135*	*%REC*	*10*	*15-Jul-2019 14:24*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*15-Jul-2019 22:33*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*1000*	*16-Jul-2019 14:06*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*5000*	*16-Jul-2019 14:26*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*1000*	*16-Jul-2019 14:06*
Surr: Nitrobenzene-d5	*78.7*			*41-120*	*%REC*	*10*	*15-Jul-2019 14:24*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*15-Jul-2019 22:33*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*5000*	*16-Jul-2019 14:26*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*1000*	*16-Jul-2019 14:06*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*5000*	*16-Jul-2019 14:26*
Surr: Phenol-d6	*75.3*			*20-120*	*%REC*	*10*	*15-Jul-2019 14:24*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*15-Jul-2019 22:33*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	**0.00404**		**0.000400**	**0.00200**	**mg/L**	1	16-Jul-2019 22:47

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW72B-20190710
Collection Date: 10-Jul-2019 11:35

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jul-2019 07:11
Benzene	**1.1**		**0.0020**	**0.010**	**mg/L**	10	14-Jul-2019 07:38
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jul-2019 07:11
Ethylbenzene	**0.30**		**0.0030**	**0.010**	**mg/L**	10	14-Jul-2019 07:38
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jul-2019 07:11
Toluene	**0.96**		**0.0020**	**0.010**	**mg/L**	10	14-Jul-2019 07:38
Xylenes, Total	**0.97**		**0.0030**	**0.010**	**mg/L**	10	14-Jul-2019 07:38
Surr: 1,2-Dichloroethane-d4	*95.3*			*70-126*	*%REC*	*1*	*14-Jul-2019 07:11*
Surr: 1,2-Dichloroethane-d4	*96.8*			*70-126*	*%REC*	*10*	*14-Jul-2019 07:38*
Surr: 4-Bromofluorobenzene	*103*			*81-113*	*%REC*	*1*	*14-Jul-2019 07:11*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*10*	*14-Jul-2019 07:38*
Surr: Dibromofluoromethane	*97.2*			*77-123*	*%REC*	*1*	*14-Jul-2019 07:11*
Surr: Dibromofluoromethane	*98.2*			*77-123*	*%REC*	*10*	*14-Jul-2019 07:38*
Surr: Toluene-d8	*99.5*			*82-127*	*%REC*	*1*	*14-Jul-2019 07:11*
Surr: Toluene-d8	*98.4*			*82-127*	*%REC*	*10*	*14-Jul-2019 07:38*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW72B-20190710
Collection Date: 10-Jul-2019 11:35

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	15-Jul-2019 14:43
2,4-Dimethylphenol	**19**		**0.20**	**1.0**	**mg/L**	5000	17-Jul-2019 14:18
2,4-Dinitrotoluene	U		0.00058	0.0020	mg/L	10	15-Jul-2019 14:43
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	15-Jul-2019 14:43
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	15-Jul-2019 14:43
2-Methylnaphthalene	**0.57**		**0.0019**	**0.010**	**mg/L**	100	16-Jul-2019 19:00
4,6-Dinitro-2-methylphenol	U		0.00020	0.0020	mg/L	10	15-Jul-2019 14:43
4-Nitrophenol	U		0.00047	0.010	mg/L	10	15-Jul-2019 14:43
Acenaphthene	**0.20**		**0.0027**	**0.010**	**mg/L**	100	16-Jul-2019 19:00
Acenaphthylene	**0.0044**		**0.00015**	**0.0010**	**mg/L**	10	15-Jul-2019 14:43
Anthracene	**0.034**		**0.00014**	**0.0010**	**mg/L**	10	15-Jul-2019 14:43
Benz(a)anthracene	**0.0069**		**0.00050**	**0.0010**	**mg/L**	10	15-Jul-2019 14:43
Benzo(a)pyrene	**0.0019**		**0.00020**	**0.0010**	**mg/L**	10	15-Jul-2019 14:43
Bis(2-chloroethoxy)methane	U		0.00030	0.0020	mg/L	10	15-Jul-2019 14:43
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	15-Jul-2019 14:43
Chrysene	**0.0069**		**0.00021**	**0.0010**	**mg/L**	10	15-Jul-2019 14:43
Dibenzofuran	**0.16**		**0.0020**	**0.010**	**mg/L**	100	16-Jul-2019 19:00
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	15-Jul-2019 14:43
Fluoranthene	**0.046**		**0.00010**	**0.0010**	**mg/L**	10	15-Jul-2019 14:43
Fluorene	**0.12**		**0.0030**	**0.010**	**mg/L**	100	16-Jul-2019 19:00
Naphthalene	**12**		**0.10**	**0.50**	**mg/L**	5000	17-Jul-2019 14:18
Nitrobenzene	U		0.00024	0.0020	mg/L	10	15-Jul-2019 14:43
N-Nitrosodiphenylamine	U		0.00025	0.0020	mg/L	10	15-Jul-2019 14:43
Pentachlorophenol	U		0.00079	0.0020	mg/L	10	15-Jul-2019 14:43
Phenanthrene	**0.16**		**0.0021**	**0.010**	**mg/L**	100	16-Jul-2019 19:00
Phenol	**9.3**		**0.035**	**0.20**	**mg/L**	1000	16-Jul-2019 19:19
Pyrene	**0.029**		**0.00019**	**0.0010**	**mg/L**	10	15-Jul-2019 14:43
Surr: 2,4,6-Tribromophenol	*72.3*			*34-129*	*%REC*	*10*	*15-Jul-2019 14:43*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*5000*	*17-Jul-2019 14:18*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*16-Jul-2019 19:00*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*1000*	*16-Jul-2019 19:19*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*16-Jul-2019 19:00*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*5000*	*17-Jul-2019 14:18*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*1000*	*16-Jul-2019 19:19*
Surr: 2-Fluorobiphenyl	*83.3*			*40-125*	*%REC*	*10*	*15-Jul-2019 14:43*
Surr: 2-Fluorophenol	*118*			*20-120*	*%REC*	*10*	*15-Jul-2019 14:43*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*1000*	*16-Jul-2019 19:19*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*5000*	*17-Jul-2019 14:18*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*16-Jul-2019 19:00*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW72B-20190710
Collection Date: 10-Jul-2019 11:35

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jul-2019		Analyst: GEY
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*16-Jul-2019 19:00*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*1000*	*16-Jul-2019 19:19*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*5000*	*17-Jul-2019 14:18*
Surr: 4-Terphenyl-d14	*86.9*			*40-135*	*%REC*	*10*	*15-Jul-2019 14:43*
Surr: Nitrobenzene-d5	*42.9*			*41-120*	*%REC*	*10*	*15-Jul-2019 14:43*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*5000*	*17-Jul-2019 14:18*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*16-Jul-2019 19:00*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*1000*	*16-Jul-2019 19:19*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*16-Jul-2019 19:00*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*1000*	*16-Jul-2019 19:19*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*5000*	*17-Jul-2019 14:18*
Surr: Phenol-d6	*52.2*			*20-120*	*%REC*	*10*	*15-Jul-2019 14:43*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	**0.000861**	J	**0.000400**	**0.00200**	**mg/L**	1	17-Jul-2019 12:21

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070575
Sample ID: WG-1620-MW19C-20190710
Lab ID:HS19070575-07
Collection Date: 10-Jul-2019 12:25
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jul-2019 00:59
Benzene	**0.00040**	J	**0.00020**	**0.0010**	**mg/L**	1	14-Jul-2019 00:59
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jul-2019 00:59
Ethylbenzene	**0.00096**	J	**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 00:59
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jul-2019 00:59
Toluene	**0.00086**	J	**0.00020**	**0.0010**	**mg/L**	1	14-Jul-2019 00:59
Vinyl chloride	U		0.00020	0.0010	mg/L	1	14-Jul-2019 00:59
Xylenes, Total	**0.0022**		**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 00:59
Surr: 1,2-Dichloroethane-d4	*99.8*			*70-126*	*%REC*	*1*	*14-Jul-2019 00:59*
Surr: 4-Bromofluorobenzene	*98.4*			*81-113*	*%REC*	*1*	*14-Jul-2019 00:59*
Surr: Dibromofluoromethane	*103*			*77-123*	*%REC*	*1*	*14-Jul-2019 00:59*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*14-Jul-2019 00:59*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070575
Sample ID: WG-1620-MW19C-20190710
Lab ID:HS19070575-07
Collection Date: 10-Jul-2019 12:25
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	**0.000082**	J	**0.000021**	**0.00020**	**mg/L**	1	15-Jul-2019 15:03
2,4-Dimethylphenol	**0.00056**		**0.000040**	**0.00020**	**mg/L**	1	15-Jul-2019 15:03
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jul-2019 15:03
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jul-2019 15:03
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jul-2019 15:03
2-Methylnaphthalene	**0.000071**	J	**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 15:03
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jul-2019 15:03
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jul-2019 15:03
Acenaphthene	**0.0010**		**0.000027**	**0.00010**	**mg/L**	1	15-Jul-2019 15:03
Acenaphthylene	**0.000030**	J	**0.000015**	**0.00010**	**mg/L**	1	15-Jul-2019 15:03
Anthracene	**0.000066**	J	**0.000014**	**0.00010**	**mg/L**	1	15-Jul-2019 15:03
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jul-2019 15:03
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jul-2019 15:03
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jul-2019 15:03
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	15-Jul-2019 15:03
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jul-2019 15:03
Dibenzofuran	**0.00057**		**0.000020**	**0.00010**	**mg/L**	1	15-Jul-2019 15:03
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jul-2019 15:03
Fluoranthene	**0.00056**		**0.000010**	**0.00010**	**mg/L**	1	15-Jul-2019 15:03
Fluorene	**0.00031**		**0.000030**	**0.00010**	**mg/L**	1	15-Jul-2019 15:03
Naphthalene	**0.0012**		**0.000020**	**0.00010**	**mg/L**	1	15-Jul-2019 15:03
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jul-2019 15:03
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jul-2019 15:03
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jul-2019 15:03
Phenanthrene	**0.00014**		**0.000021**	**0.00010**	**mg/L**	1	15-Jul-2019 15:03
Phenol	**0.00015**	J	**0.000035**	**0.00020**	**mg/L**	1	15-Jul-2019 15:03
Pyrene	**0.00064**		**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 15:03
Surr: 2,4,6-Tribromophenol	*90.9*			*34-129*	*%REC*	*1*	*15-Jul-2019 15:03*
Surr: 2-Fluorobiphenyl	*59.4*			*40-125*	*%REC*	*1*	*15-Jul-2019 15:03*
Surr: 2-Fluorophenol	*53.6*			*20-120*	*%REC*	*1*	*15-Jul-2019 15:03*
Surr: 4-Terphenyl-d14	*70.2*			*40-135*	*%REC*	*1*	*15-Jul-2019 15:03*
Surr: Nitrobenzene-d5	*60.0*			*41-120*	*%REC*	*1*	*15-Jul-2019 15:03*
Surr: Phenol-d6	*61.1*			*20-120*	*%REC*	*1*	*15-Jul-2019 15:03*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	**0.00166**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Jul-2019 22:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW17C-20190710
Collection Date: 10-Jul-2019 13:25

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jul-2019 02:13
Benzene	**0.0097**		**0.00020**	**0.0010**	**mg/L**	1	14-Jul-2019 02:13
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jul-2019 02:13
Ethylbenzene	**0.027**		**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 02:13
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jul-2019 02:13
Toluene	**0.0073**		**0.00020**	**0.0010**	**mg/L**	1	14-Jul-2019 02:13
Xylenes, Total	**0.039**		**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 02:13
Surr: 1,2-Dichloroethane-d4	*99.8*			*70-126*	*%REC*	*1*	*14-Jul-2019 02:13*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*1*	*14-Jul-2019 02:13*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*14-Jul-2019 02:13*
Surr: Toluene-d8	*98.4*			*82-127*	*%REC*	*1*	*14-Jul-2019 02:13*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070575
Sample ID: WG-1620-MW17C-20190710
Lab ID:HS19070575-08
Collection Date: 10-Jul-2019 13:25
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jul-2019 15:22
2,4-Dimethylphenol	**0.21**		**0.0040**	**0.020**	**mg/L**	100	16-Jul-2019 19:58
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jul-2019 15:22
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jul-2019 15:22
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jul-2019 15:22
2-Methylnaphthalene	**0.026**		**0.00019**	**0.0010**	**mg/L**	10	16-Jul-2019 19:39
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jul-2019 15:22
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jul-2019 15:22
Acenaphthene	**0.035**		**0.00027**	**0.0010**	**mg/L**	10	16-Jul-2019 19:39
Acenaphthylene	**0.00037**		**0.000015**	**0.00010**	**mg/L**	1	15-Jul-2019 15:22
Anthracene	**0.0013**		**0.000014**	**0.00010**	**mg/L**	1	15-Jul-2019 15:22
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jul-2019 15:22
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jul-2019 15:22
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jul-2019 15:22
Bis(2-ethylhexyl)phthalate	**0.00056**		**0.000037**	**0.00020**	**mg/L**	1	15-Jul-2019 15:22
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jul-2019 15:22
Dibenzofuran	**0.027**		**0.00020**	**0.0010**	**mg/L**	10	16-Jul-2019 19:39
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jul-2019 15:22
Fluoranthene	**0.00090**		**0.000010**	**0.00010**	**mg/L**	1	15-Jul-2019 15:22
Fluorene	**0.014**		**0.00030**	**0.0010**	**mg/L**	10	16-Jul-2019 19:39
Naphthalene	**0.97**		**0.0020**	**0.010**	**mg/L**	100	16-Jul-2019 19:58
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jul-2019 15:22
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jul-2019 15:22
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jul-2019 15:22
Phenanthrene	**0.0100**		**0.000021**	**0.00010**	**mg/L**	1	15-Jul-2019 15:22
Phenol	**0.00073**		**0.000035**	**0.00020**	**mg/L**	1	15-Jul-2019 15:22
Pyrene	**0.00046**		**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 15:22
Surr: 2,4,6-Tribromophenol	*61.3*			*34-129*	*%REC*	*10*	*16-Jul-2019 19:39*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*16-Jul-2019 19:58*
Surr: 2,4,6-Tribromophenol	*69.6*			*34-129*	*%REC*	*1*	*15-Jul-2019 15:22*
Surr: 2-Fluorobiphenyl	*62.4*			*40-125*	*%REC*	*10*	*16-Jul-2019 19:39*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*16-Jul-2019 19:58*
Surr: 2-Fluorobiphenyl	*45.2*			*40-125*	*%REC*	*1*	*15-Jul-2019 15:22*
Surr: 2-Fluorophenol	*52.5*			*20-120*	*%REC*	*1*	*15-Jul-2019 15:22*
Surr: 2-Fluorophenol	*76.5*			*20-120*	*%REC*	*10*	*16-Jul-2019 19:39*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*16-Jul-2019 19:58*
Surr: 4-Terphenyl-d14	*93.5*			*40-135*	*%REC*	*10*	*16-Jul-2019 19:39*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*16-Jul-2019 19:58*
Surr: 4-Terphenyl-d14	*68.8*			*40-135*	*%REC*	*1*	*15-Jul-2019 15:22*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW17C-20190710
Collection Date: 10-Jul-2019 13:25

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jul-2019		Analyst: GEY
Surr: Nitrobenzene-d5	*45.3*			*41-120*	*%REC*	*1*	*15-Jul-2019 15:22*
Surr: Nitrobenzene-d5	*62.8*			*41-120*	*%REC*	*10*	*16-Jul-2019 19:39*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*16-Jul-2019 19:58*
Surr: Phenol-d6	*66.3*			*20-120*	*%REC*	*10*	*16-Jul-2019 19:39*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*16-Jul-2019 19:58*
Surr: Phenol-d6	*51.8*			*20-120*	*%REC*	*1*	*15-Jul-2019 15:22*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	**0.000854**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Jul-2019 22:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW17-20190710
Collection Date: 10-Jul-2019 14:15

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jul-2019 08:03
Benzene	**0.54**		**0.0020**	**0.010**	**mg/L**	10	14-Jul-2019 08:30
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jul-2019 08:03
Ethylbenzene	**0.23**		**0.0030**	**0.010**	**mg/L**	10	14-Jul-2019 08:30
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jul-2019 08:03
Toluene	**0.83**		**0.0020**	**0.010**	**mg/L**	10	14-Jul-2019 08:30
Xylenes, Total	**0.78**		**0.0030**	**0.010**	**mg/L**	10	14-Jul-2019 08:30
Surr: 1,2-Dichloroethane-d4	*93.9*			*70-126*	*%REC*	*1*	*14-Jul-2019 08:03*
Surr: 1,2-Dichloroethane-d4	*96.0*			*70-126*	*%REC*	*10*	*14-Jul-2019 08:30*
Surr: 4-Bromofluorobenzene	*108*			*81-113*	*%REC*	*1*	*14-Jul-2019 08:03*
Surr: 4-Bromofluorobenzene	*107*			*81-113*	*%REC*	*10*	*14-Jul-2019 08:30*
Surr: Dibromofluoromethane	*95.4*			*77-123*	*%REC*	*1*	*14-Jul-2019 08:03*
Surr: Dibromofluoromethane	*96.9*			*77-123*	*%REC*	*10*	*14-Jul-2019 08:30*
Surr: Toluene-d8	*98.2*			*82-127*	*%REC*	*1*	*14-Jul-2019 08:03*
Surr: Toluene-d8	*97.1*			*82-127*	*%REC*	*10*	*14-Jul-2019 08:30*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW17-20190710
Collection Date: 10-Jul-2019 14:15

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	15-Jul-2019 15:42
2,4-Dimethylphenol	**5.9**		**0.040**	**0.20**	**mg/L**	1000	16-Jul-2019 20:37
2,4-Dinitrotoluene	U		0.00058	0.0020	mg/L	10	15-Jul-2019 15:42
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	15-Jul-2019 15:42
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	15-Jul-2019 15:42
2-Methylnaphthalene	**0.39**		**0.0019**	**0.010**	**mg/L**	100	16-Jul-2019 20:18
4,6-Dinitro-2-methylphenol	U		0.00020	0.0020	mg/L	10	15-Jul-2019 15:42
4-Nitrophenol	U		0.00047	0.010	mg/L	10	15-Jul-2019 15:42
Acenaphthene	**0.16**		**0.0027**	**0.010**	**mg/L**	100	16-Jul-2019 20:18
Acenaphthylene	**0.0042**		**0.00015**	**0.0010**	**mg/L**	10	15-Jul-2019 15:42
Anthracene	**0.0092**		**0.00014**	**0.0010**	**mg/L**	10	15-Jul-2019 15:42
Benz(a)anthracene	U		0.00050	0.0010	mg/L	10	15-Jul-2019 15:42
Benzo(a)pyrene	U		0.00020	0.0010	mg/L	10	15-Jul-2019 15:42
Bis(2-chloroethoxy)methane	U		0.00030	0.0020	mg/L	10	15-Jul-2019 15:42
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	15-Jul-2019 15:42
Chrysene	U		0.00021	0.0010	mg/L	10	15-Jul-2019 15:42
Dibenzofuran	**0.12**		**0.0020**	**0.010**	**mg/L**	100	16-Jul-2019 20:18
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	15-Jul-2019 15:42
Fluoranthene	**0.0039**		**0.00010**	**0.0010**	**mg/L**	10	15-Jul-2019 15:42
Fluorene	**0.060**		**0.00030**	**0.0010**	**mg/L**	10	15-Jul-2019 15:42
Naphthalene	**8.9**		**0.10**	**0.50**	**mg/L**	5000	16-Jul-2019 20:57
Nitrobenzene	U		0.00024	0.0020	mg/L	10	15-Jul-2019 15:42
N-Nitrosodiphenylamine	U		0.00025	0.0020	mg/L	10	15-Jul-2019 15:42
Pentachlorophenol	U		0.00079	0.0020	mg/L	10	15-Jul-2019 15:42
Phenanthrene	**0.045**		**0.00021**	**0.0010**	**mg/L**	10	15-Jul-2019 15:42
Phenol	**9.9**		**0.18**	**1.0**	**mg/L**	5000	16-Jul-2019 20:57
Pyrene	**0.0018**		**0.00019**	**0.0010**	**mg/L**	10	15-Jul-2019 15:42
Surr: 2,4,6-Tribromophenol	*118*			*34-129*	*%REC*	*10*	*15-Jul-2019 15:42*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*5000*	*16-Jul-2019 20:57*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*16-Jul-2019 20:18*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*1000*	*16-Jul-2019 20:37*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*16-Jul-2019 20:18*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*1000*	*16-Jul-2019 20:37*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*5000*	*16-Jul-2019 20:57*
Surr: 2-Fluorobiphenyl	*89.4*			*40-125*	*%REC*	*10*	*15-Jul-2019 15:42*
Surr: 2-Fluorophenol	*72.9*			*20-120*	*%REC*	*10*	*15-Jul-2019 15:42*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*5000*	*16-Jul-2019 20:57*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*16-Jul-2019 20:18*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*1000*	*16-Jul-2019 20:37*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW17-20190710
Collection Date: 10-Jul-2019 14:15

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jul-2019		Analyst: GEY
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*16-Jul-2019 20:18*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*1000*	*16-Jul-2019 20:37*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*5000*	*16-Jul-2019 20:57*
Surr: 4-Terphenyl-d14	*86.5*			*40-135*	*%REC*	*10*	*15-Jul-2019 15:42*
Surr: Nitrobenzene-d5	*65.4*			*41-120*	*%REC*	*10*	*15-Jul-2019 15:42*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*16-Jul-2019 20:18*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*1000*	*16-Jul-2019 20:37*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*5000*	*16-Jul-2019 20:57*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*16-Jul-2019 20:18*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*1000*	*16-Jul-2019 20:37*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*5000*	*16-Jul-2019 20:57*
Surr: Phenol-d6	*117*			*20-120*	*%REC*	*10*	*15-Jul-2019 15:42*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	**0.0460**		**0.000400**	**0.00200**	**mg/L**	1	17-Jul-2019 12:23

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW20A-20190710
Collection Date: 10-Jul-2019 15:10

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jul-2019 02:38
Benzene	**0.013**		**0.00020**	**0.0010**	**mg/L**	1	14-Jul-2019 02:38
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jul-2019 02:38
Ethylbenzene	**0.0079**		**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 02:38
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jul-2019 02:38
Toluene	**0.0011**		**0.00020**	**0.0010**	**mg/L**	1	14-Jul-2019 02:38
Xylenes, Total	**0.022**		**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 02:38
Surr: 1,2-Dichloroethane-d4	*97.2*			*70-126*	*%REC*	*1*	*14-Jul-2019 02:38*
Surr: 4-Bromofluorobenzene	*106*			*81-113*	*%REC*	*1*	*14-Jul-2019 02:38*
Surr: Dibromofluoromethane	*98.2*			*77-123*	*%REC*	*1*	*14-Jul-2019 02:38*
Surr: Toluene-d8	*96.6*			*82-127*	*%REC*	*1*	*14-Jul-2019 02:38*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070575
Sample ID: WG-1620-MW20A-20190710
Lab ID:HS19070575-10
Collection Date: 10-Jul-2019 15:10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jul-2019 16:01
2,4-Dimethylphenol	**0.0035**		**0.000040**	**0.00020**	**mg/L**	1	15-Jul-2019 16:01
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jul-2019 16:01
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jul-2019 16:01
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jul-2019 16:01
2-Methylnaphthalene	**0.072**		**0.00019**	**0.0010**	**mg/L**	10	16-Jul-2019 21:16
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jul-2019 16:01
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jul-2019 16:01
Acenaphthene	**0.14**		**0.0027**	**0.010**	**mg/L**	100	16-Jul-2019 21:36
Acenaphthylene	**0.00078**		**0.000015**	**0.00010**	**mg/L**	1	15-Jul-2019 16:01
Anthracene	**0.0062**		**0.000014**	**0.00010**	**mg/L**	1	15-Jul-2019 16:01
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jul-2019 16:01
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jul-2019 16:01
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jul-2019 16:01
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	15-Jul-2019 16:01
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jul-2019 16:01
Dibenzofuran	**0.077**		**0.00020**	**0.0010**	**mg/L**	10	16-Jul-2019 21:16
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jul-2019 16:01
Fluoranthene	**0.00058**		**0.000010**	**0.00010**	**mg/L**	1	15-Jul-2019 16:01
Fluorene	**0.068**		**0.00030**	**0.0010**	**mg/L**	10	16-Jul-2019 21:16
Naphthalene	**1.9**		**0.010**	**0.050**	**mg/L**	500	17-Jul-2019 15:16
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jul-2019 16:01
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jul-2019 16:01
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jul-2019 16:01
Phenanthrene	**0.026**		**0.00021**	**0.0010**	**mg/L**	10	16-Jul-2019 21:16
Phenol	**0.00096**		**0.000035**	**0.00020**	**mg/L**	1	15-Jul-2019 16:01
Pyrene	**0.00026**		**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 16:01
Surr: 2,4,6-Tribromophenol	*76.1*			*34-129*	*%REC*	*10*	*16-Jul-2019 21:16*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*16-Jul-2019 21:36*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*500*	*17-Jul-2019 15:16*
Surr: 2,4,6-Tribromophenol	*76.7*			*34-129*	*%REC*	*1*	*15-Jul-2019 16:01*
Surr: 2-Fluorobiphenyl	*60.0*			*40-125*	*%REC*	*1*	*15-Jul-2019 16:01*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*500*	*17-Jul-2019 15:16*
Surr: 2-Fluorobiphenyl	*68.6*			*40-125*	*%REC*	*10*	*16-Jul-2019 21:16*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*16-Jul-2019 21:36*
Surr: 2-Fluorophenol	*96.5*			*20-120*	*%REC*	*10*	*16-Jul-2019 21:16*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*16-Jul-2019 21:36*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*500*	*17-Jul-2019 15:16*
Surr: 2-Fluorophenol	*60.7*			*20-120*	*%REC*	*1*	*15-Jul-2019 16:01*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW20A-20190710
Collection Date: 10-Jul-2019 15:10

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jul-2019		Analyst: GEY
Surr: 4-Terphenyl-d14	*63.0*			*40-135*	*%REC*	*1*	*15-Jul-2019 16:01*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*500*	*17-Jul-2019 15:16*
Surr: 4-Terphenyl-d14	*98.3*			*40-135*	*%REC*	*10*	*16-Jul-2019 21:16*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*16-Jul-2019 21:36*
Surr: Nitrobenzene-d5	*67.4*			*41-120*	*%REC*	*10*	*16-Jul-2019 21:16*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*16-Jul-2019 21:36*
Surr: Nitrobenzene-d5	*66.5*			*41-120*	*%REC*	*1*	*15-Jul-2019 16:01*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*500*	*17-Jul-2019 15:16*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*500*	*17-Jul-2019 15:16*
Surr: Phenol-d6	*68.2*			*20-120*	*%REC*	*1*	*15-Jul-2019 16:01*
Surr: Phenol-d6	*90.7*			*20-120*	*%REC*	*10*	*16-Jul-2019 21:16*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*16-Jul-2019 21:36*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	**0.00574**		**0.000400**	**0.00200**	**mg/L**	1	16-Jul-2019 23:03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW15A-20190710
Collection Date: 10-Jul-2019 16:10

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jul-2019 03:02
Benzene	**0.00074**	J	**0.00020**	**0.0010**	**mg/L**	1	14-Jul-2019 03:02
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jul-2019 03:02
Ethylbenzene	**0.00035**	J	**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 03:02
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jul-2019 03:02
Toluene	U		0.00020	0.0010	mg/L	1	14-Jul-2019 03:02
Xylenes, Total	**0.0026**		**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 03:02
Surr: 1,2-Dichloroethane-d4	*96.9*			*70-126*	*%REC*	*1*	*14-Jul-2019 03:02*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*1*	*14-Jul-2019 03:02*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*14-Jul-2019 03:02*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*14-Jul-2019 03:02*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW15A-20190710
Collection Date: 10-Jul-2019 16:10

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jul-2019 16:21
2,4-Dimethylphenol	**0.00024**		**0.000040**	**0.00020**	**mg/L**	1	15-Jul-2019 16:21
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jul-2019 16:21
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jul-2019 16:21
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jul-2019 16:21
2-Methylnaphthalene	**0.0077**		**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 16:21
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jul-2019 16:21
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jul-2019 16:21
Acenaphthene	**0.11**		**0.0014**	**0.0050**	**mg/L**	50	17-Jul-2019 15:35
Acenaphthylene	**0.00045**		**0.000015**	**0.00010**	**mg/L**	1	15-Jul-2019 16:21
Anthracene	**0.0026**		**0.000014**	**0.00010**	**mg/L**	1	15-Jul-2019 16:21
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jul-2019 16:21
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jul-2019 16:21
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jul-2019 16:21
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	15-Jul-2019 16:21
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jul-2019 16:21
Dibenzofuran	**0.035**		**0.00020**	**0.0010**	**mg/L**	10	16-Jul-2019 21:55
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jul-2019 16:21
Fluoranthene	**0.0018**		**0.000010**	**0.00010**	**mg/L**	1	15-Jul-2019 16:21
Fluorene	**0.054**		**0.00030**	**0.0010**	**mg/L**	10	16-Jul-2019 21:55
Naphthalene	**0.0066**		**0.000020**	**0.00010**	**mg/L**	1	15-Jul-2019 16:21
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jul-2019 16:21
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jul-2019 16:21
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jul-2019 16:21
Phenanthrene	**0.0095**		**0.000021**	**0.00010**	**mg/L**	1	15-Jul-2019 16:21
Phenol	**0.00039**		**0.000035**	**0.00020**	**mg/L**	1	15-Jul-2019 16:21
Pyrene	**0.00075**		**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 16:21
Surr: 2,4,6-Tribromophenol	*71.3*			*34-129*	*%REC*	*10*	*16-Jul-2019 21:55*
Surr: 2,4,6-Tribromophenol	*59.6*	*J*		*34-129*	*%REC*	*50*	*17-Jul-2019 15:35*
Surr: 2,4,6-Tribromophenol	*65.0*			*34-129*	*%REC*	*1*	*15-Jul-2019 16:21*
Surr: 2-Fluorobiphenyl	*44.5*			*40-125*	*%REC*	*1*	*15-Jul-2019 16:21*
Surr: 2-Fluorobiphenyl	*60.0*	*J*		*40-125*	*%REC*	*50*	*17-Jul-2019 15:35*
Surr: 2-Fluorobiphenyl	*70.9*			*40-125*	*%REC*	*10*	*16-Jul-2019 21:55*
Surr: 2-Fluorophenol	*52.8*	*J*		*20-120*	*%REC*	*50*	*17-Jul-2019 15:35*
Surr: 2-Fluorophenol	*97.0*			*20-120*	*%REC*	*10*	*16-Jul-2019 21:55*
Surr: 2-Fluorophenol	*39.2*			*20-120*	*%REC*	*1*	*15-Jul-2019 16:21*
Surr: 4-Terphenyl-d14	*52.3*			*40-135*	*%REC*	*1*	*15-Jul-2019 16:21*
Surr: 4-Terphenyl-d14	*73.2*			*40-135*	*%REC*	*10*	*16-Jul-2019 21:55*
Surr: 4-Terphenyl-d14	*65.2*	*J*		*40-135*	*%REC*	*50*	*17-Jul-2019 15:35*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070575
Sample ID: WG-1620-MW15A-20190710
Lab ID:HS19070575-11
Collection Date: 10-Jul-2019 16:10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jul-2019		Analyst: GEY
Surr: Nitrobenzene-d5	*65.2*	*J*		*41-120*	*%REC*	*50*	*17-Jul-2019 15:35*
Surr: Nitrobenzene-d5	*59.8*			*41-120*	*%REC*	*10*	*16-Jul-2019 21:55*
Surr: Nitrobenzene-d5	*44.0*			*41-120*	*%REC*	*1*	*15-Jul-2019 16:21*
Surr: Phenol-d6	*43.2*			*20-120*	*%REC*	*1*	*15-Jul-2019 16:21*
Surr: Phenol-d6	*83.2*			*20-120*	*%REC*	*10*	*16-Jul-2019 21:55*
Surr: Phenol-d6	*62.3*	*J*		*20-120*	*%REC*	*50*	*17-Jul-2019 15:35*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	**0.0251**		**0.000400**	**0.00200**	**mg/L**	1	16-Jul-2019 22:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW15C-20190710
Collection Date: 10-Jul-2019 17:05

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jul-2019 03:27
Benzene	**0.00050**	J	**0.00020**	**0.0010**	**mg/L**	1	14-Jul-2019 03:27
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jul-2019 03:27
Ethylbenzene	U		0.00030	0.0010	mg/L	1	14-Jul-2019 03:27
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jul-2019 03:27
Toluene	U		0.00020	0.0010	mg/L	1	14-Jul-2019 03:27
Xylenes, Total	U		0.00030	0.0010	mg/L	1	14-Jul-2019 03:27
Surr: 1,2-Dichloroethane-d4	*97.4*			*70-126*	*%REC*	*1*	*14-Jul-2019 03:27*
Surr: 4-Bromofluorobenzene	*98.7*			*81-113*	*%REC*	*1*	*14-Jul-2019 03:27*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*14-Jul-2019 03:27*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*14-Jul-2019 03:27*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW15C-20190710
Collection Date: 10-Jul-2019 17:05

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jul-2019 16:41
2,4-Dimethylphenol	**0.0052**		**0.000040**	**0.00020**	**mg/L**	1	15-Jul-2019 16:41
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jul-2019 16:41
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jul-2019 16:41
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jul-2019 16:41
2-Methylnaphthalene	**0.00066**		**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 16:41
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jul-2019 16:41
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jul-2019 16:41
Acenaphthene	**0.017**		**0.00027**	**0.0010**	**mg/L**	10	16-Jul-2019 22:15
Acenaphthylene	**0.0015**		**0.000015**	**0.00010**	**mg/L**	1	15-Jul-2019 16:41
Anthracene	**0.00064**		**0.000014**	**0.00010**	**mg/L**	1	15-Jul-2019 16:41
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jul-2019 16:41
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jul-2019 16:41
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jul-2019 16:41
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	15-Jul-2019 16:41
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jul-2019 16:41
Dibenzofuran	**0.0039**		**0.000020**	**0.00010**	**mg/L**	1	15-Jul-2019 16:41
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jul-2019 16:41
Fluoranthene	**0.00086**		**0.000010**	**0.00010**	**mg/L**	1	15-Jul-2019 16:41
Fluorene	**0.00097**		**0.000030**	**0.00010**	**mg/L**	1	15-Jul-2019 16:41
Naphthalene	**0.019**		**0.00020**	**0.0010**	**mg/L**	10	16-Jul-2019 22:15
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jul-2019 16:41
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jul-2019 16:41
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jul-2019 16:41
Phenanthrene	**0.00039**		**0.000021**	**0.00010**	**mg/L**	1	15-Jul-2019 16:41
Phenol	**0.00026**		**0.000035**	**0.00020**	**mg/L**	1	15-Jul-2019 16:41
Pyrene	**0.00043**		**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 16:41
Surr: 2,4,6-Tribromophenol	*103*			*34-129*	*%REC*	*1*	*15-Jul-2019 16:41*
Surr: 2,4,6-Tribromophenol	*73.5*			*34-129*	*%REC*	*10*	*16-Jul-2019 22:15*
Surr: 2-Fluorobiphenyl	*65.7*			*40-125*	*%REC*	*10*	*16-Jul-2019 22:15*
Surr: 2-Fluorobiphenyl	*70.0*			*40-125*	*%REC*	*1*	*15-Jul-2019 16:41*
Surr: 2-Fluorophenol	*64.8*			*20-120*	*%REC*	*1*	*15-Jul-2019 16:41*
Surr: 2-Fluorophenol	*107*			*20-120*	*%REC*	*10*	*16-Jul-2019 22:15*
Surr: 4-Terphenyl-d14	*86.6*			*40-135*	*%REC*	*10*	*16-Jul-2019 22:15*
Surr: 4-Terphenyl-d14	*92.9*			*40-135*	*%REC*	*1*	*15-Jul-2019 16:41*
Surr: Nitrobenzene-d5	*79.0*			*41-120*	*%REC*	*1*	*15-Jul-2019 16:41*
Surr: Nitrobenzene-d5	*76.1*			*41-120*	*%REC*	*10*	*16-Jul-2019 22:15*
Surr: Phenol-d6	*93.8*			*20-120*	*%REC*	*10*	*16-Jul-2019 22:15*
Surr: Phenol-d6	*65.9*			*20-120*	*%REC*	*1*	*15-Jul-2019 16:41*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW15C-20190710
Collection Date: 10-Jul-2019 17:05

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	**0.000889**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Jul-2019 23:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070575
Sample ID: WG-1620-MW15B-20190710
Lab ID:HS19070575-13
Collection Date: 10-Jul-2019 18:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jul-2019 03:52
Benzene	**0.0023**		**0.00020**	**0.0010**	**mg/L**	1	14-Jul-2019 03:52
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jul-2019 03:52
Ethylbenzene	**0.0031**		**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 03:52
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jul-2019 03:52
Toluene	U		0.00020	0.0010	mg/L	1	14-Jul-2019 03:52
Xylenes, Total	**0.0025**		**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 03:52
Surr: 1,2-Dichloroethane-d4	*95.7*			*70-126*	*%REC*	*1*	*14-Jul-2019 03:52*
Surr: 4-Bromofluorobenzene	*104*			*81-113*	*%REC*	*1*	*14-Jul-2019 03:52*
Surr: Dibromofluoromethane	*97.8*			*77-123*	*%REC*	*1*	*14-Jul-2019 03:52*
Surr: Toluene-d8	*97.6*			*82-127*	*%REC*	*1*	*14-Jul-2019 03:52*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW15B-20190710
Collection Date: 10-Jul-2019 18:00

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-13
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jul-2019 17:00
2,4-Dimethylphenol	**0.00016**	J	**0.000040**	**0.00020**	**mg/L**	1	15-Jul-2019 17:00
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jul-2019 17:00
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jul-2019 17:00
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jul-2019 17:00
2-Methylnaphthalene	**0.016**		**0.00019**	**0.0010**	**mg/L**	10	17-Jul-2019 12:42
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jul-2019 17:00
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jul-2019 17:00
Acenaphthene	**0.029**		**0.00027**	**0.0010**	**mg/L**	10	17-Jul-2019 12:42
Acenaphthylene	**0.00034**		**0.000015**	**0.00010**	**mg/L**	1	15-Jul-2019 17:00
Anthracene	**0.0016**		**0.000014**	**0.00010**	**mg/L**	1	15-Jul-2019 17:00
Benz(a)anthracene	**0.00016**		**0.000050**	**0.00010**	**mg/L**	1	15-Jul-2019 17:00
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jul-2019 17:00
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jul-2019 17:00
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	15-Jul-2019 17:00
Chrysene	**0.00013**		**0.000021**	**0.00010**	**mg/L**	1	15-Jul-2019 17:00
Dibenzofuran	**0.013**		**0.00020**	**0.0010**	**mg/L**	10	17-Jul-2019 12:42
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jul-2019 17:00
Fluoranthene	**0.0042**		**0.000010**	**0.00010**	**mg/L**	1	15-Jul-2019 17:00
Fluorene	**0.010**		**0.00030**	**0.0010**	**mg/L**	10	17-Jul-2019 12:42
Naphthalene	**0.33**		**0.0020**	**0.010**	**mg/L**	100	17-Jul-2019 13:01
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jul-2019 17:00
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jul-2019 17:00
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jul-2019 17:00
Phenanthrene	**0.0065**		**0.000021**	**0.00010**	**mg/L**	1	15-Jul-2019 17:00
Phenol	**0.00019**	J	**0.000035**	**0.00020**	**mg/L**	1	15-Jul-2019 17:00
Pyrene	**0.0018**		**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 17:00
Surr: 2,4,6-Tribromophenol	*107*			*34-129*	*%REC*	*1*	*15-Jul-2019 17:00*
Surr: 2,4,6-Tribromophenol	*95.6*			*34-129*	*%REC*	*10*	*17-Jul-2019 12:42*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*17-Jul-2019 13:01*
Surr: 2-Fluorobiphenyl	*77.5*			*40-125*	*%REC*	*10*	*17-Jul-2019 12:42*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*17-Jul-2019 13:01*
Surr: 2-Fluorobiphenyl	*69.3*			*40-125*	*%REC*	*1*	*15-Jul-2019 17:00*
Surr: 2-Fluorophenol	*58.3*			*20-120*	*%REC*	*1*	*15-Jul-2019 17:00*
Surr: 2-Fluorophenol	*73.4*			*20-120*	*%REC*	*10*	*17-Jul-2019 12:42*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*17-Jul-2019 13:01*
Surr: 4-Terphenyl-d14	*88.1*			*40-135*	*%REC*	*10*	*17-Jul-2019 12:42*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*17-Jul-2019 13:01*
Surr: 4-Terphenyl-d14	*89.5*			*40-135*	*%REC*	*1*	*15-Jul-2019 17:00*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070575
Sample ID: WG-1620-MW15B-20190710
Lab ID:HS19070575-13
Collection Date: 10-Jul-2019 18:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jul-2019		Analyst: GEY
Surr: Nitrobenzene-d5	*70.9*			*41-120*	*%REC*	*1*	*15-Jul-2019 17:00*
Surr: Nitrobenzene-d5	*81.5*			*41-120*	*%REC*	*10*	*17-Jul-2019 12:42*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*17-Jul-2019 13:01*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*17-Jul-2019 13:01*
Surr: Phenol-d6	*78.0*			*20-120*	*%REC*	*10*	*17-Jul-2019 12:42*
Surr: Phenol-d6	*66.4*			*20-120*	*%REC*	*1*	*15-Jul-2019 17:00*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	**0.0133**		**0.000400**	**0.00200**	**mg/L**	1	16-Jul-2019 23:08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB01-20190710
Collection Date: 10-Jul-2019 18:15

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-14
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	13-Jul-2019 23:46
Benzene		U	0.00020	0.0010	mg/L	1	13-Jul-2019 23:46
Chlorobenzene		U	0.00030	0.0010	mg/L	1	13-Jul-2019 23:46
Ethylbenzene		U	0.00030	0.0010	mg/L	1	13-Jul-2019 23:46
Methylene chloride		U	0.0010	0.0020	mg/L	1	13-Jul-2019 23:46
Toluene		U	0.00020	0.0010	mg/L	1	13-Jul-2019 23:46
Vinyl chloride		U	0.00020	0.0010	mg/L	1	13-Jul-2019 23:46
Xylenes, Total		U	0.00030	0.0010	mg/L	1	13-Jul-2019 23:46
Surr: 1,2-Dichloroethane-d4	*99.6*			*70-126*	*%REC*	*1*	*13-Jul-2019 23:46*
Surr: 4-Bromofluorobenzene	*96.9*			*81-113*	*%REC*	*1*	*13-Jul-2019 23:46*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*13-Jul-2019 23:46*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*13-Jul-2019 23:46*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB01-20190710
Collection Date: 10-Jul-2019 18:15

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-14
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jul-2019 17:20
2,4-Dimethylphenol	**0.00037**		**0.000040**	**0.00020**	**mg/L**	1	15-Jul-2019 17:20
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jul-2019 17:20
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jul-2019 17:20
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jul-2019 17:20
2-Methylnaphthalene	**0.00038**		**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 17:20
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jul-2019 17:20
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jul-2019 17:20
Acenaphthene	**0.00011**		**0.000027**	**0.00010**	**mg/L**	1	15-Jul-2019 17:20
Acenaphthylene	U		0.000015	0.00010	mg/L	1	15-Jul-2019 17:20
Anthracene	**0.000032**	J	**0.000014**	**0.00010**	**mg/L**	1	15-Jul-2019 17:20
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jul-2019 17:20
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jul-2019 17:20
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jul-2019 17:20
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	15-Jul-2019 17:20
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jul-2019 17:20
Dibenzofuran	**0.00018**		**0.000020**	**0.00010**	**mg/L**	1	15-Jul-2019 17:20
Di-n-butyl phthalate	**0.000024**	J	**0.000020**	**0.00020**	**mg/L**	1	15-Jul-2019 17:20
Fluoranthene	**0.000025**	J	**0.000010**	**0.00010**	**mg/L**	1	15-Jul-2019 17:20
Fluorene	**0.00011**		**0.000030**	**0.00010**	**mg/L**	1	15-Jul-2019 17:20
Naphthalene	**0.0035**		**0.000020**	**0.00010**	**mg/L**	1	15-Jul-2019 17:20
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jul-2019 17:20
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jul-2019 17:20
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jul-2019 17:20
Phenanthrene	**0.00013**		**0.000021**	**0.00010**	**mg/L**	1	15-Jul-2019 17:20
Phenol	**0.000071**	J	**0.000035**	**0.00020**	**mg/L**	1	15-Jul-2019 17:20
Pyrene	U		0.000019	0.00010	mg/L	1	15-Jul-2019 17:20
Surr: 2,4,6-Tribromophenol	*121*			*34-129*	*%REC*	*1*	*15-Jul-2019 17:20*
Surr: 2-Fluorobiphenyl	*110*			*40-125*	*%REC*	*1*	*15-Jul-2019 17:20*
Surr: 2-Fluorophenol	*103*			*20-120*	*%REC*	*1*	*15-Jul-2019 17:20*
Surr: 4-Terphenyl-d14	*99.6*			*40-135*	*%REC*	*1*	*15-Jul-2019 17:20*
Surr: Nitrobenzene-d5	*106*			*41-120*	*%REC*	*1*	*15-Jul-2019 17:20*
Surr: Phenol-d6	*112*			*20-120*	*%REC*	*1*	*15-Jul-2019 17:20*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	16-Jul-2019 23:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW14-20190711
Collection Date: 11-Jul-2019 07:20

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-15
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jul-2019 04:16
Benzene		U	0.00020	0.0010	mg/L	1	14-Jul-2019 04:16
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jul-2019 04:16
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jul-2019 04:16
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jul-2019 04:16
Toluene		U	0.00020	0.0010	mg/L	1	14-Jul-2019 04:16
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jul-2019 04:16
Surr: 1,2-Dichloroethane-d4	*98.5*			*70-126*	*%REC*	*1*	*14-Jul-2019 04:16*
Surr: 4-Bromofluorobenzene	*99.7*			*81-113*	*%REC*	*1*	*14-Jul-2019 04:16*
Surr: Dibromofluoromethane	*99.6*			*77-123*	*%REC*	*1*	*14-Jul-2019 04:16*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*14-Jul-2019 04:16*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW14-20190711
Collection Date: 11-Jul-2019 07:20

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-15
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jul-2019 17:39
2,4-Dimethylphenol	**0.00013**	J	**0.000040**	**0.00020**	**mg/L**	1	15-Jul-2019 17:39
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jul-2019 17:39
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jul-2019 17:39
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jul-2019 17:39
2-Methylnaphthalene	**0.00019**		**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 17:39
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jul-2019 17:39
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jul-2019 17:39
Acenaphthene	**0.00010**		**0.000027**	**0.00010**	**mg/L**	1	15-Jul-2019 17:39
Acenaphthylene	U		0.000015	0.00010	mg/L	1	15-Jul-2019 17:39
Anthracene	**0.000089**	J	**0.000014**	**0.00010**	**mg/L**	1	15-Jul-2019 17:39
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jul-2019 17:39
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jul-2019 17:39
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jul-2019 17:39
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	15-Jul-2019 17:39
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jul-2019 17:39
Dibenzofuran	**0.000087**	J	**0.000020**	**0.00010**	**mg/L**	1	15-Jul-2019 17:39
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jul-2019 17:39
Fluoranthene	**0.000067**	J	**0.000010**	**0.00010**	**mg/L**	1	15-Jul-2019 17:39
Fluorene	**0.000069**	J	**0.000030**	**0.00010**	**mg/L**	1	15-Jul-2019 17:39
Naphthalene	**0.0020**		**0.000020**	**0.00010**	**mg/L**	1	15-Jul-2019 17:39
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jul-2019 17:39
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jul-2019 17:39
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jul-2019 17:39
Phenanthrene	**0.000059**	J	**0.000021**	**0.00010**	**mg/L**	1	15-Jul-2019 17:39
Phenol	**0.00019**	J	**0.000035**	**0.00020**	**mg/L**	1	15-Jul-2019 17:39
Pyrene	**0.000032**	J	**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 17:39
Surr: 2,4,6-Tribromophenol	*87.6*			*34-129*	*%REC*	*1*	*15-Jul-2019 17:39*
Surr: 2-Fluorobiphenyl	*77.2*			*40-125*	*%REC*	*1*	*15-Jul-2019 17:39*
Surr: 2-Fluorophenol	*79.3*			*20-120*	*%REC*	*1*	*15-Jul-2019 17:39*
Surr: 4-Terphenyl-d14	*76.6*			*40-135*	*%REC*	*1*	*15-Jul-2019 17:39*
Surr: Nitrobenzene-d5	*89.4*			*41-120*	*%REC*	*1*	*15-Jul-2019 17:39*
Surr: Phenol-d6	*86.2*			*20-120*	*%REC*	*1*	*15-Jul-2019 17:39*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	**0.00133**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Jul-2019 23:12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW13-20190711
Collection Date: 11-Jul-2019 08:15

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-16
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jul-2019 04:41
Benzene		U	0.00020	0.0010	mg/L	1	14-Jul-2019 04:41
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jul-2019 04:41
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jul-2019 04:41
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jul-2019 04:41
Toluene		U	0.00020	0.0010	mg/L	1	14-Jul-2019 04:41
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jul-2019 04:41
Surr: 1,2-Dichloroethane-d4	*99.7*			*70-126*	*%REC*	*1*	*14-Jul-2019 04:41*
Surr: 4-Bromofluorobenzene	*97.3*			*81-113*	*%REC*	*1*	*14-Jul-2019 04:41*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*14-Jul-2019 04:41*
Surr: Toluene-d8	*99.5*			*82-127*	*%REC*	*1*	*14-Jul-2019 04:41*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW13-20190711
Collection Date: 11-Jul-2019 08:15

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-16
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jul-2019 17:59
2,4-Dimethylphenol	**0.000063**	J	**0.000040**	**0.00020**	**mg/L**	1	15-Jul-2019 17:59
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jul-2019 17:59
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jul-2019 17:59
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jul-2019 17:59
2-Methylnaphthalene	**0.000077**	J	**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 17:59
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jul-2019 17:59
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jul-2019 17:59
Acenaphthene	**0.000066**	J	**0.000027**	**0.00010**	**mg/L**	1	15-Jul-2019 17:59
Acenaphthylene	**0.000033**	J	**0.000015**	**0.00010**	**mg/L**	1	15-Jul-2019 17:59
Anthracene	**0.00047**		**0.000014**	**0.00010**	**mg/L**	1	15-Jul-2019 17:59
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jul-2019 17:59
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jul-2019 17:59
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jul-2019 17:59
Bis(2-ethylhexyl)phthalate	**0.000054**	J	**0.000037**	**0.00020**	**mg/L**	1	15-Jul-2019 17:59
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jul-2019 17:59
Dibenzofuran	**0.000039**	J	**0.000020**	**0.00010**	**mg/L**	1	15-Jul-2019 17:59
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jul-2019 17:59
Fluoranthene	**0.000032**	J	**0.000010**	**0.00010**	**mg/L**	1	15-Jul-2019 17:59
Fluorene	**0.000042**	J	**0.000030**	**0.00010**	**mg/L**	1	15-Jul-2019 17:59
Naphthalene	**0.0011**		**0.000020**	**0.00010**	**mg/L**	1	15-Jul-2019 17:59
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jul-2019 17:59
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jul-2019 17:59
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jul-2019 17:59
Phenanthrene	U		0.000021	0.00010	mg/L	1	15-Jul-2019 17:59
Phenol	U		0.000035	0.00020	mg/L	1	15-Jul-2019 17:59
Pyrene	**0.000084**	J	**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 17:59
Surr: 2,4,6-Tribromophenol	*93.4*			*34-129*	*%REC*	*1*	*15-Jul-2019 17:59*
Surr: 2-Fluorobiphenyl	*65.6*			*40-125*	*%REC*	*1*	*15-Jul-2019 17:59*
Surr: 2-Fluorophenol	*54.0*			*20-120*	*%REC*	*1*	*15-Jul-2019 17:59*
Surr: 4-Terphenyl-d14	*87.4*			*40-135*	*%REC*	*1*	*15-Jul-2019 17:59*
Surr: Nitrobenzene-d5	*62.7*			*41-120*	*%REC*	*1*	*15-Jul-2019 17:59*
Surr: Phenol-d6	*68.6*			*20-120*	*%REC*	*1*	*15-Jul-2019 17:59*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	**0.0715**		**0.000400**	**0.00200**	**mg/L**	1	16-Jul-2019 23:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW39B-20190711
Collection Date: 11-Jul-2019 09:15

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-17
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jul-2019 05:06
Benzene		U	0.00020	0.0010	mg/L	1	14-Jul-2019 05:06
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jul-2019 05:06
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jul-2019 05:06
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jul-2019 05:06
Toluene		U	0.00020	0.0010	mg/L	1	14-Jul-2019 05:06
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jul-2019 05:06
Surr: 1,2-Dichloroethane-d4	*99.7*			*70-126*	*%REC*	*1*	*14-Jul-2019 05:06*
Surr: 4-Bromofluorobenzene	*96.0*			*81-113*	*%REC*	*1*	*14-Jul-2019 05:06*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*14-Jul-2019 05:06*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*14-Jul-2019 05:06*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070575
Sample ID: WG-1620-MW39B-20190711
Lab ID:HS19070575-17
Collection Date: 11-Jul-2019 09:15
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jul-2019 18:19
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	15-Jul-2019 18:19
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jul-2019 18:19
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jul-2019 18:19
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jul-2019 18:19
2-Methylnaphthalene	**0.000027**	J	**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 18:19
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jul-2019 18:19
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jul-2019 18:19
Acenaphthene	**0.00065**		**0.000027**	**0.00010**	**mg/L**	1	15-Jul-2019 18:19
Acenaphthylene	**0.000021**	J	**0.000015**	**0.00010**	**mg/L**	1	15-Jul-2019 18:19
Anthracene	**0.00021**		**0.000014**	**0.00010**	**mg/L**	1	15-Jul-2019 18:19
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jul-2019 18:19
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jul-2019 18:19
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jul-2019 18:19
Bis(2-ethylhexyl)phthalate	**0.000042**	J	**0.000037**	**0.00020**	**mg/L**	1	15-Jul-2019 18:19
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jul-2019 18:19
Dibenzofuran	**0.000037**	J	**0.000020**	**0.00010**	**mg/L**	1	15-Jul-2019 18:19
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jul-2019 18:19
Fluoranthene	**0.000048**	J	**0.000010**	**0.00010**	**mg/L**	1	15-Jul-2019 18:19
Fluorene	**0.000044**	J	**0.000030**	**0.00010**	**mg/L**	1	15-Jul-2019 18:19
Naphthalene	**0.00041**		**0.000020**	**0.00010**	**mg/L**	1	15-Jul-2019 18:19
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jul-2019 18:19
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jul-2019 18:19
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jul-2019 18:19
Phenanthrene	U		0.000021	0.00010	mg/L	1	15-Jul-2019 18:19
Phenol	U		0.000035	0.00020	mg/L	1	15-Jul-2019 18:19
Pyrene	**0.000072**	J	**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 18:19
Surr: 2,4,6-Tribromophenol	*73.3*			*34-129*	*%REC*	*1*	*15-Jul-2019 18:19*
Surr: 2-Fluorobiphenyl	*51.9*			*40-125*	*%REC*	*1*	*15-Jul-2019 18:19*
Surr: 2-Fluorophenol	*48.6*			*20-120*	*%REC*	*1*	*15-Jul-2019 18:19*
Surr: 4-Terphenyl-d14	*71.9*			*40-135*	*%REC*	*1*	*15-Jul-2019 18:19*
Surr: Nitrobenzene-d5	*59.8*			*41-120*	*%REC*	*1*	*15-Jul-2019 18:19*
Surr: Phenol-d6	*55.7*			*20-120*	*%REC*	*1*	*15-Jul-2019 18:19*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	**0.00144**	J	**0.000400**	**0.00200**	**mg/L**	1	16-Jul-2019 23:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070575
Sample ID: WG-1620-MW12C-20190711
Lab ID:HS19070575-18
Collection Date: 11-Jul-2019 10:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jul-2019 05:30
Benzene		U	0.00020	0.0010	mg/L	1	14-Jul-2019 05:30
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jul-2019 05:30
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jul-2019 05:30
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jul-2019 05:30
Toluene		U	0.00020	0.0010	mg/L	1	14-Jul-2019 05:30
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jul-2019 05:30
Surr: 1,2-Dichloroethane-d4	*98.6*			*70-126*	*%REC*	*1*	*14-Jul-2019 05:30*
Surr: 4-Bromofluorobenzene	*97.0*			*81-113*	*%REC*	*1*	*14-Jul-2019 05:30*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*14-Jul-2019 05:30*
Surr: Toluene-d8	*99.4*			*82-127*	*%REC*	*1*	*14-Jul-2019 05:30*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW12C-20190711
Collection Date: 11-Jul-2019 10:00

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-18
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jul-2019 18:38
2,4-Dimethylphenol	**0.00043**		**0.000040**	**0.00020**	**mg/L**	1	15-Jul-2019 18:38
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jul-2019 18:38
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jul-2019 18:38
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jul-2019 18:38
2-Methylnaphthalene	**0.00021**		**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 18:38
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jul-2019 18:38
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jul-2019 18:38
Acenaphthene	**0.000071**	J	**0.000027**	**0.00010**	**mg/L**	1	15-Jul-2019 18:38
Acenaphthylene	U		0.000015	0.00010	mg/L	1	15-Jul-2019 18:38
Anthracene	**0.000030**	J	**0.000014**	**0.00010**	**mg/L**	1	15-Jul-2019 18:38
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jul-2019 18:38
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jul-2019 18:38
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jul-2019 18:38
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	15-Jul-2019 18:38
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jul-2019 18:38
Dibenzofuran	**0.000070**	J	**0.000020**	**0.00010**	**mg/L**	1	15-Jul-2019 18:38
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jul-2019 18:38
Fluoranthene	U		0.000010	0.00010	mg/L	1	15-Jul-2019 18:38
Fluorene	**0.000052**	J	**0.000030**	**0.00010**	**mg/L**	1	15-Jul-2019 18:38
Naphthalene	**0.0031**		**0.000020**	**0.00010**	**mg/L**	1	15-Jul-2019 18:38
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jul-2019 18:38
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jul-2019 18:38
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jul-2019 18:38
Phenanthrene	**0.000039**	J	**0.000021**	**0.00010**	**mg/L**	1	15-Jul-2019 18:38
Phenol	**0.00040**		**0.000035**	**0.00020**	**mg/L**	1	15-Jul-2019 18:38
Pyrene	U		0.000019	0.00010	mg/L	1	15-Jul-2019 18:38
Surr: 2,4,6-Tribromophenol	*67.0*			*34-129*	*%REC*	*1*	*15-Jul-2019 18:38*
Surr: 2-Fluorobiphenyl	*50.5*			*40-125*	*%REC*	*1*	*15-Jul-2019 18:38*
Surr: 2-Fluorophenol	*54.1*			*20-120*	*%REC*	*1*	*15-Jul-2019 18:38*
Surr: 4-Terphenyl-d14	*71.3*			*40-135*	*%REC*	*1*	*15-Jul-2019 18:38*
Surr: Nitrobenzene-d5	*62.0*			*41-120*	*%REC*	*1*	*15-Jul-2019 18:38*
Surr: Phenol-d6	*62.5*			*20-120*	*%REC*	*1*	*15-Jul-2019 18:38*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 16-Jul-2019		Analyst: JHD
Arsenic	**0.00200**		**0.000400**	**0.00200**	**mg/L**	1	16-Jul-2019 23:19

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070575
Sample ID: WG-1620-MW12A-20190711
Lab ID:HS19070575-19
Collection Date: 11-Jul-2019 10:55
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jul-2019 05:55
Benzene	U		0.00020	0.0010	mg/L	1	14-Jul-2019 05:55
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jul-2019 05:55
Ethylbenzene	U		0.00030	0.0010	mg/L	1	14-Jul-2019 05:55
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jul-2019 05:55
Toluene	U		0.00020	0.0010	mg/L	1	14-Jul-2019 05:55
Xylenes, Total	**0.00060**	J	**0.00030**	**0.0010**	**mg/L**	1	14-Jul-2019 05:55
Surr: 1,2-Dichloroethane-d4	*98.5*			*70-126*	*%REC*	*1*	*14-Jul-2019 05:55*
Surr: 4-Bromofluorobenzene	*99.4*			*81-113*	*%REC*	*1*	*14-Jul-2019 05:55*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*14-Jul-2019 05:55*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*14-Jul-2019 05:55*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW12A-20190711
Collection Date: 11-Jul-2019 10:55

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-19
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jul-2019 18:58
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	15-Jul-2019 18:58
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jul-2019 18:58
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jul-2019 18:58
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jul-2019 18:58
2-Methylnaphthalene	**0.013**		**0.00019**	**0.0010**	**mg/L**	10	17-Jul-2019 13:40
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jul-2019 18:58
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jul-2019 18:58
Acenaphthene	**0.19**		**0.0027**	**0.010**	**mg/L**	100	17-Jul-2019 13:59
Acenaphthylene	**0.0013**		**0.000015**	**0.00010**	**mg/L**	1	15-Jul-2019 18:58
Anthracene	**0.0087**		**0.000014**	**0.00010**	**mg/L**	1	15-Jul-2019 18:58
Benz(a)anthracene	**0.00041**		**0.000050**	**0.00010**	**mg/L**	1	15-Jul-2019 18:58
Benzo(a)pyrene	**0.00012**		**0.000020**	**0.00010**	**mg/L**	1	15-Jul-2019 18:58
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jul-2019 18:58
Bis(2-ethylhexyl)phthalate	**0.00031**		**0.000037**	**0.00020**	**mg/L**	1	15-Jul-2019 18:58
Chrysene	**0.00034**		**0.000021**	**0.00010**	**mg/L**	1	15-Jul-2019 18:58
Dibenzofuran	**0.14**		**0.0020**	**0.010**	**mg/L**	100	17-Jul-2019 13:59
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jul-2019 18:58
Fluoranthene	**0.0097**		**0.000010**	**0.00010**	**mg/L**	1	15-Jul-2019 18:58
Fluorene	**0.16**		**0.0030**	**0.010**	**mg/L**	100	17-Jul-2019 13:59
Naphthalene	**0.0012**		**0.000020**	**0.00010**	**mg/L**	1	15-Jul-2019 18:58
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jul-2019 18:58
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jul-2019 18:58
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jul-2019 18:58
Phenanthrene	**0.063**		**0.00021**	**0.0010**	**mg/L**	10	17-Jul-2019 13:40
Phenol	U		0.000035	0.00020	mg/L	1	15-Jul-2019 18:58
Pyrene	**0.0047**		**0.000019**	**0.00010**	**mg/L**	1	15-Jul-2019 18:58
Surr: 2,4,6-Tribromophenol	*103*			*34-129*	*%REC*	*10*	*17-Jul-2019 13:40*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*17-Jul-2019 13:59*
Surr: 2,4,6-Tribromophenol	*76.7*			*34-129*	*%REC*	*1*	*15-Jul-2019 18:58*
Surr: 2-Fluorobiphenyl	*49.9*			*40-125*	*%REC*	*1*	*15-Jul-2019 18:58*
Surr: 2-Fluorobiphenyl	*69.8*			*40-125*	*%REC*	*10*	*17-Jul-2019 13:40*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*17-Jul-2019 13:59*
Surr: 2-Fluorophenol	*51.5*			*20-120*	*%REC*	*10*	*17-Jul-2019 13:40*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*17-Jul-2019 13:59*
Surr: 2-Fluorophenol	*48.6*			*20-120*	*%REC*	*1*	*15-Jul-2019 18:58*
Surr: 4-Terphenyl-d14	*84.1*			*40-135*	*%REC*	*10*	*17-Jul-2019 13:40*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*17-Jul-2019 13:59*
Surr: 4-Terphenyl-d14	*76.2*			*40-135*	*%REC*	*1*	*15-Jul-2019 18:58*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW12A-20190711
Collection Date: 11-Jul-2019 10:55

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-19
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jul-2019		Analyst: GEY
Surr: Nitrobenzene-d5	*54.7*			*41-120*	*%REC*	*1*	*15-Jul-2019 18:58*
Surr: Nitrobenzene-d5	*70.5*			*41-120*	*%REC*	*10*	*17-Jul-2019 13:40*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*17-Jul-2019 13:59*
Surr: Phenol-d6	*68.7*			*20-120*	*%REC*	*10*	*17-Jul-2019 13:40*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*17-Jul-2019 13:59*
Surr: Phenol-d6	*54.0*			*20-120*	*%REC*	*1*	*15-Jul-2019 18:58*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Jul-2019		Analyst: JHD
Arsenic	**0.00192**	J	**0.000400**	**0.00200**	**mg/L**	1	17-Jul-2019 22:23

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WQ-1620-TB01-20190710
Collection Date: 10-Jul-2019 00:00

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-20
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jul-2019 00:10
Benzene		U	0.00020	0.0010	mg/L	1	14-Jul-2019 00:10
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jul-2019 00:10
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jul-2019 00:10
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jul-2019 00:10
Toluene		U	0.00020	0.0010	mg/L	1	14-Jul-2019 00:10
Vinyl chloride		U	0.00020	0.0010	mg/L	1	14-Jul-2019 00:10
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jul-2019 00:10
Surr: 1,2-Dichloroethane-d4	*99.0*			*70-126*	*%REC*	*1*	*14-Jul-2019 00:10*
Surr: 4-Bromofluorobenzene	*99.8*			*81-113*	*%REC*	*1*	*14-Jul-2019 00:10*
Surr: Dibromofluoromethane	*99.4*			*77-123*	*%REC*	*1*	*14-Jul-2019 00:10*
Surr: Toluene-d8	*98.1*			*82-127*	*%REC*	*1*	*14-Jul-2019 00:10*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WQ-1620-TB02-20190710
Collection Date: 10-Jul-2019 00:00

ANALYTICAL REPORT
WorkOrder:HS19070575
Lab ID:HS19070575-21
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jul-2019 00:35
Benzene		U	0.00020	0.0010	mg/L	1	14-Jul-2019 00:35
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jul-2019 00:35
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jul-2019 00:35
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jul-2019 00:35
Toluene		U	0.00020	0.0010	mg/L	1	14-Jul-2019 00:35
Vinyl chloride		U	0.00020	0.0010	mg/L	1	14-Jul-2019 00:35
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jul-2019 00:35
Surr: 1,2-Dichloroethane-d4	*101*			*70-126*	*%REC*	*1*	*14-Jul-2019 00:35*
Surr: 4-Bromofluorobenzene	*96.6*			*81-113*	*%REC*	*1*	*14-Jul-2019 00:35*
Surr: Dibromofluoromethane	*103*			*77-123*	*%REC*	*1*	*14-Jul-2019 00:35*
Surr: Toluene-d8	*98.4*			*82-127*	*%REC*	*1*	*14-Jul-2019 00:35*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070575

Batch ID: 143014 **Method:** LOW-LEVEL SEMIVOLATILES BY 8270D **Prep:** 3510_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19070575-01	1	1000	1 (mL)	0.001
HS19070575-02	1	1000	1 (mL)	0.001
HS19070575-03	1	1000	1 (mL)	0.001
HS19070575-04	1	1000	1 (mL)	0.001
HS19070575-05	1	1000	1 (mL)	0.001
HS19070575-06	1	1000	1 (mL)	0.001
HS19070575-07	1	1000	1 (mL)	0.001
HS19070575-08	1	1000	1 (mL)	0.001
HS19070575-09	1	1000	1 (mL)	0.001
HS19070575-10	1	1000	1 (mL)	0.001
HS19070575-11	1	1000	1 (mL)	0.001
HS19070575-12	1	1000	1 (mL)	0.001
HS19070575-13	1	1000	1 (mL)	0.001
HS19070575-14	1	1000	1 (mL)	0.001
HS19070575-15	1	1000	1 (mL)	0.001
HS19070575-16	1	1000	1 (mL)	0.001
HS19070575-17	1	1000	1 (mL)	0.001
HS19070575-18	1	1000	1 (mL)	0.001
HS19070575-19	1	1000	1 (mL)	0.001

Batch ID: 143067 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19070575-01	1	10	10 (mL)	1
HS19070575-02	1	10	10 (mL)	1
HS19070575-03	1	10	10 (mL)	1
HS19070575-04	1	10	10 (mL)	1
HS19070575-05	1	10	10 (mL)	1
HS19070575-06	1	10	10 (mL)	1
HS19070575-07	1	10	10 (mL)	1
HS19070575-08	1	10	10 (mL)	1
HS19070575-09	1	10	10 (mL)	1
HS19070575-10	1	10	10 (mL)	1
HS19070575-11	1	10	10 (mL)	1
HS19070575-12	1	10	10 (mL)	1
HS19070575-13	1	10	10 (mL)	1
HS19070575-14	1	10	10 (mL)	1
HS19070575-15	1	10	10 (mL)	1
HS19070575-16	1	10	10 (mL)	1
HS19070575-17	1	10	10 (mL)	1
HS19070575-18	1	10	10 (mL)	1

Batch ID: 143129 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19070575-19	1	10	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070575

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143014 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS19070575-01	WG-1620-MW18A-20190710	10 Jul 2019 07:20		15 Jul 2019 10:03	15 Jul 2019 19:37	100
HS19070575-01	WG-1620-MW18A-20190710	10 Jul 2019 07:20		15 Jul 2019 10:03	15 Jul 2019 19:56	1000
HS19070575-01	WG-1620-MW18A-20190710	10 Jul 2019 07:20		15 Jul 2019 10:03	15 Jul 2019 19:17	10
HS19070575-01	WG-1620-MW18A-20190710	10 Jul 2019 07:20		15 Jul 2019 10:03	15 Jul 2019 13:05	1
HS19070575-02	WG-1620-MW18C-20190710	10 Jul 2019 08:05		15 Jul 2019 10:03	15 Jul 2019 20:36	100
HS19070575-02	WG-1620-MW18C-20190710	10 Jul 2019 08:05		15 Jul 2019 10:03	16 Jul 2019 13:47	5000
HS19070575-02	WG-1620-MW18C-20190710	10 Jul 2019 08:05		15 Jul 2019 10:03	15 Jul 2019 20:16	10
HS19070575-02	WG-1620-MW18C-20190710	10 Jul 2019 08:05		15 Jul 2019 10:03	15 Jul 2019 13:25	1
HS19070575-03	WG-1620-MW58A-20190710	10 Jul 2019 08:55		15 Jul 2019 10:03	15 Jul 2019 21:34	100
HS19070575-03	WG-1620-MW58A-20190710	10 Jul 2019 08:55		15 Jul 2019 10:03	15 Jul 2019 21:15	10
HS19070575-03	WG-1620-MW58A-20190710	10 Jul 2019 08:55		15 Jul 2019 10:03	15 Jul 2019 13:45	1
HS19070575-04	WG-1620-MW57A-20190710	10 Jul 2019 09:55		15 Jul 2019 10:03	15 Jul 2019 22:13	100
HS19070575-04	WG-1620-MW57A-20190710	10 Jul 2019 09:55		15 Jul 2019 10:03	15 Jul 2019 21:54	10
HS19070575-04	WG-1620-MW57A-20190710	10 Jul 2019 09:55		15 Jul 2019 10:03	15 Jul 2019 14:04	1
HS19070575-05	WG-1620-MW57B-20190710	10 Jul 2019 10:40		15 Jul 2019 10:03	16 Jul 2019 14:26	5000
HS19070575-05	WG-1620-MW57B-20190710	10 Jul 2019 10:40		15 Jul 2019 10:03	16 Jul 2019 14:06	1000
HS19070575-05	WG-1620-MW57B-20190710	10 Jul 2019 10:40		15 Jul 2019 10:03	15 Jul 2019 22:33	100
HS19070575-05	WG-1620-MW57B-20190710	10 Jul 2019 10:40		15 Jul 2019 10:03	15 Jul 2019 14:24	10
HS19070575-06	WG-1620-MW72B-20190710	10 Jul 2019 11:35		15 Jul 2019 10:03	17 Jul 2019 14:18	5000
HS19070575-06	WG-1620-MW72B-20190710	10 Jul 2019 11:35		15 Jul 2019 10:03	16 Jul 2019 19:19	1000
HS19070575-06	WG-1620-MW72B-20190710	10 Jul 2019 11:35		15 Jul 2019 10:03	16 Jul 2019 19:00	100
HS19070575-06	WG-1620-MW72B-20190710	10 Jul 2019 11:35		15 Jul 2019 10:03	15 Jul 2019 14:43	10
HS19070575-07	WG-1620-MW19C-20190710	10 Jul 2019 12:25		15 Jul 2019 10:03	15 Jul 2019 15:03	1
HS19070575-08	WG-1620-MW17C-20190710	10 Jul 2019 13:25		15 Jul 2019 10:03	16 Jul 2019 19:58	100
HS19070575-08	WG-1620-MW17C-20190710	10 Jul 2019 13:25		15 Jul 2019 10:03	16 Jul 2019 19:39	10
HS19070575-08	WG-1620-MW17C-20190710	10 Jul 2019 13:25		15 Jul 2019 10:03	15 Jul 2019 15:22	1
HS19070575-09	WG-1620-MW17-20190710	10 Jul 2019 14:15		15 Jul 2019 10:03	16 Jul 2019 20:37	1000
HS19070575-09	WG-1620-MW17-20190710	10 Jul 2019 14:15		15 Jul 2019 10:03	16 Jul 2019 20:57	5000
HS19070575-09	WG-1620-MW17-20190710	10 Jul 2019 14:15		15 Jul 2019 10:03	16 Jul 2019 20:18	100
HS19070575-09	WG-1620-MW17-20190710	10 Jul 2019 14:15		15 Jul 2019 10:03	15 Jul 2019 15:42	10
HS19070575-10	WG-1620-MW20A-20190710	10 Jul 2019 15:10		15 Jul 2019 10:03	17 Jul 2019 15:16	500
HS19070575-10	WG-1620-MW20A-20190710	10 Jul 2019 15:10		15 Jul 2019 10:03	16 Jul 2019 21:36	100
HS19070575-10	WG-1620-MW20A-20190710	10 Jul 2019 15:10		15 Jul 2019 10:03	16 Jul 2019 21:16	10
HS19070575-10	WG-1620-MW20A-20190710	10 Jul 2019 15:10		15 Jul 2019 10:03	15 Jul 2019 16:01	1
HS19070575-11	WG-1620-MW15A-20190710	10 Jul 2019 16:10		15 Jul 2019 10:03	17 Jul 2019 15:35	50
HS19070575-11	WG-1620-MW15A-20190710	10 Jul 2019 16:10		15 Jul 2019 10:03	16 Jul 2019 21:55	10
HS19070575-11	WG-1620-MW15A-20190710	10 Jul 2019 16:10		15 Jul 2019 10:03	15 Jul 2019 16:21	1
HS19070575-12	WG-1620-MW15C-20190710	10 Jul 2019 17:05		15 Jul 2019 10:03	16 Jul 2019 22:15	10
HS19070575-12	WG-1620-MW15C-20190710	10 Jul 2019 17:05		15 Jul 2019 10:03	15 Jul 2019 16:41	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070575

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
HS19070575-13	WG-1620-MW15B-20190710	10 Jul 2019 18:00		15 Jul 2019 10:03	17 Jul 2019 13:01	100
HS19070575-13	WG-1620-MW15B-20190710	10 Jul 2019 18:00		15 Jul 2019 10:03	17 Jul 2019 12:42	10
HS19070575-13	WG-1620-MW15B-20190710	10 Jul 2019 18:00		15 Jul 2019 10:03	15 Jul 2019 17:00	1
HS19070575-14	WG-1620-FB01-20190710	10 Jul 2019 18:15		15 Jul 2019 10:03	15 Jul 2019 17:20	1
HS19070575-15	WG-1620-MW14-20190711	11 Jul 2019 07:20		15 Jul 2019 10:03	15 Jul 2019 17:39	1
HS19070575-16	WG-1620-MW13-20190711	11 Jul 2019 08:15		15 Jul 2019 10:03	15 Jul 2019 17:59	1
HS19070575-17	WG-1620-MW39B-20190711	11 Jul 2019 09:15		15 Jul 2019 10:03	15 Jul 2019 18:19	1
HS19070575-18	WG-1620-MW12C-20190711	11 Jul 2019 10:00		15 Jul 2019 10:03	15 Jul 2019 18:38	1
HS19070575-19	WG-1620-MW12A-20190711	11 Jul 2019 10:55		15 Jul 2019 10:03	17 Jul 2019 13:59	100
HS19070575-19	WG-1620-MW12A-20190711	11 Jul 2019 10:55		15 Jul 2019 10:03	17 Jul 2019 13:40	10
HS19070575-19	WG-1620-MW12A-20190711	11 Jul 2019 10:55		15 Jul 2019 10:03	15 Jul 2019 18:58	1
Batch ID: 143067 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS19070575-01	WG-1620-MW18A-20190710	10 Jul 2019 07:20		16 Jul 2019 11:30	16 Jul 2019 22:38	1
HS19070575-02	WG-1620-MW18C-20190710	10 Jul 2019 08:05		16 Jul 2019 11:30	16 Jul 2019 22:40	1
HS19070575-03	WG-1620-MW58A-20190710	10 Jul 2019 08:55		16 Jul 2019 11:30	16 Jul 2019 22:43	1
HS19070575-04	WG-1620-MW57A-20190710	10 Jul 2019 09:55		16 Jul 2019 11:30	16 Jul 2019 22:45	1
HS19070575-05	WG-1620-MW57B-20190710	10 Jul 2019 10:40		16 Jul 2019 11:30	16 Jul 2019 22:47	1
HS19070575-06	WG-1620-MW72B-20190710	10 Jul 2019 11:35		16 Jul 2019 11:30	17 Jul 2019 12:21	1
HS19070575-07	WG-1620-MW19C-20190710	10 Jul 2019 12:25		16 Jul 2019 11:30	16 Jul 2019 22:52	1
HS19070575-08	WG-1620-MW17C-20190710	10 Jul 2019 13:25		16 Jul 2019 11:30	16 Jul 2019 22:54	1
HS19070575-09	WG-1620-MW17-20190710	10 Jul 2019 14:15		16 Jul 2019 11:30	17 Jul 2019 12:23	1
HS19070575-10	WG-1620-MW20A-20190710	10 Jul 2019 15:10		16 Jul 2019 11:30	16 Jul 2019 23:03	1
HS19070575-11	WG-1620-MW15A-20190710	10 Jul 2019 16:10		16 Jul 2019 11:30	16 Jul 2019 22:18	1
HS19070575-12	WG-1620-MW15C-20190710	10 Jul 2019 17:05		16 Jul 2019 11:30	16 Jul 2019 23:05	1
HS19070575-13	WG-1620-MW15B-20190710	10 Jul 2019 18:00		16 Jul 2019 11:30	16 Jul 2019 23:08	1
HS19070575-14	WG-1620-FB01-20190710	10 Jul 2019 18:15		16 Jul 2019 11:30	16 Jul 2019 23:10	1
HS19070575-15	WG-1620-MW14-20190711	11 Jul 2019 07:20		16 Jul 2019 11:30	16 Jul 2019 23:12	1
HS19070575-16	WG-1620-MW13-20190711	11 Jul 2019 08:15		16 Jul 2019 11:30	16 Jul 2019 23:14	1
HS19070575-17	WG-1620-MW39B-20190711	11 Jul 2019 09:15		16 Jul 2019 11:30	16 Jul 2019 23:16	1
HS19070575-18	WG-1620-MW12C-20190711	11 Jul 2019 10:00		16 Jul 2019 11:30	16 Jul 2019 23:19	1
Batch ID: 143129 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS19070575-19	WG-1620-MW12A-20190711	11 Jul 2019 10:55		17 Jul 2019 13:00	17 Jul 2019 22:23	1
Batch ID: R342400 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS19070575-01	WG-1620-MW18A-20190710	10 Jul 2019 07:20			14 Jul 2019 04:56	1
HS19070575-02	WG-1620-MW18C-20190710	10 Jul 2019 08:05			14 Jul 2019 06:09	1
HS19070575-03	WG-1620-MW58A-20190710	10 Jul 2019 08:55			14 Jul 2019 05:20	1
HS19070575-04	WG-1620-MW57A-20190710	10 Jul 2019 09:55			14 Jul 2019 05:45	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070575

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: R342410 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS19070575-05	WG-1620-MW57B-20190710	10 Jul 2019 10:40			14 Jul 2019 06:47	10
HS19070575-05	WG-1620-MW57B-20190710	10 Jul 2019 10:40			14 Jul 2019 06:19	1
HS19070575-06	WG-1620-MW72B-20190710	10 Jul 2019 11:35			14 Jul 2019 07:38	10
HS19070575-06	WG-1620-MW72B-20190710	10 Jul 2019 11:35			14 Jul 2019 07:11	1
HS19070575-07	WG-1620-MW19C-20190710	10 Jul 2019 12:25			14 Jul 2019 00:59	1
HS19070575-08	WG-1620-MW17C-20190710	10 Jul 2019 13:25			14 Jul 2019 02:13	1
HS19070575-09	WG-1620-MW17-20190710	10 Jul 2019 14:15			14 Jul 2019 08:30	10
HS19070575-09	WG-1620-MW17-20190710	10 Jul 2019 14:15			14 Jul 2019 08:03	1
HS19070575-10	WG-1620-MW20A-20190710	10 Jul 2019 15:10			14 Jul 2019 02:38	1
HS19070575-11	WG-1620-MW15A-20190710	10 Jul 2019 16:10			14 Jul 2019 03:02	1
HS19070575-12	WG-1620-MW15C-20190710	10 Jul 2019 17:05			14 Jul 2019 03:27	1
HS19070575-13	WG-1620-MW15B-20190710	10 Jul 2019 18:00			14 Jul 2019 03:52	1
HS19070575-14	WG-1620-FB01-20190710	10 Jul 2019 18:15			13 Jul 2019 23:46	1
HS19070575-15	WG-1620-MW14-20190711	11 Jul 2019 07:20			14 Jul 2019 04:16	1
HS19070575-16	WG-1620-MW13-20190711	11 Jul 2019 08:15			14 Jul 2019 04:41	1
HS19070575-17	WG-1620-MW39B-20190711	11 Jul 2019 09:15			14 Jul 2019 05:06	1
HS19070575-18	WG-1620-MW12C-20190711	11 Jul 2019 10:00			14 Jul 2019 05:30	1
HS19070575-19	WG-1620-MW12A-20190711	11 Jul 2019 10:55			14 Jul 2019 05:55	1
HS19070575-20	WQ-1620-TB01-20190710	10 Jul 2019 00:00			14 Jul 2019 00:10	1
HS19070575-21	WQ-1620-TB02-20190710	10 Jul 2019 00:00			14 Jul 2019 00:35	1
Batch ID: R342474 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS19070575-01	WG-1620-MW18A-20190710	10 Jul 2019 07:20			15 Jul 2019 19:23	5
HS19070575-02	WG-1620-MW18C-20190710	10 Jul 2019 08:05			15 Jul 2019 19:50	10

WorkOrder: HS19070575
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000547	0.000400	0.00200

WorkOrder: HS19070575
InstrumentID: SV-7
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.00011	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.00010	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000096	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.00012	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.00011	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.00010	0.00012	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000013	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.00013	0.000047	0.0010
A	Acenaphthene	83-32-9	0.00010	0.00011	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.00010	0.00010	0.000015	0.00010
A	Anthracene	120-12-7	0.00010	0.00011	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.00010	0.000099	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.00010	0.000076	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.00012	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.000086	0.000037	0.00020
A	Chrysene	218-01-9	0.00010	0.00011	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.00010	0.000094	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.000099	0.000020	0.00020
A	Fluoranthene	206-44-0	0.00010	0.00012	0.000010	0.00010
A	Fluorene	86-73-7	0.00010	0.00012	0.000030	0.00010
A	Naphthalene	91-20-3	0.00010	0.00010	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00013	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00012	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000085	0.000079	0.00020
A	Phenanthrene	85-01-8	0.00010	0.00011	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000094	0.000035	0.00020
A	Pyrene	129-00-0	0.00010	0.00011	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS19070575
InstrumentID: VOA2
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00065	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00059	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00060	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00062	0.00030	0.0010
A	Methylene chloride	75-09-2	0.00050	0.00067	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00066	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00051	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00076	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

WorkOrder: HS19070575
InstrumentID: VOA4
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00064	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00060	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00061	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00063	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00077	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00058	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00070	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00062	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070575

QC BATCH REPORT

Batch ID: 143067 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-143067** Units: **mg/L** Analysis Date: **16-Jul-2019 22:14**
Client ID: Run ID: **ICPMS05_342486** SeqNo: **5169331** PrepDate: **16-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-143067** Units: **mg/L** Analysis Date: **16-Jul-2019 22:16**
Client ID: Run ID: **ICPMS05_342486** SeqNo: **5169332** PrepDate: **16-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05122	0.00200	0.05	0	102	80 - 120				

MS Sample ID: **HS19070575-11MS** Units: **mg/L** Analysis Date: **16-Jul-2019 22:23**
Client ID: **WG-1620-MW15A-20190710** Run ID: **ICPMS05_342486** SeqNo: **5169335** PrepDate: **16-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.07665	0.00200	0.05	0.02509	103	80 - 120				

MSD Sample ID: **HS19070575-11MSD** Units: **mg/L** Analysis Date: **16-Jul-2019 22:25**
Client ID: **WG-1620-MW15A-20190710** Run ID: **ICPMS05_342486** SeqNo: **5169336** PrepDate: **16-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.07628	0.00200	0.05	0.02509	102	80 - 120	0.07665	0.475	20	

PDS Sample ID: **HS19070575-11PDS** Units: **mg/L** Analysis Date: **16-Jul-2019 22:27**
Client ID: **WG-1620-MW15A-20190710** Run ID: **ICPMS05_342486** SeqNo: **5169337** PrepDate: **16-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1292	0.00200	0.1	0.02509	104	75 - 125				

SD Sample ID: **HS19070575-11SD** Units: **mg/L** Analysis Date: **16-Jul-2019 22:20**
Client ID: **WG-1620-MW15A-20190710** Run ID: **ICPMS05_342486** SeqNo: **5169334** PrepDate: **16-Jul-2019** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.02454	0.0100					0.02509	2.21	10	

The following samples were analyzed in this batch:

HS19070575-01	HS19070575-02	HS19070575-03	HS19070575-04
HS19070575-05	HS19070575-06	HS19070575-07	HS19070575-08
HS19070575-09	HS19070575-10	HS19070575-11	HS19070575-12
HS19070575-13	HS19070575-14	HS19070575-15	HS19070575-16
HS19070575-17	HS19070575-18		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070575

QC BATCH REPORT

Batch ID: 143129 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-143129** Units: **mg/L** Analysis Date: **17-Jul-2019 22:19**
Client ID: Run ID: **ICPMS05_342573** SeqNo: **5171278** PrepDate: **17-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-143129** Units: **mg/L** Analysis Date: **17-Jul-2019 22:21**
Client ID: Run ID: **ICPMS05_342573** SeqNo: **5171279** PrepDate: **17-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04949	0.00200	0.05	0	99.0	80 - 120				

MS Sample ID: **HS19070575-19MS** Units: **mg/L** Analysis Date: **17-Jul-2019 22:28**
Client ID: **WG-1620-MW12A-20190711** Run ID: **ICPMS05_342573** SeqNo: **5171282** PrepDate: **17-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05141	0.00200	0.05	0.001917	99.0	80 - 120				

MSD Sample ID: **HS19070575-19MSD** Units: **mg/L** Analysis Date: **17-Jul-2019 22:30**
Client ID: **WG-1620-MW12A-20190711** Run ID: **ICPMS05_342573** SeqNo: **5171283** PrepDate: **17-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05143	0.00200	0.05	0.001917	99.0	80 - 120	0.05141	0.0486	20	

PDS Sample ID: **HS19070575-19PDS** Units: **mg/L** Analysis Date: **17-Jul-2019 22:32**
Client ID: **WG-1620-MW12A-20190711** Run ID: **ICPMS05_342573** SeqNo: **5171284** PrepDate: **17-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1245	0.00200	0.1	0.001917	123	75 - 125				

SD Sample ID: **HS19070575-19SD** Units: **mg/L** Analysis Date: **17-Jul-2019 22:26**
Client ID: **WG-1620-MW12A-20190711** Run ID: **ICPMS05_342573** SeqNo: **5171281** PrepDate: **17-Jul-2019** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.002209	0.0100					0.001917	0	10	J

The following samples were analyzed in this batch: HS19070575-19

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070575

QC BATCH REPORT

Batch ID: 143014 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-143014** Units: **ug/L** Analysis Date: **15-Jul-2019 12:07**
Client ID: Run ID: **SV-7_342456** SeqNo: **5167140** PrepDate: **15-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*3.701*	*0.20*	*5*	*0*	*74.0*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*3.828*	*0.20*	*5*	*0*	*76.6*	*40 - 125*				
Surr: 2-Fluorophenol	*3.803*	*0.20*	*5*	*0*	*76.1*	*20 - 120*				
Surr: 4-Terphenyl-d14	*3.47*	*0.20*	*5*	*0*	*69.4*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.43*	*0.20*	*5*	*0*	*88.6*	*41 - 120*				
Surr: Phenol-d6	*4.183*	*0.20*	*5*	*0*	*83.7*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070575

QC BATCH REPORT

Batch ID: 143014 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-143014** Units: **ug/L** Analysis Date: **15-Jul-2019 12:26**
Client ID: Run ID: **SV-7_342456** SeqNo: **5167141** PrepDate: **15-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.902	0.20	5	0	78.0	39 - 127				
2,4-Dimethylphenol	3.394	0.20	5	0	67.9	35 - 120				
2,4-Dinitrotoluene	4.229	0.20	5	0	84.6	50 - 122				
2,6-Dinitrotoluene	3.892	0.20	5	0	77.8	50 - 120				
2-Chloronaphthalene	3.393	0.20	5	0	67.9	50 - 120				
2-Methylnaphthalene	3.647	0.10	5	0	72.9	50 - 120				
4,6-Dinitro-2-methylphenol	3.043	0.20	5	0	60.9	25 - 121				
4-Nitrophenol	3.955	1.0	5	0	79.1	30 - 130				
Acenaphthene	3.452	0.10	5	0	69.0	45 - 120				
Acenaphthylene	3.423	0.10	5	0	68.5	47 - 120				
Anthracene	3.186	0.10	5	0	63.7	45 - 120				
Benz(a)anthracene	3.587	0.10	5	0	71.7	40 - 120				
Benzo(a)pyrene	2.95	0.10	5	0	59.0	45 - 120				
Bis(2-chloroethoxy)methane	3.517	0.20	5	0	70.3	45 - 120				
Bis(2-ethylhexyl)phthalate	3.572	0.20	5	0	71.4	40 - 139				
Chrysene	3.538	0.10	5	0	70.8	43 - 120				
Dibenzofuran	3.567	0.10	5	0	71.3	50 - 120				
Di-n-butyl phthalate	3.477	0.20	5	0	69.5	45 - 123				
Fluoranthene	3.475	0.10	5	0	69.5	45 - 125				
Fluorene	3.341	0.10	5	0	66.8	49 - 120				
Naphthalene	3.401	0.10	5	0	68.0	45 - 120				
Nitrobenzene	4.121	0.20	5	0	82.4	44 - 120				
N-Nitrosodiphenylamine	3.473	0.20	5	0	69.5	40 - 125				
Pentachlorophenol	2.714	0.20	5	0	54.3	19 - 121				
Phenanthrene	3.125	0.10	5	0	62.5	45 - 121				
Phenol	3.76	0.20	5	0	75.2	20 - 124				
Pyrene	3.463	0.10	5	0	69.3	40 - 130				
Surr: 2,4,6-Tribromophenol	*3.938*	*0.20*	*5*	*0*	*78.8*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*3.839*	*0.20*	*5*	*0*	*76.8*	*40 - 125*				
Surr: 2-Fluorophenol	*3.753*	*0.20*	*5*	*0*	*75.1*	*20 - 120*				
Surr: 4-Terphenyl-d14	*3.464*	*0.20*	*5*	*0*	*69.3*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.278*	*0.20*	*5*	*0*	*85.6*	*41 - 120*				
Surr: Phenol-d6	*4.197*	*0.20*	*5*	*0*	*83.9*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070575

QC BATCH REPORT

Batch ID: 143014 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-143014** Units: **ug/L** Analysis Date: **15-Jul-2019 12:46**
Client ID: Run ID: **SV-7_342456** SeqNo: **5167142** PrepDate: **15-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.957	0.20	5	0	79.1	39 - 127	3.902	1.41	20	
2,4-Dimethylphenol	3.566	0.20	5	0	71.3	35 - 120	3.394	4.94	20	
2,4-Dinitrotoluene	4.08	0.20	5	0	81.6	50 - 122	4.229	3.59	20	
2,6-Dinitrotoluene	3.82	0.20	5	0	76.4	50 - 120	3.892	1.87	20	
2-Chloronaphthalene	3.286	0.20	5	0	65.7	50 - 120	3.393	3.21	20	
2-Methylnaphthalene	3.596	0.10	5	0	71.9	50 - 120	3.647	1.41	20	
4,6-Dinitro-2-methylphenol	3.247	0.20	5	0	64.9	25 - 121	3.043	6.47	30	
4-Nitrophenol	3.728	1.0	5	0	74.6	30 - 130	3.955	5.92	20	
Acenaphthene	3.494	0.10	5	0	69.9	45 - 120	3.452	1.22	20	
Acenaphthylene	3.398	0.10	5	0	68.0	47 - 120	3.423	0.726	20	
Anthracene	3.226	0.10	5	0	64.5	45 - 120	3.186	1.26	20	
Benz(a)anthracene	3.638	0.10	5	0	72.8	40 - 120	3.587	1.4	20	
Benzo(a)pyrene	2.952	0.10	5	0	59.0	45 - 120	2.95	0.0403	20	
Bis(2-chloroethoxy)methane	3.497	0.20	5	0	69.9	45 - 120	3.517	0.59	20	
Bis(2-ethylhexyl)phthalate	3.575	0.20	5	0	71.5	40 - 139	3.572	0.0967	20	
Chrysene	3.526	0.10	5	0	70.5	43 - 120	3.538	0.344	20	
Dibenzofuran	3.479	0.10	5	0	69.6	50 - 120	3.567	2.5	20	
Di-n-butyl phthalate	3.423	0.20	5	0	68.5	45 - 123	3.477	1.58	20	
Fluoranthene	3.476	0.10	5	0	69.5	45 - 125	3.475	0.0122	20	
Fluorene	3.303	0.10	5	0	66.1	49 - 120	3.341	1.14	20	
Naphthalene	3.377	0.10	5	0	67.5	45 - 120	3.401	0.71	20	
Nitrobenzene	4.097	0.20	5	0	81.9	44 - 120	4.121	0.591	20	
N-Nitrosodiphenylamine	3.473	0.20	5	0	69.5	40 - 125	3.473	0.0165	20	
Pentachlorophenol	2.83	0.20	5	0	56.6	19 - 121	2.714	4.18	20	
Phenanthrene	3.152	0.10	5	0	63.0	45 - 121	3.125	0.835	20	
Phenol	3.643	0.20	5	0	72.9	20 - 124	3.76	3.19	20	
Pyrene	3.488	0.10	5	0	69.8	40 - 130	3.463	0.698	20	
Surr: 2,4,6-Tribromophenol	*3.744*	*0.20*	*5*	*0*	*74.9*	*34 - 129*	*3.938*	*5.07*	*20*	
Surr: 2-Fluorobiphenyl	*3.773*	*0.20*	*5*	*0*	*75.5*	*40 - 125*	*3.839*	*1.75*	*20*	
Surr: 2-Fluorophenol	*3.729*	*0.20*	*5*	*0*	*74.6*	*20 - 120*	*3.753*	*0.655*	*20*	
Surr: 4-Terphenyl-d14	*3.457*	*0.20*	*5*	*0*	*69.1*	*40 - 135*	*3.464*	*0.215*	*20*	
Surr: Nitrobenzene-d5	*4.223*	*0.20*	*5*	*0*	*84.5*	*41 - 120*	*4.278*	*1.28*	*20*	
Surr: Phenol-d6	*4.186*	*0.20*	*5*	*0*	*83.7*	*20 - 120*	*4.197*	*0.273*	*20*	

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	HS19070575

QC BATCH REPORT

Batch ID: 143014 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

The following samples were analyzed in this batch:

HS19070575-01	HS19070575-02	HS19070575-03	HS19070575-04
HS19070575-05	HS19070575-06	HS19070575-07	HS19070575-08
HS19070575-09	HS19070575-10	HS19070575-11	HS19070575-12
HS19070575-13	HS19070575-14	HS19070575-15	HS19070575-16
HS19070575-17	HS19070575-18	HS19070575-19	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070575

QC BATCH REPORT

Batch ID: R342400 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-190713** Units: **ug/L** Analysis Date: **13-Jul-2019 23:38**
Client ID: Run ID: **VOA2_342400** SeqNo: **5166127** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*42.28*	*1.0*	*50*	*0*	*84.6*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.37*	*1.0*	*50*	*0*	*94.7*	*82 - 115*				
Surr: Dibromofluoromethane	*48.29*	*1.0*	*50*	*0*	*96.6*	*73 - 126*				
Surr: Toluene-d8	*49.5*	*1.0*	*50*	*0*	*99.0*	*81 - 120*				

LCS Sample ID: **VLCSW-190713** Units: **ug/L** Analysis Date: **13-Jul-2019 23:13**
Client ID: Run ID: **VOA2_342400** SeqNo: **5166126** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	19.36	1.0	20	0	96.8	70 - 124				
Benzene	20.6	1.0	20	0	103	74 - 120				
Chlorobenzene	19.47	1.0	20	0	97.3	76 - 113				
Ethylbenzene	19.57	1.0	20	0	97.8	77 - 117				
Methylene chloride	20.05	2.0	20	0	100	70 - 127				
Toluene	22.21	1.0	20	0	111	77 - 118				
Vinyl chloride	23.29	1.0	20	0	116	70 - 130				
Xylenes, Total	64.58	1.0	60	0	108	75 - 122				
Surr: 1,2-Dichloroethane-d4	*45.98*	*1.0*	*50*	*0*	*92.0*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*46.75*	*1.0*	*50*	*0*	*93.5*	*82 - 115*				
Surr: Dibromofluoromethane	*47.95*	*1.0*	*50*	*0*	*95.9*	*73 - 126*				
Surr: Toluene-d8	*49.31*	*1.0*	*50*	*0*	*98.6*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070575

QC BATCH REPORT

Batch ID: R342400 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS19070509-10MS** Units: **ug/L** Analysis Date: **14-Jul-2019 00:51**
Client ID: Run ID: **VOA2_342400** SeqNo: **5166130** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	16.54	1.0	20	0	82.7	70 - 127				
Benzene	17.76	1.0	20	0	88.8	70 - 127				
Chlorobenzene	17.58	1.0	20	0	87.9	70 - 114				
Ethylbenzene	17.7	1.0	20	0	88.5	70 - 124				
Methylene chloride	17.93	2.0	20	0	89.7	70 - 128				
Toluene	20.17	1.0	20	0	101	70 - 123				
Vinyl chloride	20.19	1.0	20	0	101	70 - 130				
Xylenes, Total	57.61	1.0	60	0	96.0	70 - 130				
Surr: 1,2-Dichloroethane-d4	*45.2*	*1.0*	*50*	*0*	*90.4*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*48.16*	*1.0*	*50*	*0*	*96.3*	*81 - 113*				
Surr: Dibromofluoromethane	*48.56*	*1.0*	*50*	*0*	*97.1*	*77 - 123*				
Surr: Toluene-d8	*50.25*	*1.0*	*50*	*0*	*101*	*82 - 127*				

MSD Sample ID: **HS19070509-10MSD** Units: **ug/L** Analysis Date: **14-Jul-2019 01:16**
Client ID: Run ID: **VOA2_342400** SeqNo: **5166131** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	16.17	1.0	20	0	80.8	70 - 127	16.54	2.3	20	
Benzene	17.18	1.0	20	0	85.9	70 - 127	17.76	3.31	20	
Chlorobenzene	16.7	1.0	20	0	83.5	70 - 114	17.58	5.17	20	
Ethylbenzene	16.96	1.0	20	0	84.8	70 - 124	17.7	4.27	20	
Methylene chloride	16.55	2.0	20	0	82.8	70 - 128	17.93	8.02	20	
Toluene	18.64	1.0	20	0	93.2	70 - 123	20.17	7.89	20	
Vinyl chloride	19.45	1.0	20	0	97.2	70 - 130	20.19	3.77	20	
Xylenes, Total	55.71	1.0	60	0	92.9	70 - 130	57.61	3.35	20	
Surr: 1,2-Dichloroethane-d4	*44.37*	*1.0*	*50*	*0*	*88.7*	*70 - 126*	*45.2*	*1.85*	*20*	
Surr: 4-Bromofluorobenzene	*47.48*	*1.0*	*50*	*0*	*95.0*	*81 - 113*	*48.16*	*1.41*	*20*	
Surr: Dibromofluoromethane	*47.39*	*1.0*	*50*	*0*	*94.8*	*77 - 123*	*48.56*	*2.44*	*20*	
Surr: Toluene-d8	*49.77*	*1.0*	*50*	*0*	*99.5*	*82 - 127*	*50.25*	*0.966*	*20*	

The following samples were analyzed in this batch: HS19070575-01 HS19070575-02 HS19070575-03 HS19070575-04

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070575

QC BATCH REPORT

Batch ID: R342410 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-190713** Units: **ug/L** Analysis Date: **13-Jul-2019 23:21**
Client ID: Run ID: **VOA4_342410** SeqNo: **5166422** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*49.93*	*1.0*	*50*	*0*	*99.9*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*52.25*	*1.0*	*50*	*0*	*104*	*82 - 115*				
Surr: Dibromofluoromethane	*50.49*	*1.0*	*50*	*0*	*101*	*73 - 126*				
Surr: Toluene-d8	*50.01*	*1.0*	*50*	*0*	*100*	*81 - 120*				

LCS Sample ID: **VLCSW-190713** Units: **ug/L** Analysis Date: **13-Jul-2019 22:31**
Client ID: Run ID: **VOA4_342410** SeqNo: **5166421** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.33	1.0	20	0	91.6	70 - 124				
Benzene	18.78	1.0	20	0	93.9	74 - 120				
Chlorobenzene	19.89	1.0	20	0	99.4	76 - 113				
Ethylbenzene	19.73	1.0	20	0	98.7	77 - 117				
Methylene chloride	19.5	2.0	20	0	97.5	70 - 127				
Toluene	19.33	1.0	20	0	96.7	77 - 118				
Vinyl chloride	19.32	1.0	20	0	96.6	70 - 130				
Xylenes, Total	63.31	1.0	60	0	106	75 - 122				
Surr: 1,2-Dichloroethane-d4	*47.2*	*1.0*	*50*	*0*	*94.4*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*50.98*	*1.0*	*50*	*0*	*102*	*82 - 115*				
Surr: Dibromofluoromethane	*48.19*	*1.0*	*50*	*0*	*96.4*	*73 - 126*				
Surr: Toluene-d8	*49.83*	*1.0*	*50*	*0*	*99.7*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070575

QC BATCH REPORT

Batch ID: R342410 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS19070575-07MS** Units: **ug/L** Analysis Date: **14-Jul-2019 01:24**
Client ID: **WG-1620-MW19C-20190710** Run ID: **VOA4_342410** SeqNo: **5166427** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	16.77	1.0	20	0	83.9	70 - 127				
Benzene	18.56	1.0	20	0.3991	90.8	70 - 127				
Chlorobenzene	18.71	1.0	20	0	93.5	70 - 114				
Ethylbenzene	19.94	1.0	20	0.9597	94.9	70 - 124				
Methylene chloride	18.1	2.0	20	0	90.5	70 - 128				
Toluene	19.42	1.0	20	0.8601	92.8	70 - 123				
Vinyl chloride	19.21	1.0	20	0	96.1	70 - 130				
Xylenes, Total	63.56	1.0	60	2.208	102	70 - 130				
Surr: 1,2-Dichloroethane-d4	*48.1*	*1.0*	*50*	*0*	*96.2*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*51.66*	*1.0*	*50*	*0*	*103*	*81 - 113*				
Surr: Dibromofluoromethane	*48.64*	*1.0*	*50*	*0*	*97.3*	*77 - 123*				
Surr: Toluene-d8	*49.6*	*1.0*	*50*	*0*	*99.2*	*82 - 127*				

MSD Sample ID: **HS19070575-07MSD** Units: **ug/L** Analysis Date: **14-Jul-2019 01:49**
Client ID: **WG-1620-MW19C-20190710** Run ID: **VOA4_342410** SeqNo: **5166428** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	17.01	1.0	20	0	85.0	70 - 127	16.77	1.39	20	
Benzene	18.15	1.0	20	0.3991	88.8	70 - 127	18.56	2.23	20	
Chlorobenzene	18.19	1.0	20	0	90.9	70 - 114	18.71	2.83	20	
Ethylbenzene	19.39	1.0	20	0.9597	92.2	70 - 124	19.94	2.78	20	
Methylene chloride	17.68	2.0	20	0	88.4	70 - 128	18.1	2.38	20	
Toluene	19.25	1.0	20	0.8601	92.0	70 - 123	19.42	0.87	20	
Vinyl chloride	18.26	1.0	20	0	91.3	70 - 130	19.21	5.06	20	
Xylenes, Total	60.19	1.0	60	2.208	96.6	70 - 130	63.56	5.45	20	
Surr: 1,2-Dichloroethane-d4	*47.27*	*1.0*	*50*	*0*	*94.5*	*70 - 126*	*48.1*	*1.73*	*20*	
Surr: 4-Bromofluorobenzene	*50.29*	*1.0*	*50*	*0*	*101*	*81 - 113*	*51.66*	*2.67*	*20*	
Surr: Dibromofluoromethane	*48.5*	*1.0*	*50*	*0*	*97.0*	*77 - 123*	*48.64*	*0.291*	*20*	
Surr: Toluene-d8	*50.32*	*1.0*	*50*	*0*	*101*	*82 - 127*	*49.6*	*1.44*	*20*	

The following samples were analyzed in this batch:

HS19070575-05	HS19070575-06	HS19070575-07	HS19070575-08
HS19070575-09	HS19070575-10	HS19070575-11	HS19070575-12
HS19070575-13	HS19070575-14	HS19070575-15	HS19070575-16
HS19070575-17	HS19070575-18	HS19070575-19	HS19070575-20
HS19070575-21			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070575

QC BATCH REPORT

Batch ID: R342474 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-190715** Units: **ug/L** Analysis Date: **15-Jul-2019 12:40**
Client ID: Run ID: **VOA2_342474** SeqNo: **5167694** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	U	1.0								
Ethylbenzene	U	1.0								
Toluene	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*44.39*	*1.0*	*50*	*0*	*88.8*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*46.81*	*1.0*	*50*	*0*	*93.6*	*82 - 115*				
Surr: Dibromofluoromethane	*48.92*	*1.0*	*50*	*0*	*97.8*	*73 - 126*				
Surr: Toluene-d8	*50.4*	*1.0*	*50*	*0*	*101*	*81 - 120*				

LCS Sample ID: **VLCSW-190715** Units: **ug/L** Analysis Date: **15-Jul-2019 11:51**
Client ID: Run ID: **VOA2_342474** SeqNo: **5167693** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	19.79	1.0	20	0	98.9	74 - 120				
Ethylbenzene	20.53	1.0	20	0	103	77 - 117				
Toluene	22.56	1.0	20	0	113	77 - 118				
Xylenes, Total	66.83	1.0	60	0	111	75 - 122				
Surr: 1,2-Dichloroethane-d4	*46.06*	*1.0*	*50*	*0*	*92.1*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*47.86*	*1.0*	*50*	*0*	*95.7*	*82 - 115*				
Surr: Dibromofluoromethane	*47.97*	*1.0*	*50*	*0*	*95.9*	*73 - 126*				
Surr: Toluene-d8	*50.17*	*1.0*	*50*	*0*	*100*	*81 - 120*				

MS Sample ID: **HS19070637-01MS** Units: **ug/L** Analysis Date: **15-Jul-2019 14:47**
Client ID: Run ID: **VOA2_342474** SeqNo: **5167699** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	16.39	1.0	20	0	82.0	70 - 127				
Ethylbenzene	16.9	1.0	20	0	84.5	70 - 124				
Toluene	18.59	1.0	20	0	93.0	70 - 123				
Xylenes, Total	55.82	1.0	60	0	93.0	70 - 130				
Surr: 1,2-Dichloroethane-d4	*45.39*	*1.0*	*50*	*0*	*90.8*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*48.72*	*1.0*	*50*	*0*	*97.4*	*81 - 113*				
Surr: Dibromofluoromethane	*47.25*	*1.0*	*50*	*0*	*94.5*	*77 - 123*				
Surr: Toluene-d8	*50.44*	*1.0*	*50*	*0*	*101*	*82 - 127*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070575

QC BATCH REPORT

Batch ID: R342474 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MSD Sample ID: **HS19070637-01MSD** Units: **ug/L** Analysis Date: **15-Jul-2019 15:11**
Client ID: Run ID: **VOA2_342474** SeqNo: **5167700** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	15.74	1.0	20	0	78.7	70 - 127	16.39	4.06	20	
Ethylbenzene	16.05	1.0	20	0	80.2	70 - 124	16.9	5.16	20	
Toluene	16.99	1.0	20	0	84.9	70 - 123	18.59	9.02	20	
Xylenes, Total	50.24	1.0	60	0	83.7	70 - 130	55.82	10.5	20	
Surr: 1,2-Dichloroethane-d4	*46.08*	*1.0*	*50*	*0*	*92.2*	*70 - 126*	*45.39*	*1.5*	*20*	
Surr: 4-Bromofluorobenzene	*47.43*	*1.0*	*50*	*0*	*94.9*	*81 - 113*	*48.72*	*2.69*	*20*	
Surr: Dibromofluoromethane	*47.53*	*1.0*	*50*	*0*	*95.1*	*77 - 123*	*47.25*	*0.583*	*20*	
Surr: Toluene-d8	*48.79*	*1.0*	*50*	*0*	*97.6*	*82 - 127*	*50.44*	*3.32*	*20*	

The following samples were analyzed in this batch: HS19070575-01 HS19070575-02

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS19070575**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Kansas	E-10352 2018-2019	31-Jul-2019
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2019	31-Dec-2019
Oklahoma	2018-156	31-Aug-2019
Texas	TX104704231-19-23	30-Apr-2020

Sample Receipt Checklist

Client Name: PBW
Work Order: HS19070575

Date/Time Received: **11-Jul-2019 16:45**
Received by: **JRM**

Checklist completed by: *Nilesh D. Ranchod* eSignature — 12-Jul-2019 Date

Reviewed by: *Dane J. Wacasey* eSignature — 18-Jul-2019 Date

Matrices: **Water**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	3 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:196131/196140/196123
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	0.7C/0.7C , 1.2C/1.2C , 1.0C/1.0C , 0.9C/0.9C UC/C	IR # 11
Cooler(s)/Kit(s):	44145/43623/44608/44381	
Date/Time sample(s) sent to storage:	07/11/2019 18:00	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of

COC ID: 196131

HS19070575

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 Volatile Organics Site Specific)
Work Order		Project Number	1620-07-Rev0 SR 92688	B	8260_LL_W (5632528 VOC Site Specific + V.C.)
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 5652646 Metals - As, Pb)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WG-1620-TB01-20190710	7-10-19	—	Water	1	2		X									
2	WG-1620-MW18A-20190710		0720	W		6		X	X	X							
3	WG-1620-MW18C-20190710		0805	W		6		X	X	X							
4	WG-1620-MW58A-20190710		0855	W		6		X	X	X							
5	WG-1620-MW57A-20190710		0955	W		6		X	X	X							
6	WG-1620-MW57B-20190710		1040	W		6		X	X	X							
7	WG-1620-MW72B-20190710		1135	W		6	X		X	X							
8	WG-1620-MW19C-20190710		1225	W		6		X	X	X							
9	WG-1620-MW17C-20190710		1325	W		6	X		X	X							
10	WG-1620-MW-17-20190710		1415	W		6	X		X	X							

Sampler(s) Please Print & Sign: JOHN BRAYTON John Brayton

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results Due Date:

Relinquished by: John Brayton Date: 7-11-19 Time: 16:45

Received by:

Relinquished by: Date: 7/11/19 Time: 16:45

Received by (Laboratory): J. Hampton

Logged by (Laboratory): Date: Time:

Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
44145	0.7
43623	1.2
44608	1.0
44381	0.9

QC Package: (Check One Box Below)

- [ ] Level II Std QC
- [ ] Level III Std QC/Raw Data
- [ ] Level IV SW846/CLP
- [ ] Other
- [X] TRRP Checklist
- [ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

(MW11 CF 0.)

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 2 of 2

COC ID: 196140

HS19070575

, WV

Golder Associates Inc.

Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 Volatile Organics Site Specific)
Work Order		Project Number	1620-07-Rev0 SR 92688	B	8260_LL_W (5632528 VOC Site Specific + V.C.)
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 5652846 Metals - As, Pb)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TB0 28 1807~~			Water	1	2		X									
2	WG-1620-MW20A-20190710	7-10-19	1510	W		6	X		X	X							
3	WG-1620-MW15A-20190710		1610	W		6	X		X	X							
4	WG-1620-MW15C-20190710		1705	W		6	X		X	X							
5	WG-1620-MW15B-20190710		1800	W		6	X		X	X							
6	WG-1620-FB01-20190710		1815	W		6		X	X	X							
7	WG-1620-MW14-20190711	7-11-19	0720	W		6	X		X	X							
8	WG-1620-MW13-20190711		0815	W		6	X		X	X							
9	WG-1620-MW39B-20190711		0915	W		6	X		X	X							
10	WG-1620-MW12C-20190711		1000	W		6	X		X	X							

Sampler(s) Please Print & Sign: JOHN BEAVERS

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results Due Date:

Relinquished by: [signature] Date: 7-11-19 Time: 1645 Received by:

Relinquished By: Date: 7/11/19 Time: 16:45 Received by (Laboratory):

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)

[ ] Level II Std QC
[ ] Level III Std QC/Raw Data
[ ] Level IV SW846/CLP
[ ] Other
[X] TRRP Checklist
[ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 196123

HS19070575

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 Volatile Organics Site Specific)
Work Order		Project Number	1620-07-Rev0 SR 92688	B	8260_LL_W (5632528 VOC Site Specific + V.C.)
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 5632646 Metals - As, Pb)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TBD-201891~~																
2	WG-1620-MW12A-20190711	7-11-19	1055	W		6	X		X	X							
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: JOHN BEAUDOIN John Beaudoin

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results Due Date:

Relinquished by: John Beaudoin Date: 7-12-19 Time: 16:45 Received by:

Relinquished by: John Beaudoin Date: 7/11/19 Time: 16:45 Received by (Laboratory): J. Mumm

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)

[ ] Level II Std QC
[ ] Level III Std QC/Raw Data
[ ] Level IV SW846/CLP
[ ] Other
[X] TRRP Checklist
[ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

ote:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

July 22, 2019

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS19070609**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 8 sample(s) on Jul 12, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS19070609**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	**HS19070609**

TRRP Laboratory Data Package Cover Page

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 07/22/2019				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS19070609				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 143051,143162,R342484				
#[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				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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 SW-846 Method 5035?			X		
		If required for the project, 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			1
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 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				
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			2
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		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		
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				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 07/22/2019				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS19070609				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 143051,143162,R342484				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group	LRC Date: 07/22/2019
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS19070609
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 143051,143162,R342484

ER#[5]	Description
1	Semivolatile Organics Method SW8270, sample WG-1620-MW40B-20190711, the surrogate recoveries could not be determined due to dilution below the calibration range.
2	Batch 143051, Semivolatile Organics Method SW8270, LCS/LCSD were analyzed and reported in lieu of an MS/MSD for this batch.

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19070609

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19070609-01	WG-1620-MW40B-20190711	Water		11-Jul-2019 12:00	12-Jul-2019 12:15	☐
HS19070609-02	WG-1620-MW42B-20190711	Water		11-Jul-2019 13:00	12-Jul-2019 12:15	☐
HS19070609-03	WG-1620-P11-20190711	Water		11-Jul-2019 13:55	12-Jul-2019 12:15	☐
HS19070609-04	WG-1620-MW05-20190711	Water		11-Jul-2019 14:50	12-Jul-2019 12:15	☐
HS19070609-05	WG-1620-MW64A-20190711	Water		11-Jul-2019 15:50	12-Jul-2019 12:15	☐
HS19070609-06	WG-1620-FB02-20190711	Water		11-Jul-2019 16:05	12-Jul-2019 12:15	☐
HS19070609-07	WG-1620-TB02-20190711	Water	C&G-062119-78	11-Jul-2019 00:00	12-Jul-2019 12:15	☐
HS19070609-08	WQ-1620-TB01-20190711	Water	C&G-062119-78	11-Jul-2019 00:00	12-Jul-2019 12:15	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW40B-20190711
Collection Date: 11-Jul-2019 12:00

ANALYTICAL REPORT
WorkOrder:HS19070609
Lab ID:HS19070609-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	15-Jul-2019 14:00
Benzene	**0.0088**		**0.00020**	**0.0010**	**mg/L**	1	15-Jul-2019 14:00
Chlorobenzene	U		0.00030	0.0010	mg/L	1	15-Jul-2019 14:00
Ethylbenzene	**0.082**		**0.00030**	**0.0010**	**mg/L**	1	15-Jul-2019 14:00
Methylene chloride	U		0.0010	0.0020	mg/L	1	15-Jul-2019 14:00
Toluene	**0.014**		**0.00020**	**0.0010**	**mg/L**	1	15-Jul-2019 14:00
Xylenes, Total	**0.13**		**0.00030**	**0.0010**	**mg/L**	1	15-Jul-2019 14:00
Surr: 1,2-Dichloroethane-d4	*97.9*			*70-126*	*%REC*	*1*	*15-Jul-2019 14:00*
Surr: 4-Bromofluorobenzene	*107*			*81-113*	*%REC*	*1*	*15-Jul-2019 14:00*
Surr: Dibromofluoromethane	*97.7*			*77-123*	*%REC*	*1*	*15-Jul-2019 14:00*
Surr: Toluene-d8	*98.4*			*82-127*	*%REC*	*1*	*15-Jul-2019 14:00*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW40B-20190711
Collection Date: 11-Jul-2019 12:00

ANALYTICAL REPORT
WorkOrder:HS19070609
Lab ID:HS19070609-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jul-2019 21:21
2,4-Dimethylphenol	**0.0013**		**0.000040**	**0.00020**	**mg/L**	1	17-Jul-2019 21:21
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jul-2019 21:21
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jul-2019 21:21
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jul-2019 21:21
2-Methylnaphthalene	**0.18**		**0.0019**	**0.010**	**mg/L**	100	18-Jul-2019 15:40
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jul-2019 21:21
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jul-2019 21:21
Acenaphthene	**0.21**		**0.0027**	**0.010**	**mg/L**	100	18-Jul-2019 15:40
Acenaphthylene	**0.0021**		**0.000015**	**0.00010**	**mg/L**	1	17-Jul-2019 21:21
Anthracene	**0.011**		**0.00014**	**0.0010**	**mg/L**	10	18-Jul-2019 15:21
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	17-Jul-2019 21:21
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jul-2019 21:21
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jul-2019 21:21
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	17-Jul-2019 21:21
Chrysene	U		0.000021	0.00010	mg/L	1	17-Jul-2019 21:21
Dibenzofuran	**0.13**		**0.0020**	**0.010**	**mg/L**	100	18-Jul-2019 15:40
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jul-2019 21:21
Fluoranthene	**0.0059**		**0.000010**	**0.00010**	**mg/L**	1	17-Jul-2019 21:21
Fluorene	**0.13**		**0.0030**	**0.010**	**mg/L**	100	18-Jul-2019 15:40
Naphthalene	**3.6**		**0.020**	**0.10**	**mg/L**	1000	18-Jul-2019 15:59
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jul-2019 21:21
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jul-2019 21:21
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jul-2019 21:21
Phenanthrene	**0.093**		**0.00021**	**0.0010**	**mg/L**	10	18-Jul-2019 15:21
Phenol	**0.000053**	J	**0.000035**	**0.00020**	**mg/L**	1	17-Jul-2019 21:21
Pyrene	**0.0024**		**0.000019**	**0.00010**	**mg/L**	1	17-Jul-2019 21:21
Surr: 2,4,6-Tribromophenol	*53.1*			*34-129*	*%REC*	*10*	*18-Jul-2019 15:21*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*18-Jul-2019 15:40*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*1000*	*18-Jul-2019 15:59*
Surr: 2,4,6-Tribromophenol	*88.2*			*34-129*	*%REC*	*1*	*17-Jul-2019 21:21*
Surr: 2-Fluorobiphenyl	*65.6*			*40-125*	*%REC*	*1*	*17-Jul-2019 21:21*
Surr: 2-Fluorobiphenyl	*59.9*			*40-125*	*%REC*	*10*	*18-Jul-2019 15:21*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*18-Jul-2019 15:40*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*1000*	*18-Jul-2019 15:59*
Surr: 2-Fluorophenol	*61.1*			*20-120*	*%REC*	*10*	*18-Jul-2019 15:21*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*18-Jul-2019 15:40*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*1000*	*18-Jul-2019 15:59*
Surr: 2-Fluorophenol	*65.2*			*20-120*	*%REC*	*1*	*17-Jul-2019 21:21*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW40B-20190711
Collection Date: 11-Jul-2019 12:00

ANALYTICAL REPORT
WorkOrder:HS19070609
Lab ID:HS19070609-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jul-2019		Analyst: GEY
Surr: 4-Terphenyl-d14	*76.8*			*40-135*	*%REC*	*10*	*18-Jul-2019 15:21*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*18-Jul-2019 15:40*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*1000*	*18-Jul-2019 15:59*
Surr: 4-Terphenyl-d14	*71.7*			*40-135*	*%REC*	*1*	*17-Jul-2019 21:21*
Surr: Nitrobenzene-d5	*66.2*			*41-120*	*%REC*	*10*	*18-Jul-2019 15:21*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*18-Jul-2019 15:40*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*1000*	*18-Jul-2019 15:59*
Surr: Nitrobenzene-d5	*50.5*			*41-120*	*%REC*	*1*	*17-Jul-2019 21:21*
Surr: Phenol-d6	*54.1*			*20-120*	*%REC*	*1*	*17-Jul-2019 21:21*
Surr: Phenol-d6	*68.9*			*20-120*	*%REC*	*10*	*18-Jul-2019 15:21*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*18-Jul-2019 15:40*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*1000*	*18-Jul-2019 15:59*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 18-Jul-2019		Analyst: JHD
Arsenic	**0.0520**		**0.000400**	**0.00200**	**mg/L**	1	18-Jul-2019 18:11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW42B-20190711
Collection Date: 11-Jul-2019 13:00

ANALYTICAL REPORT
WorkOrder:HS19070609
Lab ID:HS19070609-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	15-Jul-2019 14:26
Benzene		U	0.00020	0.0010	mg/L	1	15-Jul-2019 14:26
Chlorobenzene		U	0.00030	0.0010	mg/L	1	15-Jul-2019 14:26
Ethylbenzene		U	0.00030	0.0010	mg/L	1	15-Jul-2019 14:26
Methylene chloride		U	0.0010	0.0020	mg/L	1	15-Jul-2019 14:26
Toluene		U	0.00020	0.0010	mg/L	1	15-Jul-2019 14:26
Xylenes, Total		U	0.00030	0.0010	mg/L	1	15-Jul-2019 14:26
Surr: 1,2-Dichloroethane-d4	*98.2*			*70-126*	*%REC*	*1*	*15-Jul-2019 14:26*
Surr: 4-Bromofluorobenzene	*102*			*81-113*	*%REC*	*1*	*15-Jul-2019 14:26*
Surr: Dibromofluoromethane	*99.9*			*77-123*	*%REC*	*1*	*15-Jul-2019 14:26*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*15-Jul-2019 14:26*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070609
Sample ID: WG-1620-MW42B-20190711
Lab ID:HS19070609-02
Collection Date: 11-Jul-2019 13:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jul-2019 21:40
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	17-Jul-2019 21:40
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jul-2019 21:40
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jul-2019 21:40
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jul-2019 21:40
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	17-Jul-2019 21:40
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jul-2019 21:40
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jul-2019 21:40
Acenaphthene	**0.000068**	J	**0.000027**	**0.00010**	**mg/L**	1	17-Jul-2019 21:40
Acenaphthylene	U		0.000015	0.00010	mg/L	1	17-Jul-2019 21:40
Anthracene	**0.000064**	J	**0.000014**	**0.00010**	**mg/L**	1	17-Jul-2019 21:40
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	17-Jul-2019 21:40
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jul-2019 21:40
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jul-2019 21:40
Bis(2-ethylhexyl)phthalate	**0.00015**	J	**0.000037**	**0.00020**	**mg/L**	1	17-Jul-2019 21:40
Chrysene	U		0.000021	0.00010	mg/L	1	17-Jul-2019 21:40
Dibenzofuran	**0.000038**	J	**0.000020**	**0.00010**	**mg/L**	1	17-Jul-2019 21:40
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jul-2019 21:40
Fluoranthene	**0.000040**	J	**0.000010**	**0.00010**	**mg/L**	1	17-Jul-2019 21:40
Fluorene	**0.000057**	J	**0.000030**	**0.00010**	**mg/L**	1	17-Jul-2019 21:40
Naphthalene	**0.00043**		**0.000020**	**0.00010**	**mg/L**	1	17-Jul-2019 21:40
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jul-2019 21:40
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jul-2019 21:40
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jul-2019 21:40
Phenanthrene	**0.000034**	J	**0.000021**	**0.00010**	**mg/L**	1	17-Jul-2019 21:40
Phenol	U		0.000035	0.00020	mg/L	1	17-Jul-2019 21:40
Pyrene	**0.000033**	J	**0.000019**	**0.00010**	**mg/L**	1	17-Jul-2019 21:40
Surr: 2,4,6-Tribromophenol	*78.4*			*34-129*	*%REC*	*1*	*17-Jul-2019 21:40*
Surr: 2-Fluorobiphenyl	*63.5*			*40-125*	*%REC*	*1*	*17-Jul-2019 21:40*
Surr: 2-Fluorophenol	*66.7*			*20-120*	*%REC*	*1*	*17-Jul-2019 21:40*
Surr: 4-Terphenyl-d14	*77.9*			*40-135*	*%REC*	*1*	*17-Jul-2019 21:40*
Surr: Nitrobenzene-d5	*63.9*			*41-120*	*%REC*	*1*	*17-Jul-2019 21:40*
Surr: Phenol-d6	*70.7*			*20-120*	*%REC*	*1*	*17-Jul-2019 21:40*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 18-Jul-2019		Analyst: JHD
Arsenic	**0.00220**		**0.000400**	**0.00200**	**mg/L**	1	18-Jul-2019 18:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-P11-20190711
Collection Date: 11-Jul-2019 13:55

ANALYTICAL REPORT
WorkOrder:HS19070609
Lab ID:HS19070609-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	15-Jul-2019 14:51
Benzene		U	0.00020	0.0010	mg/L	1	15-Jul-2019 14:51
Chlorobenzene		U	0.00030	0.0010	mg/L	1	15-Jul-2019 14:51
Ethylbenzene		U	0.00030	0.0010	mg/L	1	15-Jul-2019 14:51
Methylene chloride		U	0.0010	0.0020	mg/L	1	15-Jul-2019 14:51
Toluene		U	0.00020	0.0010	mg/L	1	15-Jul-2019 14:51
Xylenes, Total		U	0.00030	0.0010	mg/L	1	15-Jul-2019 14:51
Surr: 1,2-Dichloroethane-d4	*97.9*			*70-126*	*%REC*	*1*	*15-Jul-2019 14:51*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*1*	*15-Jul-2019 14:51*
Surr: Dibromofluoromethane	*99.6*			*77-123*	*%REC*	*1*	*15-Jul-2019 14:51*
Surr: Toluene-d8	*98.2*			*82-127*	*%REC*	*1*	*15-Jul-2019 14:51*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-P11-20190711
Collection Date: 11-Jul-2019 13:55

ANALYTICAL REPORT
WorkOrder:HS19070609
Lab ID:HS19070609-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jul-2019 14:04
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jul-2019 14:04
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jul-2019 14:04
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jul-2019 14:04
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jul-2019 14:04
2-Methylnaphthalene	**0.000050**	J	**0.000019**	**0.00010**	**mg/L**	1	18-Jul-2019 14:04
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jul-2019 14:04
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jul-2019 14:04
Acenaphthene	**0.0019**		**0.000027**	**0.00010**	**mg/L**	1	18-Jul-2019 14:04
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jul-2019 14:04
Anthracene	**0.000063**	J	**0.000014**	**0.00010**	**mg/L**	1	18-Jul-2019 14:04
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jul-2019 14:04
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jul-2019 14:04
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jul-2019 14:04
Bis(2-ethylhexyl)phthalate	**0.000087**	J	**0.000037**	**0.00020**	**mg/L**	1	18-Jul-2019 14:04
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jul-2019 14:04
Dibenzofuran	**0.000079**	J	**0.000020**	**0.00010**	**mg/L**	1	18-Jul-2019 14:04
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jul-2019 14:04
Fluoranthene	**0.000060**	J	**0.000010**	**0.00010**	**mg/L**	1	18-Jul-2019 14:04
Fluorene	**0.00074**		**0.000030**	**0.00010**	**mg/L**	1	18-Jul-2019 14:04
Naphthalene	**0.0018**		**0.000020**	**0.00010**	**mg/L**	1	18-Jul-2019 14:04
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jul-2019 14:04
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jul-2019 14:04
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jul-2019 14:04
Phenanthrene	**0.00020**		**0.000021**	**0.00010**	**mg/L**	1	18-Jul-2019 14:04
Phenol	U		0.000035	0.00020	mg/L	1	18-Jul-2019 14:04
Pyrene	**0.000036**	J	**0.000019**	**0.00010**	**mg/L**	1	18-Jul-2019 14:04
Surr: 2,4,6-Tribromophenol	*83.5*			*34-129*	*%REC*	*1*	*18-Jul-2019 14:04*
Surr: 2-Fluorobiphenyl	*60.1*			*40-125*	*%REC*	*1*	*18-Jul-2019 14:04*
Surr: 2-Fluorophenol	*61.8*			*20-120*	*%REC*	*1*	*18-Jul-2019 14:04*
Surr: 4-Terphenyl-d14	*85.9*			*40-135*	*%REC*	*1*	*18-Jul-2019 14:04*
Surr: Nitrobenzene-d5	*61.2*			*41-120*	*%REC*	*1*	*18-Jul-2019 14:04*
Surr: Phenol-d6	*64.0*			*20-120*	*%REC*	*1*	*18-Jul-2019 14:04*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 18-Jul-2019		Analyst: JHD
Arsenic	**0.0704**		**0.000400**	**0.00200**	**mg/L**	1	18-Jul-2019 18:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW05-20190711
Collection Date: 11-Jul-2019 14:50

ANALYTICAL REPORT
WorkOrder:HS19070609
Lab ID:HS19070609-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	15-Jul-2019 15:17
Benzene		U	0.00020	0.0010	mg/L	1	15-Jul-2019 15:17
Chlorobenzene		U	0.00030	0.0010	mg/L	1	15-Jul-2019 15:17
Ethylbenzene		U	0.00030	0.0010	mg/L	1	15-Jul-2019 15:17
Methylene chloride		U	0.0010	0.0020	mg/L	1	15-Jul-2019 15:17
Toluene		U	0.00020	0.0010	mg/L	1	15-Jul-2019 15:17
Xylenes, Total		U	0.00030	0.0010	mg/L	1	15-Jul-2019 15:17
Surr: 1,2-Dichloroethane-d4	*99.1*			*70-126*	*%REC*	*1*	*15-Jul-2019 15:17*
Surr: 4-Bromofluorobenzene	*104*			*81-113*	*%REC*	*1*	*15-Jul-2019 15:17*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*15-Jul-2019 15:17*
Surr: Toluene-d8	*98.5*			*82-127*	*%REC*	*1*	*15-Jul-2019 15:17*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070609
Sample ID: WG-1620-MW05-20190711
Lab ID:HS19070609-04
Collection Date: 11-Jul-2019 14:50
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jul-2019 14:23
2,4-Dimethylphenol	**0.000059**	J	**0.000040**	**0.00020**	**mg/L**	1	18-Jul-2019 14:23
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jul-2019 14:23
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jul-2019 14:23
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jul-2019 14:23
2-Methylnaphthalene	**0.000087**	J	**0.000019**	**0.00010**	**mg/L**	1	18-Jul-2019 14:23
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jul-2019 14:23
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jul-2019 14:23
Acenaphthene	**0.00043**		**0.000027**	**0.00010**	**mg/L**	1	18-Jul-2019 14:23
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jul-2019 14:23
Anthracene	**0.000097**	J	**0.000014**	**0.00010**	**mg/L**	1	18-Jul-2019 14:23
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jul-2019 14:23
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jul-2019 14:23
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jul-2019 14:23
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	18-Jul-2019 14:23
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jul-2019 14:23
Dibenzofuran	**0.000051**	J	**0.000020**	**0.00010**	**mg/L**	1	18-Jul-2019 14:23
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jul-2019 14:23
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jul-2019 14:23
Fluorene	**0.000064**	J	**0.000030**	**0.00010**	**mg/L**	1	18-Jul-2019 14:23
Naphthalene	**0.00071**		**0.000020**	**0.00010**	**mg/L**	1	18-Jul-2019 14:23
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jul-2019 14:23
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jul-2019 14:23
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jul-2019 14:23
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jul-2019 14:23
Phenol	U		0.000035	0.00020	mg/L	1	18-Jul-2019 14:23
Pyrene	**0.00019**		**0.000019**	**0.00010**	**mg/L**	1	18-Jul-2019 14:23
Surr: 2,4,6-Tribromophenol	*94.6*			*34-129*	*%REC*	*1*	*18-Jul-2019 14:23*
Surr: 2-Fluorobiphenyl	*88.0*			*40-125*	*%REC*	*1*	*18-Jul-2019 14:23*
Surr: 2-Fluorophenol	*82.2*			*20-120*	*%REC*	*1*	*18-Jul-2019 14:23*
Surr: 4-Terphenyl-d14	*96.1*			*40-135*	*%REC*	*1*	*18-Jul-2019 14:23*
Surr: Nitrobenzene-d5	*90.5*			*41-120*	*%REC*	*1*	*18-Jul-2019 14:23*
Surr: Phenol-d6	*87.9*			*20-120*	*%REC*	*1*	*18-Jul-2019 14:23*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 18-Jul-2019		Analyst: JHD
Arsenic	**0.0171**		**0.000400**	**0.00200**	**mg/L**	1	18-Jul-2019 18:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW64A-20190711
Collection Date: 11-Jul-2019 15:50

ANALYTICAL REPORT
WorkOrder:HS19070609
Lab ID:HS19070609-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	15-Jul-2019 15:42
Benzene		U	0.00020	0.0010	mg/L	1	15-Jul-2019 15:42
Chlorobenzene		U	0.00030	0.0010	mg/L	1	15-Jul-2019 15:42
Ethylbenzene		U	0.00030	0.0010	mg/L	1	15-Jul-2019 15:42
Methylene chloride		U	0.0010	0.0020	mg/L	1	15-Jul-2019 15:42
Toluene		U	0.00020	0.0010	mg/L	1	15-Jul-2019 15:42
Xylenes, Total		U	0.00030	0.0010	mg/L	1	15-Jul-2019 15:42
Surr: 1,2-Dichloroethane-d4	*101*			*70-126*	*%REC*	*1*	*15-Jul-2019 15:42*
Surr: 4-Bromofluorobenzene	*98.2*			*81-113*	*%REC*	*1*	*15-Jul-2019 15:42*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*15-Jul-2019 15:42*
Surr: Toluene-d8	*98.9*			*82-127*	*%REC*	*1*	*15-Jul-2019 15:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070609
Sample ID: WG-1620-MW64A-20190711
Lab ID:HS19070609-05
Collection Date: 11-Jul-2019 15:50
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jul-2019 14:42
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jul-2019 14:42
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jul-2019 14:42
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jul-2019 14:42
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jul-2019 14:42
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	18-Jul-2019 14:42
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jul-2019 14:42
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jul-2019 14:42
Acenaphthene	**0.00030**		**0.000027**	**0.00010**	**mg/L**	1	18-Jul-2019 14:42
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jul-2019 14:42
Anthracene	U		0.000014	0.00010	mg/L	1	18-Jul-2019 14:42
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jul-2019 14:42
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jul-2019 14:42
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jul-2019 14:42
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	18-Jul-2019 14:42
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jul-2019 14:42
Dibenzofuran	U		0.000020	0.00010	mg/L	1	18-Jul-2019 14:42
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jul-2019 14:42
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jul-2019 14:42
Fluorene	**0.000031**	J	**0.000030**	**0.00010**	**mg/L**	1	18-Jul-2019 14:42
Naphthalene	**0.00033**		**0.000020**	**0.00010**	**mg/L**	1	18-Jul-2019 14:42
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jul-2019 14:42
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jul-2019 14:42
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jul-2019 14:42
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jul-2019 14:42
Phenol	U		0.000035	0.00020	mg/L	1	18-Jul-2019 14:42
Pyrene	**0.00015**		**0.000019**	**0.00010**	**mg/L**	1	18-Jul-2019 14:42
Surr: 2,4,6-Tribromophenol	*97.5*			*34-129*	*%REC*	*1*	*18-Jul-2019 14:42*
Surr: 2-Fluorobiphenyl	*90.7*			*40-125*	*%REC*	*1*	*18-Jul-2019 14:42*
Surr: 2-Fluorophenol	*84.9*			*20-120*	*%REC*	*1*	*18-Jul-2019 14:42*
Surr: 4-Terphenyl-d14	*80.5*			*40-135*	*%REC*	*1*	*18-Jul-2019 14:42*
Surr: Nitrobenzene-d5	*93.0*			*41-120*	*%REC*	*1*	*18-Jul-2019 14:42*
Surr: Phenol-d6	*93.3*			*20-120*	*%REC*	*1*	*18-Jul-2019 14:42*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 18-Jul-2019		Analyst: JHD
Arsenic	**0.00939**		**0.000400**	**0.00200**	**mg/L**	1	18-Jul-2019 18:20

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070609
Sample ID: WG-1620-FB02-20190711
Lab ID:HS19070609-06
Collection Date: 11-Jul-2019 16:05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	15-Jul-2019 13:09
Benzene		U	0.00020	0.0010	mg/L	1	15-Jul-2019 13:09
Chlorobenzene		U	0.00030	0.0010	mg/L	1	15-Jul-2019 13:09
Ethylbenzene		U	0.00030	0.0010	mg/L	1	15-Jul-2019 13:09
Methylene chloride		U	0.0010	0.0020	mg/L	1	15-Jul-2019 13:09
Toluene		U	0.00020	0.0010	mg/L	1	15-Jul-2019 13:09
Xylenes, Total		U	0.00030	0.0010	mg/L	1	15-Jul-2019 13:09
Surr: 1,2-Dichloroethane-d4	*99.3*			*70-126*	*%REC*	*1*	*15-Jul-2019 13:09*
Surr: 4-Bromofluorobenzene	*98.7*			*81-113*	*%REC*	*1*	*15-Jul-2019 13:09*
Surr: Dibromofluoromethane	*98.5*			*77-123*	*%REC*	*1*	*15-Jul-2019 13:09*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*15-Jul-2019 13:09*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB02-20190711
Collection Date: 11-Jul-2019 16:05

ANALYTICAL REPORT
WorkOrder:HS19070609
Lab ID:HS19070609-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	**0.00026**		**0.000021**	**0.00020**	**mg/L**	1	18-Jul-2019 15:02
2,4-Dimethylphenol	**0.000064**	J	**0.000040**	**0.00020**	**mg/L**	1	18-Jul-2019 15:02
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jul-2019 15:02
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jul-2019 15:02
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jul-2019 15:02
2-Methylnaphthalene	**0.000077**	J	**0.000019**	**0.00010**	**mg/L**	1	18-Jul-2019 15:02
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jul-2019 15:02
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jul-2019 15:02
Acenaphthene	U		0.000027	0.00010	mg/L	1	18-Jul-2019 15:02
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jul-2019 15:02
Anthracene	U		0.000014	0.00010	mg/L	1	18-Jul-2019 15:02
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jul-2019 15:02
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jul-2019 15:02
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jul-2019 15:02
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	18-Jul-2019 15:02
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jul-2019 15:02
Dibenzofuran	U		0.000020	0.00010	mg/L	1	18-Jul-2019 15:02
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jul-2019 15:02
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jul-2019 15:02
Fluorene	U		0.000030	0.00010	mg/L	1	18-Jul-2019 15:02
Naphthalene	**0.00062**		**0.000020**	**0.00010**	**mg/L**	1	18-Jul-2019 15:02
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jul-2019 15:02
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jul-2019 15:02
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jul-2019 15:02
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jul-2019 15:02
Phenol	U		0.000035	0.00020	mg/L	1	18-Jul-2019 15:02
Pyrene	U		0.000019	0.00010	mg/L	1	18-Jul-2019 15:02
Surr: 2,4,6-Tribromophenol	*79.7*			*34-129*	*%REC*	*1*	*18-Jul-2019 15:02*
Surr: 2-Fluorobiphenyl	*103*			*40-125*	*%REC*	*1*	*18-Jul-2019 15:02*
Surr: 2-Fluorophenol	*98.2*			*20-120*	*%REC*	*1*	*18-Jul-2019 15:02*
Surr: 4-Terphenyl-d14	*88.2*			*40-135*	*%REC*	*1*	*18-Jul-2019 15:02*
Surr: Nitrobenzene-d5	*99.2*			*41-120*	*%REC*	*1*	*18-Jul-2019 15:02*
Surr: Phenol-d6	*104*			*20-120*	*%REC*	*1*	*18-Jul-2019 15:02*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 18-Jul-2019		Analyst: JC
Arsenic	U		0.000400	0.00200	mg/L	1	19-Jul-2019 15:24

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070609
Sample ID: WG-1620-TB02-20190711
Lab ID:HS19070609-07
Collection Date: 11-Jul-2019 00:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	15-Jul-2019 13:35
Benzene		U	0.00020	0.0010	mg/L	1	15-Jul-2019 13:35
Chlorobenzene		U	0.00030	0.0010	mg/L	1	15-Jul-2019 13:35
Ethylbenzene		U	0.00030	0.0010	mg/L	1	15-Jul-2019 13:35
Methylene chloride		U	0.0010	0.0020	mg/L	1	15-Jul-2019 13:35
Toluene		U	0.00020	0.0010	mg/L	1	15-Jul-2019 13:35
Xylenes, Total		U	0.00030	0.0010	mg/L	1	15-Jul-2019 13:35
Surr: 1,2-Dichloroethane-d4	*99.6*			*70-126*	*%REC*	*1*	*15-Jul-2019 13:35*
Surr: 4-Bromofluorobenzene	*98.6*			*81-113*	*%REC*	*1*	*15-Jul-2019 13:35*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*15-Jul-2019 13:35*
Surr: Toluene-d8	*99.0*			*82-127*	*%REC*	*1*	*15-Jul-2019 13:35*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070609

Batch ID: 143051 **Method:** LOW-LEVEL SEMIVOLATILES BY 8270D **Prep:** 3510_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19070609-01	1	1000	1 (mL)	0.001
HS19070609-02	1	1000	1 (mL)	0.001
HS19070609-03	1	1000	1 (mL)	0.001
HS19070609-04	1	1000	1 (mL)	0.001
HS19070609-05	1	1000	1 (mL)	0.001
HS19070609-06	1	1000	1 (mL)	0.001

Batch ID: 143162 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19070609-01	1	10	10 (mL)	1
HS19070609-02	1	10	10 (mL)	1
HS19070609-03	1	10	10 (mL)	1
HS19070609-04	1	10	10 (mL)	1
HS19070609-05	1	10	10 (mL)	1
HS19070609-06	1	10	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070609

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143051 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS19070609-01	WG-1620-MW40B-20190711	11 Jul 2019 12:00		16 Jul 2019 09:08	18 Jul 2019 15:40	100
HS19070609-01	WG-1620-MW40B-20190711	11 Jul 2019 12:00		16 Jul 2019 09:08	18 Jul 2019 15:59	1000
HS19070609-01	WG-1620-MW40B-20190711	11 Jul 2019 12:00		16 Jul 2019 09:08	18 Jul 2019 15:21	10
HS19070609-01	WG-1620-MW40B-20190711	11 Jul 2019 12:00		16 Jul 2019 09:08	17 Jul 2019 21:21	1
HS19070609-02	WG-1620-MW42B-20190711	11 Jul 2019 13:00		16 Jul 2019 09:08	17 Jul 2019 21:40	1
HS19070609-03	WG-1620-P11-20190711	11 Jul 2019 13:55		16 Jul 2019 09:08	18 Jul 2019 14:04	1
HS19070609-04	WG-1620-MW05-20190711	11 Jul 2019 14:50		16 Jul 2019 09:08	18 Jul 2019 14:23	1
HS19070609-05	WG-1620-MW64A-20190711	11 Jul 2019 15:50		16 Jul 2019 09:08	18 Jul 2019 14:42	1
HS19070609-06	WG-1620-FB02-20190711	11 Jul 2019 16:05		16 Jul 2019 09:08	18 Jul 2019 15:02	1
Batch ID: 143162 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS19070609-01	WG-1620-MW40B-20190711	11 Jul 2019 12:00		18 Jul 2019 12:00	18 Jul 2019 18:11	1
HS19070609-02	WG-1620-MW42B-20190711	11 Jul 2019 13:00		18 Jul 2019 12:00	18 Jul 2019 18:14	1
HS19070609-03	WG-1620-P11-20190711	11 Jul 2019 13:55		18 Jul 2019 12:00	18 Jul 2019 18:16	1
HS19070609-04	WG-1620-MW05-20190711	11 Jul 2019 14:50		18 Jul 2019 12:00	18 Jul 2019 18:18	1
HS19070609-05	WG-1620-MW64A-20190711	11 Jul 2019 15:50		18 Jul 2019 12:00	18 Jul 2019 18:20	1
HS19070609-06	WG-1620-FB02-20190711	11 Jul 2019 16:05		18 Jul 2019 12:00	19 Jul 2019 15:24	1
Batch ID: R342484 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS19070609-01	WG-1620-MW40B-20190711	11 Jul 2019 12:00			15 Jul 2019 14:00	1
HS19070609-02	WG-1620-MW42B-20190711	11 Jul 2019 13:00			15 Jul 2019 14:26	1
HS19070609-03	WG-1620-P11-20190711	11 Jul 2019 13:55			15 Jul 2019 14:51	1
HS19070609-04	WG-1620-MW05-20190711	11 Jul 2019 14:50			15 Jul 2019 15:17	1
HS19070609-05	WG-1620-MW64A-20190711	11 Jul 2019 15:50			15 Jul 2019 15:42	1
HS19070609-06	WG-1620-FB02-20190711	11 Jul 2019 16:05			15 Jul 2019 13:09	1
HS19070609-07	WG-1620-TB02-20190711	11 Jul 2019 00:00			15 Jul 2019 13:35	1

WorkOrder: HS19070609
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000547	0.000400	0.00200

WorkOrder: HS19070609
InstrumentID: ICPMS04
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.00100	0.000579	0.000400	0.00200

WorkOrder: HS19070609
InstrumentID: SV-7
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.00011	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.00010	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000096	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.00012	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.00011	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.00010	0.00012	0.000019	0.00010
A	2-Methylnaphthalene	91-57-6	0.000050	0.000049	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000013	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.00013	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000051	0.000027	0.00010
A	Acenaphthene	83-32-9	0.00010	0.00011	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.00010	0.00010	0.000015	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000050	0.000015	0.00010
A	Anthracene	120-12-7	0.00010	0.00011	0.000014	0.00010
A	Anthracene	120-12-7	0.000050	0.000055	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000068	0.000050	0.00010
A	Benz(a)anthracene	56-55-3	0.00010	0.000099	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.00010	0.000076	0.000020	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000053	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.00012	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.000086	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000066	0.000021	0.00010
A	Chrysene	218-01-9	0.00010	0.00011	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.00010	0.000094	0.000020	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000052	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.000099	0.000020	0.00020
A	Fluoranthene	206-44-0	0.00010	0.00012	0.000010	0.00010
A	Fluoranthene	206-44-0	0.000050	0.000053	0.000010	0.00010
A	Fluorene	86-73-7	0.00010	0.00012	0.000030	0.00010
A	Fluorene	86-73-7	0.000050	0.000052	0.000030	0.00010
A	Naphthalene	91-20-3	0.00010	0.00010	0.000020	0.00010
A	Naphthalene	91-20-3	0.000050	0.000061	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00013	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00012	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000085	0.000079	0.00020
A	Phenanthrene	85-01-8	0.00010	0.00011	0.000021	0.00010
A	Phenanthrene	85-01-8	0.000050	0.000055	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000094	0.000035	0.00020
A	Pyrene	129-00-0	0.00010	0.00011	0.000019	0.00010
A	Pyrene	129-00-0	0.000050	0.000061	0.000019	0.00010

WorkOrder: HS19070609
InstrumentID: SV-7
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS19070609
InstrumentID: VOA4
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00064	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00060	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00061	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00063	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00077	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00058	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00062	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070609

QC BATCH REPORT

Batch ID: 143162 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-143162** Units: **mg/L** Analysis Date: **18-Jul-2019 17:57**
Client ID: Run ID: **ICPMS05_342669** SeqNo: **5172670** PrepDate: **18-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-143162** Units: **mg/L** Analysis Date: **18-Jul-2019 17:59**
Client ID: Run ID: **ICPMS05_342669** SeqNo: **5172671** PrepDate: **18-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05156	0.00200	0.05	0	103	80 - 120				

MS Sample ID: **HS19070609-05MS** Units: **mg/L** Analysis Date: **18-Jul-2019 19:07**
Client ID: **WG-1620-MW64A-20190711** Run ID: **ICPMS05_342669** SeqNo: **5172775** PrepDate: **18-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.06093	0.00200	0.05	0.009394	103	80 - 120				

MSD Sample ID: **HS19070609-05MSD** Units: **mg/L** Analysis Date: **18-Jul-2019 19:10**
Client ID: **WG-1620-MW64A-20190711** Run ID: **ICPMS05_342669** SeqNo: **5172776** PrepDate: **18-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.06097	0.00200	0.05	0.009394	103	80 - 120	0.06093	0.0689	20	

PDS Sample ID: **HS19070609-05PDS** Units: **mg/L** Analysis Date: **18-Jul-2019 19:12**
Client ID: **WG-1620-MW64A-20190711** Run ID: **ICPMS05_342669** SeqNo: **5172783** PrepDate: **18-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1102	0.00200	0.1	0.009394	101	75 - 125				

SD Sample ID: **HS19070609-05SD** Units: **mg/L** Analysis Date: **18-Jul-2019 19:05**
Client ID: **WG-1620-MW64A-20190711** Run ID: **ICPMS05_342669** SeqNo: **5172774** PrepDate: **18-Jul-2019** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.009487	0.0100					0.009394	0	10	J

The following samples were analyzed in this batch: HS19070609-01 HS19070609-02 HS19070609-03 HS19070609-04 HS19070609-05 HS19070609-06

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070609

QC BATCH REPORT

Batch ID: 143051 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-143051** Units: **ug/L** Analysis Date: **17-Jul-2019 11:25**
Client ID: Run ID: **SV-7_342594** SeqNo: **5170297** PrepDate: **16-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*5.164*	*0.20*	*5*	*0*	*103*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.71*	*0.20*	*5*	*0*	*94.2*	*40 - 125*				
Surr: 2-Fluorophenol	*5.02*	*0.20*	*5*	*0*	*100*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.296*	*0.20*	*5*	*0*	*85.9*	*40 - 135*				
Surr: Nitrobenzene-d5	*5.224*	*0.20*	*5*	*0*	*104*	*41 - 120*				
Surr: Phenol-d6	*5.169*	*0.20*	*5*	*0*	*103*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070609

QC BATCH REPORT

Batch ID: 143051 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-143051** Units: **ug/L** Analysis Date: **17-Jul-2019 11:44**
Client ID: Run ID: **SV-7_342594** SeqNo: **5170298** PrepDate: **16-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.891	0.20	5	0	97.8	39 - 127				
2,4-Dimethylphenol	4.456	0.20	5	0	89.1	35 - 120				
2,4-Dinitrotoluene	5.665	0.20	5	0	113	50 - 122				
2,6-Dinitrotoluene	5.12	0.20	5	0	102	50 - 120				
2-Chloronaphthalene	4.568	0.20	5	0	91.4	50 - 120				
2-Methylnaphthalene	4.785	0.10	5	0	95.7	50 - 120				
4,6-Dinitro-2-methylphenol	4.433	0.20	5	0	88.7	25 - 121				
4-Nitrophenol	5.291	1.0	5	0	106	30 - 130				
Acenaphthene	4.568	0.10	5	0	91.4	45 - 120				
Acenaphthylene	4.495	0.10	5	0	89.9	47 - 120				
Anthracene	4.502	0.10	5	0	90.0	45 - 120				
Benz(a)anthracene	5.224	0.10	5	0	104	40 - 120				
Benzo(a)pyrene	4.184	0.10	5	0	83.7	45 - 120				
Bis(2-chloroethoxy)methane	4.62	0.20	5	0	92.4	45 - 120				
Bis(2-ethylhexyl)phthalate	5.383	0.20	5	0	108	40 - 139				
Chrysene	5.78	0.10	5	0	116	43 - 120				
Dibenzofuran	4.573	0.10	5	0	91.5	50 - 120				
Di-n-butyl phthalate	4.964	0.20	5	0	99.3	45 - 123				
Fluoranthene	5.235	0.10	5	0	105	45 - 125				
Fluorene	4.312	0.10	5	0	86.2	49 - 120				
Naphthalene	4.422	0.10	5	0	88.4	45 - 120				
Nitrobenzene	5.307	0.20	5	0	106	44 - 120				
N-Nitrosodiphenylamine	4.846	0.20	5	0	96.9	40 - 125				
Pentachlorophenol	3.998	0.20	5	0	80.0	19 - 121				
Phenanthrene	4.511	0.10	5	0	90.2	45 - 121				
Phenol	4.734	0.20	5	0	94.7	20 - 124				
Pyrene	4.84	0.10	5	0	96.8	40 - 130				
Surr: 2,4,6-Tribromophenol	*5.277*	*0.20*	*5*	*0*	*106*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.715*	*0.20*	*5*	*0*	*94.3*	*40 - 125*				
Surr: 2-Fluorophenol	*4.401*	*0.20*	*5*	*0*	*88.0*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.682*	*0.20*	*5*	*0*	*93.6*	*40 - 135*				
Surr: Nitrobenzene-d5	*5.128*	*0.20*	*5*	*0*	*103*	*41 - 120*				
Surr: Phenol-d6	*4.86*	*0.20*	*5*	*0*	*97.2*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070609

QC BATCH REPORT

Batch ID: 143051 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-143051** Units: **ug/L** Analysis Date: **17-Jul-2019 12:04**
Client ID: Run ID: **SV-7_342594** SeqNo: **5170299** PrepDate: **16-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	5.027	0.20	5	0	101	39 - 127	4.891	2.75	20	
2,4-Dimethylphenol	4.508	0.20	5	0	90.2	35 - 120	4.456	1.17	20	
2,4-Dinitrotoluene	6.009	0.20	5	0	120	50 - 122	5.665	5.91	20	
2,6-Dinitrotoluene	5.413	0.20	5	0	108	50 - 120	5.12	5.56	20	
2-Chloronaphthalene	4.685	0.20	5	0	93.7	50 - 120	4.568	2.52	20	
2-Methylnaphthalene	4.646	0.10	5	0	92.9	50 - 120	4.785	2.96	20	
4,6-Dinitro-2-methylphenol	4.386	0.20	5	0	87.7	25 - 121	4.433	1.06	30	
4-Nitrophenol	5.432	1.0	5	0	109	30 - 130	5.291	2.62	20	
Acenaphthene	4.65	0.10	5	0	93.0	45 - 120	4.568	1.77	20	
Acenaphthylene	4.597	0.10	5	0	91.9	47 - 120	4.495	2.24	20	
Anthracene	4.626	0.10	5	0	92.5	45 - 120	4.502	2.72	20	
Benz(a)anthracene	5.314	0.10	5	0	106	40 - 120	5.224	1.7	20	
Benzo(a)pyrene	4.37	0.10	5	0	87.4	45 - 120	4.184	4.35	20	
Bis(2-chloroethoxy)methane	4.471	0.20	5	0	89.4	45 - 120	4.62	3.27	20	
Bis(2-ethylhexyl)phthalate	5.015	0.20	5	0	100	40 - 139	5.383	7.09	20	
Chrysene	5.4	0.10	5	0	108	43 - 120	5.78	6.79	20	
Dibenzofuran	4.789	0.10	5	0	95.8	50 - 120	4.573	4.61	20	
Di-n-butyl phthalate	4.9	0.20	5	0	98.0	45 - 123	4.964	1.29	20	
Fluoranthene	5.005	0.10	5	0	100	45 - 125	5.235	4.5	20	
Fluorene	4.585	0.10	5	0	91.7	49 - 120	4.312	6.13	20	
Naphthalene	4.38	0.10	5	0	87.6	45 - 120	4.422	0.956	20	
Nitrobenzene	5.058	0.20	5	0	101	44 - 120	5.307	4.82	20	
N-Nitrosodiphenylamine	4.98	0.20	5	0	99.6	40 - 125	4.846	2.72	20	
Pentachlorophenol	3.749	0.20	5	0	75.0	19 - 121	3.998	6.45	20	
Phenanthrene	4.452	0.10	5	0	89.0	45 - 121	4.511	1.31	20	
Phenol	4.892	0.20	5	0	97.8	20 - 124	4.734	3.28	20	
Pyrene	4.992	0.10	5	0	99.8	40 - 130	4.84	3.09	20	
Surr: 2,4,6-Tribromophenol	*5.252*	*0.20*	*5*	*0*	*105*	*34 - 129*	*5.277*	*0.469*	*20*	
Surr: 2-Fluorobiphenyl	*4.793*	*0.20*	*5*	*0*	*95.9*	*40 - 125*	*4.715*	*1.64*	*20*	
Surr: 2-Fluorophenol	*4.505*	*0.20*	*5*	*0*	*90.1*	*20 - 120*	*4.401*	*2.33*	*20*	
Surr: 4-Terphenyl-d14	*4.494*	*0.20*	*5*	*0*	*89.9*	*40 - 135*	*4.682*	*4.08*	*20*	
Surr: Nitrobenzene-d5	*5.029*	*0.20*	*5*	*0*	*101*	*41 - 120*	*5.128*	*1.95*	*20*	
Surr: Phenol-d6	*4.973*	*0.20*	*5*	*0*	*99.5*	*20 - 120*	*4.86*	*2.3*	*20*	

The following samples were analyzed in this batch: HS19070609-01 HS19070609-02 HS19070609-03 HS19070609-04 HS19070609-05 HS19070609-06

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070609

QC BATCH REPORT

Batch ID: R342484 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-190715** Units: **ug/L** Analysis Date: **15-Jul-2019 12:44**
Client ID: Run ID: **VOA4_342484** SeqNo: **5167898** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*48.36*	*1.0*	*50*	*0*	*96.7*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*50.95*	*1.0*	*50*	*0*	*102*	*82 - 115*				
Surr: Dibromofluoromethane	*48.97*	*1.0*	*50*	*0*	*97.9*	*73 - 126*				
Surr: Toluene-d8	*48.51*	*1.0*	*50*	*0*	*97.0*	*81 - 120*				

LCS Sample ID: **VLCSW-190715** Units: **ug/L** Analysis Date: **15-Jul-2019 11:53**
Client ID: Run ID: **VOA4_342484** SeqNo: **5167897** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.98	1.0	20	0	84.9	70 - 124				
Benzene	18.25	1.0	20	0	91.2	74 - 120				
Chlorobenzene	19.01	1.0	20	0	95.0	76 - 113				
Ethylbenzene	19.38	1.0	20	0	96.9	77 - 117				
Methylene chloride	18.63	2.0	20	0	93.1	70 - 127				
Toluene	18.74	1.0	20	0	93.7	77 - 118				
Xylenes, Total	63.1	1.0	60	0	105	75 - 122				
Surr: 1,2-Dichloroethane-d4	*46.29*	*1.0*	*50*	*0*	*92.6*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*52.69*	*1.0*	*50*	*0*	*105*	*82 - 115*				
Surr: Dibromofluoromethane	*47.88*	*1.0*	*50*	*0*	*95.8*	*73 - 126*				
Surr: Toluene-d8	*48.6*	*1.0*	*50*	*0*	*97.2*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070609

QC BATCH REPORT

Batch ID: R342484 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS19070645-01MS** Units: **ug/L** Analysis Date: **15-Jul-2019 16:33**
Client ID: Run ID: **VOA4_342484** SeqNo: **5167907** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	14.64	1.0	20	0	73.2	70 - 127				
Benzene	54.83	1.0	20	39.27	77.8	70 - 127				
Chlorobenzene	15.71	1.0	20	0	78.5	70 - 114				
Ethylbenzene	16.09	1.0	20	0	80.5	70 - 124				
Methylene chloride	15.72	2.0	20	0	78.6	70 - 128				
Toluene	16.11	1.0	20	0	80.5	70 - 123				
Xylenes, Total	50.86	1.0	60	0	84.8	70 - 130				
Surr: 1,2-Dichloroethane-d4	*48.75*	*1.0*	*50*	*0*	*97.5*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*50.19*	*1.0*	*50*	*0*	*100*	*81 - 113*				
Surr: Dibromofluoromethane	*49.67*	*1.0*	*50*	*0*	*99.3*	*77 - 123*				
Surr: Toluene-d8	*49.7*	*1.0*	*50*	*0*	*99.4*	*82 - 127*				

MSD Sample ID: **HS19070645-01MSD** Units: **ug/L** Analysis Date: **15-Jul-2019 16:58**
Client ID: Run ID: **VOA4_342484** SeqNo: **5167908** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	14.23	1.0	20	0	71.2	70 - 127	14.64	2.81	20	
Benzene	54.47	1.0	20	39.27	76.0	70 - 127	54.83	0.657	20	
Chlorobenzene	15.64	1.0	20	0	78.2	70 - 114	15.71	0.441	20	
Ethylbenzene	16.03	1.0	20	0	80.2	70 - 124	16.09	0.374	20	
Methylene chloride	15.2	2.0	20	0	76.0	70 - 128	15.72	3.37	20	
Toluene	16.04	1.0	20	0	80.2	70 - 123	16.11	0.413	20	
Xylenes, Total	50.75	1.0	60	0	84.6	70 - 130	50.86	0.216	20	
Surr: 1,2-Dichloroethane-d4	*49.03*	*1.0*	*50*	*0*	*98.1*	*70 - 126*	*48.75*	*0.579*	*20*	
Surr: 4-Bromofluorobenzene	*50.34*	*1.0*	*50*	*0*	*101*	*81 - 113*	*50.19*	*0.298*	*20*	
Surr: Dibromofluoromethane	*49.86*	*1.0*	*50*	*0*	*99.7*	*77 - 123*	*49.67*	*0.381*	*20*	
Surr: Toluene-d8	*50.98*	*1.0*	*50*	*0*	*102*	*82 - 127*	*49.7*	*2.54*	*20*	

The following samples were analyzed in this batch:

HS19070609-01	HS19070609-02	HS19070609-03	HS19070609-04
HS19070609-05	HS19070609-06	HS19070609-07	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS19070609**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Kansas	E-10352 2018-2019	31-Jul-2019
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2019	31-Dec-2019
Oklahoma	2018-156	31-Aug-2019
Texas	TX104704231-19-23	30-Apr-2020

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19070609

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19070609-01	WG-1620-MW40B-20190711	Login	12/07/2019 15:13:02	NDR	MET044
HS19070609-01	WG-1620-MW40B-20190711	Login	12/07/2019 15:13:02	NDR	EXT133
HS19070609-01	WG-1620-MW40B-20190711	Login	12/07/2019 15:13:02	NDR	VOA244

Sample Receipt Checklist

Client Name: PBW
Work Order: HS19070609

Date/Time Received: **12-Jul-2019 12:15**
Received by: **JRM**

Checklist completed by: *Nilesh D. Ranchod* eSignature — 12-Jul-2019 Date

Reviewed by: *Dane J. Wacasey* eSignature — 15-Jul-2019 Date

Matrices: **Water**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:196133
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	4.5C UC/C	IR # 25
Cooler(s)/Kit(s):	44990	
Date/Time sample(s) sent to storage:	07/12/2019 16:00	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 196133

HS19070609

Golder Associates Inc.
Houston TX-Wood Preserving Works

WV

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 Volatile Organics Site Specific)
Work Order		Project Number	1620-07-Rev0 SR 92688	B	8260_LL_W (5632528 VOC Site Specific + VOA)
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 5632646 Metals - As, Pb)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WQ-1620-TB0__-201801___			Water	1	2		X									
2	WG-1620-MW40B-20190711	7-11-19	1200	W		6	X		X	X							
3	WG-1620-MW42B-20190711		1300	W		6	X		X	X							
4	WG-1620-P11-20190711		1355	W		6	X		X	X							
5	WG-1620-MW05-20190711		1450	W		6	X		X	X							
6	WG-1620-MW64A-20190711		1550	W		6	X		X	X							
7	WG-1620-FB02-20190711		1605	W		6	X		X	X							
8	WG-1620-TB02-20190711			W		2	X	[redacted]B									
9																	
10																	

Sampler(s) Please Print & Sign: JOHN BRAYTON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results Due Date:

Relinquished by: Date: 7-12-19 Time: 12:15

Received by:

Relinquished by: Date: 7/12/19 Time: 12:15

Received by (Laboratory): J. Imamura

Logged by (Laboratory): Date: Time:

Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
	UC
44990	4.5
	1.425
	CF0.0

QC Package: (Check One Box Below)

- [ ] Level II Std QC
- [ ] Level III Std QC/Raw Data
- [ ] Level IV SW846/CLP
- [ ] Other
- [X] TRRP Checklist
- [ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

July 23, 2019

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS19070735**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 6 sample(s) on Jul 15, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS19070735**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	**HS19070735**

TRRP Laboratory Data Package Cover Page

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 07/23/2019				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS19070735				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 143051,143254,R342562				
#[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				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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 SW-846 Method 5035?			X		
		If required for the project, 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			1
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 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				
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			2
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			3
		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		
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				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 07/23/2019				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS19070735				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 143051,143254,R342562				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group	LRC Date: 07/23/2019
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS19070735
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 143051,143254,R342562

ER#[5]	Description
1	Semivolatile Organics Method Sw8270, sample WG-1620-TW41B-20190712, the surrogate recoveries could not be determined due to dilution below the calibration range.
2	Batch 143051, Semivolatile Organics Method SW8270, LCS/LCSD were analyzed and reported in lieu of an MS/MSD for this batch
3	Batch R342562, Volatile Organics Method SW8260, sample HS19070681-04, MSD was performed on unrelated sample.

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19070735

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19070735-01	WG-1620-MW09-20190712	Water		12-Jul-2019 07:35	15-Jul-2019 16:30	☐
HS19070735-02	WG-1620-MW03-20190712	Water		12-Jul-2019 08:35	15-Jul-2019 16:30	☐
HS19070735-03	WG-1620-MW04-20190712	Water		12-Jul-2019 09:25	15-Jul-2019 16:30	☐
HS19070735-04	WG-1620-TW41B-20190712	Water		12-Jul-2019 10:40	15-Jul-2019 16:30	☐
HS19070735-05	WG-1620-FB03-20190712	Water		12-Jul-2019 11:00	15-Jul-2019 16:30	☐
HS19070735-06	WG-1620-TB03-20190712	Water	CG 062119 -79	12-Jul-2019 00:00	15-Jul-2019 16:30	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW09-20190712
Collection Date: 12-Jul-2019 07:35

ANALYTICAL REPORT
WorkOrder:HS19070735
Lab ID:HS19070735-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	16-Jul-2019 19:17
Benzene		U	0.00020	0.0010	mg/L	1	16-Jul-2019 19:17
Chlorobenzene		U	0.00030	0.0010	mg/L	1	16-Jul-2019 19:17
Ethylbenzene		U	0.00030	0.0010	mg/L	1	16-Jul-2019 19:17
Methylene chloride		U	0.0010	0.0020	mg/L	1	16-Jul-2019 19:17
Toluene		U	0.00020	0.0010	mg/L	1	16-Jul-2019 19:17
Xylenes, Total		U	0.00030	0.0010	mg/L	1	16-Jul-2019 19:17
Surr: 1,2-Dichloroethane-d4	*99.9*			*70-126*	*%REC*	*1*	*16-Jul-2019 19:17*
Surr: 4-Bromofluorobenzene	*98.0*			*81-113*	*%REC*	*1*	*16-Jul-2019 19:17*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*16-Jul-2019 19:17*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*16-Jul-2019 19:17*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW09-20190712
Collection Date: 12-Jul-2019 07:35

ANALYTICAL REPORT
WorkOrder:HS19070735
Lab ID:HS19070735-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jul-2019 16:18
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jul-2019 16:18
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jul-2019 16:18
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jul-2019 16:18
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jul-2019 16:18
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	18-Jul-2019 16:18
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jul-2019 16:18
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jul-2019 16:18
Acenaphthene	U		0.000027	0.00010	mg/L	1	18-Jul-2019 16:18
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jul-2019 16:18
Anthracene	**0.000061**	J	**0.000014**	**0.00010**	**mg/L**	1	18-Jul-2019 16:18
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jul-2019 16:18
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jul-2019 16:18
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jul-2019 16:18
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	18-Jul-2019 16:18
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jul-2019 16:18
Dibenzofuran	U		0.000020	0.00010	mg/L	1	18-Jul-2019 16:18
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jul-2019 16:18
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jul-2019 16:18
Fluorene	U		0.000030	0.00010	mg/L	1	18-Jul-2019 16:18
Naphthalene	**0.00015**		**0.000020**	**0.00010**	**mg/L**	1	18-Jul-2019 16:18
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jul-2019 16:18
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jul-2019 16:18
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jul-2019 16:18
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jul-2019 16:18
Phenol	U		0.000035	0.00020	mg/L	1	18-Jul-2019 16:18
Pyrene	U		0.000019	0.00010	mg/L	1	18-Jul-2019 16:18
Surr: 2,4,6-Tribromophenol	*91.0*			*34-129*	*%REC*	*1*	*18-Jul-2019 16:18*
Surr: 2-Fluorobiphenyl	*68.7*			*40-125*	*%REC*	*1*	*18-Jul-2019 16:18*
Surr: 2-Fluorophenol	*69.5*			*20-120*	*%REC*	*1*	*18-Jul-2019 16:18*
Surr: 4-Terphenyl-d14	*83.8*			*40-135*	*%REC*	*1*	*18-Jul-2019 16:18*
Surr: Nitrobenzene-d5	*74.2*			*41-120*	*%REC*	*1*	*18-Jul-2019 16:18*
Surr: Phenol-d6	*79.7*			*20-120*	*%REC*	*1*	*18-Jul-2019 16:18*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 22-Jul-2019		Analyst: JHD
Arsenic	**0.000901**	J	**0.000400**	**0.00200**	**mg/L**	1	22-Jul-2019 22:25

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW03-20190712
Collection Date: 12-Jul-2019 08:35

ANALYTICAL REPORT
WorkOrder:HS19070735
Lab ID:HS19070735-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	16-Jul-2019 19:42
Benzene		U	0.00020	0.0010	mg/L	1	16-Jul-2019 19:42
Chlorobenzene		U	0.00030	0.0010	mg/L	1	16-Jul-2019 19:42
Ethylbenzene		U	0.00030	0.0010	mg/L	1	16-Jul-2019 19:42
Methylene chloride		U	0.0010	0.0020	mg/L	1	16-Jul-2019 19:42
Toluene		U	0.00020	0.0010	mg/L	1	16-Jul-2019 19:42
Xylenes, Total		U	0.00030	0.0010	mg/L	1	16-Jul-2019 19:42
Surr: 1,2-Dichloroethane-d4	*97.7*			*70-126*	*%REC*	*1*	*16-Jul-2019 19:42*
Surr: 4-Bromofluorobenzene	*98.3*			*81-113*	*%REC*	*1*	*16-Jul-2019 19:42*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*16-Jul-2019 19:42*
Surr: Toluene-d8	*98.8*			*82-127*	*%REC*	*1*	*16-Jul-2019 19:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW03-20190712
Collection Date: 12-Jul-2019 08:35

ANALYTICAL REPORT
WorkOrder:HS19070735
Lab ID:HS19070735-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jul-2019 16:37
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jul-2019 16:37
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jul-2019 16:37
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jul-2019 16:37
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jul-2019 16:37
2-Methylnaphthalene	**0.000035**	J	**0.000019**	**0.00010**	**mg/L**	1	18-Jul-2019 16:37
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jul-2019 16:37
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jul-2019 16:37
Acenaphthene	U		0.000027	0.00010	mg/L	1	18-Jul-2019 16:37
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jul-2019 16:37
Anthracene	**0.000055**	J	**0.000014**	**0.00010**	**mg/L**	1	18-Jul-2019 16:37
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jul-2019 16:37
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jul-2019 16:37
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jul-2019 16:37
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	18-Jul-2019 16:37
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jul-2019 16:37
Dibenzofuran	U		0.000020	0.00010	mg/L	1	18-Jul-2019 16:37
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jul-2019 16:37
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jul-2019 16:37
Fluorene	U		0.000030	0.00010	mg/L	1	18-Jul-2019 16:37
Naphthalene	**0.00029**		**0.000020**	**0.00010**	**mg/L**	1	18-Jul-2019 16:37
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jul-2019 16:37
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jul-2019 16:37
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jul-2019 16:37
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jul-2019 16:37
Phenol	U		0.000035	0.00020	mg/L	1	18-Jul-2019 16:37
Pyrene	**0.000020**	J	**0.000019**	**0.00010**	**mg/L**	1	18-Jul-2019 16:37
Surr: 2,4,6-Tribromophenol	*98.3*			*34-129*	*%REC*	*1*	*18-Jul-2019 16:37*
Surr: 2-Fluorobiphenyl	*69.6*			*40-125*	*%REC*	*1*	*18-Jul-2019 16:37*
Surr: 2-Fluorophenol	*62.4*			*20-120*	*%REC*	*1*	*18-Jul-2019 16:37*
Surr: 4-Terphenyl-d14	*89.7*			*40-135*	*%REC*	*1*	*18-Jul-2019 16:37*
Surr: Nitrobenzene-d5	*67.0*			*41-120*	*%REC*	*1*	*18-Jul-2019 16:37*
Surr: Phenol-d6	*74.4*			*20-120*	*%REC*	*1*	*18-Jul-2019 16:37*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 22-Jul-2019		Analyst: JHD
Arsenic	**0.000582**	J	**0.000400**	**0.00200**	**mg/L**	1	22-Jul-2019 23:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW04-20190712
Collection Date: 12-Jul-2019 09:25

ANALYTICAL REPORT
WorkOrder:HS19070735
Lab ID:HS19070735-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	16-Jul-2019 20:07
Benzene		U	0.00020	0.0010	mg/L	1	16-Jul-2019 20:07
Chlorobenzene		U	0.00030	0.0010	mg/L	1	16-Jul-2019 20:07
Ethylbenzene		U	0.00030	0.0010	mg/L	1	16-Jul-2019 20:07
Methylene chloride		U	0.0010	0.0020	mg/L	1	16-Jul-2019 20:07
Toluene		U	0.00020	0.0010	mg/L	1	16-Jul-2019 20:07
Xylenes, Total		U	0.00030	0.0010	mg/L	1	16-Jul-2019 20:07
Surr: 1,2-Dichloroethane-d4	*99.7*			*70-126*	*%REC*	*1*	*16-Jul-2019 20:07*
Surr: 4-Bromofluorobenzene	*95.1*			*81-113*	*%REC*	*1*	*16-Jul-2019 20:07*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*16-Jul-2019 20:07*
Surr: Toluene-d8	*99.0*			*82-127*	*%REC*	*1*	*16-Jul-2019 20:07*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW04-20190712
Collection Date: 12-Jul-2019 09:25

ANALYTICAL REPORT
WorkOrder:HS19070735
Lab ID:HS19070735-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jul-2019 16:57
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jul-2019 16:57
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jul-2019 16:57
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jul-2019 16:57
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jul-2019 16:57
2-Methylnaphthalene	**0.000059**	J	**0.000019**	**0.00010**	**mg/L**	1	18-Jul-2019 16:57
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jul-2019 16:57
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jul-2019 16:57
Acenaphthene	**0.00052**		**0.000027**	**0.00010**	**mg/L**	1	18-Jul-2019 16:57
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jul-2019 16:57
Anthracene	U		0.000014	0.00010	mg/L	1	18-Jul-2019 16:57
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jul-2019 16:57
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jul-2019 16:57
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jul-2019 16:57
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	18-Jul-2019 16:57
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jul-2019 16:57
Dibenzofuran	**0.000058**	J	**0.000020**	**0.00010**	**mg/L**	1	18-Jul-2019 16:57
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jul-2019 16:57
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jul-2019 16:57
Fluorene	**0.000053**	J	**0.000030**	**0.00010**	**mg/L**	1	18-Jul-2019 16:57
Naphthalene	**0.00053**		**0.000020**	**0.00010**	**mg/L**	1	18-Jul-2019 16:57
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jul-2019 16:57
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jul-2019 16:57
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jul-2019 16:57
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jul-2019 16:57
Phenol	U		0.000035	0.00020	mg/L	1	18-Jul-2019 16:57
Pyrene	**0.00016**		**0.000019**	**0.00010**	**mg/L**	1	18-Jul-2019 16:57
Surr: 2,4,6-Tribromophenol	*82.2*			*34-129*	*%REC*	*1*	*18-Jul-2019 16:57*
Surr: 2-Fluorobiphenyl	*75.2*			*40-125*	*%REC*	*1*	*18-Jul-2019 16:57*
Surr: 2-Fluorophenol	*67.0*			*20-120*	*%REC*	*1*	*18-Jul-2019 16:57*
Surr: 4-Terphenyl-d14	*83.3*			*40-135*	*%REC*	*1*	*18-Jul-2019 16:57*
Surr: Nitrobenzene-d5	*80.2*			*41-120*	*%REC*	*1*	*18-Jul-2019 16:57*
Surr: Phenol-d6	*76.6*			*20-120*	*%REC*	*1*	*18-Jul-2019 16:57*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 22-Jul-2019		Analyst: JHD
Arsenic	**0.0127**		**0.000400**	**0.00200**	**mg/L**	1	22-Jul-2019 23:06

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-TW41B-20190712
Collection Date: 12-Jul-2019 10:40

ANALYTICAL REPORT
WorkOrder:HS19070735
Lab ID:HS19070735-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	16-Jul-2019 20:32
Benzene	**0.0013**		**0.00020**	**0.0010**	**mg/L**	1	16-Jul-2019 20:32
Chlorobenzene	U		0.00030	0.0010	mg/L	1	16-Jul-2019 20:32
Ethylbenzene	**0.0011**		**0.00030**	**0.0010**	**mg/L**	1	16-Jul-2019 20:32
Methylene chloride	U		0.0010	0.0020	mg/L	1	16-Jul-2019 20:32
Toluene	**0.0011**		**0.00020**	**0.0010**	**mg/L**	1	16-Jul-2019 20:32
Xylenes, Total	**0.019**		**0.00030**	**0.0010**	**mg/L**	1	16-Jul-2019 20:32
Surr: 1,2-Dichloroethane-d4	*99.1*			*70-126*	*%REC*	*1*	*16-Jul-2019 20:32*
Surr: 4-Bromofluorobenzene	*107*			*81-113*	*%REC*	*1*	*16-Jul-2019 20:32*
Surr: Dibromofluoromethane	*98.3*			*77-123*	*%REC*	*1*	*16-Jul-2019 20:32*
Surr: Toluene-d8	*96.6*			*82-127*	*%REC*	*1*	*16-Jul-2019 20:32*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070735
Sample ID: WG-1620-TW41B-20190712
Lab ID:HS19070735-04
Collection Date: 12-Jul-2019 10:40
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jul-2019 17:16
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jul-2019 17:16
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jul-2019 17:16
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jul-2019 17:16
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jul-2019 17:16
2-Methylnaphthalene	**0.067**		**0.00019**	**0.0010**	**mg/L**	10	19-Jul-2019 17:34
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jul-2019 17:16
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jul-2019 17:16
Acenaphthene	**0.15**		**0.0027**	**0.010**	**mg/L**	100	19-Jul-2019 17:54
Acenaphthylene	**0.0014**		**0.000015**	**0.00010**	**mg/L**	1	18-Jul-2019 17:16
Anthracene	**0.0055**		**0.000014**	**0.00010**	**mg/L**	1	18-Jul-2019 17:16
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jul-2019 17:16
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jul-2019 17:16
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jul-2019 17:16
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	18-Jul-2019 17:16
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jul-2019 17:16
Dibenzofuran	**0.074**		**0.00020**	**0.0010**	**mg/L**	10	19-Jul-2019 17:34
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jul-2019 17:16
Fluoranthene	**0.0034**		**0.000010**	**0.00010**	**mg/L**	1	18-Jul-2019 17:16
Fluorene	**0.085**		**0.00030**	**0.0010**	**mg/L**	10	19-Jul-2019 17:34
Naphthalene	**0.69**		**0.0020**	**0.010**	**mg/L**	100	19-Jul-2019 17:54
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jul-2019 17:16
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jul-2019 17:16
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jul-2019 17:16
Phenanthrene	**0.027**		**0.00021**	**0.0010**	**mg/L**	10	19-Jul-2019 17:34
Phenol	U		0.000035	0.00020	mg/L	1	18-Jul-2019 17:16
Pyrene	**0.0014**		**0.000019**	**0.00010**	**mg/L**	1	18-Jul-2019 17:16
Surr: 2,4,6-Tribromophenol	*118*			*34-129*	*%REC*	*10*	*19-Jul-2019 17:34*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*19-Jul-2019 17:54*
Surr: 2,4,6-Tribromophenol	*69.5*			*34-129*	*%REC*	*1*	*18-Jul-2019 17:16*
Surr: 2-Fluorobiphenyl	*54.2*			*40-125*	*%REC*	*1*	*18-Jul-2019 17:16*
Surr: 2-Fluorobiphenyl	*81.3*			*40-125*	*%REC*	*10*	*19-Jul-2019 17:34*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*19-Jul-2019 17:54*
Surr: 2-Fluorophenol	*60.1*			*20-120*	*%REC*	*10*	*19-Jul-2019 17:34*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*19-Jul-2019 17:54*
Surr: 2-Fluorophenol	*57.7*			*20-120*	*%REC*	*1*	*18-Jul-2019 17:16*
Surr: 4-Terphenyl-d14	*84.7*			*40-135*	*%REC*	*1*	*18-Jul-2019 17:16*
Surr: 4-Terphenyl-d14	*83.2*			*40-135*	*%REC*	*10*	*19-Jul-2019 17:34*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*19-Jul-2019 17:54*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-TW41B-20190712
Collection Date: 12-Jul-2019 10:40

ANALYTICAL REPORT
WorkOrder:HS19070735
Lab ID:HS19070735-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jul-2019		Analyst: GEY
Surr: Nitrobenzene-d5	*67.6*			*41-120*	*%REC*	*10*	*19-Jul-2019 17:34*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*19-Jul-2019 17:54*
Surr: Nitrobenzene-d5	*65.5*			*41-120*	*%REC*	*1*	*18-Jul-2019 17:16*
Surr: Phenol-d6	*63.7*			*20-120*	*%REC*	*1*	*18-Jul-2019 17:16*
Surr: Phenol-d6	*70.5*			*20-120*	*%REC*	*10*	*19-Jul-2019 17:34*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*19-Jul-2019 17:54*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 22-Jul-2019		Analyst: JHD
Arsenic	**0.113**		**0.000400**	**0.00200**	**mg/L**	1	22-Jul-2019 23:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB03-20190712
Collection Date: 12-Jul-2019 11:00

ANALYTICAL REPORT
WorkOrder:HS19070735
Lab ID:HS19070735-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	16-Jul-2019 18:26
Benzene	**0.00052**	J	**0.00020**	**0.0010**	**mg/L**	1	16-Jul-2019 18:26
Chlorobenzene	U		0.00030	0.0010	mg/L	1	16-Jul-2019 18:26
Ethylbenzene	**0.00032**	J	**0.00030**	**0.0010**	**mg/L**	1	16-Jul-2019 18:26
Methylene chloride	U		0.0010	0.0020	mg/L	1	16-Jul-2019 18:26
Toluene	**0.00037**	J	**0.00020**	**0.0010**	**mg/L**	1	16-Jul-2019 18:26
Xylenes, Total	U		0.00030	0.0010	mg/L	1	16-Jul-2019 18:26
Surr: 1,2-Dichloroethane-d4	*97.5*			*70-126*	*%REC*	*1*	*16-Jul-2019 18:26*
Surr: 4-Bromofluorobenzene	*97.1*			*81-113*	*%REC*	*1*	*16-Jul-2019 18:26*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*16-Jul-2019 18:26*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*16-Jul-2019 18:26*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB03-20190712
Collection Date: 12-Jul-2019 11:00

ANALYTICAL REPORT
WorkOrder:HS19070735
Lab ID:HS19070735-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jul-2019 17:35
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jul-2019 17:35
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jul-2019 17:35
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jul-2019 17:35
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jul-2019 17:35
2-Methylnaphthalene	**0.000052**	J	**0.000019**	**0.00010**	**mg/L**	1	18-Jul-2019 17:35
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jul-2019 17:35
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jul-2019 17:35
Acenaphthene	U		0.000027	0.00010	mg/L	1	18-Jul-2019 17:35
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jul-2019 17:35
Anthracene	U		0.000014	0.00010	mg/L	1	18-Jul-2019 17:35
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jul-2019 17:35
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jul-2019 17:35
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jul-2019 17:35
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	18-Jul-2019 17:35
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jul-2019 17:35
Dibenzofuran	**0.000026**	J	**0.000020**	**0.00010**	**mg/L**	1	18-Jul-2019 17:35
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jul-2019 17:35
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jul-2019 17:35
Fluorene	U		0.000030	0.00010	mg/L	1	18-Jul-2019 17:35
Naphthalene	**0.00028**		**0.000020**	**0.00010**	**mg/L**	1	18-Jul-2019 17:35
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jul-2019 17:35
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jul-2019 17:35
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jul-2019 17:35
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jul-2019 17:35
Phenol	**0.000052**	J	**0.000035**	**0.00020**	**mg/L**	1	18-Jul-2019 17:35
Pyrene	U		0.000019	0.00010	mg/L	1	18-Jul-2019 17:35
Surr: 2,4,6-Tribromophenol	*83.5*			*34-129*	*%REC*	*1*	*18-Jul-2019 17:35*
Surr: 2-Fluorobiphenyl	*98.5*			*40-125*	*%REC*	*1*	*18-Jul-2019 17:35*
Surr: 2-Fluorophenol	*77.3*			*20-120*	*%REC*	*1*	*18-Jul-2019 17:35*
Surr: 4-Terphenyl-d14	*95.6*			*40-135*	*%REC*	*1*	*18-Jul-2019 17:35*
Surr: Nitrobenzene-d5	*100*			*41-120*	*%REC*	*1*	*18-Jul-2019 17:35*
Surr: Phenol-d6	*91.5*			*20-120*	*%REC*	*1*	*18-Jul-2019 17:35*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 22-Jul-2019		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	22-Jul-2019 23:11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070735
Sample ID: WG-1620-TB03-20190712
Lab ID:HS19070735-06
Collection Date: 12-Jul-2019 00:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	16-Jul-2019 18:52
Benzene		U	0.00020	0.0010	mg/L	1	16-Jul-2019 18:52
Chlorobenzene		U	0.00030	0.0010	mg/L	1	16-Jul-2019 18:52
Ethylbenzene		U	0.00030	0.0010	mg/L	1	16-Jul-2019 18:52
Methylene chloride		U	0.0010	0.0020	mg/L	1	16-Jul-2019 18:52
Toluene		U	0.00020	0.0010	mg/L	1	16-Jul-2019 18:52
Xylenes, Total		U	0.00030	0.0010	mg/L	1	16-Jul-2019 18:52
Surr: 1,2-Dichloroethane-d4	*97.5*			*70-126*	*%REC*	*1*	*16-Jul-2019 18:52*
Surr: 4-Bromofluorobenzene	*98.6*			*81-113*	*%REC*	*1*	*16-Jul-2019 18:52*
Surr: Dibromofluoromethane	*96.7*			*77-123*	*%REC*	*1*	*16-Jul-2019 18:52*
Surr: Toluene-d8	*96.6*			*82-127*	*%REC*	*1*	*16-Jul-2019 18:52*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070735

Batch ID: 143051 **Method:** LOW-LEVEL SEMIVOLATILES BY 8270D **Prep:** 3510_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19070735-01	1	1000	1 (mL)	0.001
HS19070735-02	1	1000	1 (mL)	0.001
HS19070735-03	1	1000	1 (mL)	0.001
HS19070735-04	1	1000	1 (mL)	0.001
HS19070735-05	1	1000	1 (mL)	0.001

Batch ID: 143254 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19070735-01	1	10	10 (mL)	1
HS19070735-02	1	10	10 (mL)	1
HS19070735-03	1	10	10 (mL)	1
HS19070735-04	1	10	10 (mL)	1
HS19070735-05	1	10	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070735

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143051 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS19070735-01	WG-1620-MW09-20190712	12 Jul 2019 07:35		16 Jul 2019 09:08	18 Jul 2019 16:18	1
HS19070735-02	WG-1620-MW03-20190712	12 Jul 2019 08:35		16 Jul 2019 09:08	18 Jul 2019 16:37	1
HS19070735-03	WG-1620-MW04-20190712	12 Jul 2019 09:25		16 Jul 2019 09:08	18 Jul 2019 16:57	1
HS19070735-04	WG-1620-TW41B-20190712	12 Jul 2019 10:40		16 Jul 2019 09:08	19 Jul 2019 17:54	100
HS19070735-04	WG-1620-TW41B-20190712	12 Jul 2019 10:40		16 Jul 2019 09:08	19 Jul 2019 17:34	10
HS19070735-04	WG-1620-TW41B-20190712	12 Jul 2019 10:40		16 Jul 2019 09:08	18 Jul 2019 17:16	1
HS19070735-05	WG-1620-FB03-20190712	12 Jul 2019 11:00		16 Jul 2019 09:08	18 Jul 2019 17:35	1
Batch ID: 143254 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS19070735-01	WG-1620-MW09-20190712	12 Jul 2019 07:35		22 Jul 2019 12:00	22 Jul 2019 22:25	1
HS19070735-02	WG-1620-MW03-20190712	12 Jul 2019 08:35		22 Jul 2019 12:00	22 Jul 2019 23:04	1
HS19070735-03	WG-1620-MW04-20190712	12 Jul 2019 09:25		22 Jul 2019 12:00	22 Jul 2019 23:06	1
HS19070735-04	WG-1620-TW41B-20190712	12 Jul 2019 10:40		22 Jul 2019 12:00	22 Jul 2019 23:09	1
HS19070735-05	WG-1620-FB03-20190712	12 Jul 2019 11:00		22 Jul 2019 12:00	22 Jul 2019 23:11	1
Batch ID: R342562 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS19070735-01	WG-1620-MW09-20190712	12 Jul 2019 07:35			16 Jul 2019 19:17	1
HS19070735-02	WG-1620-MW03-20190712	12 Jul 2019 08:35			16 Jul 2019 19:42	1
HS19070735-03	WG-1620-MW04-20190712	12 Jul 2019 09:25			16 Jul 2019 20:07	1
HS19070735-04	WG-1620-TW41B-20190712	12 Jul 2019 10:40			16 Jul 2019 20:32	1
HS19070735-05	WG-1620-FB03-20190712	12 Jul 2019 11:00			16 Jul 2019 18:26	1
HS19070735-06	WG-1620-TB03-20190712	12 Jul 2019 00:00			16 Jul 2019 18:52	1

WorkOrder: HS19070735
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000547	0.000400	0.00200

WorkOrder: HS19070735
InstrumentID: SV-7
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.00011	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.00010	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000096	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.00012	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.00011	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.00010	0.00012	0.000019	0.00010
A	2-Methylnaphthalene	91-57-6	0.000050	0.000049	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000013	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.00013	0.000047	0.0010
A	Acenaphthene	83-32-9	0.00010	0.00011	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000050	0.000015	0.00010
A	Acenaphthylene	208-96-8	0.00010	0.00010	0.000015	0.00010
A	Anthracene	120-12-7	0.00010	0.00011	0.000014	0.00010
A	Anthracene	120-12-7	0.000050	0.000055	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000068	0.000050	0.00010
A	Benz(a)anthracene	56-55-3	0.00010	0.000099	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.00010	0.000076	0.000020	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000053	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.00012	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.000086	0.000037	0.00020
A	Chrysene	218-01-9	0.00010	0.00011	0.000021	0.00010
A	Chrysene	218-01-9	0.000050	0.000066	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000052	0.000020	0.00010
A	Dibenzofuran	132-64-9	0.00010	0.000094	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.000099	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000053	0.000010	0.00010
A	Fluoranthene	206-44-0	0.00010	0.00012	0.000010	0.00010
A	Fluorene	86-73-7	0.00010	0.00012	0.000030	0.00010
A	Fluorene	86-73-7	0.000050	0.000052	0.000030	0.00010
A	Naphthalene	91-20-3	0.00010	0.00010	0.000020	0.00010
A	Naphthalene	91-20-3	0.000050	0.000061	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00013	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00012	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000085	0.000079	0.00020
A	Phenanthrene	85-01-8	0.00010	0.00011	0.000021	0.00010
A	Phenanthrene	85-01-8	0.000050	0.000055	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000094	0.000035	0.00020
A	Pyrene	129-00-0	0.00010	0.00011	0.000019	0.00010
A	Pyrene	129-00-0	0.000050	0.000061	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020

WorkOrder: HS19070735
InstrumentID: SV-7
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS19070735
InstrumentID: VOA4
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00064	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00060	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00061	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00063	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00077	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00058	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00062	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070735

QC BATCH REPORT

Batch ID: 143254 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-143254** Units: **mg/L** Analysis Date: **22-Jul-2019 22:21**
Client ID: Run ID: **ICPMS05_342799** SeqNo: **5176129** PrepDate: **22-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-143254** Units: **mg/L** Analysis Date: **22-Jul-2019 22:23**
Client ID: Run ID: **ICPMS05_342799** SeqNo: **5176130** PrepDate: **22-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05183	0.00200	0.05	0	104	80 - 120				

MS Sample ID: **HS19070735-01MS** Units: **mg/L** Analysis Date: **22-Jul-2019 22:30**
Client ID: **WG-1620-MW09-20190712** Run ID: **ICPMS05_342799** SeqNo: **5176133** PrepDate: **22-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05366	0.00200	0.05	0.000901	106	80 - 120				

MSD Sample ID: **HS19070735-01MSD** Units: **mg/L** Analysis Date: **22-Jul-2019 22:32**
Client ID: **WG-1620-MW09-20190712** Run ID: **ICPMS05_342799** SeqNo: **5176134** PrepDate: **22-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0522	0.00200	0.05	0.000901	103	80 - 120	0.05366	2.76	20	

PDS Sample ID: **HS19070735-01PDS** Units: **mg/L** Analysis Date: **22-Jul-2019 22:35**
Client ID: **WG-1620-MW09-20190712** Run ID: **ICPMS05_342799** SeqNo: **5176135** PrepDate: **22-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0984	0.00200	0.1	0.000901	97.5	75 - 125				

SD Sample ID: **HS19070735-01SD** Units: **mg/L** Analysis Date: **22-Jul-2019 22:28**
Client ID: **WG-1620-MW09-20190712** Run ID: **ICPMS05_342799** SeqNo: **5176132** PrepDate: **22-Jul-2019** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.000901	0	10	

The following samples were analyzed in this batch: HS19070735-01 HS19070735-02 HS19070735-03 HS19070735-04 HS19070735-05

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070735

QC BATCH REPORT

Batch ID: 143051 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-143051** Units: **ug/L** Analysis Date: **17-Jul-2019 11:25**
Client ID: Run ID: **SV-7_342594** SeqNo: **5170297** PrepDate: **16-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*5.164*	*0.20*	*5*	*0*	*103*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.71*	*0.20*	*5*	*0*	*94.2*	*40 - 125*				
Surr: 2-Fluorophenol	*5.02*	*0.20*	*5*	*0*	*100*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.296*	*0.20*	*5*	*0*	*85.9*	*40 - 135*				
Surr: Nitrobenzene-d5	*5.224*	*0.20*	*5*	*0*	*104*	*41 - 120*				
Surr: Phenol-d6	*5.169*	*0.20*	*5*	*0*	*103*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070735

QC BATCH REPORT

Batch ID: 143051 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-143051** Units: **ug/L** Analysis Date: **17-Jul-2019 11:44**
Client ID: Run ID: **SV-7_342594** SeqNo: **5170298** PrepDate: **16-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.891	0.20	5	0	97.8	39 - 127				
2,4-Dimethylphenol	4.456	0.20	5	0	89.1	35 - 120				
2,4-Dinitrotoluene	5.665	0.20	5	0	113	50 - 122				
2,6-Dinitrotoluene	5.12	0.20	5	0	102	50 - 120				
2-Chloronaphthalene	4.568	0.20	5	0	91.4	50 - 120				
2-Methylnaphthalene	4.785	0.10	5	0	95.7	50 - 120				
4,6-Dinitro-2-methylphenol	4.433	0.20	5	0	88.7	25 - 121				
4-Nitrophenol	5.291	1.0	5	0	106	30 - 130				
Acenaphthene	4.568	0.10	5	0	91.4	45 - 120				
Acenaphthylene	4.495	0.10	5	0	89.9	47 - 120				
Anthracene	4.502	0.10	5	0	90.0	45 - 120				
Benz(a)anthracene	5.224	0.10	5	0	104	40 - 120				
Benzo(a)pyrene	4.184	0.10	5	0	83.7	45 - 120				
Bis(2-chloroethoxy)methane	4.62	0.20	5	0	92.4	45 - 120				
Bis(2-ethylhexyl)phthalate	5.383	0.20	5	0	108	40 - 139				
Chrysene	5.78	0.10	5	0	116	43 - 120				
Dibenzofuran	4.573	0.10	5	0	91.5	50 - 120				
Di-n-butyl phthalate	4.964	0.20	5	0	99.3	45 - 123				
Fluoranthene	5.235	0.10	5	0	105	45 - 125				
Fluorene	4.312	0.10	5	0	86.2	49 - 120				
Naphthalene	4.422	0.10	5	0	88.4	45 - 120				
Nitrobenzene	5.307	0.20	5	0	106	44 - 120				
N-Nitrosodiphenylamine	4.846	0.20	5	0	96.9	40 - 125				
Pentachlorophenol	3.998	0.20	5	0	80.0	19 - 121				
Phenanthrene	4.511	0.10	5	0	90.2	45 - 121				
Phenol	4.734	0.20	5	0	94.7	20 - 124				
Pyrene	4.84	0.10	5	0	96.8	40 - 130				
Surr: 2,4,6-Tribromophenol	*5.277*	*0.20*	*5*	*0*	*106*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.715*	*0.20*	*5*	*0*	*94.3*	*40 - 125*				
Surr: 2-Fluorophenol	*4.401*	*0.20*	*5*	*0*	*88.0*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.682*	*0.20*	*5*	*0*	*93.6*	*40 - 135*				
Surr: Nitrobenzene-d5	*5.128*	*0.20*	*5*	*0*	*103*	*41 - 120*				
Surr: Phenol-d6	*4.86*	*0.20*	*5*	*0*	*97.2*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070735

QC BATCH REPORT

Batch ID: 143051 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-143051** Units: **ug/L** Analysis Date: **17-Jul-2019 12:04**
Client ID: Run ID: **SV-7_342594** SeqNo: **5170299** PrepDate: **16-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	5.027	0.20	5	0	101	39 - 127	4.891	2.75	20	
2,4-Dimethylphenol	4.508	0.20	5	0	90.2	35 - 120	4.456	1.17	20	
2,4-Dinitrotoluene	6.009	0.20	5	0	120	50 - 122	5.665	5.91	20	
2,6-Dinitrotoluene	5.413	0.20	5	0	108	50 - 120	5.12	5.56	20	
2-Chloronaphthalene	4.685	0.20	5	0	93.7	50 - 120	4.568	2.52	20	
2-Methylnaphthalene	4.646	0.10	5	0	92.9	50 - 120	4.785	2.96	20	
4,6-Dinitro-2-methylphenol	4.386	0.20	5	0	87.7	25 - 121	4.433	1.06	30	
4-Nitrophenol	5.432	1.0	5	0	109	30 - 130	5.291	2.62	20	
Acenaphthene	4.65	0.10	5	0	93.0	45 - 120	4.568	1.77	20	
Acenaphthylene	4.597	0.10	5	0	91.9	47 - 120	4.495	2.24	20	
Anthracene	4.626	0.10	5	0	92.5	45 - 120	4.502	2.72	20	
Benz(a)anthracene	5.314	0.10	5	0	106	40 - 120	5.224	1.7	20	
Benzo(a)pyrene	4.37	0.10	5	0	87.4	45 - 120	4.184	4.35	20	
Bis(2-chloroethoxy)methane	4.471	0.20	5	0	89.4	45 - 120	4.62	3.27	20	
Bis(2-ethylhexyl)phthalate	5.015	0.20	5	0	100	40 - 139	5.383	7.09	20	
Chrysene	5.4	0.10	5	0	108	43 - 120	5.78	6.79	20	
Dibenzofuran	4.789	0.10	5	0	95.8	50 - 120	4.573	4.61	20	
Di-n-butyl phthalate	4.9	0.20	5	0	98.0	45 - 123	4.964	1.29	20	
Fluoranthene	5.005	0.10	5	0	100	45 - 125	5.235	4.5	20	
Fluorene	4.585	0.10	5	0	91.7	49 - 120	4.312	6.13	20	
Naphthalene	4.38	0.10	5	0	87.6	45 - 120	4.422	0.956	20	
Nitrobenzene	5.058	0.20	5	0	101	44 - 120	5.307	4.82	20	
N-Nitrosodiphenylamine	4.98	0.20	5	0	99.6	40 - 125	4.846	2.72	20	
Pentachlorophenol	3.749	0.20	5	0	75.0	19 - 121	3.998	6.45	20	
Phenanthrene	4.452	0.10	5	0	89.0	45 - 121	4.511	1.31	20	
Phenol	4.892	0.20	5	0	97.8	20 - 124	4.734	3.28	20	
Pyrene	4.992	0.10	5	0	99.8	40 - 130	4.84	3.09	20	
Surr: 2,4,6-Tribromophenol	*5.252*	*0.20*	*5*	*0*	*105*	*34 - 129*	*5.277*	*0.469*	*20*	
Surr: 2-Fluorobiphenyl	*4.793*	*0.20*	*5*	*0*	*95.9*	*40 - 125*	*4.715*	*1.64*	*20*	
Surr: 2-Fluorophenol	*4.505*	*0.20*	*5*	*0*	*90.1*	*20 - 120*	*4.401*	*2.33*	*20*	
Surr: 4-Terphenyl-d14	*4.494*	*0.20*	*5*	*0*	*89.9*	*40 - 135*	*4.682*	*4.08*	*20*	
Surr: Nitrobenzene-d5	*5.029*	*0.20*	*5*	*0*	*101*	*41 - 120*	*5.128*	*1.95*	*20*	
Surr: Phenol-d6	*4.973*	*0.20*	*5*	*0*	*99.5*	*20 - 120*	*4.86*	*2.3*	*20*	

The following samples were analyzed in this batch: HS19070735-01 HS19070735-02 HS19070735-03 HS19070735-04 HS19070735-05

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070735

QC BATCH REPORT

Batch ID: R342562 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-190716** Units: **ug/L** Analysis Date: **16-Jul-2019 14:10**
Client ID: Run ID: **VOA4_342562** SeqNo: **5169824** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*48.3*	*1.0*	*50*	*0*	*96.6*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*51.24*	*1.0*	*50*	*0*	*102*	*82 - 115*				
Surr: Dibromofluoromethane	*49.23*	*1.0*	*50*	*0*	*98.5*	*73 - 126*				
Surr: Toluene-d8	*49.44*	*1.0*	*50*	*0*	*98.9*	*81 - 120*				

LCS Sample ID: **VLCSW-190716** Units: **ug/L** Analysis Date: **16-Jul-2019 13:18**
Client ID: Run ID: **VOA4_342562** SeqNo: **5169823** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.58	1.0	20	0	87.9	70 - 124				
Benzene	18.78	1.0	20	0	93.9	74 - 120				
Chlorobenzene	19.65	1.0	20	0	98.3	76 - 113				
Ethylbenzene	19.35	1.0	20	0	96.7	77 - 117				
Methylene chloride	19.06	2.0	20	0	95.3	70 - 127				
Toluene	19.08	1.0	20	0	95.4	77 - 118				
Xylenes, Total	64.06	1.0	60	0	107	75 - 122				
Surr: 1,2-Dichloroethane-d4	*45.57*	*1.0*	*50*	*0*	*91.1*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*51.32*	*1.0*	*50*	*0*	*103*	*82 - 115*				
Surr: Dibromofluoromethane	*47.81*	*1.0*	*50*	*0*	*95.6*	*73 - 126*				
Surr: Toluene-d8	*48.58*	*1.0*	*50*	*0*	*97.2*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070735

QC BATCH REPORT

Batch ID: R342562 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS19070681-04MS** Units: **ug/L** Analysis Date: **16-Jul-2019 16:45**
Client ID: Run ID: **VOA4_342562** SeqNo: **5169830** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	14.82	1.0	20	0	74.1	70 - 127				
Benzene	124.2	1.0	20	109.8	71.6	70 - 127				O
Chlorobenzene	16.67	1.0	20	0	83.4	70 - 114				
Ethylbenzene	37.48	1.0	20	17.94	97.7	70 - 124				
Methylene chloride	17	2.0	20	0	85.0	70 - 128				
Toluene	21.24	1.0	20	2.685	92.8	70 - 123				
Xylenes, Total	62.26	1.0	60	4.367	96.5	70 - 130				
Surr: 1,2-Dichloroethane-d4	*47.06*	*1.0*	*50*	*0*	*94.1*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*52.4*	*1.0*	*50*	*0*	*105*	*81 - 113*				
Surr: Dibromofluoromethane	*48.33*	*1.0*	*50*	*0*	*96.7*	*77 - 123*				
Surr: Toluene-d8	*50.02*	*1.0*	*50*	*0*	*100*	*82 - 127*				

MSD Sample ID: **HS19070681-04MSD** Units: **ug/L** Analysis Date: **16-Jul-2019 17:11**
Client ID: Run ID: **VOA4_342562** SeqNo: **5169831** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	14.45	1.0	20	0	72.2	70 - 127	14.82	2.55	20	
Benzene	115.9	1.0	20	109.8	30.4	70 - 127	124.2	6.87	20	SO
Chlorobenzene	15.87	1.0	20	0	79.4	70 - 114	16.67	4.94	20	
Ethylbenzene	33.81	1.0	20	17.94	79.3	70 - 124	37.48	10.3	20	
Methylene chloride	14.72	2.0	20	0	73.6	70 - 128	17	14.3	20	
Toluene	19.3	1.0	20	2.685	83.1	70 - 123	21.24	9.56	20	
Xylenes, Total	55.27	1.0	60	4.367	84.8	70 - 130	62.26	11.9	20	
Surr: 1,2-Dichloroethane-d4	*47.42*	*1.0*	*50*	*0*	*94.8*	*70 - 126*	*47.06*	*0.76*	*20*	
Surr: 4-Bromofluorobenzene	*49.53*	*1.0*	*50*	*0*	*99.1*	*81 - 113*	*52.4*	*5.63*	*20*	
Surr: Dibromofluoromethane	*48.81*	*1.0*	*50*	*0*	*97.6*	*77 - 123*	*48.33*	*0.983*	*20*	
Surr: Toluene-d8	*50.24*	*1.0*	*50*	*0*	*100*	*82 - 127*	*50.02*	*0.425*	*20*	

The following samples were analyzed in this batch: HS19070735-01 HS19070735-02 HS19070735-03 HS19070735-04 HS19070735-05 HS19070735-06

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS19070735**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Kansas	E-10352 2018-2019	31-Jul-2019
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2019	31-Dec-2019
Oklahoma	2018-156	31-Aug-2019
Texas	TX104704231-19-23	30-Apr-2020

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19070735

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19070735-01	WG-1620-MW09-20190712	Login	15/07/2019 18:21:52	JRM	MET044
HS19070735-01	WG-1620-MW09-20190712	Login	15/07/2019 18:21:52	JRM	EXT108
HS19070735-01	WG-1620-MW09-20190712	Login	15/07/2019 18:21:52	JRM	VOA074
HS19070735-02	WG-1620-MW03-20190712	Login	15/07/2019 18:21:52	JRM	MET044
HS19070735-02	WG-1620-MW03-20190712	Login	15/07/2019 18:21:52	JRM	EXT108
HS19070735-02	WG-1620-MW03-20190712	Login	15/07/2019 18:21:52	JRM	VOA074
HS19070735-03	WG-1620-MW04-20190712	Login	15/07/2019 18:21:52	JRM	MET044
HS19070735-03	WG-1620-MW04-20190712	Login	15/07/2019 18:21:52	JRM	EXT108
HS19070735-03	WG-1620-MW04-20190712	Login	15/07/2019 18:21:52	JRM	VOA074
HS19070735-04	WG-1620-TW41B-20190712	Login	15/07/2019 18:21:52	JRM	MET044
HS19070735-04	WG-1620-TW41B-20190712	Login	15/07/2019 18:21:52	JRM	EXT135
HS19070735-04	WG-1620-TW41B-20190712	Login	15/07/2019 18:21:52	JRM	VOA074
HS19070735-05	WG-1620-FB03-20190712	Login	15/07/2019 18:21:52	JRM	MET044
HS19070735-05	WG-1620-FB03-20190712	Login	15/07/2019 18:21:52	JRM	EXT135
HS19070735-05	WG-1620-FB03-20190712	Login	15/07/2019 18:21:52	JRM	VOA074
HS19070735-06	WG-1620-TB03-20190712	Login	15/07/2019 18:21:52	JRM	VOA074

Sample Receipt Checklist

Client Name: PBW
Work Order: HS19070735

Date/Time Received: **15-Jul-2019 16:30**
Received by: **JRM**

Checklist completed by: *Jared R. Makan* eSignature 15-Jul-2019 Date

Reviewed by: *Dane J. Wacasey* eSignature 18-Jul-2019 Date

Matrices: **Water**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:196142
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.0c/1.0c UC/C	IR25
Cooler(s)/Kit(s):	45005	
Date/Time sample(s) sent to storage:	07/15/2019 18:40	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page ___ of ___

COC ID: 196142

HS19070735

Golder Associates Inc.
Houston TX-Wood Preserving Works

Customer Information		Project Information		ALS Project Manager:	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 Volatile Organics Site Specific)
Work Order		Project Number	1620-07-Rev0 SR 92688	B	8260_LL_W (5632528 VOC Site Specific + V.C.)
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 5632646 Metals - As, Pb)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TB0[illegible]~~			~~Water~~	~~←~~	~~2~~		*									
2	WG-1620-MW09-20190712	7-12-19	0735	W		6	X		X	X							
3	WG-1620-MW03-20190712		0835	W		6	X		X	X							
4	WG-1620-MW04-20190712		0925	W		6	X		X	X							
5	WG-1620-TW41B-20190712		1040	W		6	X		X	X							
6	WG-1620-FB03-20190712		1100	W		6	X		X	X							
7	WG-1620-TB03-20190712			W		2	X										
8																	
9																	
10																	

Sampler(s) Please Print & Sign: JOHN BRAYTON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) ☐ Other ___ ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 -hour

Results Due Date:

Relinquished by: [signature] Date: 7-15-19 Time: 1630 Received by:

Relinquished by: [signature] Date: 7/15/19 Time: 1630 Received by (Laboratory): [signature]

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
	UC
45005	1.0
	1.225
	UF 0.0

QC Package: (Check One Box Below)

☐ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SW846/CLP
☐ Other
☒ TRRP Checklist
☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

July 25, 2019

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS19070864**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 13 sample(s) on Jul 17, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS19070864**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	**HS19070864**

TRRP Laboratory Data Package Cover Page

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 07/25/2019					
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS19070864					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 143194,143304,143325,R342655,R342706					
#[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				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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 SW-846 Method 5035?			X		
		If required for the project, 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			1
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 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				
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			2
		Were MS/MSD RPDs within laboratory QC limits?		X			3
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				
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				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				4
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 07/25/2019				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS19070864				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 143194,143304,143325,R342655,R342706				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group	LRC Date: 07/25/2019
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS19070864
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 143194,143304,143325,R342655,R342706

ER#[5]	Description
1	Semivolatile Organics Method SW8270, samples WG-1620-MW25C-20190716, WG-1620-MW63B-20190716: the surrogate recoveries could not be determined due to dilution below the calibration range
2	Batch 143194, Semivolatile Organics Method SW8270, sample WG-1620-MW28C-20190716, MSD recovered outside the control limit for Phenol due to possible matrix effect.
3	Batch 143194, Semivolatile Organics Method SW8270, sample WG-1620-MW28C-20190716, MS/MSD RPD recovered above the RPD limit for 2-Chloronaphthalene due to possible matrix effect.
4	Batch 143194, Semivolatile Organics Method SW8270, samples WG-1620-MW25C-20190716, the GCMS semi-volatile extract of this sample was run at a dilution due to a high level of matrix interference.

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19070864

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19070864-01	WG-1620-MW21C-20190716	Water		16-Jul-2019 07:35	17-Jul-2019 14:24	☐
HS19070864-02	WG-1620-FD01-20190716	Water		16-Jul-2019 07:35	17-Jul-2019 14:24	☐
HS19070864-03	WG-1620-MW62B-20190716	Water		16-Jul-2019 08:25	17-Jul-2019 14:24	☐
HS19070864-04	WG-1620-MW53C-20190716	Water		16-Jul-2019 10:15	17-Jul-2019 14:24	☐
HS19070864-05	WG-1620-MW54C-20190716	Water		16-Jul-2019 11:15	17-Jul-2019 14:24	☐
HS19070864-06	WG-1620-MW25C-20190716	Water		16-Jul-2019 12:15	17-Jul-2019 14:24	☐
HS19070864-07	WG-1620-MW25A-20190716	Water		16-Jul-2019 13:10	17-Jul-2019 14:24	☐
HS19070864-08	WG-1620-MW36B-20190716	Water		16-Jul-2019 14:20	17-Jul-2019 14:24	☐
HS19070864-09	WG-1620-MW36A-20190716	Water		16-Jul-2019 15:20	17-Jul-2019 14:24	☐
HS19070864-10	WG-1620-MW28C-20190716	Water		16-Jul-2019 16:15	17-Jul-2019 14:24	☐
HS19070864-11	WG-1620-MW28A-20190716	Water		16-Jul-2019 17:00	17-Jul-2019 14:24	☐
HS19070864-12	WG-1620-MW63B-20190716	Water		16-Jul-2019 17:55	17-Jul-2019 14:24	☐
HS19070864-13	WG-1620-TB04-20190716	Water		16-Jul-2019 00:00	17-Jul-2019 14:24	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW21C-20190716
Collection Date: 16-Jul-2019 07:35

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	18-Jul-2019 14:48
Benzene		U	0.00020	0.0010	mg/L	1	18-Jul-2019 14:48
Chlorobenzene		U	0.00030	0.0010	mg/L	1	18-Jul-2019 14:48
Ethylbenzene		U	0.00030	0.0010	mg/L	1	18-Jul-2019 14:48
Methylene chloride		U	0.0010	0.0020	mg/L	1	18-Jul-2019 14:48
Toluene		U	0.00020	0.0010	mg/L	1	18-Jul-2019 14:48
Xylenes, Total		U	0.00030	0.0010	mg/L	1	18-Jul-2019 14:48
Surr: 1,2-Dichloroethane-d4	*90.1*			*70-126*	*%REC*	*1*	*18-Jul-2019 14:48*
Surr: 4-Bromofluorobenzene	*94.8*			*81-113*	*%REC*	*1*	*18-Jul-2019 14:48*
Surr: Dibromofluoromethane	*98.1*			*77-123*	*%REC*	*1*	*18-Jul-2019 14:48*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*18-Jul-2019 14:48*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW21C-20190716
Collection Date: 16-Jul-2019 07:35

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	20-Jul-2019 01:12
2,4-Dimethylphenol	**0.00010**	J	**0.000040**	**0.00020**	**mg/L**	1	20-Jul-2019 01:12
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	20-Jul-2019 01:12
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	20-Jul-2019 01:12
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	20-Jul-2019 01:12
2-Methylnaphthalene	**0.00040**		**0.000019**	**0.00010**	**mg/L**	1	20-Jul-2019 01:12
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	20-Jul-2019 01:12
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	20-Jul-2019 01:12
Acenaphthene	**0.0057**		**0.000027**	**0.00010**	**mg/L**	1	20-Jul-2019 01:12
Acenaphthylene	**0.000074**	J	**0.000015**	**0.00010**	**mg/L**	1	20-Jul-2019 01:12
Anthracene	**0.00044**		**0.000014**	**0.00010**	**mg/L**	1	20-Jul-2019 01:12
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	20-Jul-2019 01:12
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	20-Jul-2019 01:12
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	20-Jul-2019 01:12
Bis(2-ethylhexyl)phthalate	**0.000040**	J	**0.000037**	**0.00020**	**mg/L**	1	20-Jul-2019 01:12
Chrysene	U		0.000021	0.00010	mg/L	1	20-Jul-2019 01:12
Dibenzofuran	**0.0032**		**0.000020**	**0.00010**	**mg/L**	1	20-Jul-2019 01:12
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	20-Jul-2019 01:12
Fluoranthene	**0.00081**		**0.000010**	**0.00010**	**mg/L**	1	20-Jul-2019 01:12
Fluorene	**0.0019**		**0.000030**	**0.00010**	**mg/L**	1	20-Jul-2019 01:12
Naphthalene	**0.0044**		**0.000020**	**0.00010**	**mg/L**	1	20-Jul-2019 01:12
Nitrobenzene	U		0.000024	0.00020	mg/L	1	20-Jul-2019 01:12
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	20-Jul-2019 01:12
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	20-Jul-2019 01:12
Phenanthrene	**0.00087**		**0.000021**	**0.00010**	**mg/L**	1	20-Jul-2019 01:12
Phenol	**0.00018**	J	**0.000035**	**0.00020**	**mg/L**	1	20-Jul-2019 01:12
Pyrene	**0.00039**		**0.000019**	**0.00010**	**mg/L**	1	20-Jul-2019 01:12
Surr: 2,4,6-Tribromophenol	*77.5*			*34-129*	*%REC*	*1*	*20-Jul-2019 01:12*
Surr: 2-Fluorobiphenyl	*61.6*			*40-125*	*%REC*	*1*	*20-Jul-2019 01:12*
Surr: 2-Fluorophenol	*53.9*			*20-120*	*%REC*	*1*	*20-Jul-2019 01:12*
Surr: 4-Terphenyl-d14	*72.9*			*40-135*	*%REC*	*1*	*20-Jul-2019 01:12*
Surr: Nitrobenzene-d5	*67.9*			*41-120*	*%REC*	*1*	*20-Jul-2019 01:12*
Surr: Phenol-d6	*67.1*			*20-120*	*%REC*	*1*	*20-Jul-2019 01:12*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jul-2019		Analyst: JHD
Arsenic	**0.00130**	J	**0.000400**	**0.00200**	**mg/L**	1	23-Jul-2019 22:28

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD01-20190716
Collection Date: 16-Jul-2019 07:35

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	19-Jul-2019 07:08
Benzene		U	0.00020	0.0010	mg/L	1	19-Jul-2019 07:08
Chlorobenzene		U	0.00030	0.0010	mg/L	1	19-Jul-2019 07:08
Ethylbenzene		U	0.00030	0.0010	mg/L	1	19-Jul-2019 07:08
Methylene chloride		U	0.0010	0.0020	mg/L	1	19-Jul-2019 07:08
Toluene		U	0.00020	0.0010	mg/L	1	19-Jul-2019 07:08
Xylenes, Total		U	0.00030	0.0010	mg/L	1	19-Jul-2019 07:08
Surr: 1,2-Dichloroethane-d4	*88.4*			*70-126*	*%REC*	*1*	*19-Jul-2019 07:08*
Surr: 4-Bromofluorobenzene	*96.2*			*81-113*	*%REC*	*1*	*19-Jul-2019 07:08*
Surr: Dibromofluoromethane	*97.3*			*77-123*	*%REC*	*1*	*19-Jul-2019 07:08*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*19-Jul-2019 07:08*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD01-20190716
Collection Date: 16-Jul-2019 07:35

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	20-Jul-2019 01:32
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	20-Jul-2019 01:32
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	20-Jul-2019 01:32
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	20-Jul-2019 01:32
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	20-Jul-2019 01:32
2-Methylnaphthalene	**0.000050**	J	**0.000019**	**0.00010**	**mg/L**	1	20-Jul-2019 01:32
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	20-Jul-2019 01:32
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	20-Jul-2019 01:32
Acenaphthene	**0.00081**		**0.000027**	**0.00010**	**mg/L**	1	20-Jul-2019 01:32
Acenaphthylene	U		0.000015	0.00010	mg/L	1	20-Jul-2019 01:32
Anthracene	**0.000050**	J	**0.000014**	**0.00010**	**mg/L**	1	20-Jul-2019 01:32
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	20-Jul-2019 01:32
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	20-Jul-2019 01:32
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	20-Jul-2019 01:32
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	20-Jul-2019 01:32
Chrysene	U		0.000021	0.00010	mg/L	1	20-Jul-2019 01:32
Dibenzofuran	**0.00040**		**0.000020**	**0.00010**	**mg/L**	1	20-Jul-2019 01:32
Di-n-butyl phthalate	**0.000020**	J	**0.000020**	**0.00020**	**mg/L**	1	20-Jul-2019 01:32
Fluoranthene	**0.000087**	J	**0.000010**	**0.00010**	**mg/L**	1	20-Jul-2019 01:32
Fluorene	**0.00025**		**0.000030**	**0.00010**	**mg/L**	1	20-Jul-2019 01:32
Naphthalene	**0.00080**		**0.000020**	**0.00010**	**mg/L**	1	20-Jul-2019 01:32
Nitrobenzene	U		0.000024	0.00020	mg/L	1	20-Jul-2019 01:32
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	20-Jul-2019 01:32
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	20-Jul-2019 01:32
Phenanthrene	**0.00011**		**0.000021**	**0.00010**	**mg/L**	1	20-Jul-2019 01:32
Phenol	**0.00081**		**0.000035**	**0.00020**	**mg/L**	1	20-Jul-2019 01:32
Pyrene	**0.000033**	J	**0.000019**	**0.00010**	**mg/L**	1	20-Jul-2019 01:32
Surr: 2,4,6-Tribromophenol	*76.9*			*34-129*	*%REC*	*1*	*20-Jul-2019 01:32*
Surr: 2-Fluorobiphenyl	*65.2*			*40-125*	*%REC*	*1*	*20-Jul-2019 01:32*
Surr: 2-Fluorophenol	*58.3*			*20-120*	*%REC*	*1*	*20-Jul-2019 01:32*
Surr: 4-Terphenyl-d14	*68.4*			*40-135*	*%REC*	*1*	*20-Jul-2019 01:32*
Surr: Nitrobenzene-d5	*68.2*			*41-120*	*%REC*	*1*	*20-Jul-2019 01:32*
Surr: Phenol-d6	*64.6*			*20-120*	*%REC*	*1*	*20-Jul-2019 01:32*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jul-2019		Analyst: JHD
Arsenic	**0.00326**		**0.000400**	**0.00200**	**mg/L**	1	23-Jul-2019 22:31

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW62B-20190716
Collection Date: 16-Jul-2019 08:25

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	19-Jul-2019 04:42
Benzene		U	0.00020	0.0010	mg/L	1	19-Jul-2019 04:42
Chlorobenzene		U	0.00030	0.0010	mg/L	1	19-Jul-2019 04:42
Ethylbenzene		U	0.00030	0.0010	mg/L	1	19-Jul-2019 04:42
Methylene chloride		U	0.0010	0.0020	mg/L	1	19-Jul-2019 04:42
Toluene		U	0.00020	0.0010	mg/L	1	19-Jul-2019 04:42
Xylenes, Total		U	0.00030	0.0010	mg/L	1	19-Jul-2019 04:42
Surr: 1,2-Dichloroethane-d4	*87.7*			*70-126*	*%REC*	*1*	*19-Jul-2019 04:42*
Surr: 4-Bromofluorobenzene	*95.9*			*81-113*	*%REC*	*1*	*19-Jul-2019 04:42*
Surr: Dibromofluoromethane	*97.4*			*77-123*	*%REC*	*1*	*19-Jul-2019 04:42*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*19-Jul-2019 04:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070864
Sample ID: WG-1620-MW62B-20190716
Lab ID:HS19070864-03
Collection Date: 16-Jul-2019 08:25
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	20-Jul-2019 01:51
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	20-Jul-2019 01:51
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	20-Jul-2019 01:51
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	20-Jul-2019 01:51
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	20-Jul-2019 01:51
2-Methylnaphthalene	**0.000096**	J	**0.000019**	**0.00010**	**mg/L**	1	20-Jul-2019 01:51
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	20-Jul-2019 01:51
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	20-Jul-2019 01:51
Acenaphthene	**0.000099**	J	**0.000027**	**0.00010**	**mg/L**	1	20-Jul-2019 01:51
Acenaphthylene	U		0.000015	0.00010	mg/L	1	20-Jul-2019 01:51
Anthracene	U		0.000014	0.00010	mg/L	1	20-Jul-2019 01:51
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	20-Jul-2019 01:51
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	20-Jul-2019 01:51
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	20-Jul-2019 01:51
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	20-Jul-2019 01:51
Chrysene	U		0.000021	0.00010	mg/L	1	20-Jul-2019 01:51
Dibenzofuran	**0.000048**	J	**0.000020**	**0.00010**	**mg/L**	1	20-Jul-2019 01:51
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	20-Jul-2019 01:51
Fluoranthene	**0.000017**	J	**0.000010**	**0.00010**	**mg/L**	1	20-Jul-2019 01:51
Fluorene	**0.000036**	J	**0.000030**	**0.00010**	**mg/L**	1	20-Jul-2019 01:51
Naphthalene	**0.00028**		**0.000020**	**0.00010**	**mg/L**	1	20-Jul-2019 01:51
Nitrobenzene	U		0.000024	0.00020	mg/L	1	20-Jul-2019 01:51
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	20-Jul-2019 01:51
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	20-Jul-2019 01:51
Phenanthrene	**0.000021**	J	**0.000021**	**0.00010**	**mg/L**	1	20-Jul-2019 01:51
Phenol	**0.00056**		**0.000035**	**0.00020**	**mg/L**	1	20-Jul-2019 01:51
Pyrene	U		0.000019	0.00010	mg/L	1	20-Jul-2019 01:51
Surr: 2,4,6-Tribromophenol	*85.2*			*34-129*	*%REC*	*1*	*20-Jul-2019 01:51*
Surr: 2-Fluorobiphenyl	*73.5*			*40-125*	*%REC*	*1*	*20-Jul-2019 01:51*
Surr: 2-Fluorophenol	*60.4*			*20-120*	*%REC*	*1*	*20-Jul-2019 01:51*
Surr: 4-Terphenyl-d14	*73.3*			*40-135*	*%REC*	*1*	*20-Jul-2019 01:51*
Surr: Nitrobenzene-d5	*70.2*			*41-120*	*%REC*	*1*	*20-Jul-2019 01:51*
Surr: Phenol-d6	*70.9*			*20-120*	*%REC*	*1*	*20-Jul-2019 01:51*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jul-2019		Analyst: JHD
Arsenic	**0.00194**	J	**0.000400**	**0.00200**	**mg/L**	1	23-Jul-2019 22:37

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070864
Sample ID: WG-1620-MW53C-20190716
Lab ID:HS19070864-04
Collection Date: 16-Jul-2019 10:15
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	18-Jul-2019 20:06
Benzene		U	0.00020	0.0010	mg/L	1	18-Jul-2019 20:06
Chlorobenzene		U	0.00030	0.0010	mg/L	1	18-Jul-2019 20:06
Ethylbenzene		U	0.00030	0.0010	mg/L	1	18-Jul-2019 20:06
Methylene chloride		U	0.0010	0.0020	mg/L	1	18-Jul-2019 20:06
Toluene		U	0.00020	0.0010	mg/L	1	18-Jul-2019 20:06
Xylenes, Total		U	0.00030	0.0010	mg/L	1	18-Jul-2019 20:06
Surr: 1,2-Dichloroethane-d4	*89.1*			*70-126*	*%REC*	*1*	*18-Jul-2019 20:06*
Surr: 4-Bromofluorobenzene	*96.9*			*81-113*	*%REC*	*1*	*18-Jul-2019 20:06*
Surr: Dibromofluoromethane	*97.7*			*77-123*	*%REC*	*1*	*18-Jul-2019 20:06*
Surr: Toluene-d8	*99.6*			*82-127*	*%REC*	*1*	*18-Jul-2019 20:06*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW53C-20190716
Collection Date: 16-Jul-2019 10:15

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	20-Jul-2019 02:11
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	20-Jul-2019 02:11
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	20-Jul-2019 02:11
2,6-Dinitrotoluene	**0.0028**		**0.000042**	**0.00020**	**mg/L**	1	20-Jul-2019 02:11
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	20-Jul-2019 02:11
2-Methylnaphthalene	**0.000071**	J	**0.000019**	**0.00010**	**mg/L**	1	20-Jul-2019 02:11
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	20-Jul-2019 02:11
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	20-Jul-2019 02:11
Acenaphthene	U		0.000027	0.00010	mg/L	1	20-Jul-2019 02:11
Acenaphthylene	U		0.000015	0.00010	mg/L	1	20-Jul-2019 02:11
Anthracene	U		0.000014	0.00010	mg/L	1	20-Jul-2019 02:11
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	20-Jul-2019 02:11
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	20-Jul-2019 02:11
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	20-Jul-2019 02:11
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	20-Jul-2019 02:11
Chrysene	U		0.000021	0.00010	mg/L	1	20-Jul-2019 02:11
Dibenzofuran	U		0.000020	0.00010	mg/L	1	20-Jul-2019 02:11
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	20-Jul-2019 02:11
Fluoranthene	U		0.000010	0.00010	mg/L	1	20-Jul-2019 02:11
Fluorene	U		0.000030	0.00010	mg/L	1	20-Jul-2019 02:11
Naphthalene	**0.00013**		**0.000020**	**0.00010**	**mg/L**	1	20-Jul-2019 02:11
Nitrobenzene	U		0.000024	0.00020	mg/L	1	20-Jul-2019 02:11
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	20-Jul-2019 02:11
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	20-Jul-2019 02:11
Phenanthrene	U		0.000021	0.00010	mg/L	1	20-Jul-2019 02:11
Phenol	**0.00016**	J	**0.000035**	**0.00020**	**mg/L**	1	20-Jul-2019 02:11
Pyrene	U		0.000019	0.00010	mg/L	1	20-Jul-2019 02:11
Surr: 2,4,6-Tribromophenol	*77.4*			*34-129*	*%REC*	*1*	*20-Jul-2019 02:11*
Surr: 2-Fluorobiphenyl	*70.2*			*40-125*	*%REC*	*1*	*20-Jul-2019 02:11*
Surr: 2-Fluorophenol	*63.6*			*20-120*	*%REC*	*1*	*20-Jul-2019 02:11*
Surr: 4-Terphenyl-d14	*73.2*			*40-135*	*%REC*	*1*	*20-Jul-2019 02:11*
Surr: Nitrobenzene-d5	*69.0*			*41-120*	*%REC*	*1*	*20-Jul-2019 02:11*
Surr: Phenol-d6	*70.9*			*20-120*	*%REC*	*1*	*20-Jul-2019 02:11*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jul-2019		Analyst: JHD
Arsenic	**0.000569**	J	**0.000400**	**0.00200**	**mg/L**	1	23-Jul-2019 22:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW54C-20190716
Collection Date: 16-Jul-2019 11:15

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	18-Jul-2019 23:48
Benzene		U	0.00020	0.0010	mg/L	1	18-Jul-2019 23:48
Chlorobenzene		U	0.00030	0.0010	mg/L	1	18-Jul-2019 23:48
Ethylbenzene		U	0.00030	0.0010	mg/L	1	18-Jul-2019 23:48
Methylene chloride		U	0.0010	0.0020	mg/L	1	18-Jul-2019 23:48
Toluene		U	0.00020	0.0010	mg/L	1	18-Jul-2019 23:48
Xylenes, Total		U	0.00030	0.0010	mg/L	1	18-Jul-2019 23:48
Surr: 1,2-Dichloroethane-d4	*90.0*			*70-126*	*%REC*	*1*	*18-Jul-2019 23:48*
Surr: 4-Bromofluorobenzene	*96.0*			*81-113*	*%REC*	*1*	*18-Jul-2019 23:48*
Surr: Dibromofluoromethane	*96.3*			*77-123*	*%REC*	*1*	*18-Jul-2019 23:48*
Surr: Toluene-d8	*103*			*82-127*	*%REC*	*1*	*18-Jul-2019 23:48*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070864
Sample ID: WG-1620-MW54C-20190716
Lab ID:HS19070864-05
Collection Date: 16-Jul-2019 11:15
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	20-Jul-2019 02:31
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	20-Jul-2019 02:31
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	20-Jul-2019 02:31
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	20-Jul-2019 02:31
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	20-Jul-2019 02:31
2-Methylnaphthalene	**0.0021**		**0.000019**	**0.00010**	**mg/L**	1	20-Jul-2019 02:31
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	20-Jul-2019 02:31
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	20-Jul-2019 02:31
Acenaphthene	**0.041**		**0.00027**	**0.0010**	**mg/L**	10	22-Jul-2019 16:38
Acenaphthylene	**0.00037**		**0.000015**	**0.00010**	**mg/L**	1	20-Jul-2019 02:31
Anthracene	**0.0023**		**0.000014**	**0.00010**	**mg/L**	1	20-Jul-2019 02:31
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	20-Jul-2019 02:31
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	20-Jul-2019 02:31
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	20-Jul-2019 02:31
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	20-Jul-2019 02:31
Chrysene	U		0.000021	0.00010	mg/L	1	20-Jul-2019 02:31
Dibenzofuran	**0.032**		**0.00020**	**0.0010**	**mg/L**	10	22-Jul-2019 16:38
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	20-Jul-2019 02:31
Fluoranthene	**0.0033**		**0.000010**	**0.00010**	**mg/L**	1	20-Jul-2019 02:31
Fluorene	**0.018**		**0.00030**	**0.0010**	**mg/L**	10	22-Jul-2019 16:38
Naphthalene	**0.032**		**0.00020**	**0.0010**	**mg/L**	10	22-Jul-2019 16:38
Nitrobenzene	U		0.000024	0.00020	mg/L	1	20-Jul-2019 02:31
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	20-Jul-2019 02:31
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	20-Jul-2019 02:31
Phenanthrene	**0.0065**		**0.000021**	**0.00010**	**mg/L**	1	20-Jul-2019 02:31
Phenol	**0.00044**		**0.000035**	**0.00020**	**mg/L**	1	20-Jul-2019 02:31
Pyrene	**0.0016**		**0.000019**	**0.00010**	**mg/L**	1	20-Jul-2019 02:31
Surr: 2,4,6-Tribromophenol	*81.1*			*34-129*	*%REC*	*1*	*20-Jul-2019 02:31*
Surr: 2,4,6-Tribromophenol	*95.1*			*34-129*	*%REC*	*10*	*22-Jul-2019 16:38*
Surr: 2-Fluorobiphenyl	*79.3*			*40-125*	*%REC*	*10*	*22-Jul-2019 16:38*
Surr: 2-Fluorobiphenyl	*58.3*			*40-125*	*%REC*	*1*	*20-Jul-2019 02:31*
Surr: 2-Fluorophenol	*58.0*			*20-120*	*%REC*	*1*	*20-Jul-2019 02:31*
Surr: 2-Fluorophenol	*69.2*			*20-120*	*%REC*	*10*	*22-Jul-2019 16:38*
Surr: 4-Terphenyl-d14	*93.8*			*40-135*	*%REC*	*10*	*22-Jul-2019 16:38*
Surr: 4-Terphenyl-d14	*67.9*			*40-135*	*%REC*	*1*	*20-Jul-2019 02:31*
Surr: Nitrobenzene-d5	*57.8*			*41-120*	*%REC*	*1*	*20-Jul-2019 02:31*
Surr: Nitrobenzene-d5	*86.8*			*41-120*	*%REC*	*10*	*22-Jul-2019 16:38*
Surr: Phenol-d6	*64.3*			*20-120*	*%REC*	*10*	*22-Jul-2019 16:38*
Surr: Phenol-d6	*62.3*			*20-120*	*%REC*	*1*	*20-Jul-2019 02:31*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW54C-20190716
Collection Date: 16-Jul-2019 11:15

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 23-Jul-2019		Analyst: JHD
Arsenic	**0.00103**	J	**0.000400**	**0.00200**	**mg/L**	1	23-Jul-2019 22:42

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW25C-20190716
Collection Date: 16-Jul-2019 12:15

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	18-Jul-2019 20:30
Benzene	**0.0013**		**0.00020**	**0.0010**	**mg/L**	1	18-Jul-2019 20:30
Chlorobenzene	U		0.00030	0.0010	mg/L	1	18-Jul-2019 20:30
Ethylbenzene	**0.035**		**0.00030**	**0.0010**	**mg/L**	1	18-Jul-2019 20:30
Methylene chloride	U		0.0010	0.0020	mg/L	1	18-Jul-2019 20:30
Toluene	**0.011**		**0.00020**	**0.0010**	**mg/L**	1	18-Jul-2019 20:30
Vinyl chloride	U		0.00020	0.0010	mg/L	1	18-Jul-2019 20:30
Xylenes, Total	**0.25**		**0.00030**	**0.0010**	**mg/L**	1	18-Jul-2019 20:30
Surr: 1,2-Dichloroethane-d4	*87.8*			*70-126*	*%REC*	*1*	*18-Jul-2019 20:30*
Surr: 4-Bromofluorobenzene	*97.5*			*81-113*	*%REC*	*1*	*18-Jul-2019 20:30*
Surr: Dibromofluoromethane	*96.7*			*77-123*	*%REC*	*1*	*18-Jul-2019 20:30*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*18-Jul-2019 20:30*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW25C-20190716
Collection Date: 16-Jul-2019 12:15

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	22-Jul-2019 14:58
2,4-Dimethylphenol	**0.0075**		**0.00040**	**0.0020**	**mg/L**	10	22-Jul-2019 14:58
2,4-Dinitrotoluene	U		0.00058	0.0020	mg/L	10	22-Jul-2019 14:58
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	22-Jul-2019 14:58
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	22-Jul-2019 14:58
2-Methylnaphthalene	**0.54**		**0.0019**	**0.010**	**mg/L**	100	22-Jul-2019 15:18
4,6-Dinitro-2-methylphenol	U		0.00020	0.0020	mg/L	10	22-Jul-2019 14:58
4-Nitrophenol	U		0.00047	0.010	mg/L	10	22-Jul-2019 14:58
Acenaphthene	**0.20**		**0.0027**	**0.010**	**mg/L**	100	22-Jul-2019 15:18
Acenaphthylene	**0.0020**		**0.00015**	**0.0010**	**mg/L**	10	22-Jul-2019 14:58
Anthracene	**0.016**		**0.00014**	**0.0010**	**mg/L**	10	22-Jul-2019 14:58
Benz(a)anthracene	**0.0013**		**0.00050**	**0.0010**	**mg/L**	10	22-Jul-2019 14:58
Benzo(a)pyrene	**0.00037**	J	**0.00020**	**0.0010**	**mg/L**	10	22-Jul-2019 14:58
Bis(2-chloroethoxy)methane	U		0.00030	0.0020	mg/L	10	22-Jul-2019 14:58
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	22-Jul-2019 14:58
Chrysene	**0.0014**		**0.00021**	**0.0010**	**mg/L**	10	22-Jul-2019 14:58
Dibenzofuran	**0.19**		**0.0020**	**0.010**	**mg/L**	100	22-Jul-2019 15:18
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	22-Jul-2019 14:58
Fluoranthene	**0.014**		**0.00010**	**0.0010**	**mg/L**	10	22-Jul-2019 14:58
Fluorene	**0.081**		**0.00030**	**0.0010**	**mg/L**	10	22-Jul-2019 14:58
Naphthalene	**4.2**		**0.020**	**0.10**	**mg/L**	1000	22-Jul-2019 15:38
Nitrobenzene	U		0.00024	0.0020	mg/L	10	22-Jul-2019 14:58
N-Nitrosodiphenylamine	U		0.00025	0.0020	mg/L	10	22-Jul-2019 14:58
Pentachlorophenol	U		0.00079	0.0020	mg/L	10	22-Jul-2019 14:58
Phenanthrene	**0.12**		**0.0021**	**0.010**	**mg/L**	100	22-Jul-2019 15:18
Phenol	U		0.00035	0.0020	mg/L	10	22-Jul-2019 14:58
Pyrene	**0.0085**		**0.00019**	**0.0010**	**mg/L**	10	22-Jul-2019 14:58
Surr: 2,4,6-Tribromophenol	*119*			*34-129*	*%REC*	*10*	*22-Jul-2019 14:58*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*22-Jul-2019 15:18*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*1000*	*22-Jul-2019 15:38*
Surr: 2-Fluorobiphenyl	*78.7*			*40-125*	*%REC*	*10*	*22-Jul-2019 14:58*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*22-Jul-2019 15:18*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*1000*	*22-Jul-2019 15:38*
Surr: 2-Fluorophenol	*74.1*			*20-120*	*%REC*	*10*	*22-Jul-2019 14:58*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*22-Jul-2019 15:18*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*1000*	*22-Jul-2019 15:38*
Surr: 4-Terphenyl-d14	*96.6*			*40-135*	*%REC*	*10*	*22-Jul-2019 14:58*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*22-Jul-2019 15:18*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*1000*	*22-Jul-2019 15:38*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW25C-20190716
Collection Date: 16-Jul-2019 12:15

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jul-2019		Analyst: GEY
Surr: Nitrobenzene-d5	*73.3*			*41-120*	*%REC*	*10*	*22-Jul-2019 14:58*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*22-Jul-2019 15:18*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*1000*	*22-Jul-2019 15:38*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*1000*	*22-Jul-2019 15:38*
Surr: Phenol-d6	*84.5*			*20-120*	*%REC*	*10*	*22-Jul-2019 14:58*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*22-Jul-2019 15:18*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jul-2019		Analyst: JHD
Arsenic	**0.00487**		**0.000400**	**0.00200**	**mg/L**	1	23-Jul-2019 22:44

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW25A-20190716
Collection Date: 16-Jul-2019 13:10

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	19-Jul-2019 03:28
Benzene		U	0.00020	0.0010	mg/L	1	19-Jul-2019 03:28
Chlorobenzene		U	0.00030	0.0010	mg/L	1	19-Jul-2019 03:28
Ethylbenzene		U	0.00030	0.0010	mg/L	1	19-Jul-2019 03:28
Methylene chloride		U	0.0010	0.0020	mg/L	1	19-Jul-2019 03:28
Toluene		U	0.00020	0.0010	mg/L	1	19-Jul-2019 03:28
Vinyl chloride		U	0.00020	0.0010	mg/L	1	19-Jul-2019 03:28
Xylenes, Total		U	0.00030	0.0010	mg/L	1	19-Jul-2019 03:28
Surr: 1,2-Dichloroethane-d4	*89.1*			*70-126*	*%REC*	*1*	*19-Jul-2019 03:28*
Surr: 4-Bromofluorobenzene	*94.1*			*81-113*	*%REC*	*1*	*19-Jul-2019 03:28*
Surr: Dibromofluoromethane	*98.5*			*77-123*	*%REC*	*1*	*19-Jul-2019 03:28*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*19-Jul-2019 03:28*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070864
Sample ID: WG-1620-MW25A-20190716
Lab ID:HS19070864-07
Collection Date: 16-Jul-2019 13:10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jul-2019 12:00
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jul-2019 12:00
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jul-2019 12:00
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jul-2019 12:00
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jul-2019 12:00
2-Methylnaphthalene	**0.000057**	J	**0.000019**	**0.00010**	**mg/L**	1	22-Jul-2019 12:00
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jul-2019 12:00
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jul-2019 12:00
Acenaphthene	U		0.000027	0.00010	mg/L	1	22-Jul-2019 12:00
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jul-2019 12:00
Anthracene	U		0.000014	0.00010	mg/L	1	22-Jul-2019 12:00
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jul-2019 12:00
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jul-2019 12:00
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jul-2019 12:00
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	22-Jul-2019 12:00
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 12:00
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jul-2019 12:00
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jul-2019 12:00
Fluoranthene	U		0.000010	0.00010	mg/L	1	22-Jul-2019 12:00
Fluorene	U		0.000030	0.00010	mg/L	1	22-Jul-2019 12:00
Naphthalene	**0.00023**		**0.000020**	**0.00010**	**mg/L**	1	22-Jul-2019 12:00
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jul-2019 12:00
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jul-2019 12:00
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jul-2019 12:00
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 12:00
Phenol	U		0.000035	0.00020	mg/L	1	22-Jul-2019 12:00
Pyrene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 12:00
Surr: 2,4,6-Tribromophenol	*92.6*			*34-129*	*%REC*	*1*	*22-Jul-2019 12:00*
Surr: 2-Fluorobiphenyl	*69.5*			*40-125*	*%REC*	*1*	*22-Jul-2019 12:00*
Surr: 2-Fluorophenol	*68.3*			*20-120*	*%REC*	*1*	*22-Jul-2019 12:00*
Surr: 4-Terphenyl-d14	*82.4*			*40-135*	*%REC*	*1*	*22-Jul-2019 12:00*
Surr: Nitrobenzene-d5	*74.6*			*41-120*	*%REC*	*1*	*22-Jul-2019 12:00*
Surr: Phenol-d6	*68.8*			*20-120*	*%REC*	*1*	*22-Jul-2019 12:00*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jul-2019		Analyst: JHD
Arsenic	**0.00285**		**0.000400**	**0.00200**	**mg/L**	1	24-Jul-2019 15:44

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW36B-20190716
Collection Date: 16-Jul-2019 14:20

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	19-Jul-2019 00:37
Benzene		U	0.00020	0.0010	mg/L	1	19-Jul-2019 00:37
Chlorobenzene		U	0.00030	0.0010	mg/L	1	19-Jul-2019 00:37
Ethylbenzene		U	0.00030	0.0010	mg/L	1	19-Jul-2019 00:37
Methylene chloride		U	0.0010	0.0020	mg/L	1	19-Jul-2019 00:37
Toluene		U	0.00020	0.0010	mg/L	1	19-Jul-2019 00:37
Vinyl chloride		U	0.00020	0.0010	mg/L	1	19-Jul-2019 00:37
Xylenes, Total		U	0.00030	0.0010	mg/L	1	19-Jul-2019 00:37
Surr: 1,2-Dichloroethane-d4	*87.9*			*70-126*	*%REC*	*1*	*19-Jul-2019 00:37*
Surr: 4-Bromofluorobenzene	*96.2*			*81-113*	*%REC*	*1*	*19-Jul-2019 00:37*
Surr: Dibromofluoromethane	*96.5*			*77-123*	*%REC*	*1*	*19-Jul-2019 00:37*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*19-Jul-2019 00:37*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW36B-20190716
Collection Date: 16-Jul-2019 14:20

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jul-2019 12:20
2,4-Dimethylphenol	**0.000078**	J	**0.000040**	**0.00020**	**mg/L**	1	22-Jul-2019 12:20
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jul-2019 12:20
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jul-2019 12:20
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jul-2019 12:20
2-Methylnaphthalene	**0.00058**		**0.000019**	**0.00010**	**mg/L**	1	22-Jul-2019 12:20
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jul-2019 12:20
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jul-2019 12:20
Acenaphthene	**0.00014**		**0.000027**	**0.00010**	**mg/L**	1	22-Jul-2019 12:20
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jul-2019 12:20
Anthracene	U		0.000014	0.00010	mg/L	1	22-Jul-2019 12:20
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jul-2019 12:20
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jul-2019 12:20
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jul-2019 12:20
Bis(2-ethylhexyl)phthalate	**0.000088**	J	**0.000037**	**0.00020**	**mg/L**	1	22-Jul-2019 12:20
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 12:20
Dibenzofuran	**0.000087**	J	**0.000020**	**0.00010**	**mg/L**	1	22-Jul-2019 12:20
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jul-2019 12:20
Fluoranthene	**0.000017**	J	**0.000010**	**0.00010**	**mg/L**	1	22-Jul-2019 12:20
Fluorene	**0.000047**	J	**0.000030**	**0.00010**	**mg/L**	1	22-Jul-2019 12:20
Naphthalene	**0.0060**		**0.000020**	**0.00010**	**mg/L**	1	22-Jul-2019 12:20
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jul-2019 12:20
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jul-2019 12:20
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jul-2019 12:20
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 12:20
Phenol	**0.00017**	J	**0.000035**	**0.00020**	**mg/L**	1	22-Jul-2019 12:20
Pyrene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 12:20
Surr: 2,4,6-Tribromophenol	*98.3*			*34-129*	*%REC*	*1*	*22-Jul-2019 12:20*
Surr: 2-Fluorobiphenyl	*72.1*			*40-125*	*%REC*	*1*	*22-Jul-2019 12:20*
Surr: 2-Fluorophenol	*74.0*			*20-120*	*%REC*	*1*	*22-Jul-2019 12:20*
Surr: 4-Terphenyl-d14	*82.4*			*40-135*	*%REC*	*1*	*22-Jul-2019 12:20*
Surr: Nitrobenzene-d5	*78.5*			*41-120*	*%REC*	*1*	*22-Jul-2019 12:20*
Surr: Phenol-d6	*75.7*			*20-120*	*%REC*	*1*	*22-Jul-2019 12:20*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jul-2019		Analyst: JHD
Arsenic	**0.00127**	J	**0.000400**	**0.00200**	**mg/L**	1	24-Jul-2019 15:47

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070864
Sample ID: WG-1620-MW36A-20190716
Lab ID:HS19070864-09
Collection Date: 16-Jul-2019 15:20
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	19-Jul-2019 03:53
Benzene		U	0.00020	0.0010	mg/L	1	19-Jul-2019 03:53
Chlorobenzene		U	0.00030	0.0010	mg/L	1	19-Jul-2019 03:53
Ethylbenzene		U	0.00030	0.0010	mg/L	1	19-Jul-2019 03:53
Methylene chloride		U	0.0010	0.0020	mg/L	1	19-Jul-2019 03:53
Toluene		U	0.00020	0.0010	mg/L	1	19-Jul-2019 03:53
Vinyl chloride		U	0.00020	0.0010	mg/L	1	19-Jul-2019 03:53
Xylenes, Total		U	0.00030	0.0010	mg/L	1	19-Jul-2019 03:53
Surr: 1,2-Dichloroethane-d4	*87.0*			*70-126*	*%REC*	*1*	*19-Jul-2019 03:53*
Surr: 4-Bromofluorobenzene	*96.0*			*81-113*	*%REC*	*1*	*19-Jul-2019 03:53*
Surr: Dibromofluoromethane	*97.3*			*77-123*	*%REC*	*1*	*19-Jul-2019 03:53*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*19-Jul-2019 03:53*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW36A-20190716
Collection Date: 16-Jul-2019 15:20

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jul-2019 15:58
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jul-2019 15:58
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jul-2019 15:58
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jul-2019 15:58
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jul-2019 15:58
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 15:58
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jul-2019 15:58
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jul-2019 15:58
Acenaphthene	U		0.000027	0.00010	mg/L	1	22-Jul-2019 15:58
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jul-2019 15:58
Anthracene	U		0.000014	0.00010	mg/L	1	22-Jul-2019 15:58
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jul-2019 15:58
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jul-2019 15:58
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jul-2019 15:58
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	22-Jul-2019 15:58
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 15:58
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jul-2019 15:58
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jul-2019 15:58
Fluoranthene	U		0.000010	0.00010	mg/L	1	22-Jul-2019 15:58
Fluorene	U		0.000030	0.00010	mg/L	1	22-Jul-2019 15:58
Naphthalene	**0.00015**		**0.000020**	**0.00010**	**mg/L**	1	22-Jul-2019 15:58
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jul-2019 15:58
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jul-2019 15:58
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jul-2019 15:58
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 15:58
Phenol	**0.00014**	J	**0.000035**	**0.00020**	**mg/L**	1	22-Jul-2019 15:58
Pyrene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 15:58
Surr: 2,4,6-Tribromophenol	*84.9*			*34-129*	*%REC*	*1*	*22-Jul-2019 15:58*
Surr: 2-Fluorobiphenyl	*69.4*			*40-125*	*%REC*	*1*	*22-Jul-2019 15:58*
Surr: 2-Fluorophenol	*63.5*			*20-120*	*%REC*	*1*	*22-Jul-2019 15:58*
Surr: 4-Terphenyl-d14	*82.6*			*40-135*	*%REC*	*1*	*22-Jul-2019 15:58*
Surr: Nitrobenzene-d5	*75.0*			*41-120*	*%REC*	*1*	*22-Jul-2019 15:58*
Surr: Phenol-d6	*63.9*			*20-120*	*%REC*	*1*	*22-Jul-2019 15:58*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jul-2019		Analyst: JHD
Arsenic	**0.00244**		**0.000400**	**0.00200**	**mg/L**	1	24-Jul-2019 15:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW28C-20190716
Collection Date: 16-Jul-2019 16:15

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	18-Jul-2019 13:34
Benzene		U	0.00020	0.0010	mg/L	1	18-Jul-2019 13:34
Chlorobenzene		U	0.00030	0.0010	mg/L	1	18-Jul-2019 13:34
Ethylbenzene		U	0.00030	0.0010	mg/L	1	18-Jul-2019 13:34
Methylene chloride		U	0.0010	0.0020	mg/L	1	18-Jul-2019 13:34
Toluene		U	0.00020	0.0010	mg/L	1	18-Jul-2019 13:34
Xylenes, Total		U	0.00030	0.0010	mg/L	1	18-Jul-2019 13:34
Surr: 1,2-Dichloroethane-d4	*88.5*			*70-126*	*%REC*	*1*	*18-Jul-2019 13:34*
Surr: 4-Bromofluorobenzene	*96.9*			*81-113*	*%REC*	*1*	*18-Jul-2019 13:34*
Surr: Dibromofluoromethane	*99.2*			*77-123*	*%REC*	*1*	*18-Jul-2019 13:34*
Surr: Toluene-d8	*99.0*			*82-127*	*%REC*	*1*	*18-Jul-2019 13:34*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW28C-20190716
Collection Date: 16-Jul-2019 16:15

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jul-2019 16:18
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jul-2019 16:18
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jul-2019 16:18
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jul-2019 16:18
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jul-2019 16:18
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 16:18
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jul-2019 16:18
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jul-2019 16:18
Acenaphthene	U		0.000027	0.00010	mg/L	1	22-Jul-2019 16:18
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jul-2019 16:18
Anthracene	U		0.000014	0.00010	mg/L	1	22-Jul-2019 16:18
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jul-2019 16:18
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jul-2019 16:18
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jul-2019 16:18
Bis(2-ethylhexyl)phthalate	**0.00013**	J	**0.000037**	**0.00020**	**mg/L**	1	22-Jul-2019 16:18
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 16:18
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jul-2019 16:18
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jul-2019 16:18
Fluoranthene	**0.000015**	J	**0.000010**	**0.00010**	**mg/L**	1	22-Jul-2019 16:18
Fluorene	U		0.000030	0.00010	mg/L	1	22-Jul-2019 16:18
Naphthalene	**0.000095**	J	**0.000020**	**0.00010**	**mg/L**	1	22-Jul-2019 16:18
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jul-2019 16:18
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jul-2019 16:18
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jul-2019 16:18
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 16:18
Phenol	**0.0025**		**0.000035**	**0.00020**	**mg/L**	1	22-Jul-2019 16:18
Pyrene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 16:18
Surr: 2,4,6-Tribromophenol	*109*			*34-129*	*%REC*	*1*	*22-Jul-2019 16:18*
Surr: 2-Fluorobiphenyl	*75.7*			*40-125*	*%REC*	*1*	*22-Jul-2019 16:18*
Surr: 2-Fluorophenol	*70.7*			*20-120*	*%REC*	*1*	*22-Jul-2019 16:18*
Surr: 4-Terphenyl-d14	*89.0*			*40-135*	*%REC*	*1*	*22-Jul-2019 16:18*
Surr: Nitrobenzene-d5	*79.5*			*41-120*	*%REC*	*1*	*22-Jul-2019 16:18*
Surr: Phenol-d6	*69.8*			*20-120*	*%REC*	*1*	*22-Jul-2019 16:18*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jul-2019		Analyst: JHD
Arsenic	**0.000456**	J	**0.000400**	**0.00200**	**mg/L**	1	24-Jul-2019 15:51

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW28A-20190716
Collection Date: 16-Jul-2019 17:00

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	19-Jul-2019 04:17
Benzene		U	0.00020	0.0010	mg/L	1	19-Jul-2019 04:17
Chlorobenzene		U	0.00030	0.0010	mg/L	1	19-Jul-2019 04:17
Ethylbenzene		U	0.00030	0.0010	mg/L	1	19-Jul-2019 04:17
Methylene chloride		U	0.0010	0.0020	mg/L	1	19-Jul-2019 04:17
Toluene		U	0.00020	0.0010	mg/L	1	19-Jul-2019 04:17
Xylenes, Total		U	0.00030	0.0010	mg/L	1	19-Jul-2019 04:17
Surr: 1,2-Dichloroethane-d4	*88.6*			*70-126*	*%REC*	*1*	*19-Jul-2019 04:17*
Surr: 4-Bromofluorobenzene	*95.3*			*81-113*	*%REC*	*1*	*19-Jul-2019 04:17*
Surr: Dibromofluoromethane	*98.5*			*77-123*	*%REC*	*1*	*19-Jul-2019 04:17*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*19-Jul-2019 04:17*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW28A-20190716
Collection Date: 16-Jul-2019 17:00

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jul-2019 18:37
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jul-2019 18:37
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jul-2019 18:37
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jul-2019 18:37
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jul-2019 18:37
2-Methylnaphthalene	**0.00020**		**0.000019**	**0.00010**	**mg/L**	1	22-Jul-2019 18:37
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jul-2019 18:37
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jul-2019 18:37
Acenaphthene	**0.000082**	J	**0.000027**	**0.00010**	**mg/L**	1	22-Jul-2019 18:37
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jul-2019 18:37
Anthracene	**0.000036**	J	**0.000014**	**0.00010**	**mg/L**	1	22-Jul-2019 18:37
Benz(a)anthracene	**0.000055**	J	**0.000050**	**0.00010**	**mg/L**	1	22-Jul-2019 18:37
Benzo(a)pyrene	**0.000095**	J	**0.000020**	**0.00010**	**mg/L**	1	22-Jul-2019 18:37
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jul-2019 18:37
Bis(2-ethylhexyl)phthalate	**0.00023**		**0.000037**	**0.00020**	**mg/L**	1	22-Jul-2019 18:37
Chrysene	**0.00010**		**0.000021**	**0.00010**	**mg/L**	1	22-Jul-2019 18:37
Dibenzofuran	**0.000084**	J	**0.000020**	**0.00010**	**mg/L**	1	22-Jul-2019 18:37
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jul-2019 18:37
Fluoranthene	**0.00012**		**0.000010**	**0.00010**	**mg/L**	1	22-Jul-2019 18:37
Fluorene	**0.000053**	J	**0.000030**	**0.00010**	**mg/L**	1	22-Jul-2019 18:37
Naphthalene	**0.0013**		**0.000020**	**0.00010**	**mg/L**	1	22-Jul-2019 18:37
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jul-2019 18:37
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jul-2019 18:37
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jul-2019 18:37
Phenanthrene	**0.000049**	J	**0.000021**	**0.00010**	**mg/L**	1	22-Jul-2019 18:37
Phenol	**0.000073**	J	**0.000035**	**0.00020**	**mg/L**	1	22-Jul-2019 18:37
Pyrene	**0.00016**		**0.000019**	**0.00010**	**mg/L**	1	22-Jul-2019 18:37
Surr: 2,4,6-Tribromophenol	*111*			*34-129*	*%REC*	*1*	*22-Jul-2019 18:37*
Surr: 2-Fluorobiphenyl	*76.9*			*40-125*	*%REC*	*1*	*22-Jul-2019 18:37*
Surr: 2-Fluorophenol	*65.8*			*20-120*	*%REC*	*1*	*22-Jul-2019 18:37*
Surr: 4-Terphenyl-d14	*82.4*			*40-135*	*%REC*	*1*	*22-Jul-2019 18:37*
Surr: Nitrobenzene-d5	*72.0*			*41-120*	*%REC*	*1*	*22-Jul-2019 18:37*
Surr: Phenol-d6	*74.5*			*20-120*	*%REC*	*1*	*22-Jul-2019 18:37*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jul-2019		Analyst: JHD
Arsenic	**0.00920**		**0.000400**	**0.00200**	**mg/L**	1	24-Jul-2019 16:19

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW63B-20190716
Collection Date: 16-Jul-2019 17:55

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	19-Jul-2019 08:00
Benzene	**0.11**		**0.00020**	**0.0010**	**mg/L**	1	19-Jul-2019 08:00
Chlorobenzene	U		0.00030	0.0010	mg/L	1	19-Jul-2019 08:00
Ethylbenzene	**0.14**		**0.00030**	**0.0010**	**mg/L**	1	19-Jul-2019 08:00
Methylene chloride	U		0.0010	0.0020	mg/L	1	19-Jul-2019 08:00
Toluene	**0.00071**	J	**0.00020**	**0.0010**	**mg/L**	1	19-Jul-2019 08:00
Xylenes, Total	**0.041**		**0.00030**	**0.0010**	**mg/L**	1	19-Jul-2019 08:00
Surr: 1,2-Dichloroethane-d4	*85.8*			*70-126*	*%REC*	*1*	*19-Jul-2019 08:00*
Surr: 4-Bromofluorobenzene	*96.9*			*81-113*	*%REC*	*1*	*19-Jul-2019 08:00*
Surr: Dibromofluoromethane	*97.0*			*77-123*	*%REC*	*1*	*19-Jul-2019 08:00*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*19-Jul-2019 08:00*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW63B-20190716
Collection Date: 16-Jul-2019 17:55

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jul-2019 13:59
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jul-2019 13:59
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jul-2019 13:59
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jul-2019 13:59
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jul-2019 13:59
2-Methylnaphthalene	**0.037**		**0.00019**	**0.0010**	**mg/L**	10	22-Jul-2019 16:58
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jul-2019 13:59
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jul-2019 13:59
Acenaphthene	**0.012**		**0.00027**	**0.0010**	**mg/L**	10	22-Jul-2019 16:58
Acenaphthylene	**0.00016**		**0.000015**	**0.00010**	**mg/L**	1	22-Jul-2019 13:59
Anthracene	**0.00034**		**0.000014**	**0.00010**	**mg/L**	1	22-Jul-2019 13:59
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jul-2019 13:59
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jul-2019 13:59
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jul-2019 13:59
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	22-Jul-2019 13:59
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 13:59
Dibenzofuran	**0.011**		**0.00020**	**0.0010**	**mg/L**	10	22-Jul-2019 16:58
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jul-2019 13:59
Fluoranthene	U		0.000010	0.00010	mg/L	1	22-Jul-2019 13:59
Fluorene	**0.0037**		**0.000030**	**0.00010**	**mg/L**	1	22-Jul-2019 13:59
Naphthalene	**1.5**		**0.020**	**0.10**	**mg/L**	1000	22-Jul-2019 17:57
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jul-2019 13:59
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jul-2019 13:59
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jul-2019 13:59
Phenanthrene	**0.0013**		**0.000021**	**0.00010**	**mg/L**	1	22-Jul-2019 13:59
Phenol	U		0.000035	0.00020	mg/L	1	22-Jul-2019 13:59
Pyrene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 13:59
Surr: 2,4,6-Tribromophenol	*107*			*34-129*	*%REC*	*1*	*22-Jul-2019 13:59*
Surr: 2,4,6-Tribromophenol	*106*			*34-129*	*%REC*	*10*	*22-Jul-2019 16:58*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*1000*	*22-Jul-2019 17:57*
Surr: 2-Fluorobiphenyl	*71.6*			*40-125*	*%REC*	*10*	*22-Jul-2019 16:58*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*1000*	*22-Jul-2019 17:57*
Surr: 2-Fluorobiphenyl	*69.3*			*40-125*	*%REC*	*1*	*22-Jul-2019 13:59*
Surr: 2-Fluorophenol	*80.9*			*20-120*	*%REC*	*1*	*22-Jul-2019 13:59*
Surr: 2-Fluorophenol	*83.3*			*20-120*	*%REC*	*10*	*22-Jul-2019 16:58*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*1000*	*22-Jul-2019 17:57*
Surr: 4-Terphenyl-d14	*84.7*			*40-135*	*%REC*	*1*	*22-Jul-2019 13:59*
Surr: 4-Terphenyl-d14	*86.7*			*40-135*	*%REC*	*10*	*22-Jul-2019 16:58*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*1000*	*22-Jul-2019 17:57*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW63B-20190716
Collection Date: 16-Jul-2019 17:55

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jul-2019		Analyst: GEY
Surr: Nitrobenzene-d5	*85.7*			*41-120*	*%REC*	*1*	*22-Jul-2019 13:59*
Surr: Nitrobenzene-d5	*75.0*			*41-120*	*%REC*	*10*	*22-Jul-2019 16:58*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*1000*	*22-Jul-2019 17:57*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*1000*	*22-Jul-2019 17:57*
Surr: Phenol-d6	*68.4*			*20-120*	*%REC*	*1*	*22-Jul-2019 13:59*
Surr: Phenol-d6	*66.8*			*20-120*	*%REC*	*10*	*22-Jul-2019 16:58*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jul-2019		Analyst: JHD
Arsenic	**0.00156**	J	**0.000400**	**0.00200**	**mg/L**	1	24-Jul-2019 16:21

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-TB04-20190716
Collection Date: 16-Jul-2019 00:00

ANALYTICAL REPORT
WorkOrder:HS19070864
Lab ID:HS19070864-13
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	19-Jul-2019 00:12
Benzene		U	0.00020	0.0010	mg/L	1	19-Jul-2019 00:12
Chlorobenzene		U	0.00030	0.0010	mg/L	1	19-Jul-2019 00:12
Ethylbenzene		U	0.00030	0.0010	mg/L	1	19-Jul-2019 00:12
Methylene chloride		U	0.0010	0.0020	mg/L	1	19-Jul-2019 00:12
Toluene		U	0.00020	0.0010	mg/L	1	19-Jul-2019 00:12
Vinyl chloride		U	0.00020	0.0010	mg/L	1	19-Jul-2019 00:12
Xylenes, Total		U	0.00030	0.0010	mg/L	1	19-Jul-2019 00:12
Surr: 1,2-Dichloroethane-d4	*87.8*			*70-126*	*%REC*	*1*	*19-Jul-2019 00:12*
Surr: 4-Bromofluorobenzene	*94.2*			*81-113*	*%REC*	*1*	*19-Jul-2019 00:12*
Surr: Dibromofluoromethane	*98.9*			*77-123*	*%REC*	*1*	*19-Jul-2019 00:12*
Surr: Toluene-d8	*99.0*			*82-127*	*%REC*	*1*	*19-Jul-2019 00:12*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070864

Batch ID: 143194 **Method:** LOW-LEVEL SEMIVOLATILES BY 8270D **Prep:** 3510_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19070864-01	1	1000	1 (mL)	0.001
HS19070864-02	1	1000	1 (mL)	0.001
HS19070864-03	1	1000	1 (mL)	0.001
HS19070864-04	1	1000	1 (mL)	0.001
HS19070864-05	1	1000	1 (mL)	0.001
HS19070864-06	1	1000	1 (mL)	0.001
HS19070864-07	1	1000	1 (mL)	0.001
HS19070864-08	1	1000	1 (mL)	0.001
HS19070864-09	1	1000	1 (mL)	0.001
HS19070864-10	1	1000	1 (mL)	0.001
HS19070864-11	1	1000	1 (mL)	0.001
HS19070864-12	1	1000	1 (mL)	0.001

Batch ID: 143304 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19070864-01	1	10	10 (mL)	1
HS19070864-02	1	10	10 (mL)	1
HS19070864-03	1	10	10 (mL)	1
HS19070864-04	1	10	10 (mL)	1
HS19070864-05	1	10	10 (mL)	1
HS19070864-06	1	10	10 (mL)	1

Batch ID: 143325 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19070864-07	1	10	10 (mL)	1
HS19070864-08	1	10	10 (mL)	1
HS19070864-09	1	10	10 (mL)	1
HS19070864-10	1	10	10 (mL)	1
HS19070864-11	1	10	10 (mL)	1
HS19070864-12	1	10	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070864

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143194 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS19070864-01	WG-1620-MW21C-20190716	16 Jul 2019 07:35		19 Jul 2019 11:41	20 Jul 2019 01:12	1
HS19070864-02	WG-1620-FD01-20190716	16 Jul 2019 07:35		19 Jul 2019 11:41	20 Jul 2019 01:32	1
HS19070864-03	WG-1620-MW62B-20190716	16 Jul 2019 08:25		19 Jul 2019 11:41	20 Jul 2019 01:51	1
HS19070864-04	WG-1620-MW53C-20190716	16 Jul 2019 10:15		19 Jul 2019 11:41	20 Jul 2019 02:11	1
HS19070864-05	WG-1620-MW54C-20190716	16 Jul 2019 11:15		19 Jul 2019 11:41	22 Jul 2019 16:38	10
HS19070864-05	WG-1620-MW54C-20190716	16 Jul 2019 11:15		19 Jul 2019 11:41	20 Jul 2019 02:31	1
HS19070864-06	WG-1620-MW25C-20190716	16 Jul 2019 12:15		19 Jul 2019 11:41	22 Jul 2019 15:38	1000
HS19070864-06	WG-1620-MW25C-20190716	16 Jul 2019 12:15		19 Jul 2019 11:41	22 Jul 2019 15:18	100
HS19070864-06	WG-1620-MW25C-20190716	16 Jul 2019 12:15		19 Jul 2019 11:41	22 Jul 2019 14:58	10
HS19070864-07	WG-1620-MW25A-20190716	16 Jul 2019 13:10		19 Jul 2019 11:41	22 Jul 2019 12:00	1
HS19070864-08	WG-1620-MW36B-20190716	16 Jul 2019 14:20		19 Jul 2019 11:41	22 Jul 2019 12:20	1
HS19070864-09	WG-1620-MW36A-20190716	16 Jul 2019 15:20		19 Jul 2019 11:41	22 Jul 2019 15:58	1
HS19070864-10	WG-1620-MW28C-20190716	16 Jul 2019 16:15		19 Jul 2019 11:41	22 Jul 2019 16:18	1
HS19070864-11	WG-1620-MW28A-20190716	16 Jul 2019 17:00		19 Jul 2019 11:41	22 Jul 2019 18:37	1
HS19070864-12	WG-1620-MW63B-20190716	16 Jul 2019 17:55		19 Jul 2019 11:41	22 Jul 2019 17:57	1000
HS19070864-12	WG-1620-MW63B-20190716	16 Jul 2019 17:55		19 Jul 2019 11:41	22 Jul 2019 16:58	10
HS19070864-12	WG-1620-MW63B-20190716	16 Jul 2019 17:55		19 Jul 2019 11:41	22 Jul 2019 13:59	1
Batch ID: 143304 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS19070864-01	WG-1620-MW21C-20190716	16 Jul 2019 07:35		23 Jul 2019 12:00	23 Jul 2019 22:28	1
HS19070864-02	WG-1620-FD01-20190716	16 Jul 2019 07:35		23 Jul 2019 12:00	23 Jul 2019 22:31	1
HS19070864-03	WG-1620-MW62B-20190716	16 Jul 2019 08:25		23 Jul 2019 12:00	23 Jul 2019 22:37	1
HS19070864-04	WG-1620-MW53C-20190716	16 Jul 2019 10:15		23 Jul 2019 12:00	23 Jul 2019 22:40	1
HS19070864-05	WG-1620-MW54C-20190716	16 Jul 2019 11:15		23 Jul 2019 12:00	23 Jul 2019 22:42	1
HS19070864-06	WG-1620-MW25C-20190716	16 Jul 2019 12:15		23 Jul 2019 12:00	23 Jul 2019 22:44	1
Batch ID: 143325 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS19070864-07	WG-1620-MW25A-20190716	16 Jul 2019 13:10		24 Jul 2019 09:30	24 Jul 2019 15:44	1
HS19070864-08	WG-1620-MW36B-20190716	16 Jul 2019 14:20		24 Jul 2019 09:30	24 Jul 2019 15:47	1
HS19070864-09	WG-1620-MW36A-20190716	16 Jul 2019 15:20		24 Jul 2019 09:30	24 Jul 2019 15:49	1
HS19070864-10	WG-1620-MW28C-20190716	16 Jul 2019 16:15		24 Jul 2019 09:30	24 Jul 2019 15:51	1
HS19070864-11	WG-1620-MW28A-20190716	16 Jul 2019 17:00		24 Jul 2019 09:30	24 Jul 2019 16:19	1
HS19070864-12	WG-1620-MW63B-20190716	16 Jul 2019 17:55		24 Jul 2019 09:30	24 Jul 2019 16:21	1
Batch ID: R342655 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS19070864-01	WG-1620-MW21C-20190716	16 Jul 2019 07:35			18 Jul 2019 14:48	1
HS19070864-04	WG-1620-MW53C-20190716	16 Jul 2019 10:15			18 Jul 2019 20:06	1
HS19070864-06	WG-1620-MW25C-20190716	16 Jul 2019 12:15			18 Jul 2019 20:30	1
HS19070864-10	WG-1620-MW28C-20190716	16 Jul 2019 16:15			18 Jul 2019 13:34	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070864

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: R342706 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS19070864-02	WG-1620-FD01-20190716	16 Jul 2019 07:35			19 Jul 2019 07:08	1
HS19070864-03	WG-1620-MW62B-20190716	16 Jul 2019 08:25			19 Jul 2019 04:42	1
HS19070864-05	WG-1620-MW54C-20190716	16 Jul 2019 11:15			18 Jul 2019 23:48	1
HS19070864-07	WG-1620-MW25A-20190716	16 Jul 2019 13:10			19 Jul 2019 03:28	1
HS19070864-08	WG-1620-MW36B-20190716	16 Jul 2019 14:20			19 Jul 2019 00:37	1
HS19070864-09	WG-1620-MW36A-20190716	16 Jul 2019 15:20			19 Jul 2019 03:53	1
HS19070864-11	WG-1620-MW28A-20190716	16 Jul 2019 17:00			19 Jul 2019 04:17	1
HS19070864-12	WG-1620-MW63B-20190716	16 Jul 2019 17:55			19 Jul 2019 08:00	1
HS19070864-13	WG-1620-TB04-20190716	16 Jul 2019 00:00			19 Jul 2019 00:12	1

WorkOrder: HS19070864
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000547	0.000400	0.00200

WorkOrder: HS19070864
InstrumentID: SV-7
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.00011	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.00010	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000096	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.00012	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.00011	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000049	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000013	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.00013	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000051	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000050	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000055	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000068	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000053	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.00012	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.000086	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000066	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000052	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.000099	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000053	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000052	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000061	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00013	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00012	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000085	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000055	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000094	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000061	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS19070864
InstrumentID: VOA2
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00067	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00056	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00059	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00051	0.00030	0.0010
A	Methylene chloride	75-09-2	0.00050	0.00054	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00056	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00046	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00052	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070864

QC BATCH REPORT

Batch ID: 143304 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-143304** Units: **mg/L** Analysis Date: **23-Jul-2019 21:27**
Client ID: Run ID: **ICPMS05_342915** SeqNo: **5177608** PrepDate: **23-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-143304** Units: **mg/L** Analysis Date: **23-Jul-2019 21:29**
Client ID: Run ID: **ICPMS05_342915** SeqNo: **5177609** PrepDate: **23-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04867	0.00200	0.05	0	97.3	80 - 120				

MS Sample ID: **HS19070566-06MS** Units: **mg/L** Analysis Date: **23-Jul-2019 21:36**
Client ID: Run ID: **ICPMS05_342915** SeqNo: **5177612** PrepDate: **23-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04953	0.00200	0.05	0.001142	96.8	80 - 120				

MSD Sample ID: **HS19070566-06MSD** Units: **mg/L** Analysis Date: **23-Jul-2019 21:38**
Client ID: Run ID: **ICPMS05_342915** SeqNo: **5177613** PrepDate: **23-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04774	0.00200	0.05	0.001142	93.2	80 - 120	0.04953	3.68	20	

SD Sample ID: **HS19070566-06SD** Units: **mg/L** Analysis Date: **23-Jul-2019 21:33**
Client ID: Run ID: **ICPMS05_342915** SeqNo: **5177611** PrepDate: **23-Jul-2019** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.001142	0	10	

The following samples were analyzed in this batch: HS19070864-01 HS19070864-02 HS19070864-03 HS19070864-04 HS19070864-05 HS19070864-06

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070864

QC BATCH REPORT

Batch ID: 143325 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-143325** Units: **mg/L** Analysis Date: **25-Jul-2019 12:47**
Client ID: Run ID: **ICPMS05_343031** SeqNo: **5180640** PrepDate: **24-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-143325** Units: **mg/L** Analysis Date: **25-Jul-2019 12:49**
Client ID: Run ID: **ICPMS05_343031** SeqNo: **5180641** PrepDate: **24-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04998	0.00200	0.05	0	100.0	80 - 120				

MS Sample ID: **HS19070864-10MS** Units: **mg/L** Analysis Date: **25-Jul-2019 13:01**
Client ID: **WG-1620-MW28C-20190716** Run ID: **ICPMS05_343031** SeqNo: **5180628** PrepDate: **24-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05185	0.00200	0.05	0.000456	103	80 - 120				

MSD Sample ID: **HS19070864-10MSD** Units: **mg/L** Analysis Date: **24-Jul-2019 15:58**
Client ID: **WG-1620-MW28C-20190716** Run ID: **ICPMS05_342951** SeqNo: **5179479** PrepDate: **24-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05134	0.00200	0.05	0.000456	102	80 - 120	0.05087	0.902	20	

PDS Sample ID: **HS19070864-10PDS** Units: **mg/L** Analysis Date: **24-Jul-2019 16:00**
Client ID: **WG-1620-MW28C-20190716** Run ID: **ICPMS05_342951** SeqNo: **5179480** PrepDate: **24-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1061	0.00200	0.1	0.000456	106	75 - 125				

SD Sample ID: **HS19070864-10SD** Units: **mg/L** Analysis Date: **24-Jul-2019 15:53**
Client ID: **WG-1620-MW28C-20190716** Run ID: **ICPMS05_342951** SeqNo: **5179477** PrepDate: **24-Jul-2019** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.000456	0	10	

The following samples were analyzed in this batch: HS19070864-07 HS19070864-08 HS19070864-09 HS19070864-10 HS19070864-11 HS19070864-12

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070864

QC BATCH REPORT

Batch ID: 143194 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-143194** Units: **ug/L** Analysis Date: **22-Jul-2019 11:00**
Client ID: Run ID: **SV-7_342875** SeqNo: **5176674** PrepDate: **19-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*4.914*	*0.20*	*5*	*0*	*98.3*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.077*	*0.20*	*5*	*0*	*81.5*	*40 - 125*				
Surr: 2-Fluorophenol	*4.22*	*0.20*	*5*	*0*	*84.4*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.338*	*0.20*	*5*	*0*	*86.8*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.575*	*0.20*	*5*	*0*	*91.5*	*41 - 120*				
Surr: Phenol-d6	*4.538*	*0.20*	*5*	*0*	*90.8*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070864

QC BATCH REPORT

Batch ID: 143194 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-143194** Units: **ug/L** Analysis Date: **22-Jul-2019 11:20**
Client ID: Run ID: **SV-7_342875** SeqNo: **5176675** PrepDate: **19-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.448	0.20	5	0	89.0	39 - 127				
2,4-Dimethylphenol	4.065	0.20	5	0	81.3	35 - 120				
2,4-Dinitrotoluene	5.282	0.20	5	0	106	50 - 122				
2,6-Dinitrotoluene	4.965	0.20	5	0	99.3	50 - 120				
2-Chloronaphthalene	4.463	0.20	5	0	89.3	50 - 120				
2-Methylnaphthalene	4.445	0.10	5	0	88.9	50 - 120				
4,6-Dinitro-2-methylphenol	4.939	0.20	5	0	98.8	25 - 121				
4-Nitrophenol	5.208	1.0	5	0	104	30 - 130				
Acenaphthene	4.419	0.10	5	0	88.4	45 - 120				
Acenaphthylene	4.131	0.10	5	0	82.6	47 - 120				
Anthracene	4.283	0.10	5	0	85.7	45 - 120				
Benz(a)anthracene	4.742	0.10	5	0	94.8	40 - 120				
Benzo(a)pyrene	5.119	0.10	5	0	102	45 - 120				
Bis(2-chloroethoxy)methane	4.08	0.20	5	0	81.6	45 - 120				
Bis(2-ethylhexyl)phthalate	4.229	0.20	5	0	84.6	40 - 139				
Chrysene	4.691	0.10	5	0	93.8	43 - 120				
Dibenzofuran	4.419	0.10	5	0	88.4	50 - 120				
Di-n-butyl phthalate	4.404	0.20	5	0	88.1	45 - 123				
Fluoranthene	4.651	0.10	5	0	93.0	45 - 125				
Fluorene	4.206	0.10	5	0	84.1	49 - 120				
Naphthalene	4.123	0.10	5	0	82.5	45 - 120				
Nitrobenzene	4.585	0.20	5	0	91.7	44 - 120				
N-Nitrosodiphenylamine	4.889	0.20	5	0	97.8	40 - 125				
Pentachlorophenol	4.714	0.20	5	0	94.3	19 - 121				
Phenanthrene	4.063	0.10	5	0	81.3	45 - 121				
Phenol	3.959	0.20	5	0	79.2	20 - 124				
Pyrene	4.472	0.10	5	0	89.4	40 - 130				
Surr: 2,4,6-Tribromophenol	*5.604*	*0.20*	*5*	*0*	*112*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.713*	*0.20*	*5*	*0*	*94.3*	*40 - 125*				
Surr: 2-Fluorophenol	*4.535*	*0.20*	*5*	*0*	*90.7*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.418*	*0.20*	*5*	*0*	*88.4*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.682*	*0.20*	*5*	*0*	*93.6*	*41 - 120*				
Surr: Phenol-d6	*4.612*	*0.20*	*5*	*0*	*92.2*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070864

QC BATCH REPORT

Batch ID: 143194 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MS Sample ID: **HS19070864-10MS** Units: **ug/L** Analysis Date: **22-Jul-2019 14:19**
Client ID: **WG-1620-MW28C-20190716** Run ID: **SV-7_342875** SeqNo: **5176679** PrepDate: **19-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.693	0.20	5	0	73.9	39 - 127				
2,4-Dimethylphenol	3.397	0.20	5	0	67.9	35 - 120				
2,4-Dinitrotoluene	4.804	0.20	5	0	96.1	50 - 122				
2,6-Dinitrotoluene	4.2	0.20	5	0	84.0	50 - 120				
2-Chloronaphthalene	3.834	0.20	5	0	76.7	50 - 120				
2-Methylnaphthalene	3.758	0.10	5	0	75.2	50 - 120				
4,6-Dinitro-2-methylphenol	4.56	0.20	5	0	91.2	25 - 121				
4-Nitrophenol	4.615	1.0	5	0	92.3	30 - 130				
Acenaphthene	3.72	0.10	5	0	74.4	45 - 120				
Acenaphthylene	3.54	0.10	5	0	70.8	47 - 120				
Anthracene	3.902	0.10	5	0	78.0	45 - 120				
Benz(a)anthracene	4.637	0.10	5	0	92.7	40 - 120				
Benzo(a)pyrene	5.199	0.10	5	0	104	45 - 120				
Bis(2-chloroethoxy)methane	3.411	0.20	5	0	68.2	45 - 120				
Bis(2-ethylhexyl)phthalate	4.294	0.20	5	0.1317	83.2	40 - 139				
Chrysene	4.71	0.10	5	0	94.2	43 - 120				
Dibenzofuran	3.788	0.10	5	0	75.8	50 - 120				
Di-n-butyl phthalate	4.444	0.20	5	0	88.9	45 - 123				
Fluoranthene	4.84	0.10	5	0.01464	96.5	45 - 125				
Fluorene	3.733	0.10	5	0	74.7	49 - 120				
Naphthalene	3.498	0.10	5	0.09505	68.1	45 - 120				
Nitrobenzene	4.018	0.20	5	0	80.4	44 - 120				
N-Nitrosodiphenylamine	4.429	0.20	5	0	88.6	40 - 125				
Pentachlorophenol	4.657	0.20	5	0	93.1	19 - 121				
Phenanthrene	3.943	0.10	5	0	78.9	45 - 121				
Phenol	4.038	0.20	5	2.478	31.2	20 - 124				
Pyrene	4.3	0.10	5	0.01185	85.8	40 - 130				
Surr: 2,4,6-Tribromophenol	*5.507*	*0.20*	*5*	*0*	*110*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*3.746*	*0.20*	*5*	*0*	*74.9*	*40 - 125*				
Surr: 2-Fluorophenol	*3.67*	*0.20*	*5*	*0*	*73.4*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.25*	*0.20*	*5*	*0*	*85.0*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.838*	*0.20*	*5*	*0*	*76.8*	*41 - 120*				
Surr: Phenol-d6	*3.934*	*0.20*	*5*	*0*	*78.7*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070864

QC BATCH REPORT

Batch ID: 143194 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MSD Sample ID: **HS19070864-10MSD** Units: **ug/L** Analysis Date: **22-Jul-2019 14:39**
Client ID: **WG-1620-MW28C-20190716** Run ID: **SV-7_342875** SeqNo: **5176680** PrepDate: **19-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.672	0.20	5	0	73.4	39 - 127	3.693	0.547	20	
2,4-Dimethylphenol	3.328	0.20	5	0	66.6	35 - 120	3.397	2.04	20	
2,4-Dinitrotoluene	5.13	0.20	5	0	103	50 - 122	4.804	6.56	20	
2,6-Dinitrotoluene	4.241	0.20	5	0	84.8	50 - 120	4.2	0.976	20	
2-Chloronaphthalene	3.063	0.20	5	0	61.3	50 - 120	3.834	22.4	20	R
2-Methylnaphthalene	3.431	0.10	5	0	68.6	50 - 120	3.758	9.09	20	
4,6-Dinitro-2-methylphenol	4.711	0.20	5	0	94.2	25 - 121	4.56	3.25	30	
4-Nitrophenol	4.266	1.0	5	0	85.3	30 - 130	4.615	7.87	20	
Acenaphthene	3.557	0.10	5	0	71.1	45 - 120	3.72	4.47	20	
Acenaphthylene	3.316	0.10	5	0	66.3	47 - 120	3.54	6.53	20	
Anthracene	3.912	0.10	5	0	78.2	45 - 120	3.902	0.239	20	
Benz(a)anthracene	4.648	0.10	5	0	93.0	40 - 120	4.637	0.248	20	
Benzo(a)pyrene	5.69	0.10	5	0	114	45 - 120	5.199	9.02	20	
Bis(2-chloroethoxy)methane	3.137	0.20	5	0	62.7	45 - 120	3.411	8.37	20	
Bis(2-ethylhexyl)phthalate	4.518	0.20	5	0.1317	87.7	40 - 139	4.294	5.09	20	
Chrysene	5.022	0.10	5	0	100	43 - 120	4.71	6.41	20	
Dibenzofuran	3.658	0.10	5	0	73.2	50 - 120	3.788	3.49	20	
Di-n-butyl phthalate	4.461	0.20	5	0	89.2	45 - 123	4.444	0.39	20	
Fluoranthene	4.861	0.10	5	0.01464	96.9	45 - 125	4.84	0.439	20	
Fluorene	3.634	0.10	5	0	72.7	49 - 120	3.733	2.7	20	
Naphthalene	3.326	0.10	5	0.09505	64.6	45 - 120	3.498	5.04	20	
Nitrobenzene	3.644	0.20	5	0	72.9	44 - 120	4.018	9.78	20	
N-Nitrosodiphenylamine	4.775	0.20	5	0	95.5	40 - 125	4.429	7.52	20	
Pentachlorophenol	4.782	0.20	5	0	95.6	19 - 121	4.657	2.66	20	
Phenanthrene	4.08	0.10	5	0	81.6	45 - 121	3.943	3.41	20	
Phenol	3.46	0.20	5	2.478	19.6	20 - 124	4.038	15.4	20	S
Pyrene	4.476	0.10	5	0.01185	89.3	40 - 130	4.3	4	20	
Surr: 2,4,6-Tribromophenol	*5.092*	*0.20*	*5*	*0*	*102*	*34 - 129*	*5.507*	*7.83*	*20*	
Surr: 2-Fluorobiphenyl	*3.506*	*0.20*	*5*	*0*	*70.1*	*40 - 125*	*3.746*	*6.6*	*20*	
Surr: 2-Fluorophenol	*3.369*	*0.20*	*5*	*0*	*67.4*	*20 - 120*	*3.67*	*8.54*	*20*	
Surr: 4-Terphenyl-d14	*4.3*	*0.20*	*5*	*0*	*86.0*	*40 - 135*	*4.25*	*1.16*	*20*	
Surr: Nitrobenzene-d5	*3.541*	*0.20*	*5*	*0*	*70.8*	*41 - 120*	*3.838*	*8.05*	*20*	
Surr: Phenol-d6	*3.444*	*0.20*	*5*	*0*	*68.9*	*20 - 120*	*3.934*	*13.3*	*20*	

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	HS19070864

QC BATCH REPORT

Batch ID: 143194 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

The following samples were analyzed in this batch:

HS19070864-01	HS19070864-02	HS19070864-03	HS19070864-04
HS19070864-05	HS19070864-06	HS19070864-07	HS19070864-08
HS19070864-09	HS19070864-10	HS19070864-11	HS19070864-12

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070864

QC BATCH REPORT

Batch ID: R342655 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-190718** Units: **ug/L** Analysis Date: **18-Jul-2019 12:21**
Client ID: Run ID: **VOA2_342655** SeqNo: **5171721** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*43.57*	*1.0*	*50*	*0*	*87.1*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*48.02*	*1.0*	*50*	*0*	*96.0*	*82 - 115*				
Surr: Dibromofluoromethane	*48.98*	*1.0*	*50*	*0*	*98.0*	*73 - 126*				
Surr: Toluene-d8	*51.34*	*1.0*	*50*	*0*	*103*	*81 - 120*				

LCS Sample ID: **VLCSW-190718** Units: **ug/L** Analysis Date: **18-Jul-2019 11:57**
Client ID: Run ID: **VOA2_342655** SeqNo: **5171720** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	19.53	1.0	20	0	97.7	70 - 124				
Benzene	19.25	1.0	20	0	96.2	74 - 120				
Chlorobenzene	19.1	1.0	20	0	95.5	76 - 113				
Ethylbenzene	19.59	1.0	20	0	97.9	77 - 117				
Methylene chloride	21.04	2.0	20	0	105	70 - 127				
Toluene	21.75	1.0	20	0	109	77 - 118				
Vinyl chloride	21.23	1.0	20	0	106	70 - 130				
Xylenes, Total	63.51	1.0	60	0	106	75 - 122				
Surr: 1,2-Dichloroethane-d4	*46.28*	*1.0*	*50*	*0*	*92.6*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*47.96*	*1.0*	*50*	*0*	*95.9*	*82 - 115*				
Surr: Dibromofluoromethane	*46.75*	*1.0*	*50*	*0*	*93.5*	*73 - 126*				
Surr: Toluene-d8	*49.39*	*1.0*	*50*	*0*	*98.8*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070864

QC BATCH REPORT

Batch ID: R342655 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS19070864-10MS** Units: **ug/L** Analysis Date: **18-Jul-2019 13:59**
Client ID: **WG-1620-MW28C-20190716** Run ID: **VOA2_342655** SeqNo: **5171839** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	16.04	1.0	20	0	80.2	70 - 127				
Benzene	17.2	1.0	20	0	86.0	70 - 127				
Chlorobenzene	17.15	1.0	20	0	85.7	70 - 114				
Ethylbenzene	17.86	1.0	20	0	89.3	70 - 124				
Methylene chloride	17.39	2.0	20	0	86.9	70 - 128				
Toluene	19.38	1.0	20	0	96.9	70 - 123				
Vinyl chloride	17.32	1.0	20	0	86.6	70 - 130				
Xylenes, Total	56.86	1.0	60	0	94.8	70 - 130				
Surr: 1,2-Dichloroethane-d4	*45.22*	*1.0*	*50*	*0*	*90.4*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*47.86*	*1.0*	*50*	*0*	*95.7*	*81 - 113*				
Surr: Dibromofluoromethane	*46.88*	*1.0*	*50*	*0*	*93.8*	*77 - 123*				
Surr: Toluene-d8	*50.33*	*1.0*	*50*	*0*	*101*	*82 - 127*				

MSD Sample ID: **HS19070864-10MSD** Units: **ug/L** Analysis Date: **18-Jul-2019 14:23**
Client ID: **WG-1620-MW28C-20190716** Run ID: **VOA2_342655** SeqNo: **5171840** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	16.85	1.0	20	0	84.3	70 - 127	16.04	4.93	20	
Benzene	16.52	1.0	20	0	82.6	70 - 127	17.2	3.98	20	
Chlorobenzene	16.89	1.0	20	0	84.5	70 - 114	17.15	1.5	20	
Ethylbenzene	17.1	1.0	20	0	85.5	70 - 124	17.86	4.3	20	
Methylene chloride	17	2.0	20	0	85.0	70 - 128	17.39	2.26	20	
Toluene	18.9	1.0	20	0	94.5	70 - 123	19.38	2.49	20	
Vinyl chloride	17.85	1.0	20	0	89.3	70 - 130	17.32	3.02	20	
Xylenes, Total	56.52	1.0	60	0	94.2	70 - 130	56.86	0.595	20	
Surr: 1,2-Dichloroethane-d4	*45.82*	*1.0*	*50*	*0*	*91.6*	*70 - 126*	*45.22*	*1.33*	*20*	
Surr: 4-Bromofluorobenzene	*48.64*	*1.0*	*50*	*0*	*97.3*	*81 - 113*	*47.86*	*1.62*	*20*	
Surr: Dibromofluoromethane	*47.8*	*1.0*	*50*	*0*	*95.6*	*77 - 123*	*46.88*	*1.95*	*20*	
Surr: Toluene-d8	*50.55*	*1.0*	*50*	*0*	*101*	*82 - 127*	*50.33*	*0.435*	*20*	

The following samples were analyzed in this batch: HS19070864-01 HS19070864-04 HS19070864-06 HS19070864-10

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070864

QC BATCH REPORT

Batch ID: R342706 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-190718** Units: **ug/L** Analysis Date: **18-Jul-2019 23:24**
Client ID: Run ID: **VOA2_342706** SeqNo: **5172917** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*44.78*	*1.0*	*50*	*0*	*89.6*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.6*	*1.0*	*50*	*0*	*95.2*	*82 - 115*				
Surr: Dibromofluoromethane	*49.51*	*1.0*	*50*	*0*	*99.0*	*73 - 126*				
Surr: Toluene-d8	*50.99*	*1.0*	*50*	*0*	*102*	*81 - 120*				

LCS Sample ID: **VLCSW-190718** Units: **ug/L** Analysis Date: **18-Jul-2019 22:59**
Client ID: Run ID: **VOA2_342706** SeqNo: **5172916** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	19.09	1.0	20	0	95.5	70 - 124				
Benzene	18.84	1.0	20	0	94.2	74 - 120				
Chlorobenzene	18.95	1.0	20	0	94.8	76 - 113				
Ethylbenzene	18.88	1.0	20	0	94.4	77 - 117				
Methylene chloride	20.56	2.0	20	0	103	70 - 127				
Toluene	21.32	1.0	20	0	107	77 - 118				
Vinyl chloride	20.66	1.0	20	0	103	70 - 130				
Xylenes, Total	61.87	1.0	60	0	103	75 - 122				
Surr: 1,2-Dichloroethane-d4	*46.21*	*1.0*	*50*	*0*	*92.4*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*47.64*	*1.0*	*50*	*0*	*95.3*	*82 - 115*				
Surr: Dibromofluoromethane	*47.97*	*1.0*	*50*	*0*	*95.9*	*73 - 126*				
Surr: Toluene-d8	*50.4*	*1.0*	*50*	*0*	*101*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070864

QC BATCH REPORT

Batch ID: R342706 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS19070864-08MS** Units: **ug/L** Analysis Date: **19-Jul-2019 02:39**
Client ID: **WG-1620-MW36B-20190716** Run ID: **VOA2_342706** SeqNo: **5172921** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	15.7	1.0	20	0	78.5	70 - 127				
Benzene	16.86	1.0	20	0	84.3	70 - 127				
Chlorobenzene	16.83	1.0	20	0	84.2	70 - 114				
Ethylbenzene	17.18	1.0	20	0	85.9	70 - 124				
Methylene chloride	15.53	2.0	20	0	77.6	70 - 128				
Toluene	19.17	1.0	20	0	95.9	70 - 123				
Vinyl chloride	18.84	1.0	20	0	94.2	70 - 130				
Xylenes, Total	55.11	1.0	60	0	91.8	70 - 130				
Surr: 1,2-Dichloroethane-d4	*45.83*	*1.0*	*50*	*0*	*91.7*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*48*	*1.0*	*50*	*0*	*96.0*	*81 - 113*				
Surr: Dibromofluoromethane	*48.11*	*1.0*	*50*	*0*	*96.2*	*77 - 123*				
Surr: Toluene-d8	*49.8*	*1.0*	*50*	*0*	*99.6*	*82 - 127*				

MSD Sample ID: **HS19070864-08MSD** Units: **ug/L** Analysis Date: **19-Jul-2019 03:04**
Client ID: **WG-1620-MW36B-20190716** Run ID: **VOA2_342706** SeqNo: **5172922** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.2	1.0	20	0	81.0	70 - 127	15.7	3.11	20	
Benzene	16.39	1.0	20	0	82.0	70 - 127	16.86	2.81	20	
Chlorobenzene	16.02	1.0	20	0	80.1	70 - 114	16.83	4.92	20	
Ethylbenzene	16.88	1.0	20	0	84.4	70 - 124	17.18	1.79	20	
Methylene chloride	16.85	2.0	20	0	84.3	70 - 128	15.53	8.19	20	
Toluene	18.14	1.0	20	0	90.7	70 - 123	19.17	5.55	20	
Vinyl chloride	18.13	1.0	20	0	90.6	70 - 130	18.84	3.87	20	
Xylenes, Total	53.8	1.0	60	0	89.7	70 - 130	55.11	2.4	20	
Surr: 1,2-Dichloroethane-d4	*46.31*	*1.0*	*50*	*0*	*92.6*	*70 - 126*	*45.83*	*1.04*	*20*	
Surr: 4-Bromofluorobenzene	*48.57*	*1.0*	*50*	*0*	*97.1*	*81 - 113*	*48*	*1.18*	*20*	
Surr: Dibromofluoromethane	*48.65*	*1.0*	*50*	*0*	*97.3*	*77 - 123*	*48.11*	*1.13*	*20*	
Surr: Toluene-d8	*49.78*	*1.0*	*50*	*0*	*99.6*	*82 - 127*	*49.8*	*0.0359*	*20*	

The following samples were analyzed in this batch: HS19070864-02 HS19070864-03 HS19070864-05 HS19070864-07 HS19070864-08 HS19070864-09 HS19070864-11 HS19070864-12 HS19070864-13

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS19070864**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Kansas	E-10352 2018-2019	31-Jul-2019
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2019	31-Dec-2019
Oklahoma	2018-156	31-Aug-2019
Texas	TX104704231-19-23	30-Apr-2020

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19070864

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19070864-01	WG-1620-MW21C-20190716	Login	17/07/2019 18:07:39	RPG	MET074
HS19070864-01	WG-1620-MW21C-20190716	Login	17/07/2019 18:07:39	RPG	EXT011
HS19070864-01	WG-1620-MW21C-20190716	Login	17/07/2019 18:07:39	RPG	VOA153
HS19070864-02	WG-1620-FD01-20190716	Login	17/07/2019 18:07:39	RPG	MET074
HS19070864-02	WG-1620-FD01-20190716	Login	17/07/2019 18:07:39	RPG	EXT011
HS19070864-02	WG-1620-FD01-20190716	Login	17/07/2019 18:07:39	RPG	VOA153
HS19070864-03	WG-1620-MW62B-20190716	Login	17/07/2019 18:07:39	RPG	MET074
HS19070864-03	WG-1620-MW62B-20190716	Login	17/07/2019 18:07:39	RPG	EXT011
HS19070864-03	WG-1620-MW62B-20190716	Login	17/07/2019 18:07:39	RPG	VOA153
HS19070864-04	WG-1620-MW53C-20190716	Login	17/07/2019 18:07:39	RPG	MET074
HS19070864-04	WG-1620-MW53C-20190716	Login	17/07/2019 18:07:39	RPG	EXT012
HS19070864-04	WG-1620-MW53C-20190716	Login	17/07/2019 18:07:39	RPG	VOA153
HS19070864-05	WG-1620-MW54C-20190716	Login	17/07/2019 18:07:39	RPG	MET074
HS19070864-05	WG-1620-MW54C-20190716	Login	17/07/2019 18:07:39	RPG	EXT012
HS19070864-05	WG-1620-MW54C-20190716	Login	17/07/2019 18:07:39	RPG	VOA153
HS19070864-13	WG-1620-TB04-20190716	Login	17/07/2019 18:07:39	RPG	VOA153

Sample Receipt Checklist

Client Name: PBW
Work Order: HS19070864

Date/Time Received: **17-Jul-2019 14:24**
Received by: **AC**

Checklist completed by: *Raegen Giga* 17-Jul-2019
eSignature | Date

Reviewed by: *Dane J. Wacasey* 18-Jul-2019
eSignature | Date

Matrices: **Water**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:196141/196139
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	0.2c , 0.7c , 2.2c UC/C	IR25
Cooler(s)/Kit(s):	44161/44877/45083	
Date/Time sample(s) sent to storage:	07/17/2019 18:40	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes: Vial # 3 ID Differs: COC = WG-1620-MW36A-20190716; Label = WG-1620-MW36B-20190716; Logged per COC using vial #1 and vial #2

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336 | Fort Collins, CO +1 970 490 1511 | Everett, WA +1 425 356 2600 | Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656 | Spring City, PA +1 610 948 4903 | South Charleston, WV +1 304 356 3168 | Middletown, PA +1 717 944 5541 | Salt Lake City, UT +1 801 266 7700 | York, PA +1 717 505 5280

Chain of Custody Form

Page 1 of 2

COC ID: 196141

ALS Project Manager: | ALS Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 Volatile Organics Site Specific)
Work Order		Project Number	1620-07-Rev0 SR 92688	B	8260_LL_W (5632528 VOC Site Specific + V.C.)
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 5652646 Metals - As, Pb)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E F	**HS19070864** Golder Associates Inc. Houston TX-Wood Preserving Works
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TB6-20190716~~			~~Water~~	←	~~2~~		*									
2	WG-1620-MW21C-20190716	7-16-19	0735	W		6	X		X	X							
3	WG-1620-FD01-20190716		0735	W		6	X		X	X							
4	WG-1620-MW62B-20190716		0825	W		6	X		X	X							
5	WG-1620-MW53C-20190716		1015	W		6	X		X	X							
6	WG-1620-MW54C-20190716		1115	W		6	X		X	X							
7	WG-1620-MW25C-20190716		1215	W		6		X	X	X							
8	WG-1620-MW25A-20190716		1310	W		6		X	X	X							
9	WG-1620-MW36B-20190716		1420	W		6		X	X	X							
10	WG-1620-MW36A-20190716		1520	W		6		X	X	X							

Sampler(s) Please Print & Sign: JOHN BRAYTON John Br

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results Due Date:

Relinquished by: John Br Date: 7-17-19 Time: 1424

Received by:

Relinquished by: Date: 7-17-19 Time: 14:24

Received by (Laboratory): AC

Logged by (Laboratory): Date: Time:

Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
	U/C
94161	0.2
44877	0.7
45083	2.2

QC Package: (Check One Box Below)
[ ] Level II Std QC
[ ] Level III Std QC/Raw Data
[ ] Level IV SW846/CLP
[ ] Other
[X] TRRP Checklist
[ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

2R + 2S

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

COC ID: 196139

HS19070864

Golder Associates Inc.
Houston TX-Wood Preserving Works

NV

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 Volatile Organics Site Specific)
Work Order		Project Number	1620-07-Rev0 SR 92688	B	8260_LL_W (5632528 VOC Site Specific + V.C.)
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 5652646 Metals - As, Pb)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	MS/MSD
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TB0__20190[illegible]~~			~~Water~~	←	~~2~~		X									
2	WG-1620-MW28C-20190716	7-16-19	1615	W		12	X		X	X	X						
3	WG-1620-MW28A-20190716	↓	1700	W		6	X		X	X							
4	WG-1620-MW63B-20190716		1755	W		6	X		X	X							
5	WG-1620-TB04-20190716		-	W		2											
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: JOHN GRAY TOM

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) ☐ Other ____ ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
	7-17-19	1424	
Relinquished by:	Date:	Time:	Received by (Laboratory):
	7-17-19	14:24	AC
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)

- ☐ Level II Std QC
- ☐ Level III Std QC/Raw Data
- ☐ Level IV SW846/CLP
- ☐ Other
- ☒ TRRP Checklist
- ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

July 31, 2019

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS19070994**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 34 sample(s) on Jul 19, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS19070994**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	**HS19070994**

TRRP Laboratory Data Package Cover Page

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 07/31/2019					
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS19071233					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 143239,143295,143526,143558,R342868,R342877,R342879					
#[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					
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X					
		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 SW-846 Method 5035?			X			
		If required for the project, 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			1	
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			2	
		Does the detectability 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					
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			3	
		Were MS/MSD RPDs within laboratory QC limits?		X			4	
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					
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					
		Were all necessary corrective actions performed for the reported data?	X					
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				5	
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X					

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 07/31/2019				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS19071233				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 143239,143295,143526,143558,R342868,R342877,R342879				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group	LRC Date: 07/31/2019
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS19071233
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 143239,143295,143526,143558,R342868,R342877,R342879

ER#[5]	Description
1	Volatile Organics Method SW8260, sample WG-1620-MW71B-20190717, WG-1620-MW68B-20190718, WG-1620-FD03-20190718, WG-1620-MW83B-20190718, WG-1620-MW35B-20190718, the surrogate recoveries could not be determined due to dilution below the calibration range.
2	Batch 143295, Semivolatile Organics Method SW8270, LCS/LCSD were analyzed and reported in lieu of an MS/MSD for this batch.
3	Batch 143239, Semivolatile Organics Method SW8270, sample WG-1620-MW61A-20190717, MSD recovered outside the control limit for Benzo(a)pyrene due to possible matrix effect. Batch R342877, Volatile Organics Method SW8260, sample WG-1620-MW83C-20190718, MS and MSD recovered outside the control limit for surrogate 4-Bromofluorobenzene due to possible matrix effect. Batch R342879, Volatile Organics Method SW8260, sample WG-1620-MW61A-20190717, MSD recovered below the control limit for 1,2-Dichloroethane due to possible matrix effect.
4	Batch 143239, Semivolatile Organics Method SW8270, sample WG-1620-MW61A-20190717, MS/MSD RPD recovered above the RPD limits for 2,6-Dinitrotoluene, Benzo(a)pyrene and surrogates 2,4,6-Tribromophenol, 2-Fluorobiphenyl due to possible matrix effect.
5	Batch 143239, Semivolatile Organics Method SW8270, samples WG-1620-MW68B-20190718, WG-1620-FD03-20190718, the GCMS semi-volatile extract of the samples were run at a dilution due to a high level of matrix interference.

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19070994

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19070994-01	WG-1620-FB04-20190716	Water		16-Jul-2019 18:20	19-Jul-2019 13:15	☐
HS19070994-02	WG-1620-MW61A-20190717	Water		17-Jul-2019 07:50	19-Jul-2019 13:15	☐
HS19070994-03	WG-1620-MW60A-20190717	Water		17-Jul-2019 08:35	19-Jul-2019 13:15	☐
HS19070994-04	WG-1620-MW69A-20190717	Water		17-Jul-2019 09:35	19-Jul-2019 13:15	☐
HS19070994-05	WG-1620-MW47C-20190717	Water		17-Jul-2019 10:25	19-Jul-2019 13:15	☐
HS19070994-06	WG-1620-MW48C-20190717	Water		17-Jul-2019 11:20	19-Jul-2019 13:15	☐
HS19070994-07	WG-1620-MW59A-20190717	Water		17-Jul-2019 12:20	19-Jul-2019 13:15	☐
HS19070994-08	WG-1620-MW59B-20190717	Water		17-Jul-2019 13:10	19-Jul-2019 13:15	☐
HS19070994-09	WG-1620-MW44A-20190717	Water		17-Jul-2019 14:00	19-Jul-2019 13:15	☐
HS19070994-10	WG-1620-MW87C-20190717	Water		17-Jul-2019 15:40	19-Jul-2019 13:15	☐
HS19070994-11	WG-1620-MW71B-20190717	Water		17-Jul-2019 16:40	19-Jul-2019 13:15	☐
HS19070994-12	WG-1620-MW33A-20190717	Water		17-Jul-2019 17:50	19-Jul-2019 13:15	☐
HS19070994-13	WG-1620-FD02-20190717	Water		17-Jul-2019 17:50	19-Jul-2019 13:15	☐
HS19070994-14	WG-1620-MW26A-20190717	Water		17-Jul-2019 18:45	19-Jul-2019 13:15	☐
HS19070994-15	WG-1620-FB05-20190717	Water		17-Jul-2019 19:05	19-Jul-2019 13:15	☐
HS19070994-16	WG-1620-MW68A-20190718	Water		18-Jul-2019 07:55	19-Jul-2019 13:15	☐
HS19070994-17	WG-1620-MW68B-20190718	Water		18-Jul-2019 08:55	19-Jul-2019 13:15	☐
HS19070994-18	WG-1620-FD03-20190718	Water		18-Jul-2019 08:55	19-Jul-2019 13:15	☐
HS19070994-19	WG-1620-MW68C-20190718	Water		18-Jul-2019 09:45	19-Jul-2019 13:15	☐
HS19070994-20	WG-1620-MW83B-20190718	Water		18-Jul-2019 10:40	19-Jul-2019 13:15	☐
HS19070994-21	WG-1620-MW83C-20190718	Water		18-Jul-2019 11:30	19-Jul-2019 13:15	☐
HS19070994-22	WG-1620-MW35A-20190718	Water		18-Jul-2019 12:40	19-Jul-2019 13:15	☐
HS19070994-23	WG-1620-MW35B-20190718	Water		18-Jul-2019 13:30	19-Jul-2019 13:15	☐
HS19070994-24	WG-1620-MW90B-20190718	Water		18-Jul-2019 14:25	19-Jul-2019 13:15	☐
HS19070994-25	WG-1620-MW89B-20190718	Water		18-Jul-2019 15:15	19-Jul-2019 13:15	☐
HS19070994-26	WG-1620-MW38B-20190718	Water		18-Jul-2019 16:10	19-Jul-2019 13:15	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19070994

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19070994-27	WG-1620-MW27A-20190718	Water		18-Jul-2019 17:15	19-Jul-2019 13:15	☐
HS19070994-28	WG-1620-MW27C-20190718	Water		18-Jul-2019 18:05	19-Jul-2019 13:15	☐
HS19070994-29	WG-1620-MW51A-20190719	Water		19-Jul-2019 07:25	19-Jul-2019 13:15	☐
HS19070994-30	WG-1620-MW51C-20190719	Water		19-Jul-2019 08:55	19-Jul-2019 13:15	☐
HS19070994-31	WG-1620-MW81B-20190719	Water		19-Jul-2019 09:45	19-Jul-2019 13:15	☐
HS19070994-32	WG-1620-MW50A-20190719	Water		19-Jul-2019 10:40	19-Jul-2019 13:15	☐
HS19070994-33	WG-1620-TB05-20190719	Water	C&G-062119-82	19-Jul-2019 00:00	19-Jul-2019 13:15	☐
HS19070994-34	WG-1620-TB06-20190719	Water	C&G-062119-82	19-Jul-2019 00:00	19-Jul-2019 13:15	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB04-20190716
Collection Date: 16-Jul-2019 18:20

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 00:42
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 00:42
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 00:42
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 00:42
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 00:42
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 00:42
Vinyl chloride		U	0.00020	0.0010	mg/L	1	23-Jul-2019 00:42
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 00:42
Surr: 1,2-Dichloroethane-d4	*102*			*70-126*	*%REC*	*1*	*23-Jul-2019 00:42*
Surr: 4-Bromofluorobenzene	*99.6*			*81-113*	*%REC*	*1*	*23-Jul-2019 00:42*
Surr: Dibromofluoromethane	*104*			*77-123*	*%REC*	*1*	*23-Jul-2019 00:42*
Surr: Toluene-d8	*98.6*			*82-127*	*%REC*	*1*	*23-Jul-2019 00:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB04-20190716
Collection Date: 16-Jul-2019 18:20

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 11:41
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jul-2019 11:41
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 11:41
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 11:41
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 11:41
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 11:41
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 11:41
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 11:41
Acenaphthene	U		0.000027	0.00010	mg/L	1	23-Jul-2019 11:41
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jul-2019 11:41
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jul-2019 11:41
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jul-2019 11:41
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 11:41
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 11:41
Bis(2-ethylhexyl)phthalate	**0.00045**		**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 11:41
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 11:41
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jul-2019 11:41
Di-n-butyl phthalate	**0.000043**	J	**0.000020**	**0.00020**	**mg/L**	1	23-Jul-2019 11:41
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jul-2019 11:41
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jul-2019 11:41
Naphthalene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 11:41
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 11:41
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 11:41
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 11:41
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 11:41
Phenol	**0.000084**	J	**0.000035**	**0.00020**	**mg/L**	1	23-Jul-2019 11:41
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 11:41
Surr: 2,4,6-Tribromophenol	*82.0*			*34-129*	*%REC*	*1*	*23-Jul-2019 11:41*
Surr: 2-Fluorobiphenyl	*72.1*			*40-125*	*%REC*	*1*	*23-Jul-2019 11:41*
Surr: 2-Fluorophenol	*67.6*			*20-120*	*%REC*	*1*	*23-Jul-2019 11:41*
Surr: 4-Terphenyl-d14	*85.2*			*40-135*	*%REC*	*1*	*23-Jul-2019 11:41*
Surr: Nitrobenzene-d5	*70.1*			*41-120*	*%REC*	*1*	*23-Jul-2019 11:41*
Surr: Phenol-d6	*70.9*			*20-120*	*%REC*	*1*	*23-Jul-2019 11:41*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	30-Jul-2019 21:42

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW61A-20190717
Collection Date: 17-Jul-2019 07:50

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 01:32
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 01:32
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 01:32
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 01:32
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 01:32
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 01:32
Vinyl chloride		U	0.00020	0.0010	mg/L	1	23-Jul-2019 01:32
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 01:32
Surr: 1,2-Dichloroethane-d4	*102*			*70-126*	*%REC*	*1*	*23-Jul-2019 01:32*
Surr: 4-Bromofluorobenzene	*95.9*			*81-113*	*%REC*	*1*	*23-Jul-2019 01:32*
Surr: Dibromofluoromethane	*107*			*77-123*	*%REC*	*1*	*23-Jul-2019 01:32*
Surr: Toluene-d8	*99.0*			*82-127*	*%REC*	*1*	*23-Jul-2019 01:32*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW61A-20190717
Collection Date: 17-Jul-2019 07:50

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 12:21
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jul-2019 12:21
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 12:21
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 12:21
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 12:21
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 12:21
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 12:21
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 12:21
Acenaphthene	U		0.000027	0.00010	mg/L	1	23-Jul-2019 12:21
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jul-2019 12:21
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jul-2019 12:21
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jul-2019 12:21
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 12:21
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 12:21
Bis(2-ethylhexyl)phthalate	**0.00037**		**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 12:21
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 12:21
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jul-2019 12:21
Di-n-butyl phthalate	**0.000056**	J	**0.000020**	**0.00020**	**mg/L**	1	23-Jul-2019 12:21
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jul-2019 12:21
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jul-2019 12:21
Naphthalene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 12:21
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 12:21
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 12:21
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 12:21
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 12:21
Phenol	**0.00011**	J	**0.000035**	**0.00020**	**mg/L**	1	23-Jul-2019 12:21
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 12:21
Surr: 2,4,6-Tribromophenol	*109*			*34-129*	*%REC*	*1*	*23-Jul-2019 12:21*
Surr: 2-Fluorobiphenyl	*83.5*			*40-125*	*%REC*	*1*	*23-Jul-2019 12:21*
Surr: 2-Fluorophenol	*74.1*			*20-120*	*%REC*	*1*	*23-Jul-2019 12:21*
Surr: 4-Terphenyl-d14	*99.5*			*40-135*	*%REC*	*1*	*23-Jul-2019 12:21*
Surr: Nitrobenzene-d5	*84.0*			*41-120*	*%REC*	*1*	*23-Jul-2019 12:21*
Surr: Phenol-d6	*83.1*			*20-120*	*%REC*	*1*	*23-Jul-2019 12:21*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	**0.00117**	J	**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 21:26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW60A-20190717
Collection Date: 17-Jul-2019 08:35

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 03:10
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 03:10
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 03:10
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 03:10
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 03:10
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 03:10
Vinyl chloride		U	0.00020	0.0010	mg/L	1	23-Jul-2019 03:10
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 03:10
Surr: 1,2-Dichloroethane-d4	*102*			*70-126*	*%REC*	*1*	*23-Jul-2019 03:10*
Surr: 4-Bromofluorobenzene	*96.1*			*81-113*	*%REC*	*1*	*23-Jul-2019 03:10*
Surr: Dibromofluoromethane	*104*			*77-123*	*%REC*	*1*	*23-Jul-2019 03:10*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*23-Jul-2019 03:10*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW60A-20190717
Collection Date: 17-Jul-2019 08:35

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jul-2019 18:57
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jul-2019 18:57
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jul-2019 18:57
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jul-2019 18:57
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jul-2019 18:57
2-Methylnaphthalene	**0.000072**	J	**0.000019**	**0.00010**	**mg/L**	1	22-Jul-2019 18:57
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jul-2019 18:57
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jul-2019 18:57
Acenaphthene	U		0.000027	0.00010	mg/L	1	22-Jul-2019 18:57
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jul-2019 18:57
Anthracene	U		0.000014	0.00010	mg/L	1	22-Jul-2019 18:57
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jul-2019 18:57
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jul-2019 18:57
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jul-2019 18:57
Bis(2-ethylhexyl)phthalate	**0.00055**		**0.000037**	**0.00020**	**mg/L**	1	22-Jul-2019 18:57
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 18:57
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jul-2019 18:57
Di-n-butyl phthalate	**0.000075**	J	**0.000020**	**0.00020**	**mg/L**	1	22-Jul-2019 18:57
Fluoranthene	U		0.000010	0.00010	mg/L	1	22-Jul-2019 18:57
Fluorene	U		0.000030	0.00010	mg/L	1	22-Jul-2019 18:57
Naphthalene	**0.00013**		**0.000020**	**0.00010**	**mg/L**	1	22-Jul-2019 18:57
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jul-2019 18:57
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jul-2019 18:57
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jul-2019 18:57
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 18:57
Phenol	U		0.000035	0.00020	mg/L	1	22-Jul-2019 18:57
Pyrene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 18:57
Surr: 2,4,6-Tribromophenol	*96.9*			*34-129*	*%REC*	*1*	*22-Jul-2019 18:57*
Surr: 2-Fluorobiphenyl	*71.2*			*40-125*	*%REC*	*1*	*22-Jul-2019 18:57*
Surr: 2-Fluorophenol	*71.7*			*20-120*	*%REC*	*1*	*22-Jul-2019 18:57*
Surr: 4-Terphenyl-d14	*75.8*			*40-135*	*%REC*	*1*	*22-Jul-2019 18:57*
Surr: Nitrobenzene-d5	*79.7*			*41-120*	*%REC*	*1*	*22-Jul-2019 18:57*
Surr: Phenol-d6	*70.1*			*20-120*	*%REC*	*1*	*22-Jul-2019 18:57*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	**0.000440**	J	**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 21:44

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW69A-20190717
Collection Date: 17-Jul-2019 09:35

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 03:35
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 03:35
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 03:35
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 03:35
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 03:35
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 03:35
Vinyl chloride		U	0.00020	0.0010	mg/L	1	23-Jul-2019 03:35
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 03:35
Surr: 1,2-Dichloroethane-d4	*102*			*70-126*	*%REC*	*1*	*23-Jul-2019 03:35*
Surr: 4-Bromofluorobenzene	*102*			*81-113*	*%REC*	*1*	*23-Jul-2019 03:35*
Surr: Dibromofluoromethane	*106*			*77-123*	*%REC*	*1*	*23-Jul-2019 03:35*
Surr: Toluene-d8	*97.9*			*82-127*	*%REC*	*1*	*23-Jul-2019 03:35*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW69A-20190717
Collection Date: 17-Jul-2019 09:35

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jul-2019 19:17
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jul-2019 19:17
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jul-2019 19:17
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jul-2019 19:17
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jul-2019 19:17
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 19:17
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jul-2019 19:17
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jul-2019 19:17
Acenaphthene	U		0.000027	0.00010	mg/L	1	22-Jul-2019 19:17
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jul-2019 19:17
Anthracene	U		0.000014	0.00010	mg/L	1	22-Jul-2019 19:17
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jul-2019 19:17
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jul-2019 19:17
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jul-2019 19:17
Bis(2-ethylhexyl)phthalate	**0.00034**		**0.000037**	**0.00020**	**mg/L**	1	22-Jul-2019 19:17
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 19:17
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jul-2019 19:17
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jul-2019 19:17
Fluoranthene	U		0.000010	0.00010	mg/L	1	22-Jul-2019 19:17
Fluorene	U		0.000030	0.00010	mg/L	1	22-Jul-2019 19:17
Naphthalene	**0.000078**	J	**0.000020**	**0.00010**	**mg/L**	1	22-Jul-2019 19:17
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jul-2019 19:17
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jul-2019 19:17
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jul-2019 19:17
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 19:17
Phenol	U		0.000035	0.00020	mg/L	1	22-Jul-2019 19:17
Pyrene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 19:17
Surr: 2,4,6-Tribromophenol	*102*			*34-129*	*%REC*	*1*	*22-Jul-2019 19:17*
Surr: 2-Fluorobiphenyl	*71.9*			*40-125*	*%REC*	*1*	*22-Jul-2019 19:17*
Surr: 2-Fluorophenol	*68.4*			*20-120*	*%REC*	*1*	*22-Jul-2019 19:17*
Surr: 4-Terphenyl-d14	*77.2*			*40-135*	*%REC*	*1*	*22-Jul-2019 19:17*
Surr: Nitrobenzene-d5	*73.1*			*41-120*	*%REC*	*1*	*22-Jul-2019 19:17*
Surr: Phenol-d6	*70.5*			*20-120*	*%REC*	*1*	*22-Jul-2019 19:17*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	**0.000642**	J	**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 21:47

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW47C-20190717
Collection Date: 17-Jul-2019 10:25

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 03:59
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 03:59
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 03:59
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 03:59
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 03:59
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 03:59
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 03:59
Surr: 1,2-Dichloroethane-d4	*101*			*70-126*	*%REC*	*1*	*23-Jul-2019 03:59*
Surr: 4-Bromofluorobenzene	*95.8*			*81-113*	*%REC*	*1*	*23-Jul-2019 03:59*
Surr: Dibromofluoromethane	*106*			*77-123*	*%REC*	*1*	*23-Jul-2019 03:59*
Surr: Toluene-d8	*97.6*			*82-127*	*%REC*	*1*	*23-Jul-2019 03:59*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW47C-20190717
Collection Date: 17-Jul-2019 10:25

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jul-2019 19:36
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jul-2019 19:36
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jul-2019 19:36
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jul-2019 19:36
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jul-2019 19:36
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 19:36
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jul-2019 19:36
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jul-2019 19:36
Acenaphthene	U		0.000027	0.00010	mg/L	1	22-Jul-2019 19:36
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jul-2019 19:36
Anthracene	U		0.000014	0.00010	mg/L	1	22-Jul-2019 19:36
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jul-2019 19:36
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jul-2019 19:36
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jul-2019 19:36
Bis(2-ethylhexyl)phthalate	**0.00027**		**0.000037**	**0.00020**	**mg/L**	1	22-Jul-2019 19:36
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 19:36
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jul-2019 19:36
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jul-2019 19:36
Fluoranthene	U		0.000010	0.00010	mg/L	1	22-Jul-2019 19:36
Fluorene	U		0.000030	0.00010	mg/L	1	22-Jul-2019 19:36
Naphthalene	U		0.000020	0.00010	mg/L	1	22-Jul-2019 19:36
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jul-2019 19:36
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jul-2019 19:36
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jul-2019 19:36
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 19:36
Phenol	U		0.000035	0.00020	mg/L	1	22-Jul-2019 19:36
Pyrene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 19:36
Surr: 2,4,6-Tribromophenol	*101*			*34-129*	*%REC*	*1*	*22-Jul-2019 19:36*
Surr: 2-Fluorobiphenyl	*82.9*			*40-125*	*%REC*	*1*	*22-Jul-2019 19:36*
Surr: 2-Fluorophenol	*75.2*			*20-120*	*%REC*	*1*	*22-Jul-2019 19:36*
Surr: 4-Terphenyl-d14	*80.7*			*40-135*	*%REC*	*1*	*22-Jul-2019 19:36*
Surr: Nitrobenzene-d5	*91.6*			*41-120*	*%REC*	*1*	*22-Jul-2019 19:36*
Surr: Phenol-d6	*75.9*			*20-120*	*%REC*	*1*	*22-Jul-2019 19:36*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	**0.000440**	J	**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 21:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW48C-20190717
Collection Date: 17-Jul-2019 11:20

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 04:24
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 04:24
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 04:24
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 04:24
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 04:24
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 04:24
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 04:24
Surr: 1,2-Dichloroethane-d4	*102*			*70-126*	*%REC*	*1*	*23-Jul-2019 04:24*
Surr: 4-Bromofluorobenzene	*95.3*			*81-113*	*%REC*	*1*	*23-Jul-2019 04:24*
Surr: Dibromofluoromethane	*106*			*77-123*	*%REC*	*1*	*23-Jul-2019 04:24*
Surr: Toluene-d8	*99.5*			*82-127*	*%REC*	*1*	*23-Jul-2019 04:24*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW48C-20190717
Collection Date: 17-Jul-2019 11:20

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jul-2019 19:56
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jul-2019 19:56
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jul-2019 19:56
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jul-2019 19:56
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jul-2019 19:56
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 19:56
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jul-2019 19:56
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jul-2019 19:56
Acenaphthene	U		0.000027	0.00010	mg/L	1	22-Jul-2019 19:56
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jul-2019 19:56
Anthracene	U		0.000014	0.00010	mg/L	1	22-Jul-2019 19:56
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jul-2019 19:56
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jul-2019 19:56
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jul-2019 19:56
Bis(2-ethylhexyl)phthalate	**0.00030**		**0.000037**	**0.00020**	**mg/L**	1	22-Jul-2019 19:56
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 19:56
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jul-2019 19:56
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jul-2019 19:56
Fluoranthene	**0.000035**	J	**0.000010**	**0.00010**	**mg/L**	1	22-Jul-2019 19:56
Fluorene	U		0.000030	0.00010	mg/L	1	22-Jul-2019 19:56
Naphthalene	U		0.000020	0.00010	mg/L	1	22-Jul-2019 19:56
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jul-2019 19:56
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jul-2019 19:56
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jul-2019 19:56
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 19:56
Phenol	**0.000074**	J	**0.000035**	**0.00020**	**mg/L**	1	22-Jul-2019 19:56
Pyrene	**0.000036**	J	**0.000019**	**0.00010**	**mg/L**	1	22-Jul-2019 19:56
Surr: 2,4,6-Tribromophenol	*93.3*			*34-129*	*%REC*	*1*	*22-Jul-2019 19:56*
Surr: 2-Fluorobiphenyl	*71.4*			*40-125*	*%REC*	*1*	*22-Jul-2019 19:56*
Surr: 2-Fluorophenol	*68.3*			*20-120*	*%REC*	*1*	*22-Jul-2019 19:56*
Surr: 4-Terphenyl-d14	*77.0*			*40-135*	*%REC*	*1*	*22-Jul-2019 19:56*
Surr: Nitrobenzene-d5	*74.2*			*41-120*	*%REC*	*1*	*22-Jul-2019 19:56*
Surr: Phenol-d6	*65.4*			*20-120*	*%REC*	*1*	*22-Jul-2019 19:56*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	**0.00167**	J	**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 21:51

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070994
Sample ID: WG-1620-MW59A-20190717
Lab ID:HS19070994-07
Collection Date: 17-Jul-2019 12:20
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 04:48
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 04:48
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 04:48
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 04:48
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 04:48
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 04:48
Vinyl chloride		U	0.00020	0.0010	mg/L	1	23-Jul-2019 04:48
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 04:48
Surr: 1,2-Dichloroethane-d4	*101*			*70-126*	*%REC*	*1*	*23-Jul-2019 04:48*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*1*	*23-Jul-2019 04:48*
Surr: Dibromofluoromethane	*105*			*77-123*	*%REC*	*1*	*23-Jul-2019 04:48*
Surr: Toluene-d8	*97.3*			*82-127*	*%REC*	*1*	*23-Jul-2019 04:48*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW59A-20190717
Collection Date: 17-Jul-2019 12:20

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jul-2019 20:16
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jul-2019 20:16
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jul-2019 20:16
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jul-2019 20:16
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jul-2019 20:16
2-Methylnaphthalene	**0.000036**	J	**0.000019**	**0.00010**	**mg/L**	1	22-Jul-2019 20:16
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jul-2019 20:16
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jul-2019 20:16
Acenaphthene	U		0.000027	0.00010	mg/L	1	22-Jul-2019 20:16
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jul-2019 20:16
Anthracene	U		0.000014	0.00010	mg/L	1	22-Jul-2019 20:16
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jul-2019 20:16
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jul-2019 20:16
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jul-2019 20:16
Bis(2-ethylhexyl)phthalate	**0.00050**		**0.000037**	**0.00020**	**mg/L**	1	22-Jul-2019 20:16
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 20:16
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jul-2019 20:16
Di-n-butyl phthalate	**0.000064**	J	**0.000020**	**0.00020**	**mg/L**	1	22-Jul-2019 20:16
Fluoranthene	U		0.000010	0.00010	mg/L	1	22-Jul-2019 20:16
Fluorene	U		0.000030	0.00010	mg/L	1	22-Jul-2019 20:16
Naphthalene	**0.00012**		**0.000020**	**0.00010**	**mg/L**	1	22-Jul-2019 20:16
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jul-2019 20:16
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jul-2019 20:16
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jul-2019 20:16
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 20:16
Phenol	**0.000058**	J	**0.000035**	**0.00020**	**mg/L**	1	22-Jul-2019 20:16
Pyrene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 20:16
Surr: 2,4,6-Tribromophenol	*102*			*34-129*	*%REC*	*1*	*22-Jul-2019 20:16*
Surr: 2-Fluorobiphenyl	*75.4*			*40-125*	*%REC*	*1*	*22-Jul-2019 20:16*
Surr: 2-Fluorophenol	*73.3*			*20-120*	*%REC*	*1*	*22-Jul-2019 20:16*
Surr: 4-Terphenyl-d14	*83.3*			*40-135*	*%REC*	*1*	*22-Jul-2019 20:16*
Surr: Nitrobenzene-d5	*83.4*			*41-120*	*%REC*	*1*	*22-Jul-2019 20:16*
Surr: Phenol-d6	*75.5*			*20-120*	*%REC*	*1*	*22-Jul-2019 20:16*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	**0.00455**		**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 21:53

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW59B-20190717
Collection Date: 17-Jul-2019 13:10

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 05:13
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 05:13
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 05:13
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 05:13
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 05:13
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 05:13
Vinyl chloride		U	0.00020	0.0010	mg/L	1	23-Jul-2019 05:13
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 05:13
Surr: 1,2-Dichloroethane-d4	*102*			*70-126*	*%REC*	*1*	*23-Jul-2019 05:13*
Surr: 4-Bromofluorobenzene	*95.1*			*81-113*	*%REC*	*1*	*23-Jul-2019 05:13*
Surr: Dibromofluoromethane	*104*			*77-123*	*%REC*	*1*	*23-Jul-2019 05:13*
Surr: Toluene-d8	*99.1*			*82-127*	*%REC*	*1*	*23-Jul-2019 05:13*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW59B-20190717
Collection Date: 17-Jul-2019 13:10

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jul-2019 20:36
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jul-2019 20:36
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jul-2019 20:36
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jul-2019 20:36
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jul-2019 20:36
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 20:36
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jul-2019 20:36
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jul-2019 20:36
Acenaphthene	U		0.000027	0.00010	mg/L	1	22-Jul-2019 20:36
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jul-2019 20:36
Anthracene	U		0.000014	0.00010	mg/L	1	22-Jul-2019 20:36
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jul-2019 20:36
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jul-2019 20:36
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jul-2019 20:36
Bis(2-ethylhexyl)phthalate	**0.00039**		**0.000037**	**0.00020**	**mg/L**	1	22-Jul-2019 20:36
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 20:36
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jul-2019 20:36
Di-n-butyl phthalate	**0.000055**	J	**0.000020**	**0.00020**	**mg/L**	1	22-Jul-2019 20:36
Fluoranthene	U		0.000010	0.00010	mg/L	1	22-Jul-2019 20:36
Fluorene	U		0.000030	0.00010	mg/L	1	22-Jul-2019 20:36
Naphthalene	**0.00015**		**0.000020**	**0.00010**	**mg/L**	1	22-Jul-2019 20:36
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jul-2019 20:36
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jul-2019 20:36
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jul-2019 20:36
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 20:36
Phenol	U		0.000035	0.00020	mg/L	1	22-Jul-2019 20:36
Pyrene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 20:36
Surr: 2,4,6-Tribromophenol	*109*			*34-129*	*%REC*	*1*	*22-Jul-2019 20:36*
Surr: 2-Fluorobiphenyl	*70.3*			*40-125*	*%REC*	*1*	*22-Jul-2019 20:36*
Surr: 2-Fluorophenol	*60.4*			*20-120*	*%REC*	*1*	*22-Jul-2019 20:36*
Surr: 4-Terphenyl-d14	*77.1*			*40-135*	*%REC*	*1*	*22-Jul-2019 20:36*
Surr: Nitrobenzene-d5	*68.4*			*41-120*	*%REC*	*1*	*22-Jul-2019 20:36*
Surr: Phenol-d6	*60.9*			*20-120*	*%REC*	*1*	*22-Jul-2019 20:36*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	**0.000542**	J	**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 21:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW44A-20190717
Collection Date: 17-Jul-2019 14:00

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 05:37
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 05:37
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 05:37
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 05:37
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 05:37
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 05:37
Vinyl chloride		U	0.00020	0.0010	mg/L	1	23-Jul-2019 05:37
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 05:37
Surr: 1,2-Dichloroethane-d4	*100*			*70-126*	*%REC*	*1*	*23-Jul-2019 05:37*
Surr: 4-Bromofluorobenzene	*98.9*			*81-113*	*%REC*	*1*	*23-Jul-2019 05:37*
Surr: Dibromofluoromethane	*104*			*77-123*	*%REC*	*1*	*23-Jul-2019 05:37*
Surr: Toluene-d8	*96.0*			*82-127*	*%REC*	*1*	*23-Jul-2019 05:37*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc. **ANALYTICAL REPORT**
Project: Houston TX-Wood Preserving Works WorkOrder:HS19070994
Sample ID: WG-1620-MW44A-20190717 Lab ID:HS19070994-09
Collection Date: 17-Jul-2019 14:00 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jul-2019 20:56
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jul-2019 20:56
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jul-2019 20:56
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jul-2019 20:56
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jul-2019 20:56
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 20:56
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jul-2019 20:56
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jul-2019 20:56
Acenaphthene	**0.056**		**0.00027**	**0.0010**	**mg/L**	10	23-Jul-2019 15:59
Acenaphthylene	**0.00028**		**0.000015**	**0.00010**	**mg/L**	1	22-Jul-2019 20:56
Anthracene	**0.00089**		**0.000014**	**0.00010**	**mg/L**	1	22-Jul-2019 20:56
Benz(a)anthracene	**0.000085**	J	**0.000050**	**0.00010**	**mg/L**	1	22-Jul-2019 20:56
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jul-2019 20:56
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jul-2019 20:56
Bis(2-ethylhexyl)phthalate	**0.00025**		**0.000037**	**0.00020**	**mg/L**	1	22-Jul-2019 20:56
Chrysene	**0.000052**	J	**0.000021**	**0.00010**	**mg/L**	1	22-Jul-2019 20:56
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jul-2019 20:56
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jul-2019 20:56
Fluoranthene	**0.0091**		**0.000010**	**0.00010**	**mg/L**	1	22-Jul-2019 20:56
Fluorene	**0.014**		**0.00030**	**0.0010**	**mg/L**	10	23-Jul-2019 15:59
Naphthalene	**0.00019**		**0.000020**	**0.00010**	**mg/L**	1	22-Jul-2019 20:56
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jul-2019 20:56
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jul-2019 20:56
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jul-2019 20:56
Phenanthrene	**0.00012**		**0.000021**	**0.00010**	**mg/L**	1	22-Jul-2019 20:56
Phenol	U		0.000035	0.00020	mg/L	1	22-Jul-2019 20:56
Pyrene	**0.0057**		**0.000019**	**0.00010**	**mg/L**	1	22-Jul-2019 20:56
Surr: 2,4,6-Tribromophenol	*103*			*34-129*	*%REC*	*10*	*23-Jul-2019 15:59*
Surr: 2,4,6-Tribromophenol	*80.5*			*34-129*	*%REC*	*1*	*22-Jul-2019 20:56*
Surr: 2-Fluorobiphenyl	*48.6*			*40-125*	*%REC*	*1*	*22-Jul-2019 20:56*
Surr: 2-Fluorobiphenyl	*61.1*			*40-125*	*%REC*	*10*	*23-Jul-2019 15:59*
Surr: 2-Fluorophenol	*73.0*			*20-120*	*%REC*	*10*	*23-Jul-2019 15:59*
Surr: 2-Fluorophenol	*55.1*			*20-120*	*%REC*	*1*	*22-Jul-2019 20:56*
Surr: 4-Terphenyl-d14	*72.2*			*40-135*	*%REC*	*1*	*22-Jul-2019 20:56*
Surr: 4-Terphenyl-d14	*87.2*			*40-135*	*%REC*	*10*	*23-Jul-2019 15:59*
Surr: Nitrobenzene-d5	*64.4*			*41-120*	*%REC*	*10*	*23-Jul-2019 15:59*
Surr: Nitrobenzene-d5	*59.3*			*41-120*	*%REC*	*1*	*22-Jul-2019 20:56*
Surr: Phenol-d6	*53.3*			*20-120*	*%REC*	*1*	*22-Jul-2019 20:56*
Surr: Phenol-d6	*62.1*			*20-120*	*%REC*	*10*	*23-Jul-2019 15:59*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW44A-20190717
Collection Date: 17-Jul-2019 14:00

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	**0.0303**		**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 21:58

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW87C-20190717
Collection Date: 17-Jul-2019 15:40

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 06:02
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 06:02
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 06:02
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 06:02
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 06:02
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 06:02
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 06:02
Surr: 1,2-Dichloroethane-d4	*99.7*			*70-126*	*%REC*	*1*	*23-Jul-2019 06:02*
Surr: 4-Bromofluorobenzene	*94.8*			*81-113*	*%REC*	*1*	*23-Jul-2019 06:02*
Surr: Dibromofluoromethane	*104*			*77-123*	*%REC*	*1*	*23-Jul-2019 06:02*
Surr: Toluene-d8	*98.5*			*82-127*	*%REC*	*1*	*23-Jul-2019 06:02*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW87C-20190717
Collection Date: 17-Jul-2019 15:40

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jul-2019 21:16
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jul-2019 21:16
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jul-2019 21:16
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jul-2019 21:16
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jul-2019 21:16
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 21:16
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jul-2019 21:16
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jul-2019 21:16
Acenaphthene	U		0.000027	0.00010	mg/L	1	22-Jul-2019 21:16
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jul-2019 21:16
Anthracene	U		0.000014	0.00010	mg/L	1	22-Jul-2019 21:16
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jul-2019 21:16
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jul-2019 21:16
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jul-2019 21:16
Bis(2-ethylhexyl)phthalate	**0.00018**	J	**0.000037**	**0.00020**	**mg/L**	1	22-Jul-2019 21:16
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 21:16
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jul-2019 21:16
Di-n-butyl phthalate	**0.00017**	J	**0.000020**	**0.00020**	**mg/L**	1	22-Jul-2019 21:16
Fluoranthene	U		0.000010	0.00010	mg/L	1	22-Jul-2019 21:16
Fluorene	U		0.000030	0.00010	mg/L	1	22-Jul-2019 21:16
Naphthalene	**0.00017**		**0.000020**	**0.00010**	**mg/L**	1	22-Jul-2019 21:16
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jul-2019 21:16
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jul-2019 21:16
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jul-2019 21:16
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 21:16
Phenol	**0.00013**	J	**0.000035**	**0.00020**	**mg/L**	1	22-Jul-2019 21:16
Pyrene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 21:16
Surr: 2,4,6-Tribromophenol	*106*			*34-129*	*%REC*	*1*	*22-Jul-2019 21:16*
Surr: 2-Fluorobiphenyl	*73.4*			*40-125*	*%REC*	*1*	*22-Jul-2019 21:16*
Surr: 2-Fluorophenol	*61.6*			*20-120*	*%REC*	*1*	*22-Jul-2019 21:16*
Surr: 4-Terphenyl-d14	*78.4*			*40-135*	*%REC*	*1*	*22-Jul-2019 21:16*
Surr: Nitrobenzene-d5	*73.5*			*41-120*	*%REC*	*1*	*22-Jul-2019 21:16*
Surr: Phenol-d6	*67.0*			*20-120*	*%REC*	*1*	*22-Jul-2019 21:16*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	30-Jul-2019 22:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW71B-20190717
Collection Date: 17-Jul-2019 16:40

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	23-Jul-2019 06:26
Benzene	**0.13**		**0.00020**	**0.0010**	**mg/L**	1	23-Jul-2019 06:26
Chlorobenzene	U		0.00030	0.0010	mg/L	1	23-Jul-2019 06:26
Ethylbenzene	**0.031**		**0.00030**	**0.0010**	**mg/L**	1	23-Jul-2019 06:26
Methylene chloride	U		0.0010	0.0020	mg/L	1	23-Jul-2019 06:26
Toluene	**0.023**		**0.00020**	**0.0010**	**mg/L**	1	23-Jul-2019 06:26
Xylenes, Total	**0.054**		**0.00030**	**0.0010**	**mg/L**	1	23-Jul-2019 06:26
Surr: 1,2-Dichloroethane-d4	*101*			*70-126*	*%REC*	*1*	*23-Jul-2019 06:26*
Surr: 4-Bromofluorobenzene	*102*			*81-113*	*%REC*	*1*	*23-Jul-2019 06:26*
Surr: Dibromofluoromethane	*104*			*77-123*	*%REC*	*1*	*23-Jul-2019 06:26*
Surr: Toluene-d8	*98.2*			*82-127*	*%REC*	*1*	*23-Jul-2019 06:26*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070994
Sample ID: WG-1620-MW71B-20190717
Lab ID:HS19070994-11
Collection Date: 17-Jul-2019 16:40
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jul-2019 21:36
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jul-2019 21:36
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jul-2019 21:36
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jul-2019 21:36
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jul-2019 21:36
2-Methylnaphthalene	**0.024**		**0.00019**	**0.0010**	**mg/L**	10	23-Jul-2019 16:19
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jul-2019 21:36
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jul-2019 21:36
Acenaphthene	**0.016**		**0.00027**	**0.0010**	**mg/L**	10	23-Jul-2019 16:19
Acenaphthylene	**0.00033**		**0.000015**	**0.00010**	**mg/L**	1	22-Jul-2019 21:36
Anthracene	**0.0066**		**0.000014**	**0.00010**	**mg/L**	1	22-Jul-2019 21:36
Benz(a)anthracene	**0.0026**		**0.000050**	**0.00010**	**mg/L**	1	22-Jul-2019 21:36
Benzo(a)pyrene	**0.00083**		**0.000020**	**0.00010**	**mg/L**	1	22-Jul-2019 21:36
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jul-2019 21:36
Bis(2-ethylhexyl)phthalate	**0.00014**	J	**0.000037**	**0.00020**	**mg/L**	1	22-Jul-2019 21:36
Chrysene	**0.0024**		**0.000021**	**0.00010**	**mg/L**	1	22-Jul-2019 21:36
Dibenzofuran	**0.016**		**0.00020**	**0.0010**	**mg/L**	10	23-Jul-2019 16:19
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jul-2019 21:36
Fluoranthene	**0.017**		**0.00010**	**0.0010**	**mg/L**	10	23-Jul-2019 16:19
Fluorene	**0.0093**		**0.000030**	**0.00010**	**mg/L**	1	22-Jul-2019 21:36
Naphthalene	**0.44**		**0.0020**	**0.010**	**mg/L**	100	23-Jul-2019 16:39
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jul-2019 21:36
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jul-2019 21:36
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jul-2019 21:36
Phenanthrene	**0.030**		**0.00021**	**0.0010**	**mg/L**	10	23-Jul-2019 16:19
Phenol	**0.000051**	J	**0.000035**	**0.00020**	**mg/L**	1	22-Jul-2019 21:36
Pyrene	**0.0088**		**0.000019**	**0.00010**	**mg/L**	1	22-Jul-2019 21:36
Surr: 2,4,6-Tribromophenol	*96.3*			*34-129*	*%REC*	*1*	*22-Jul-2019 21:36*
Surr: 2,4,6-Tribromophenol	*113*			*34-129*	*%REC*	*10*	*23-Jul-2019 16:19*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*23-Jul-2019 16:39*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*23-Jul-2019 16:39*
Surr: 2-Fluorobiphenyl	*77.7*			*40-125*	*%REC*	*10*	*23-Jul-2019 16:19*
Surr: 2-Fluorobiphenyl	*58.7*			*40-125*	*%REC*	*1*	*22-Jul-2019 21:36*
Surr: 2-Fluorophenol	*64.3*			*20-120*	*%REC*	*1*	*22-Jul-2019 21:36*
Surr: 2-Fluorophenol	*90.1*			*20-120*	*%REC*	*10*	*23-Jul-2019 16:19*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*23-Jul-2019 16:39*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*23-Jul-2019 16:39*
Surr: 4-Terphenyl-d14	*88.9*			*40-135*	*%REC*	*10*	*23-Jul-2019 16:19*
Surr: 4-Terphenyl-d14	*74.0*			*40-135*	*%REC*	*1*	*22-Jul-2019 21:36*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW71B-20190717
Collection Date: 17-Jul-2019 16:40

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
Surr: Nitrobenzene-d5	*67.5*			*41-120*	*%REC*	*1*	*22-Jul-2019 21:36*
Surr: Nitrobenzene-d5	*72.8*			*41-120*	*%REC*	*10*	*23-Jul-2019 16:19*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*23-Jul-2019 16:39*
Surr: Phenol-d6	*71.5*			*20-120*	*%REC*	*10*	*23-Jul-2019 16:19*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*23-Jul-2019 16:39*
Surr: Phenol-d6	*63.8*			*20-120*	*%REC*	*1*	*22-Jul-2019 21:36*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	**0.000626**	J	**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 22:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW33A-20190717
Collection Date: 17-Jul-2019 17:50

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 06:51
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 06:51
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 06:51
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 06:51
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 06:51
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 06:51
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 06:51
Surr: 1,2-Dichloroethane-d4	*97.8*			*70-126*	*%REC*	*1*	*23-Jul-2019 06:51*
Surr: 4-Bromofluorobenzene	*97.3*			*81-113*	*%REC*	*1*	*23-Jul-2019 06:51*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*23-Jul-2019 06:51*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*23-Jul-2019 06:51*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW33A-20190717
Collection Date: 17-Jul-2019 17:50

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jul-2019 21:55
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jul-2019 21:55
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jul-2019 21:55
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jul-2019 21:55
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jul-2019 21:55
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	22-Jul-2019 21:55
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jul-2019 21:55
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jul-2019 21:55
Acenaphthene	**0.000098**	J	**0.000027**	**0.00010**	**mg/L**	1	22-Jul-2019 21:55
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jul-2019 21:55
Anthracene	U		0.000014	0.00010	mg/L	1	22-Jul-2019 21:55
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jul-2019 21:55
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jul-2019 21:55
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jul-2019 21:55
Bis(2-ethylhexyl)phthalate	**0.00022**		**0.000037**	**0.00020**	**mg/L**	1	22-Jul-2019 21:55
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 21:55
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jul-2019 21:55
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jul-2019 21:55
Fluoranthene	**0.00016**		**0.000010**	**0.00010**	**mg/L**	1	22-Jul-2019 21:55
Fluorene	U		0.000030	0.00010	mg/L	1	22-Jul-2019 21:55
Naphthalene	**0.000076**	J	**0.000020**	**0.00010**	**mg/L**	1	22-Jul-2019 21:55
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jul-2019 21:55
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jul-2019 21:55
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jul-2019 21:55
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jul-2019 21:55
Phenol	**0.00011**	J	**0.000035**	**0.00020**	**mg/L**	1	22-Jul-2019 21:55
Pyrene	**0.00028**		**0.000019**	**0.00010**	**mg/L**	1	22-Jul-2019 21:55
Surr: 2,4,6-Tribromophenol	*103*			*34-129*	*%REC*	*1*	*22-Jul-2019 21:55*
Surr: 2-Fluorobiphenyl	*81.4*			*40-125*	*%REC*	*1*	*22-Jul-2019 21:55*
Surr: 2-Fluorophenol	*73.5*			*20-120*	*%REC*	*1*	*22-Jul-2019 21:55*
Surr: 4-Terphenyl-d14	*78.2*			*40-135*	*%REC*	*1*	*22-Jul-2019 21:55*
Surr: Nitrobenzene-d5	*75.0*			*41-120*	*%REC*	*1*	*22-Jul-2019 21:55*
Surr: Phenol-d6	*76.6*			*20-120*	*%REC*	*1*	*22-Jul-2019 21:55*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	**0.0155**		**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 22:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD02-20190717
Collection Date: 17-Jul-2019 17:50

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-13
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 07:16
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 07:16
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 07:16
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 07:16
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 07:16
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 07:16
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 07:16
Surr: 1,2-Dichloroethane-d4	*98.2*			*70-126*	*%REC*	*1*	*23-Jul-2019 07:16*
Surr: 4-Bromofluorobenzene	*97.8*			*81-113*	*%REC*	*1*	*23-Jul-2019 07:16*
Surr: Dibromofluoromethane	*104*			*77-123*	*%REC*	*1*	*23-Jul-2019 07:16*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*23-Jul-2019 07:16*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD02-20190717
Collection Date: 17-Jul-2019 17:50

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-13
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 13:20
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jul-2019 13:20
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 13:20
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 13:20
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 13:20
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 13:20
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 13:20
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 13:20
Acenaphthene	U		0.000027	0.00010	mg/L	1	23-Jul-2019 13:20
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jul-2019 13:20
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jul-2019 13:20
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jul-2019 13:20
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 13:20
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 13:20
Bis(2-ethylhexyl)phthalate	**0.000084**	J	**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 13:20
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 13:20
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jul-2019 13:20
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jul-2019 13:20
Fluoranthene	**0.00017**		**0.000010**	**0.00010**	**mg/L**	1	23-Jul-2019 13:20
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jul-2019 13:20
Naphthalene	**0.000096**	J	**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 13:20
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 13:20
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 13:20
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 13:20
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 13:20
Phenol	**0.000053**	J	**0.000035**	**0.00020**	**mg/L**	1	23-Jul-2019 13:20
Pyrene	**0.00069**		**0.000019**	**0.00010**	**mg/L**	1	23-Jul-2019 13:20
Surr: 2,4,6-Tribromophenol	*105*			*34-129*	*%REC*	*1*	*23-Jul-2019 13:20*
Surr: 2-Fluorobiphenyl	*75.5*			*40-125*	*%REC*	*1*	*23-Jul-2019 13:20*
Surr: 2-Fluorophenol	*64.3*			*20-120*	*%REC*	*1*	*23-Jul-2019 13:20*
Surr: 4-Terphenyl-d14	*73.8*			*40-135*	*%REC*	*1*	*23-Jul-2019 13:20*
Surr: Nitrobenzene-d5	*69.6*			*41-120*	*%REC*	*1*	*23-Jul-2019 13:20*
Surr: Phenol-d6	*67.8*			*20-120*	*%REC*	*1*	*23-Jul-2019 13:20*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	**0.0147**		**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 22:11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW26A-20190717
Collection Date: 17-Jul-2019 18:45

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-14
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	23-Jul-2019 07:40
Benzene	**0.00036**	J	**0.00020**	**0.0010**	**mg/L**	1	23-Jul-2019 07:40
Chlorobenzene	U		0.00030	0.0010	mg/L	1	23-Jul-2019 07:40
Ethylbenzene	U		0.00030	0.0010	mg/L	1	23-Jul-2019 07:40
Methylene chloride	U		0.0010	0.0020	mg/L	1	23-Jul-2019 07:40
Toluene	U		0.00020	0.0010	mg/L	1	23-Jul-2019 07:40
Xylenes, Total	U		0.00030	0.0010	mg/L	1	23-Jul-2019 07:40
Surr: 1,2-Dichloroethane-d4	*98.8*			*70-126*	*%REC*	*1*	*23-Jul-2019 07:40*
Surr: 4-Bromofluorobenzene	*102*			*81-113*	*%REC*	*1*	*23-Jul-2019 07:40*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*23-Jul-2019 07:40*
Surr: Toluene-d8	*98.3*			*82-127*	*%REC*	*1*	*23-Jul-2019 07:40*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW26A-20190717
Collection Date: 17-Jul-2019 18:45

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-14
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 13:40
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jul-2019 13:40
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 13:40
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 13:40
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 13:40
2-Methylnaphthalene	**0.000059**	J	**0.000019**	**0.00010**	**mg/L**	1	23-Jul-2019 13:40
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 13:40
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 13:40
Acenaphthene	**0.028**		**0.00027**	**0.0010**	**mg/L**	10	23-Jul-2019 16:59
Acenaphthylene	**0.00013**		**0.000015**	**0.00010**	**mg/L**	1	23-Jul-2019 13:40
Anthracene	**0.00047**		**0.000014**	**0.00010**	**mg/L**	1	23-Jul-2019 13:40
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jul-2019 13:40
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 13:40
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 13:40
Bis(2-ethylhexyl)phthalate	**0.00019**	J	**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 13:40
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 13:40
Dibenzofuran	**0.00021**		**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 13:40
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jul-2019 13:40
Fluoranthene	**0.0029**		**0.000010**	**0.00010**	**mg/L**	1	23-Jul-2019 13:40
Fluorene	**0.0017**		**0.000030**	**0.00010**	**mg/L**	1	23-Jul-2019 13:40
Naphthalene	**0.00032**		**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 13:40
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 13:40
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 13:40
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 13:40
Phenanthrene	**0.000083**	J	**0.000021**	**0.00010**	**mg/L**	1	23-Jul-2019 13:40
Phenol	U		0.000035	0.00020	mg/L	1	23-Jul-2019 13:40
Pyrene	**0.0015**		**0.000019**	**0.00010**	**mg/L**	1	23-Jul-2019 13:40
Surr: 2,4,6-Tribromophenol	*95.5*			*34-129*	*%REC*	*1*	*23-Jul-2019 13:40*
Surr: 2,4,6-Tribromophenol	*83.1*			*34-129*	*%REC*	*10*	*23-Jul-2019 16:59*
Surr: 2-Fluorobiphenyl	*104*			*40-125*	*%REC*	*10*	*23-Jul-2019 16:59*
Surr: 2-Fluorobiphenyl	*81.3*			*40-125*	*%REC*	*1*	*23-Jul-2019 13:40*
Surr: 2-Fluorophenol	*72.7*			*20-120*	*%REC*	*1*	*23-Jul-2019 13:40*
Surr: 2-Fluorophenol	*84.3*			*20-120*	*%REC*	*10*	*23-Jul-2019 16:59*
Surr: 4-Terphenyl-d14	*79.4*			*40-135*	*%REC*	*1*	*23-Jul-2019 13:40*
Surr: 4-Terphenyl-d14	*84.8*			*40-135*	*%REC*	*10*	*23-Jul-2019 16:59*
Surr: Nitrobenzene-d5	*82.2*			*41-120*	*%REC*	*1*	*23-Jul-2019 13:40*
Surr: Nitrobenzene-d5	*109*			*41-120*	*%REC*	*10*	*23-Jul-2019 16:59*
Surr: Phenol-d6	*82.9*			*20-120*	*%REC*	*10*	*23-Jul-2019 16:59*
Surr: Phenol-d6	*75.5*			*20-120*	*%REC*	*1*	*23-Jul-2019 13:40*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW26A-20190717
Collection Date: 17-Jul-2019 18:45

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-14
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	**0.0933**		**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 22:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB05-20190717
Collection Date: 17-Jul-2019 19:05

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-15
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 01:07
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 01:07
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 01:07
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 01:07
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 01:07
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 01:07
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 01:07
Surr: 1,2-Dichloroethane-d4	*101*			*70-126*	*%REC*	*1*	*23-Jul-2019 01:07*
Surr: 4-Bromofluorobenzene	*98.1*			*81-113*	*%REC*	*1*	*23-Jul-2019 01:07*
Surr: Dibromofluoromethane	*105*			*77-123*	*%REC*	*1*	*23-Jul-2019 01:07*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*23-Jul-2019 01:07*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB05-20190717
Collection Date: 17-Jul-2019 19:05

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-15
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine		U	0.000021	0.00020	mg/L	1	23-Jul-2019 14:00
2,4-Dimethylphenol		U	0.000040	0.00020	mg/L	1	23-Jul-2019 14:00
2,4-Dinitrotoluene		U	0.000058	0.00020	mg/L	1	23-Jul-2019 14:00
2,6-Dinitrotoluene		U	0.000042	0.00020	mg/L	1	23-Jul-2019 14:00
2-Chloronaphthalene		U	0.000021	0.00020	mg/L	1	23-Jul-2019 14:00
2-Methylnaphthalene		U	0.000019	0.00010	mg/L	1	23-Jul-2019 14:00
4,6-Dinitro-2-methylphenol		U	0.000020	0.00020	mg/L	1	23-Jul-2019 14:00
4-Nitrophenol		U	0.000047	0.0010	mg/L	1	23-Jul-2019 14:00
Acenaphthene		U	0.000027	0.00010	mg/L	1	23-Jul-2019 14:00
Acenaphthylene		U	0.000015	0.00010	mg/L	1	23-Jul-2019 14:00
Anthracene		U	0.000014	0.00010	mg/L	1	23-Jul-2019 14:00
Benz(a)anthracene		U	0.000050	0.00010	mg/L	1	23-Jul-2019 14:00
Benzo(a)pyrene		U	0.000020	0.00010	mg/L	1	23-Jul-2019 14:00
Bis(2-chloroethoxy)methane		U	0.000030	0.00020	mg/L	1	23-Jul-2019 14:00
Bis(2-ethylhexyl)phthalate	**0.00023**		**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 14:00
Chrysene		U	0.000021	0.00010	mg/L	1	23-Jul-2019 14:00
Dibenzofuran		U	0.000020	0.00010	mg/L	1	23-Jul-2019 14:00
Di-n-butyl phthalate		U	0.000020	0.00020	mg/L	1	23-Jul-2019 14:00
Fluoranthene		U	0.000010	0.00010	mg/L	1	23-Jul-2019 14:00
Fluorene		U	0.000030	0.00010	mg/L	1	23-Jul-2019 14:00
Naphthalene	**0.00023**		**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 14:00
Nitrobenzene		U	0.000024	0.00020	mg/L	1	23-Jul-2019 14:00
N-Nitrosodiphenylamine		U	0.000025	0.00020	mg/L	1	23-Jul-2019 14:00
Pentachlorophenol		U	0.000079	0.00020	mg/L	1	23-Jul-2019 14:00
Phenanthrene		U	0.000021	0.00010	mg/L	1	23-Jul-2019 14:00
Phenol		U	0.000035	0.00020	mg/L	1	23-Jul-2019 14:00
Pyrene		U	0.000019	0.00010	mg/L	1	23-Jul-2019 14:00
Surr: 2,4,6-Tribromophenol	*98.8*			*34-129*	*%REC*	*1*	*23-Jul-2019 14:00*
Surr: 2-Fluorobiphenyl	*104*			*40-125*	*%REC*	*1*	*23-Jul-2019 14:00*
Surr: 2-Fluorophenol	*97.5*			*20-120*	*%REC*	*1*	*23-Jul-2019 14:00*
Surr: 4-Terphenyl-d14	*92.4*			*40-135*	*%REC*	*1*	*23-Jul-2019 14:00*
Surr: Nitrobenzene-d5	*107*			*41-120*	*%REC*	*1*	*23-Jul-2019 14:00*
Surr: Phenol-d6	*98.7*			*20-120*	*%REC*	*1*	*23-Jul-2019 14:00*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic		U	0.000400	0.00200	mg/L	1	30-Jul-2019 22:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW68A-20190718
Collection Date: 18-Jul-2019 07:55

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-16
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 08:05
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 08:05
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 08:05
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 08:05
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 08:05
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 08:05
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 08:05
Surr: 1,2-Dichloroethane-d4	*98.9*			*70-126*	*%REC*	*1*	*23-Jul-2019 08:05*
Surr: 4-Bromofluorobenzene	*98.8*			*81-113*	*%REC*	*1*	*23-Jul-2019 08:05*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*23-Jul-2019 08:05*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*23-Jul-2019 08:05*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW68A-20190718
Collection Date: 18-Jul-2019 07:55

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-16
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 14:20
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jul-2019 14:20
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 14:20
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 14:20
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 14:20
2-Methylnaphthalene	**0.00012**		**0.000019**	**0.00010**	**mg/L**	1	23-Jul-2019 14:20
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 14:20
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 14:20
Acenaphthene	**0.0019**		**0.000027**	**0.00010**	**mg/L**	1	23-Jul-2019 14:20
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jul-2019 14:20
Anthracene	**0.000028**	J	**0.000014**	**0.00010**	**mg/L**	1	23-Jul-2019 14:20
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jul-2019 14:20
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 14:20
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 14:20
Bis(2-ethylhexyl)phthalate	**0.00024**		**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 14:20
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 14:20
Dibenzofuran	**0.000082**	J	**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 14:20
Di-n-butyl phthalate	**0.00015**	J	**0.000020**	**0.00020**	**mg/L**	1	23-Jul-2019 14:20
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jul-2019 14:20
Fluorene	**0.00012**		**0.000030**	**0.00010**	**mg/L**	1	23-Jul-2019 14:20
Naphthalene	**0.00035**		**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 14:20
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 14:20
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 14:20
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 14:20
Phenanthrene	**0.000062**	J	**0.000021**	**0.00010**	**mg/L**	1	23-Jul-2019 14:20
Phenol	U		0.000035	0.00020	mg/L	1	23-Jul-2019 14:20
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 14:20
Surr: 2,4,6-Tribromophenol	*110*			*34-129*	*%REC*	*1*	*23-Jul-2019 14:20*
Surr: 2-Fluorobiphenyl	*82.8*			*40-125*	*%REC*	*1*	*23-Jul-2019 14:20*
Surr: 2-Fluorophenol	*92.3*			*20-120*	*%REC*	*1*	*23-Jul-2019 14:20*
Surr: 4-Terphenyl-d14	*95.3*			*40-135*	*%REC*	*1*	*23-Jul-2019 14:20*
Surr: Nitrobenzene-d5	*80.4*			*41-120*	*%REC*	*1*	*23-Jul-2019 14:20*
Surr: Phenol-d6	*85.2*			*20-120*	*%REC*	*1*	*23-Jul-2019 14:20*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	**0.0353**		**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 22:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW68B-20190718
Collection Date: 18-Jul-2019 08:55

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-17
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.0020	0.010	mg/L	10	23-Jul-2019 08:32
Benzene	**1.4**		**0.020**	**0.10**	**mg/L**	100	23-Jul-2019 08:59
Chlorobenzene	U		0.0030	0.010	mg/L	10	23-Jul-2019 08:32
Ethylbenzene	**0.52**		**0.0030**	**0.010**	**mg/L**	10	23-Jul-2019 08:32
Methylene chloride	U		0.010	0.020	mg/L	10	23-Jul-2019 08:32
Toluene	**0.37**		**0.0020**	**0.010**	**mg/L**	10	23-Jul-2019 08:32
Xylenes, Total	**1.5**		**0.0030**	**0.010**	**mg/L**	10	23-Jul-2019 08:32
Surr: 1,2-Dichloroethane-d4	*97.0*			*70-126*	*%REC*	*100*	*23-Jul-2019 08:59*
Surr: 1,2-Dichloroethane-d4	*99.2*			*70-126*	*%REC*	*10*	*23-Jul-2019 08:32*
Surr: 4-Bromofluorobenzene	*104*			*81-113*	*%REC*	*10*	*23-Jul-2019 08:32*
Surr: 4-Bromofluorobenzene	*99.3*			*81-113*	*%REC*	*100*	*23-Jul-2019 08:59*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*10*	*23-Jul-2019 08:32*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*100*	*23-Jul-2019 08:59*
Surr: Toluene-d8	*99.6*			*82-127*	*%REC*	*10*	*23-Jul-2019 08:32*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*100*	*23-Jul-2019 08:59*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW68B-20190718
Collection Date: 18-Jul-2019 08:55

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-17
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	23-Jul-2019 21:16
2,4-Dimethylphenol	**0.076**		**0.00040**	**0.0020**	**mg/L**	10	23-Jul-2019 21:16
2,4-Dinitrotoluene	U		0.00058	0.0020	mg/L	10	23-Jul-2019 21:16
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	23-Jul-2019 21:16
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	23-Jul-2019 21:16
2-Methylnaphthalene	**0.72**		**0.0019**	**0.010**	**mg/L**	100	25-Jul-2019 18:57
4,6-Dinitro-2-methylphenol	U		0.00020	0.0020	mg/L	10	23-Jul-2019 21:16
4-Nitrophenol	U		0.00047	0.010	mg/L	10	23-Jul-2019 21:16
Acenaphthene	**0.20**		**0.0027**	**0.010**	**mg/L**	100	25-Jul-2019 18:57
Acenaphthylene	**0.0027**		**0.00015**	**0.0010**	**mg/L**	10	23-Jul-2019 21:16
Anthracene	**0.030**		**0.00014**	**0.0010**	**mg/L**	10	23-Jul-2019 21:16
Benz(a)anthracene	**0.0051**		**0.00050**	**0.0010**	**mg/L**	10	23-Jul-2019 21:16
Benzo(a)pyrene	**0.0018**		**0.00020**	**0.0010**	**mg/L**	10	23-Jul-2019 21:16
Bis(2-chloroethoxy)methane	U		0.00030	0.0020	mg/L	10	23-Jul-2019 21:16
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	23-Jul-2019 21:16
Chrysene	**0.0050**		**0.00021**	**0.0010**	**mg/L**	10	23-Jul-2019 21:16
Dibenzofuran	**0.21**		**0.0020**	**0.010**	**mg/L**	100	25-Jul-2019 18:57
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	23-Jul-2019 21:16
Fluoranthene	**0.043**		**0.00010**	**0.0010**	**mg/L**	10	23-Jul-2019 21:16
Fluorene	**0.11**		**0.0030**	**0.010**	**mg/L**	100	25-Jul-2019 18:57
Naphthalene	**9.6**		**0.020**	**0.10**	**mg/L**	1000	24-Jul-2019 15:22
Nitrobenzene	U		0.00024	0.0020	mg/L	10	23-Jul-2019 21:16
N-Nitrosodiphenylamine	U		0.00025	0.0020	mg/L	10	23-Jul-2019 21:16
Pentachlorophenol	U		0.00079	0.0020	mg/L	10	23-Jul-2019 21:16
Phenanthrene	**0.21**		**0.0021**	**0.010**	**mg/L**	100	25-Jul-2019 18:57
Phenol	U		0.00035	0.0020	mg/L	10	23-Jul-2019 21:16
Pyrene	**0.025**		**0.00019**	**0.0010**	**mg/L**	10	23-Jul-2019 21:16
Surr: 2,4,6-Tribromophenol	*102*			*34-129*	*%REC*	*10*	*23-Jul-2019 21:16*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*1000*	*24-Jul-2019 15:22*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*25-Jul-2019 18:57*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*25-Jul-2019 18:57*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*1000*	*24-Jul-2019 15:22*
Surr: 2-Fluorobiphenyl	*80.5*			*40-125*	*%REC*	*10*	*23-Jul-2019 21:16*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*1000*	*24-Jul-2019 15:22*
Surr: 2-Fluorophenol	*116*			*20-120*	*%REC*	*10*	*23-Jul-2019 21:16*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*25-Jul-2019 18:57*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*25-Jul-2019 18:57*
Surr: 4-Terphenyl-d14	*94.2*			*40-135*	*%REC*	*10*	*23-Jul-2019 21:16*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*1000*	*24-Jul-2019 15:22*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW68B-20190718
Collection Date: 18-Jul-2019 08:55

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-17
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*1000*	*24-Jul-2019 15:22*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*25-Jul-2019 18:57*
Surr: Nitrobenzene-d5	*99.5*			*41-120*	*%REC*	*10*	*23-Jul-2019 21:16*
Surr: Phenol-d6	*99.7*			*20-120*	*%REC*	*10*	*23-Jul-2019 21:16*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*25-Jul-2019 18:57*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*1000*	*24-Jul-2019 15:22*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	**0.0134**		**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 22:21

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD03-20190718
Collection Date: 18-Jul-2019 08:55

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-18
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.0020	0.010	mg/L	10	23-Jul-2019 09:26
Benzene	**1.4**		**0.020**	**0.10**	**mg/L**	100	23-Jul-2019 09:53
Chlorobenzene	U		0.0030	0.010	mg/L	10	23-Jul-2019 09:26
Ethylbenzene	**0.51**		**0.0030**	**0.010**	**mg/L**	10	23-Jul-2019 09:26
Methylene chloride	U		0.010	0.020	mg/L	10	23-Jul-2019 09:26
Toluene	**0.37**		**0.0020**	**0.010**	**mg/L**	10	23-Jul-2019 09:26
Xylenes, Total	**1.4**		**0.0030**	**0.010**	**mg/L**	10	23-Jul-2019 09:26
Surr: 1,2-Dichloroethane-d4	*98.5*			*70-126*	*%REC*	*10*	*23-Jul-2019 09:26*
Surr: 1,2-Dichloroethane-d4	*97.1*			*70-126*	*%REC*	*100*	*23-Jul-2019 09:53*
Surr: 4-Bromofluorobenzene	*102*			*81-113*	*%REC*	*10*	*23-Jul-2019 09:26*
Surr: 4-Bromofluorobenzene	*102*			*81-113*	*%REC*	*100*	*23-Jul-2019 09:53*
Surr: Dibromofluoromethane	*103*			*77-123*	*%REC*	*10*	*23-Jul-2019 09:26*
Surr: Dibromofluoromethane	*99.5*			*77-123*	*%REC*	*100*	*23-Jul-2019 09:53*
Surr: Toluene-d8	*98.3*			*82-127*	*%REC*	*10*	*23-Jul-2019 09:26*
Surr: Toluene-d8	*97.2*			*82-127*	*%REC*	*100*	*23-Jul-2019 09:53*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD03-20190718
Collection Date: 18-Jul-2019 08:55

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-18
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	23-Jul-2019 21:36
2,4-Dimethylphenol	**0.076**		**0.00040**	**0.0020**	**mg/L**	10	23-Jul-2019 21:36
2,4-Dinitrotoluene	U		0.00058	0.0020	mg/L	10	23-Jul-2019 21:36
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	23-Jul-2019 21:36
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	23-Jul-2019 21:36
2-Methylnaphthalene	**0.66**		**0.0019**	**0.010**	**mg/L**	100	24-Jul-2019 14:23
4,6-Dinitro-2-methylphenol	U		0.00020	0.0020	mg/L	10	23-Jul-2019 21:36
4-Nitrophenol	U		0.00047	0.010	mg/L	10	23-Jul-2019 21:36
Acenaphthene	**0.17**		**0.0027**	**0.010**	**mg/L**	100	24-Jul-2019 14:23
Acenaphthylene	**0.0022**		**0.00015**	**0.0010**	**mg/L**	10	23-Jul-2019 21:36
Anthracene	**0.022**		**0.00014**	**0.0010**	**mg/L**	10	23-Jul-2019 21:36
Benz(a)anthracene	**0.0030**		**0.00050**	**0.0010**	**mg/L**	10	23-Jul-2019 21:36
Benzo(a)pyrene	**0.0012**		**0.00020**	**0.0010**	**mg/L**	10	23-Jul-2019 21:36
Bis(2-chloroethoxy)methane	U		0.00030	0.0020	mg/L	10	23-Jul-2019 21:36
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	23-Jul-2019 21:36
Chrysene	**0.0029**		**0.00021**	**0.0010**	**mg/L**	10	23-Jul-2019 21:36
Dibenzofuran	**0.18**		**0.0020**	**0.010**	**mg/L**	100	24-Jul-2019 14:23
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	23-Jul-2019 21:36
Fluoranthene	**0.027**		**0.00010**	**0.0010**	**mg/L**	10	23-Jul-2019 21:36
Fluorene	**0.083**		**0.00030**	**0.0010**	**mg/L**	10	23-Jul-2019 21:36
Naphthalene	**9.9**		**0.020**	**0.10**	**mg/L**	1000	24-Jul-2019 14:43
Nitrobenzene	U		0.00024	0.0020	mg/L	10	23-Jul-2019 21:36
N-Nitrosodiphenylamine	U		0.00025	0.0020	mg/L	10	23-Jul-2019 21:36
Pentachlorophenol	U		0.00079	0.0020	mg/L	10	23-Jul-2019 21:36
Phenanthrene	**0.16**		**0.0021**	**0.010**	**mg/L**	100	24-Jul-2019 14:23
Phenol	U		0.00035	0.0020	mg/L	10	23-Jul-2019 21:36
Pyrene	**0.015**		**0.00019**	**0.0010**	**mg/L**	10	23-Jul-2019 21:36
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*1000*	*24-Jul-2019 14:43*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*24-Jul-2019 14:23*
Surr: 2,4,6-Tribromophenol	*91.9*			*34-129*	*%REC*	*10*	*23-Jul-2019 21:36*
Surr: 2-Fluorobiphenyl	*77.8*			*40-125*	*%REC*	*10*	*23-Jul-2019 21:36*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*24-Jul-2019 14:23*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*1000*	*24-Jul-2019 14:43*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*24-Jul-2019 14:23*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*1000*	*24-Jul-2019 14:43*
Surr: 2-Fluorophenol	*105*			*20-120*	*%REC*	*10*	*23-Jul-2019 21:36*
Surr: 4-Terphenyl-d14	*76.3*			*40-135*	*%REC*	*10*	*23-Jul-2019 21:36*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*24-Jul-2019 14:23*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*1000*	*24-Jul-2019 14:43*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD03-20190718
Collection Date: 18-Jul-2019 08:55

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-18
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*24-Jul-2019 14:23*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*1000*	*24-Jul-2019 14:43*
Surr: Nitrobenzene-d5	*106*			*41-120*	*%REC*	*10*	*23-Jul-2019 21:36*
Surr: Phenol-d6	*76.0*			*20-120*	*%REC*	*10*	*23-Jul-2019 21:36*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*24-Jul-2019 14:23*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*1000*	*24-Jul-2019 14:43*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	**0.0129**		**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 22:23

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW68C-20190718
Collection Date: 18-Jul-2019 09:45

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-19
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 02:01
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 02:01
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 02:01
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 02:01
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 02:01
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 02:01
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 02:01
Surr: 1,2-Dichloroethane-d4	*88.4*			*70-126*	*%REC*	*1*	*23-Jul-2019 02:01*
Surr: 4-Bromofluorobenzene	*95.7*			*81-113*	*%REC*	*1*	*23-Jul-2019 02:01*
Surr: Dibromofluoromethane	*99.0*			*77-123*	*%REC*	*1*	*23-Jul-2019 02:01*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*23-Jul-2019 02:01*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW68C-20190718
Collection Date: 18-Jul-2019 09:45

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-19
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 15:19
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jul-2019 15:19
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 15:19
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 15:19
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 15:19
2-Methylnaphthalene	**0.000072**	J	**0.000019**	**0.00010**	**mg/L**	1	23-Jul-2019 15:19
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 15:19
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 15:19
Acenaphthene	**0.00012**		**0.000027**	**0.00010**	**mg/L**	1	23-Jul-2019 15:19
Acenaphthylene	**0.000053**	J	**0.000015**	**0.00010**	**mg/L**	1	23-Jul-2019 15:19
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jul-2019 15:19
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jul-2019 15:19
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 15:19
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 15:19
Bis(2-ethylhexyl)phthalate	**0.00032**		**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 15:19
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 15:19
Dibenzofuran	**0.000064**	J	**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 15:19
Di-n-butyl phthalate	**0.000067**	J	**0.000020**	**0.00020**	**mg/L**	1	23-Jul-2019 15:19
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jul-2019 15:19
Fluorene	**0.000051**	J	**0.000030**	**0.00010**	**mg/L**	1	23-Jul-2019 15:19
Naphthalene	**0.0011**		**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 15:19
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 15:19
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 15:19
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 15:19
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 15:19
Phenol	**0.00026**		**0.000035**	**0.00020**	**mg/L**	1	23-Jul-2019 15:19
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 15:19
Surr: 2,4,6-Tribromophenol	*106*			*34-129*	*%REC*	*1*	*23-Jul-2019 15:19*
Surr: 2-Fluorobiphenyl	*84.4*			*40-125*	*%REC*	*1*	*23-Jul-2019 15:19*
Surr: 2-Fluorophenol	*79.1*			*20-120*	*%REC*	*1*	*23-Jul-2019 15:19*
Surr: 4-Terphenyl-d14	*84.9*			*40-135*	*%REC*	*1*	*23-Jul-2019 15:19*
Surr: Nitrobenzene-d5	*80.3*			*41-120*	*%REC*	*1*	*23-Jul-2019 15:19*
Surr: Phenol-d6	*80.4*			*20-120*	*%REC*	*1*	*23-Jul-2019 15:19*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	30-Jul-2019 22:25

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW83B-20190718
Collection Date: 18-Jul-2019 10:40

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-20
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	23-Jul-2019 06:30
Benzene	**0.021**		**0.00020**	**0.0010**	**mg/L**	1	23-Jul-2019 06:30
Chlorobenzene	U		0.00030	0.0010	mg/L	1	23-Jul-2019 06:30
Ethylbenzene	**0.055**		**0.00030**	**0.0010**	**mg/L**	1	23-Jul-2019 06:30
Methylene chloride	U		0.0010	0.0020	mg/L	1	23-Jul-2019 06:30
Toluene	**0.0042**		**0.00020**	**0.0010**	**mg/L**	1	23-Jul-2019 06:30
Xylenes, Total	**0.061**		**0.00030**	**0.0010**	**mg/L**	1	23-Jul-2019 06:30
Surr: 1,2-Dichloroethane-d4	*87.6*			*70-126*	*%REC*	*1*	*23-Jul-2019 06:30*
Surr: 4-Bromofluorobenzene	*97.3*			*81-113*	*%REC*	*1*	*23-Jul-2019 06:30*
Surr: Dibromofluoromethane	*97.4*			*77-123*	*%REC*	*1*	*23-Jul-2019 06:30*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*23-Jul-2019 06:30*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW83B-20190718
Collection Date: 18-Jul-2019 10:40

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-20
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 22-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 15:39
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jul-2019 15:39
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 15:39
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 15:39
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 15:39
2-Methylnaphthalene	**0.050**		**0.00019**	**0.0010**	**mg/L**	10	23-Jul-2019 21:56
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 15:39
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 15:39
Acenaphthene	**0.021**		**0.00027**	**0.0010**	**mg/L**	10	23-Jul-2019 21:56
Acenaphthylene	**0.00025**		**0.000015**	**0.00010**	**mg/L**	1	23-Jul-2019 15:39
Anthracene	**0.00099**		**0.000014**	**0.00010**	**mg/L**	1	23-Jul-2019 15:39
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jul-2019 15:39
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 15:39
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 15:39
Bis(2-ethylhexyl)phthalate	**0.00036**		**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 15:39
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 15:39
Dibenzofuran	**0.014**		**0.00020**	**0.0010**	**mg/L**	10	23-Jul-2019 21:56
Di-n-butyl phthalate	**0.00012**	J	**0.000020**	**0.00020**	**mg/L**	1	23-Jul-2019 15:39
Fluoranthene	**0.00038**		**0.000010**	**0.00010**	**mg/L**	1	23-Jul-2019 15:39
Fluorene	**0.0076**		**0.000030**	**0.00010**	**mg/L**	1	23-Jul-2019 15:39
Naphthalene	**0.77**		**0.0020**	**0.010**	**mg/L**	100	24-Jul-2019 15:02
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 15:39
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 15:39
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 15:39
Phenanthrene	**0.0059**		**0.000021**	**0.00010**	**mg/L**	1	23-Jul-2019 15:39
Phenol	**0.00051**		**0.000035**	**0.00020**	**mg/L**	1	23-Jul-2019 15:39
Pyrene	**0.00020**		**0.000019**	**0.00010**	**mg/L**	1	23-Jul-2019 15:39
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*24-Jul-2019 15:02*
Surr: 2,4,6-Tribromophenol	*94.6*			*34-129*	*%REC*	*10*	*23-Jul-2019 21:56*
Surr: 2,4,6-Tribromophenol	*101*			*34-129*	*%REC*	*1*	*23-Jul-2019 15:39*
Surr: 2-Fluorobiphenyl	*58.6*			*40-125*	*%REC*	*1*	*23-Jul-2019 15:39*
Surr: 2-Fluorobiphenyl	*55.7*			*40-125*	*%REC*	*10*	*23-Jul-2019 21:56*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*24-Jul-2019 15:02*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*24-Jul-2019 15:02*
Surr: 2-Fluorophenol	*64.1*			*20-120*	*%REC*	*10*	*23-Jul-2019 21:56*
Surr: 2-Fluorophenol	*61.1*			*20-120*	*%REC*	*1*	*23-Jul-2019 15:39*
Surr: 4-Terphenyl-d14	*91.3*			*40-135*	*%REC*	*1*	*23-Jul-2019 15:39*
Surr: 4-Terphenyl-d14	*86.5*			*40-135*	*%REC*	*10*	*23-Jul-2019 21:56*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*24-Jul-2019 15:02*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW83B-20190718
Collection Date: 18-Jul-2019 10:40

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-20
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jul-2019		Analyst: GEY
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*24-Jul-2019 15:02*
Surr: Nitrobenzene-d5	*51.9*			*41-120*	*%REC*	*1*	*23-Jul-2019 15:39*
Surr: Nitrobenzene-d5	*56.9*			*41-120*	*%REC*	*10*	*23-Jul-2019 21:56*
Surr: Phenol-d6	*59.6*			*20-120*	*%REC*	*1*	*23-Jul-2019 15:39*
Surr: Phenol-d6	*47.6*			*20-120*	*%REC*	*10*	*23-Jul-2019 21:56*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*24-Jul-2019 15:02*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 29-Jul-2019		Analyst: JHD
Arsenic	**0.0648**		**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 22:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW83C-20190718
Collection Date: 18-Jul-2019 11:30

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-21
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 03:13
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 03:13
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 03:13
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 03:13
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 03:13
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 03:13
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 03:13
Surr: 1,2-Dichloroethane-d4	*99.1*			*70-126*	*%REC*	*1*	*23-Jul-2019 03:13*
Surr: 4-Bromofluorobenzene	*98.5*			*81-113*	*%REC*	*1*	*23-Jul-2019 03:13*
Surr: Dibromofluoromethane	*98.6*			*77-123*	*%REC*	*1*	*23-Jul-2019 03:13*
Surr: Toluene-d8	*105*			*82-127*	*%REC*	*1*	*23-Jul-2019 03:13*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW83C-20190718
Collection Date: 18-Jul-2019 11:30

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-21
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 23-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 17:19
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jul-2019 17:19
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 17:19
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 17:19
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 17:19
2-Methylnaphthalene	**0.00012**		**0.000019**	**0.00010**	**mg/L**	1	23-Jul-2019 17:19
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 17:19
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 17:19
Acenaphthene	**0.000094**	J	**0.000027**	**0.00010**	**mg/L**	1	23-Jul-2019 17:19
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jul-2019 17:19
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jul-2019 17:19
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jul-2019 17:19
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 17:19
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 17:19
Bis(2-ethylhexyl)phthalate	**0.00023**		**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 17:19
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 17:19
Dibenzofuran	**0.000070**	J	**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 17:19
Di-n-butyl phthalate	**0.000040**	J	**0.000020**	**0.00020**	**mg/L**	1	23-Jul-2019 17:19
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jul-2019 17:19
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jul-2019 17:19
Naphthalene	**0.0014**		**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 17:19
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 17:19
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 17:19
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 17:19
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 17:19
Phenol	**0.000068**	J	**0.000035**	**0.00020**	**mg/L**	1	23-Jul-2019 17:19
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 17:19
Surr: 2,4,6-Tribromophenol	*78.7*			*34-129*	*%REC*	*1*	*23-Jul-2019 17:19*
Surr: 2-Fluorobiphenyl	*59.2*			*40-125*	*%REC*	*1*	*23-Jul-2019 17:19*
Surr: 2-Fluorophenol	*54.1*			*20-120*	*%REC*	*1*	*23-Jul-2019 17:19*
Surr: 4-Terphenyl-d14	*85.6*			*40-135*	*%REC*	*1*	*23-Jul-2019 17:19*
Surr: Nitrobenzene-d5	*71.6*			*41-120*	*%REC*	*1*	*23-Jul-2019 17:19*
Surr: Phenol-d6	*56.2*			*20-120*	*%REC*	*1*	*23-Jul-2019 17:19*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 30-Jul-2019		Analyst: JHD
Arsenic	**0.00617**		**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 22:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW35A-20190718
Collection Date: 18-Jul-2019 12:40

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-22
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 04:25
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 04:25
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 04:25
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 04:25
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 04:25
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 04:25
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 04:25
Surr: 1,2-Dichloroethane-d4	*104*			*70-126*	*%REC*	*1*	*23-Jul-2019 04:25*
Surr: 4-Bromofluorobenzene	*103*			*81-113*	*%REC*	*1*	*23-Jul-2019 04:25*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*23-Jul-2019 04:25*
Surr: Toluene-d8	*107*			*82-127*	*%REC*	*1*	*23-Jul-2019 04:25*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW35A-20190718
Collection Date: 18-Jul-2019 12:40

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-22
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 23-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 17:38
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jul-2019 17:38
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 17:38
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 17:38
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 17:38
2-Methylnaphthalene	**0.00012**		**0.000019**	**0.00010**	**mg/L**	1	23-Jul-2019 17:38
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 17:38
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 17:38
Acenaphthene	**0.0028**		**0.000027**	**0.00010**	**mg/L**	1	23-Jul-2019 17:38
Acenaphthylene	**0.000071**	J	**0.000015**	**0.00010**	**mg/L**	1	23-Jul-2019 17:38
Anthracene	**0.00011**		**0.000014**	**0.00010**	**mg/L**	1	23-Jul-2019 17:38
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jul-2019 17:38
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 17:38
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 17:38
Bis(2-ethylhexyl)phthalate	**0.000057**	J	**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 17:38
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 17:38
Dibenzofuran	**0.00039**		**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 17:38
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jul-2019 17:38
Fluoranthene	**0.00015**		**0.000010**	**0.00010**	**mg/L**	1	23-Jul-2019 17:38
Fluorene	**0.00036**		**0.000030**	**0.00010**	**mg/L**	1	23-Jul-2019 17:38
Naphthalene	**0.00083**		**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 17:38
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 17:38
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 17:38
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 17:38
Phenanthrene	**0.000042**	J	**0.000021**	**0.00010**	**mg/L**	1	23-Jul-2019 17:38
Phenol	U		0.000035	0.00020	mg/L	1	23-Jul-2019 17:38
Pyrene	**0.000096**	J	**0.000019**	**0.00010**	**mg/L**	1	23-Jul-2019 17:38
Surr: 2,4,6-Tribromophenol	*103*			*34-129*	*%REC*	*1*	*23-Jul-2019 17:38*
Surr: 2-Fluorobiphenyl	*70.8*			*40-125*	*%REC*	*1*	*23-Jul-2019 17:38*
Surr: 2-Fluorophenol	*69.2*			*20-120*	*%REC*	*1*	*23-Jul-2019 17:38*
Surr: 4-Terphenyl-d14	*86.8*			*40-135*	*%REC*	*1*	*23-Jul-2019 17:38*
Surr: Nitrobenzene-d5	*83.4*			*41-120*	*%REC*	*1*	*23-Jul-2019 17:38*
Surr: Phenol-d6	*73.4*			*20-120*	*%REC*	*1*	*23-Jul-2019 17:38*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 30-Jul-2019		Analyst: JHD
Arsenic	**0.0548**		**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 22:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW35B-20190718
Collection Date: 18-Jul-2019 13:30

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-23
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: PC
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	23-Jul-2019 04:49
Benzene	**0.0045**		**0.00020**	**0.0010**	**mg/L**	1	23-Jul-2019 04:49
Chlorobenzene	U		0.00030	0.0010	mg/L	1	23-Jul-2019 04:49
Ethylbenzene	**0.014**		**0.00030**	**0.0010**	**mg/L**	1	23-Jul-2019 04:49
Methylene chloride	U		0.0010	0.0020	mg/L	1	23-Jul-2019 04:49
Toluene	**0.00054**	J	**0.00020**	**0.0010**	**mg/L**	1	23-Jul-2019 04:49
Xylenes, Total	**0.0062**		**0.00030**	**0.0010**	**mg/L**	1	23-Jul-2019 04:49
Surr: 1,2-Dichloroethane-d4	*101*			*70-126*	*%REC*	*1*	*23-Jul-2019 04:49*
Surr: 4-Bromofluorobenzene	*97.9*			*81-113*	*%REC*	*1*	*23-Jul-2019 04:49*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*23-Jul-2019 04:49*
Surr: Toluene-d8	*104*			*82-127*	*%REC*	*1*	*23-Jul-2019 04:49*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW35B-20190718
Collection Date: 18-Jul-2019 13:30

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-23
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 23-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 17:58
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jul-2019 17:58
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 17:58
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 17:58
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 17:58
2-Methylnaphthalene	**0.041**		**0.00019**	**0.0010**	**mg/L**	10	25-Jul-2019 19:17
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 17:58
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 17:58
Acenaphthene	**0.029**		**0.00027**	**0.0010**	**mg/L**	10	25-Jul-2019 19:17
Acenaphthylene	**0.00022**		**0.000015**	**0.00010**	**mg/L**	1	23-Jul-2019 17:58
Anthracene	**0.0022**		**0.000014**	**0.00010**	**mg/L**	1	23-Jul-2019 17:58
Benz(a)anthracene	**0.000083**	J	**0.000050**	**0.00010**	**mg/L**	1	23-Jul-2019 17:58
Benzo(a)pyrene	**0.000053**	J	**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 17:58
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 17:58
Bis(2-ethylhexyl)phthalate	**0.00012**	J	**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 17:58
Chrysene	**0.000091**	J	**0.000021**	**0.00010**	**mg/L**	1	23-Jul-2019 17:58
Dibenzofuran	**0.029**		**0.00020**	**0.0010**	**mg/L**	10	25-Jul-2019 19:17
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jul-2019 17:58
Fluoranthene	**0.0017**		**0.000010**	**0.00010**	**mg/L**	1	23-Jul-2019 17:58
Fluorene	**0.014**		**0.00030**	**0.0010**	**mg/L**	10	25-Jul-2019 19:17
Naphthalene	**1.1**		**0.010**	**0.050**	**mg/L**	500	26-Jul-2019 19:55
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 17:58
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 17:58
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 17:58
Phenanthrene	**0.019**		**0.00021**	**0.0010**	**mg/L**	10	25-Jul-2019 19:17
Phenol	**0.00017**	J	**0.000035**	**0.00020**	**mg/L**	1	23-Jul-2019 17:58
Pyrene	**0.00079**		**0.000019**	**0.00010**	**mg/L**	1	23-Jul-2019 17:58
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*500*	*26-Jul-2019 19:55*
Surr: 2,4,6-Tribromophenol	*112*			*34-129*	*%REC*	*1*	*23-Jul-2019 17:58*
Surr: 2,4,6-Tribromophenol	*98.6*			*34-129*	*%REC*	*10*	*25-Jul-2019 19:17*
Surr: 2-Fluorobiphenyl	*97.8*			*40-125*	*%REC*	*10*	*25-Jul-2019 19:17*
Surr: 2-Fluorobiphenyl	*88.4*			*40-125*	*%REC*	*1*	*23-Jul-2019 17:58*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*500*	*26-Jul-2019 19:55*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*500*	*26-Jul-2019 19:55*
Surr: 2-Fluorophenol	*86.8*			*20-120*	*%REC*	*1*	*23-Jul-2019 17:58*
Surr: 2-Fluorophenol	*90.8*			*20-120*	*%REC*	*10*	*25-Jul-2019 19:17*
Surr: 4-Terphenyl-d14	*105*			*40-135*	*%REC*	*10*	*25-Jul-2019 19:17*
Surr: 4-Terphenyl-d14	*92.1*			*40-135*	*%REC*	*1*	*23-Jul-2019 17:58*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*500*	*26-Jul-2019 19:55*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW35B-20190718
Collection Date: 18-Jul-2019 13:30

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-23
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 23-Jul-2019		Analyst: GEY
Surr: Nitrobenzene-d5	*89.4*			*41-120*	*%REC*	*1*	*23-Jul-2019 17:58*
Surr: Nitrobenzene-d5	*97.7*			*41-120*	*%REC*	*10*	*25-Jul-2019 19:17*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*500*	*26-Jul-2019 19:55*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*500*	*26-Jul-2019 19:55*
Surr: Phenol-d6	*89.7*			*20-120*	*%REC*	*10*	*25-Jul-2019 19:17*
Surr: Phenol-d6	*93.6*			*20-120*	*%REC*	*1*	*23-Jul-2019 17:58*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 30-Jul-2019		Analyst: JHD
Arsenic	**0.00120**	J	**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 22:59

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW90B-20190718
Collection Date: 18-Jul-2019 14:25

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-24
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 05:13
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 05:13
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 05:13
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 05:13
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 05:13
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 05:13
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 05:13
Surr: 1,2-Dichloroethane-d4	*109*			*70-126*	*%REC*	*1*	*23-Jul-2019 05:13*
Surr: 4-Bromofluorobenzene	*107*			*81-113*	*%REC*	*1*	*23-Jul-2019 05:13*
Surr: Dibromofluoromethane	*109*			*77-123*	*%REC*	*1*	*23-Jul-2019 05:13*
Surr: Toluene-d8	*111*			*82-127*	*%REC*	*1*	*23-Jul-2019 05:13*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW90B-20190718
Collection Date: 18-Jul-2019 14:25

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-24
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 23-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 18:18
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jul-2019 18:18
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 18:18
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 18:18
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 18:18
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 18:18
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 18:18
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 18:18
Acenaphthene	U		0.000027	0.00010	mg/L	1	23-Jul-2019 18:18
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jul-2019 18:18
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jul-2019 18:18
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jul-2019 18:18
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 18:18
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 18:18
Bis(2-ethylhexyl)phthalate	**0.00011**	J	**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 18:18
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 18:18
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jul-2019 18:18
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jul-2019 18:18
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jul-2019 18:18
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jul-2019 18:18
Naphthalene	**0.000091**	J	**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 18:18
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 18:18
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 18:18
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 18:18
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 18:18
Phenol	U		0.000035	0.00020	mg/L	1	23-Jul-2019 18:18
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 18:18
Surr: 2,4,6-Tribromophenol	*101*			*34-129*	*%REC*	*1*	*23-Jul-2019 18:18*
Surr: 2-Fluorobiphenyl	*84.5*			*40-125*	*%REC*	*1*	*23-Jul-2019 18:18*
Surr: 2-Fluorophenol	*78.2*			*20-120*	*%REC*	*1*	*23-Jul-2019 18:18*
Surr: 4-Terphenyl-d14	*89.3*			*40-135*	*%REC*	*1*	*23-Jul-2019 18:18*
Surr: Nitrobenzene-d5	*87.0*			*41-120*	*%REC*	*1*	*23-Jul-2019 18:18*
Surr: Phenol-d6	*85.5*			*20-120*	*%REC*	*1*	*23-Jul-2019 18:18*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 30-Jul-2019		Analyst: JHD
Arsenic	**0.0135**		**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 23:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW89B-20190718
Collection Date: 18-Jul-2019 15:15

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-25
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 05:37
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 05:37
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 05:37
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 05:37
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 05:37
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 05:37
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 05:37
Surr: 1,2-Dichloroethane-d4	*105*			*70-126*	*%REC*	*1*	*23-Jul-2019 05:37*
Surr: 4-Bromofluorobenzene	*105*			*81-113*	*%REC*	*1*	*23-Jul-2019 05:37*
Surr: Dibromofluoromethane	*104*			*77-123*	*%REC*	*1*	*23-Jul-2019 05:37*
Surr: Toluene-d8	*112*			*82-127*	*%REC*	*1*	*23-Jul-2019 05:37*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW89B-20190718
Collection Date: 18-Jul-2019 15:15

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-25
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 23-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 18:38
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jul-2019 18:38
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 18:38
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 18:38
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 18:38
2-Methylnaphthalene	**0.000050**	J	**0.000019**	**0.00010**	**mg/L**	1	23-Jul-2019 18:38
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 18:38
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 18:38
Acenaphthene	U		0.000027	0.00010	mg/L	1	23-Jul-2019 18:38
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jul-2019 18:38
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jul-2019 18:38
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jul-2019 18:38
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 18:38
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 18:38
Bis(2-ethylhexyl)phthalate	**0.00015**	J	**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 18:38
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 18:38
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jul-2019 18:38
Di-n-butyl phthalate	**0.000038**	J	**0.000020**	**0.00020**	**mg/L**	1	23-Jul-2019 18:38
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jul-2019 18:38
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jul-2019 18:38
Naphthalene	**0.00025**		**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 18:38
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 18:38
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 18:38
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 18:38
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 18:38
Phenol	**0.00042**		**0.000035**	**0.00020**	**mg/L**	1	23-Jul-2019 18:38
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 18:38
Surr: 2,4,6-Tribromophenol	*105*			*34-129*	*%REC*	*1*	*23-Jul-2019 18:38*
Surr: 2-Fluorobiphenyl	*76.4*			*40-125*	*%REC*	*1*	*23-Jul-2019 18:38*
Surr: 2-Fluorophenol	*71.0*			*20-120*	*%REC*	*1*	*23-Jul-2019 18:38*
Surr: 4-Terphenyl-d14	*92.2*			*40-135*	*%REC*	*1*	*23-Jul-2019 18:38*
Surr: Nitrobenzene-d5	*80.3*			*41-120*	*%REC*	*1*	*23-Jul-2019 18:38*
Surr: Phenol-d6	*76.1*			*20-120*	*%REC*	*1*	*23-Jul-2019 18:38*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 30-Jul-2019		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	30-Jul-2019 23:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW38B-20190718
Collection Date: 18-Jul-2019 16:10

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-26
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 06:01
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 06:01
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 06:01
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 06:01
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 06:01
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 06:01
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 06:01
Surr: 1,2-Dichloroethane-d4	*114*			*70-126*	*%REC*	*1*	*23-Jul-2019 06:01*
Surr: 4-Bromofluorobenzene	*111*			*81-113*	*%REC*	*1*	*23-Jul-2019 06:01*
Surr: Dibromofluoromethane	*113*			*77-123*	*%REC*	*1*	*23-Jul-2019 06:01*
Surr: Toluene-d8	*115*			*82-127*	*%REC*	*1*	*23-Jul-2019 06:01*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW38B-20190718
Collection Date: 18-Jul-2019 16:10

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-26
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 23-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 18:58
2,4-Dimethylphenol	**0.000056**	J	**0.000040**	**0.00020**	**mg/L**	1	23-Jul-2019 18:58
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 18:58
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 18:58
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 18:58
2-Methylnaphthalene	**0.00030**		**0.000019**	**0.00010**	**mg/L**	1	23-Jul-2019 18:58
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 18:58
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 18:58
Acenaphthene	**0.00012**		**0.000027**	**0.00010**	**mg/L**	1	23-Jul-2019 18:58
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jul-2019 18:58
Anthracene	**0.000037**	J	**0.000014**	**0.00010**	**mg/L**	1	23-Jul-2019 18:58
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jul-2019 18:58
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 18:58
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 18:58
Bis(2-ethylhexyl)phthalate	**0.00031**		**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 18:58
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 18:58
Dibenzofuran	**0.00014**		**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 18:58
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jul-2019 18:58
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jul-2019 18:58
Fluorene	**0.000060**	J	**0.000030**	**0.00010**	**mg/L**	1	23-Jul-2019 18:58
Naphthalene	**0.0026**		**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 18:58
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 18:58
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 18:58
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 18:58
Phenanthrene	**0.000079**	J	**0.000021**	**0.00010**	**mg/L**	1	23-Jul-2019 18:58
Phenol	**0.000056**	J	**0.000035**	**0.00020**	**mg/L**	1	23-Jul-2019 18:58
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 18:58
Surr: 2,4,6-Tribromophenol	*101*			*34-129*	*%REC*	*1*	*23-Jul-2019 18:58*
Surr: 2-Fluorobiphenyl	*96.4*			*40-125*	*%REC*	*1*	*23-Jul-2019 18:58*
Surr: 2-Fluorophenol	*83.6*			*20-120*	*%REC*	*1*	*23-Jul-2019 18:58*
Surr: 4-Terphenyl-d14	*85.6*			*40-135*	*%REC*	*1*	*23-Jul-2019 18:58*
Surr: Nitrobenzene-d5	*90.4*			*41-120*	*%REC*	*1*	*23-Jul-2019 18:58*
Surr: Phenol-d6	*90.0*			*20-120*	*%REC*	*1*	*23-Jul-2019 18:58*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 30-Jul-2019		Analyst: JHD
Arsenic	**0.000553**	J	**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 23:06

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW27A-20190718
Collection Date: 18-Jul-2019 17:15

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-27
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: PC
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	23-Jul-2019 06:25
Benzene	U		0.00020	0.0010	mg/L	1	23-Jul-2019 06:25
Chlorobenzene	U		0.00030	0.0010	mg/L	1	23-Jul-2019 06:25
Ethylbenzene	U		0.00030	0.0010	mg/L	1	23-Jul-2019 06:25
Methylene chloride	U		0.0010	0.0020	mg/L	1	23-Jul-2019 06:25
Toluene	U		0.00020	0.0010	mg/L	1	23-Jul-2019 06:25
Xylenes, Total	U		0.00030	0.0010	mg/L	1	23-Jul-2019 06:25
Surr: 1,2-Dichloroethane-d4	*102*			*70-126*	*%REC*	*1*	*23-Jul-2019 06:25*
Surr: 4-Bromofluorobenzene	*103*			*81-113*	*%REC*	*1*	*23-Jul-2019 06:25*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*23-Jul-2019 06:25*
Surr: Toluene-d8	*108*			*82-127*	*%REC*	*1*	*23-Jul-2019 06:25*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW27A-20190718
Collection Date: 18-Jul-2019 17:15

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-27
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 23-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 19:18
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jul-2019 19:18
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 19:18
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 19:18
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 19:18
2-Methylnaphthalene	**0.00034**		**0.000019**	**0.00010**	**mg/L**	1	23-Jul-2019 19:18
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 19:18
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 19:18
Acenaphthene	**0.00011**		**0.000027**	**0.00010**	**mg/L**	1	23-Jul-2019 19:18
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jul-2019 19:18
Anthracene	**0.000036**	J	**0.000014**	**0.00010**	**mg/L**	1	23-Jul-2019 19:18
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jul-2019 19:18
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 19:18
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 19:18
Bis(2-ethylhexyl)phthalate	**0.00020**		**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 19:18
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 19:18
Dibenzofuran	**0.00014**		**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 19:18
Di-n-butyl phthalate	**0.000034**	J	**0.000020**	**0.00020**	**mg/L**	1	23-Jul-2019 19:18
Fluoranthene	**0.000024**	J	**0.000010**	**0.00010**	**mg/L**	1	23-Jul-2019 19:18
Fluorene	**0.000074**	J	**0.000030**	**0.00010**	**mg/L**	1	23-Jul-2019 19:18
Naphthalene	**0.0026**		**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 19:18
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 19:18
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 19:18
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 19:18
Phenanthrene	**0.00013**		**0.000021**	**0.00010**	**mg/L**	1	23-Jul-2019 19:18
Phenol	U		0.000035	0.00020	mg/L	1	23-Jul-2019 19:18
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 19:18
Surr: 2,4,6-Tribromophenol	*106*			*34-129*	*%REC*	*1*	*23-Jul-2019 19:18*
Surr: 2-Fluorobiphenyl	*86.5*			*40-125*	*%REC*	*1*	*23-Jul-2019 19:18*
Surr: 2-Fluorophenol	*78.0*			*20-120*	*%REC*	*1*	*23-Jul-2019 19:18*
Surr: 4-Terphenyl-d14	*93.2*			*40-135*	*%REC*	*1*	*23-Jul-2019 19:18*
Surr: Nitrobenzene-d5	*90.9*			*41-120*	*%REC*	*1*	*23-Jul-2019 19:18*
Surr: Phenol-d6	*83.4*			*20-120*	*%REC*	*1*	*23-Jul-2019 19:18*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 30-Jul-2019		Analyst: JHD
Arsenic	**0.000498**	J	**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 23:08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW27C-20190718
Collection Date: 18-Jul-2019 18:05

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-28
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 06:48
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 06:48
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 06:48
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 06:48
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 06:48
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 06:48
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 06:48
Surr: 1,2-Dichloroethane-d4	*110*			*70-126*	*%REC*	*1*	*23-Jul-2019 06:48*
Surr: 4-Bromofluorobenzene	*107*			*81-113*	*%REC*	*1*	*23-Jul-2019 06:48*
Surr: Dibromofluoromethane	*108*			*77-123*	*%REC*	*1*	*23-Jul-2019 06:48*
Surr: Toluene-d8	*113*			*82-127*	*%REC*	*1*	*23-Jul-2019 06:48*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW27C-20190718
Collection Date: 18-Jul-2019 18:05

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-28
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 23-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 19:37
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jul-2019 19:37
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 19:37
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 19:37
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 19:37
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 19:37
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 19:37
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 19:37
Acenaphthene	U		0.000027	0.00010	mg/L	1	23-Jul-2019 19:37
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jul-2019 19:37
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jul-2019 19:37
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jul-2019 19:37
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 19:37
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 19:37
Bis(2-ethylhexyl)phthalate	**0.000092**	J	**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 19:37
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 19:37
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jul-2019 19:37
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jul-2019 19:37
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jul-2019 19:37
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jul-2019 19:37
Naphthalene	**0.000066**	J	**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 19:37
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 19:37
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 19:37
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 19:37
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 19:37
Phenol	**0.00023**		**0.000035**	**0.00020**	**mg/L**	1	23-Jul-2019 19:37
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 19:37
Surr: 2,4,6-Tribromophenol	*106*			*34-129*	*%REC*	*1*	*23-Jul-2019 19:37*
Surr: 2-Fluorobiphenyl	*85.8*			*40-125*	*%REC*	*1*	*23-Jul-2019 19:37*
Surr: 2-Fluorophenol	*81.7*			*20-120*	*%REC*	*1*	*23-Jul-2019 19:37*
Surr: 4-Terphenyl-d14	*91.7*			*40-135*	*%REC*	*1*	*23-Jul-2019 19:37*
Surr: Nitrobenzene-d5	*91.2*			*41-120*	*%REC*	*1*	*23-Jul-2019 19:37*
Surr: Phenol-d6	*87.0*			*20-120*	*%REC*	*1*	*23-Jul-2019 19:37*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 30-Jul-2019		Analyst: JHD
Arsenic	**0.000428**	J	**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 23:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW51A-20190719
Collection Date: 19-Jul-2019 07:25

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-29
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 07:12
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 07:12
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 07:12
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 07:12
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 07:12
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 07:12
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 07:12
Surr: 1,2-Dichloroethane-d4	*115*			*70-126*	*%REC*	*1*	*23-Jul-2019 07:12*
Surr: 4-Bromofluorobenzene	*109*			*81-113*	*%REC*	*1*	*23-Jul-2019 07:12*
Surr: Dibromofluoromethane	*114*			*77-123*	*%REC*	*1*	*23-Jul-2019 07:12*
Surr: Toluene-d8	*116*			*82-127*	*%REC*	*1*	*23-Jul-2019 07:12*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW51A-20190719
Collection Date: 19-Jul-2019 07:25

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-29
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 23-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 19:57
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jul-2019 19:57
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 19:57
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 19:57
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 19:57
2-Methylnaphthalene	**0.000067**	J	**0.000019**	**0.00010**	**mg/L**	1	23-Jul-2019 19:57
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 19:57
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 19:57
Acenaphthene	U		0.000027	0.00010	mg/L	1	23-Jul-2019 19:57
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jul-2019 19:57
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jul-2019 19:57
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jul-2019 19:57
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 19:57
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 19:57
Bis(2-ethylhexyl)phthalate	**0.00013**	J	**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 19:57
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 19:57
Dibenzofuran	**0.000030**	J	**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 19:57
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jul-2019 19:57
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jul-2019 19:57
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jul-2019 19:57
Naphthalene	**0.00055**		**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 19:57
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 19:57
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 19:57
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 19:57
Phenanthrene	**0.000026**	J	**0.000021**	**0.00010**	**mg/L**	1	23-Jul-2019 19:57
Phenol	**0.00019**	J	**0.000035**	**0.00020**	**mg/L**	1	23-Jul-2019 19:57
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 19:57
Surr: 2,4,6-Tribromophenol	*112*			*34-129*	*%REC*	*1*	*23-Jul-2019 19:57*
Surr: 2-Fluorobiphenyl	*95.7*			*40-125*	*%REC*	*1*	*23-Jul-2019 19:57*
Surr: 2-Fluorophenol	*92.0*			*20-120*	*%REC*	*1*	*23-Jul-2019 19:57*
Surr: 4-Terphenyl-d14	*86.7*			*40-135*	*%REC*	*1*	*23-Jul-2019 19:57*
Surr: Nitrobenzene-d5	*99.5*			*41-120*	*%REC*	*1*	*23-Jul-2019 19:57*
Surr: Phenol-d6	*99.6*			*20-120*	*%REC*	*1*	*23-Jul-2019 19:57*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 30-Jul-2019		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	30-Jul-2019 23:13

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070994
Sample ID: WG-1620-MW51C-20190719
Lab ID:HS19070994-30
Collection Date: 19-Jul-2019 08:55
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 07:36
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 07:36
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 07:36
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 07:36
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 07:36
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 07:36
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 07:36
Surr: 1,2-Dichloroethane-d4	*111*			*70-126*	*%REC*	*1*	*23-Jul-2019 07:36*
Surr: 4-Bromofluorobenzene	*109*			*81-113*	*%REC*	*1*	*23-Jul-2019 07:36*
Surr: Dibromofluoromethane	*110*			*77-123*	*%REC*	*1*	*23-Jul-2019 07:36*
Surr: Toluene-d8	*116*			*82-127*	*%REC*	*1*	*23-Jul-2019 07:36*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW51C-20190719
Collection Date: 19-Jul-2019 08:55

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-30
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 23-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 20:17
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jul-2019 20:17
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 20:17
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 20:17
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 20:17
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 20:17
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 20:17
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 20:17
Acenaphthene	U		0.000027	0.00010	mg/L	1	23-Jul-2019 20:17
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jul-2019 20:17
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jul-2019 20:17
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jul-2019 20:17
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 20:17
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 20:17
Bis(2-ethylhexyl)phthalate	**0.000079**	J	**0.000037**	**0.00020**	**mg/L**	1	23-Jul-2019 20:17
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 20:17
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jul-2019 20:17
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jul-2019 20:17
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jul-2019 20:17
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jul-2019 20:17
Naphthalene	**0.00023**		**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 20:17
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 20:17
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 20:17
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 20:17
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 20:17
Phenol	**0.00027**		**0.000035**	**0.00020**	**mg/L**	1	23-Jul-2019 20:17
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 20:17
Surr: 2,4,6-Tribromophenol	*106*			*34-129*	*%REC*	*1*	*23-Jul-2019 20:17*
Surr: 2-Fluorobiphenyl	*87.4*			*40-125*	*%REC*	*1*	*23-Jul-2019 20:17*
Surr: 2-Fluorophenol	*83.4*			*20-120*	*%REC*	*1*	*23-Jul-2019 20:17*
Surr: 4-Terphenyl-d14	*85.7*			*40-135*	*%REC*	*1*	*23-Jul-2019 20:17*
Surr: Nitrobenzene-d5	*92.6*			*41-120*	*%REC*	*1*	*23-Jul-2019 20:17*
Surr: Phenol-d6	*89.8*			*20-120*	*%REC*	*1*	*23-Jul-2019 20:17*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 30-Jul-2019		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	30-Jul-2019 23:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW81B-20190719
Collection Date: 19-Jul-2019 09:45

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-31
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 08:00
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 08:00
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 08:00
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 08:00
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 08:00
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 08:00
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 08:00
Surr: 1,2-Dichloroethane-d4	*110*			*70-126*	*%REC*	*1*	*23-Jul-2019 08:00*
Surr: 4-Bromofluorobenzene	*109*			*81-113*	*%REC*	*1*	*23-Jul-2019 08:00*
Surr: Dibromofluoromethane	*109*			*77-123*	*%REC*	*1*	*23-Jul-2019 08:00*
Surr: Toluene-d8	*114*			*82-127*	*%REC*	*1*	*23-Jul-2019 08:00*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW81B-20190719
Collection Date: 19-Jul-2019 09:45

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-31
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 23-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jul-2019 20:37
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jul-2019 20:37
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jul-2019 20:37
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jul-2019 20:37
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jul-2019 20:37
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 20:37
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jul-2019 20:37
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jul-2019 20:37
Acenaphthene	U		0.000027	0.00010	mg/L	1	23-Jul-2019 20:37
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jul-2019 20:37
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jul-2019 20:37
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jul-2019 20:37
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jul-2019 20:37
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jul-2019 20:37
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	23-Jul-2019 20:37
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 20:37
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jul-2019 20:37
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jul-2019 20:37
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jul-2019 20:37
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jul-2019 20:37
Naphthalene	**0.000099**	J	**0.000020**	**0.00010**	**mg/L**	1	23-Jul-2019 20:37
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jul-2019 20:37
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jul-2019 20:37
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jul-2019 20:37
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jul-2019 20:37
Phenol	U		0.000035	0.00020	mg/L	1	23-Jul-2019 20:37
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jul-2019 20:37
Surr: 2,4,6-Tribromophenol	*85.0*			*34-129*	*%REC*	*1*	*23-Jul-2019 20:37*
Surr: 2-Fluorobiphenyl	*79.3*			*40-125*	*%REC*	*1*	*23-Jul-2019 20:37*
Surr: 2-Fluorophenol	*73.1*			*20-120*	*%REC*	*1*	*23-Jul-2019 20:37*
Surr: 4-Terphenyl-d14	*80.9*			*40-135*	*%REC*	*1*	*23-Jul-2019 20:37*
Surr: Nitrobenzene-d5	*80.9*			*41-120*	*%REC*	*1*	*23-Jul-2019 20:37*
Surr: Phenol-d6	*79.3*			*20-120*	*%REC*	*1*	*23-Jul-2019 20:37*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 30-Jul-2019		Analyst: JHD
Arsenic	**0.000563**	J	**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 23:17

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW50A-20190719
Collection Date: 19-Jul-2019 10:40

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-32
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 08:24
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 08:24
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 08:24
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 08:24
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 08:24
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 08:24
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 08:24
Surr: 1,2-Dichloroethane-d4	*105*			*70-126*	*%REC*	*1*	*23-Jul-2019 08:24*
Surr: 4-Bromofluorobenzene	*103*			*81-113*	*%REC*	*1*	*23-Jul-2019 08:24*
Surr: Dibromofluoromethane	*106*			*77-123*	*%REC*	*1*	*23-Jul-2019 08:24*
Surr: Toluene-d8	*110*			*82-127*	*%REC*	*1*	*23-Jul-2019 08:24*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW50A-20190719
Collection Date: 19-Jul-2019 10:40

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-32
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 23-Jul-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	24-Jul-2019 15:41
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	24-Jul-2019 15:41
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	24-Jul-2019 15:41
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	24-Jul-2019 15:41
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	24-Jul-2019 15:41
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	24-Jul-2019 15:41
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	24-Jul-2019 15:41
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	24-Jul-2019 15:41
Acenaphthene	U		0.000027	0.00010	mg/L	1	24-Jul-2019 15:41
Acenaphthylene	U		0.000015	0.00010	mg/L	1	24-Jul-2019 15:41
Anthracene	U		0.000014	0.00010	mg/L	1	24-Jul-2019 15:41
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	24-Jul-2019 15:41
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	24-Jul-2019 15:41
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	24-Jul-2019 15:41
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	24-Jul-2019 15:41
Chrysene	U		0.000021	0.00010	mg/L	1	24-Jul-2019 15:41
Dibenzofuran	U		0.000020	0.00010	mg/L	1	24-Jul-2019 15:41
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	24-Jul-2019 15:41
Fluoranthene	U		0.000010	0.00010	mg/L	1	24-Jul-2019 15:41
Fluorene	U		0.000030	0.00010	mg/L	1	24-Jul-2019 15:41
Naphthalene	**0.00027**		**0.000020**	**0.00010**	**mg/L**	1	24-Jul-2019 15:41
Nitrobenzene	U		0.000024	0.00020	mg/L	1	24-Jul-2019 15:41
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	24-Jul-2019 15:41
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	24-Jul-2019 15:41
Phenanthrene	U		0.000021	0.00010	mg/L	1	24-Jul-2019 15:41
Phenol	**0.00016**	J	**0.000035**	**0.00020**	**mg/L**	1	24-Jul-2019 15:41
Pyrene	U		0.000019	0.00010	mg/L	1	24-Jul-2019 15:41
Surr: 2,4,6-Tribromophenol	*87.3*			*34-129*	*%REC*	*1*	*24-Jul-2019 15:41*
Surr: 2-Fluorobiphenyl	*79.2*			*40-125*	*%REC*	*1*	*24-Jul-2019 15:41*
Surr: 2-Fluorophenol	*78.4*			*20-120*	*%REC*	*1*	*24-Jul-2019 15:41*
Surr: 4-Terphenyl-d14	*92.2*			*40-135*	*%REC*	*1*	*24-Jul-2019 15:41*
Surr: Nitrobenzene-d5	*73.6*			*41-120*	*%REC*	*1*	*24-Jul-2019 15:41*
Surr: Phenol-d6	*83.0*			*20-120*	*%REC*	*1*	*24-Jul-2019 15:41*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 30-Jul-2019		Analyst: JHD
Arsenic	**0.000642**	J	**0.000400**	**0.00200**	**mg/L**	1	30-Jul-2019 23:24

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19070994
Sample ID: WG-1620-TB05-20190719
Lab ID:HS19070994-33
Collection Date: 19-Jul-2019 00:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 02:25
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 02:25
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 02:25
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 02:25
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 02:25
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 02:25
Vinyl chloride		U	0.00020	0.0010	mg/L	1	23-Jul-2019 02:25
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 02:25
Surr: 1,2-Dichloroethane-d4	*93.4*			*70-126*	*%REC*	*1*	*23-Jul-2019 02:25*
Surr: 4-Bromofluorobenzene	*96.4*			*81-113*	*%REC*	*1*	*23-Jul-2019 02:25*
Surr: Dibromofluoromethane	*92.9*			*77-123*	*%REC*	*1*	*23-Jul-2019 02:25*
Surr: Toluene-d8	*103*			*82-127*	*%REC*	*1*	*23-Jul-2019 02:25*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-TB06-20190719
Collection Date: 19-Jul-2019 00:00

ANALYTICAL REPORT
WorkOrder:HS19070994
Lab ID:HS19070994-34
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	23-Jul-2019 02:49
Benzene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 02:49
Chlorobenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 02:49
Ethylbenzene		U	0.00030	0.0010	mg/L	1	23-Jul-2019 02:49
Methylene chloride		U	0.0010	0.0020	mg/L	1	23-Jul-2019 02:49
Toluene		U	0.00020	0.0010	mg/L	1	23-Jul-2019 02:49
Vinyl chloride		U	0.00020	0.0010	mg/L	1	23-Jul-2019 02:49
Xylenes, Total		U	0.00030	0.0010	mg/L	1	23-Jul-2019 02:49
Surr: 1,2-Dichloroethane-d4	*97.8*			*70-126*	*%REC*	*1*	*23-Jul-2019 02:49*
Surr: 4-Bromofluorobenzene	*99.5*			*81-113*	*%REC*	*1*	*23-Jul-2019 02:49*
Surr: Dibromofluoromethane	*97.2*			*77-123*	*%REC*	*1*	*23-Jul-2019 02:49*
Surr: Toluene-d8	*105*			*82-127*	*%REC*	*1*	*23-Jul-2019 02:49*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

Batch ID: 143239 **Method:** LOW-LEVEL SEMIVOLATILES BY 8270D **Prep:** 3510_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19070994-01	1	1000	1 (mL)	0.001
HS19070994-02	1	1000	1 (mL)	0.001
HS19070994-03	1	1000	1 (mL)	0.001
HS19070994-04	1	1000	1 (mL)	0.001
HS19070994-05	1	1000	1 (mL)	0.001
HS19070994-06	1	1000	1 (mL)	0.001
HS19070994-07	1	1000	1 (mL)	0.001
HS19070994-08	1	1000	1 (mL)	0.001
HS19070994-09	1	1000	1 (mL)	0.001
HS19070994-10	1	1000	1 (mL)	0.001
HS19070994-11	1	1000	1 (mL)	0.001
HS19070994-12	1	1000	1 (mL)	0.001
HS19070994-13	1	1000	1 (mL)	0.001
HS19070994-14	1	1000	1 (mL)	0.001
HS19070994-15	1	1000	1 (mL)	0.001
HS19070994-16	1	1000	1 (mL)	0.001
HS19070994-17	1	1000	1 (mL)	0.001
HS19070994-18	1	1000	1 (mL)	0.001
HS19070994-19	1	1000	1 (mL)	0.001
HS19070994-20	1	1000	1 (mL)	0.001

Batch ID: 143295 **Method:** LOW-LEVEL SEMIVOLATILES BY 8270D **Prep:** 3510_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19070994-21	1	1000	1 (mL)	0.001
HS19070994-22	1	1000	1 (mL)	0.001
HS19070994-23	1	1000	1 (mL)	0.001
HS19070994-24	1	1000	1 (mL)	0.001
HS19070994-25	1	1000	1 (mL)	0.001
HS19070994-26	1	1000	1 (mL)	0.001
HS19070994-27	1	1000	1 (mL)	0.001
HS19070994-28	1	1000	1 (mL)	0.001
HS19070994-29	1	1000	1 (mL)	0.001
HS19070994-30	1	1000	1 (mL)	0.001
HS19070994-31	1	1000	1 (mL)	0.001
HS19070994-32	1	1000	1 (mL)	0.001

WEIGHT LOG

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

Batch ID: 143526 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19070994-01	1	10	10 (mL)	1
HS19070994-02	1	10	10 (mL)	1
HS19070994-03	1	10	10 (mL)	1
HS19070994-04	1	10	10 (mL)	1
HS19070994-05	1	10	10 (mL)	1
HS19070994-06	1	10	10 (mL)	1
HS19070994-07	1	10	10 (mL)	1
HS19070994-08	1	10	10 (mL)	1
HS19070994-09	1	10	10 (mL)	1
HS19070994-10	1	10	10 (mL)	1
HS19070994-11	1	10	10 (mL)	1
HS19070994-12	1	10	10 (mL)	1
HS19070994-13	1	10	10 (mL)	1
HS19070994-14	1	10	10 (mL)	1
HS19070994-15	1	10	10 (mL)	1
HS19070994-16	1	10	10 (mL)	1
HS19070994-17	1	10	10 (mL)	1
HS19070994-18	1	10	10 (mL)	1
HS19070994-19	1	10	10 (mL)	1
HS19070994-20	1	10	10 (mL)	1

Batch ID: 143558 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19070994-21	1	10	10 (mL)	1
HS19070994-22	1	10	10 (mL)	1
HS19070994-23	1	10	10 (mL)	1
HS19070994-24	1	10	10 (mL)	1
HS19070994-25	1	10	10 (mL)	1
HS19070994-26	1	10	10 (mL)	1
HS19070994-27	1	10	10 (mL)	1
HS19070994-28	1	10	10 (mL)	1
HS19070994-29	1	10	10 (mL)	1
HS19070994-30	1	10	10 (mL)	1
HS19070994-31	1	10	10 (mL)	1
HS19070994-32	1	10	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143239 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS19070994-01	WG-1620-FB04-20190716	16 Jul 2019 18:20		22 Jul 2019 11:13	23 Jul 2019 11:41	1
HS19070994-02	WG-1620-MW61A-20190717	17 Jul 2019 07:50		22 Jul 2019 11:13	23 Jul 2019 12:21	1
HS19070994-03	WG-1620-MW60A-20190717	17 Jul 2019 08:35		22 Jul 2019 11:13	22 Jul 2019 18:57	1
HS19070994-04	WG-1620-MW69A-20190717	17 Jul 2019 09:35		22 Jul 2019 11:13	22 Jul 2019 19:17	1
HS19070994-05	WG-1620-MW47C-20190717	17 Jul 2019 10:25		22 Jul 2019 11:13	22 Jul 2019 19:36	1
HS19070994-06	WG-1620-MW48C-20190717	17 Jul 2019 11:20		22 Jul 2019 11:13	22 Jul 2019 19:56	1
HS19070994-07	WG-1620-MW59A-20190717	17 Jul 2019 12:20		22 Jul 2019 11:13	22 Jul 2019 20:16	1
HS19070994-08	WG-1620-MW59B-20190717	17 Jul 2019 13:10		22 Jul 2019 11:13	22 Jul 2019 20:36	1
HS19070994-09	WG-1620-MW44A-20190717	17 Jul 2019 14:00		22 Jul 2019 11:13	23 Jul 2019 15:59	10
HS19070994-09	WG-1620-MW44A-20190717	17 Jul 2019 14:00		22 Jul 2019 11:13	22 Jul 2019 20:56	1
HS19070994-10	WG-1620-MW87C-20190717	17 Jul 2019 15:40		22 Jul 2019 11:13	22 Jul 2019 21:16	1
HS19070994-11	WG-1620-MW71B-20190717	17 Jul 2019 16:40		22 Jul 2019 11:13	23 Jul 2019 16:39	100
HS19070994-11	WG-1620-MW71B-20190717	17 Jul 2019 16:40		22 Jul 2019 11:13	23 Jul 2019 16:19	10
HS19070994-11	WG-1620-MW71B-20190717	17 Jul 2019 16:40		22 Jul 2019 11:13	22 Jul 2019 21:36	1
HS19070994-12	WG-1620-MW33A-20190717	17 Jul 2019 17:50		22 Jul 2019 11:13	22 Jul 2019 21:55	1
HS19070994-13	WG-1620-FD02-20190717	17 Jul 2019 17:50		22 Jul 2019 11:13	23 Jul 2019 13:20	1
HS19070994-14	WG-1620-MW26A-20190717	17 Jul 2019 18:45		22 Jul 2019 11:13	23 Jul 2019 16:59	10
HS19070994-14	WG-1620-MW26A-20190717	17 Jul 2019 18:45		22 Jul 2019 11:13	23 Jul 2019 13:40	1
HS19070994-15	WG-1620-FB05-20190717	17 Jul 2019 19:05		22 Jul 2019 11:13	23 Jul 2019 14:00	1
HS19070994-16	WG-1620-MW68A-20190718	18 Jul 2019 07:55		22 Jul 2019 11:13	23 Jul 2019 14:20	1
HS19070994-17	WG-1620-MW68B-20190718	18 Jul 2019 08:55		22 Jul 2019 11:13	25 Jul 2019 18:57	100
HS19070994-17	WG-1620-MW68B-20190718	18 Jul 2019 08:55		22 Jul 2019 11:13	24 Jul 2019 15:22	1000
HS19070994-17	WG-1620-MW68B-20190718	18 Jul 2019 08:55		22 Jul 2019 11:13	23 Jul 2019 21:16	10
HS19070994-18	WG-1620-FD03-20190718	18 Jul 2019 08:55		22 Jul 2019 11:13	24 Jul 2019 14:43	1000
HS19070994-18	WG-1620-FD03-20190718	18 Jul 2019 08:55		22 Jul 2019 11:13	24 Jul 2019 14:23	100
HS19070994-18	WG-1620-FD03-20190718	18 Jul 2019 08:55		22 Jul 2019 11:13	23 Jul 2019 21:36	10
HS19070994-19	WG-1620-MW68C-20190718	18 Jul 2019 09:45		22 Jul 2019 11:13	23 Jul 2019 15:19	1
HS19070994-20	WG-1620-MW83B-20190718	18 Jul 2019 10:40		22 Jul 2019 11:13	24 Jul 2019 15:02	100
HS19070994-20	WG-1620-MW83B-20190718	18 Jul 2019 10:40		22 Jul 2019 11:13	23 Jul 2019 21:56	10
HS19070994-20	WG-1620-MW83B-20190718	18 Jul 2019 10:40		22 Jul 2019 11:13	23 Jul 2019 15:39	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143295 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS19070994-21	WG-1620-MW83C-20190718	18 Jul 2019 11:30		23 Jul 2019 13:00	23 Jul 2019 17:19	1
HS19070994-22	WG-1620-MW35A-20190718	18 Jul 2019 12:40		23 Jul 2019 13:00	23 Jul 2019 17:38	1
HS19070994-23	WG-1620-MW35B-20190718	18 Jul 2019 13:30		23 Jul 2019 13:00	26 Jul 2019 19:55	500
HS19070994-23	WG-1620-MW35B-20190718	18 Jul 2019 13:30		23 Jul 2019 13:00	25 Jul 2019 19:17	10
HS19070994-23	WG-1620-MW35B-20190718	18 Jul 2019 13:30		23 Jul 2019 13:00	23 Jul 2019 17:58	1
HS19070994-24	WG-1620-MW90B-20190718	18 Jul 2019 14:25		23 Jul 2019 13:00	23 Jul 2019 18:18	1
HS19070994-25	WG-1620-MW89B-20190718	18 Jul 2019 15:15		23 Jul 2019 13:00	23 Jul 2019 18:38	1
HS19070994-26	WG-1620-MW38B-20190718	18 Jul 2019 16:10		23 Jul 2019 13:00	23 Jul 2019 18:58	1
HS19070994-27	WG-1620-MW27A-20190718	18 Jul 2019 17:15		23 Jul 2019 13:00	23 Jul 2019 19:18	1
HS19070994-28	WG-1620-MW27C-20190718	18 Jul 2019 18:05		23 Jul 2019 13:00	23 Jul 2019 19:37	1
HS19070994-29	WG-1620-MW51A-20190719	19 Jul 2019 07:25		23 Jul 2019 13:00	23 Jul 2019 19:57	1
HS19070994-30	WG-1620-MW51C-20190719	19 Jul 2019 08:55		23 Jul 2019 13:00	23 Jul 2019 20:17	1
HS19070994-31	WG-1620-MW81B-20190719	19 Jul 2019 09:45		23 Jul 2019 13:00	23 Jul 2019 20:37	1
HS19070994-32	WG-1620-MW50A-20190719	19 Jul 2019 10:40		23 Jul 2019 13:00	24 Jul 2019 15:41	1
Batch ID: 143526 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS19070994-01	WG-1620-FB04-20190716	16 Jul 2019 18:20		29 Jul 2019 14:00	30 Jul 2019 21:42	1
HS19070994-02	WG-1620-MW61A-20190717	17 Jul 2019 07:50		29 Jul 2019 14:00	30 Jul 2019 21:26	1
HS19070994-03	WG-1620-MW60A-20190717	17 Jul 2019 08:35		29 Jul 2019 14:00	30 Jul 2019 21:44	1
HS19070994-04	WG-1620-MW69A-20190717	17 Jul 2019 09:35		29 Jul 2019 14:00	30 Jul 2019 21:47	1
HS19070994-05	WG-1620-MW47C-20190717	17 Jul 2019 10:25		29 Jul 2019 14:00	30 Jul 2019 21:49	1
HS19070994-06	WG-1620-MW48C-20190717	17 Jul 2019 11:20		29 Jul 2019 14:00	30 Jul 2019 21:51	1
HS19070994-07	WG-1620-MW59A-20190717	17 Jul 2019 12:20		29 Jul 2019 14:00	30 Jul 2019 21:53	1
HS19070994-08	WG-1620-MW59B-20190717	17 Jul 2019 13:10		29 Jul 2019 14:00	30 Jul 2019 21:56	1
HS19070994-09	WG-1620-MW44A-20190717	17 Jul 2019 14:00		29 Jul 2019 14:00	30 Jul 2019 21:58	1
HS19070994-10	WG-1620-MW87C-20190717	17 Jul 2019 15:40		29 Jul 2019 14:00	30 Jul 2019 22:00	1
HS19070994-11	WG-1620-MW71B-20190717	17 Jul 2019 16:40		29 Jul 2019 14:00	30 Jul 2019 22:02	1
HS19070994-12	WG-1620-MW33A-20190717	17 Jul 2019 17:50		29 Jul 2019 14:00	30 Jul 2019 22:09	1
HS19070994-13	WG-1620-FD02-20190717	17 Jul 2019 17:50		29 Jul 2019 14:00	30 Jul 2019 22:11	1
HS19070994-14	WG-1620-MW26A-20190717	17 Jul 2019 18:45		29 Jul 2019 14:00	30 Jul 2019 22:14	1
HS19070994-15	WG-1620-FB05-20190717	17 Jul 2019 19:05		29 Jul 2019 14:00	30 Jul 2019 22:16	1
HS19070994-16	WG-1620-MW68A-20190718	18 Jul 2019 07:55		29 Jul 2019 14:00	30 Jul 2019 22:18	1
HS19070994-17	WG-1620-MW68B-20190718	18 Jul 2019 08:55		29 Jul 2019 14:00	30 Jul 2019 22:21	1
HS19070994-18	WG-1620-FD03-20190718	18 Jul 2019 08:55		29 Jul 2019 14:00	30 Jul 2019 22:23	1
HS19070994-19	WG-1620-MW68C-20190718	18 Jul 2019 09:45		29 Jul 2019 14:00	30 Jul 2019 22:25	1
HS19070994-20	WG-1620-MW83B-20190718	18 Jul 2019 10:40		29 Jul 2019 14:00	30 Jul 2019 22:27	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143558 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS19070994-21	WG-1620-MW83C-20190718	18 Jul 2019 11:30		30 Jul 2019 12:00	30 Jul 2019 22:41	1
HS19070994-22	WG-1620-MW35A-20190718	18 Jul 2019 12:40		30 Jul 2019 12:00	30 Jul 2019 22:57	1
HS19070994-23	WG-1620-MW35B-20190718	18 Jul 2019 13:30		30 Jul 2019 12:00	30 Jul 2019 22:59	1
HS19070994-24	WG-1620-MW90B-20190718	18 Jul 2019 14:25		30 Jul 2019 12:00	30 Jul 2019 23:01	1
HS19070994-25	WG-1620-MW89B-20190718	18 Jul 2019 15:15		30 Jul 2019 12:00	30 Jul 2019 23:04	1
HS19070994-26	WG-1620-MW38B-20190718	18 Jul 2019 16:10		30 Jul 2019 12:00	30 Jul 2019 23:06	1
HS19070994-27	WG-1620-MW27A-20190718	18 Jul 2019 17:15		30 Jul 2019 12:00	30 Jul 2019 23:08	1
HS19070994-28	WG-1620-MW27C-20190718	18 Jul 2019 18:05		30 Jul 2019 12:00	30 Jul 2019 23:10	1
HS19070994-29	WG-1620-MW51A-20190719	19 Jul 2019 07:25		30 Jul 2019 12:00	30 Jul 2019 23:13	1
HS19070994-30	WG-1620-MW51C-20190719	19 Jul 2019 08:55		30 Jul 2019 12:00	30 Jul 2019 23:15	1
HS19070994-31	WG-1620-MW81B-20190719	19 Jul 2019 09:45		30 Jul 2019 12:00	30 Jul 2019 23:17	1
HS19070994-32	WG-1620-MW50A-20190719	19 Jul 2019 10:40		30 Jul 2019 12:00	30 Jul 2019 23:24	1
Batch ID: R342868 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS19070994-19	WG-1620-MW68C-20190718	18 Jul 2019 09:45			23 Jul 2019 02:01	1
HS19070994-20	WG-1620-MW83B-20190718	18 Jul 2019 10:40			23 Jul 2019 06:30	1
Batch ID: R342877 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS19070994-21	WG-1620-MW83C-20190718	18 Jul 2019 11:30			23 Jul 2019 03:13	1
HS19070994-22	WG-1620-MW35A-20190718	18 Jul 2019 12:40			23 Jul 2019 04:25	1
HS19070994-23	WG-1620-MW35B-20190718	18 Jul 2019 13:30			23 Jul 2019 04:49	1
HS19070994-24	WG-1620-MW90B-20190718	18 Jul 2019 14:25			23 Jul 2019 05:13	1
HS19070994-25	WG-1620-MW89B-20190718	18 Jul 2019 15:15			23 Jul 2019 05:37	1
HS19070994-26	WG-1620-MW38B-20190718	18 Jul 2019 16:10			23 Jul 2019 06:01	1
HS19070994-27	WG-1620-MW27A-20190718	18 Jul 2019 17:15			23 Jul 2019 06:25	1
HS19070994-28	WG-1620-MW27C-20190718	18 Jul 2019 18:05			23 Jul 2019 06:48	1
HS19070994-29	WG-1620-MW51A-20190719	19 Jul 2019 07:25			23 Jul 2019 07:12	1
HS19070994-30	WG-1620-MW51C-20190719	19 Jul 2019 08:55			23 Jul 2019 07:36	1
HS19070994-31	WG-1620-MW81B-20190719	19 Jul 2019 09:45			23 Jul 2019 08:00	1
HS19070994-32	WG-1620-MW50A-20190719	19 Jul 2019 10:40			23 Jul 2019 08:24	1
HS19070994-33	WG-1620-TB05-20190719	19 Jul 2019 00:00			23 Jul 2019 02:25	1
HS19070994-34	WG-1620-TB06-20190719	19 Jul 2019 00:00			23 Jul 2019 02:49	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: R342879 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS19070994-01	WG-1620-FB04-20190716	16 Jul 2019 18:20			23 Jul 2019 00:42	1
HS19070994-02	WG-1620-MW61A-20190717	17 Jul 2019 07:50			23 Jul 2019 01:32	1
HS19070994-03	WG-1620-MW60A-20190717	17 Jul 2019 08:35			23 Jul 2019 03:10	1
HS19070994-04	WG-1620-MW69A-20190717	17 Jul 2019 09:35			23 Jul 2019 03:35	1
HS19070994-05	WG-1620-MW47C-20190717	17 Jul 2019 10:25			23 Jul 2019 03:59	1
HS19070994-06	WG-1620-MW48C-20190717	17 Jul 2019 11:20			23 Jul 2019 04:24	1
HS19070994-07	WG-1620-MW59A-20190717	17 Jul 2019 12:20			23 Jul 2019 04:48	1
HS19070994-08	WG-1620-MW59B-20190717	17 Jul 2019 13:10			23 Jul 2019 05:13	1
HS19070994-09	WG-1620-MW44A-20190717	17 Jul 2019 14:00			23 Jul 2019 05:37	1
HS19070994-10	WG-1620-MW87C-20190717	17 Jul 2019 15:40			23 Jul 2019 06:02	1
HS19070994-11	WG-1620-MW71B-20190717	17 Jul 2019 16:40			23 Jul 2019 06:26	1
HS19070994-12	WG-1620-MW33A-20190717	17 Jul 2019 17:50			23 Jul 2019 06:51	1
HS19070994-13	WG-1620-FD02-20190717	17 Jul 2019 17:50			23 Jul 2019 07:16	1
HS19070994-14	WG-1620-MW26A-20190717	17 Jul 2019 18:45			23 Jul 2019 07:40	1
HS19070994-15	WG-1620-FB05-20190717	17 Jul 2019 19:05			23 Jul 2019 01:07	1
HS19070994-16	WG-1620-MW68A-20190718	18 Jul 2019 07:55			23 Jul 2019 08:05	1
HS19070994-17	WG-1620-MW68B-20190718	18 Jul 2019 08:55			23 Jul 2019 08:59	100
HS19070994-17	WG-1620-MW68B-20190718	18 Jul 2019 08:55			23 Jul 2019 08:32	10
HS19070994-18	WG-1620-FD03-20190718	18 Jul 2019 08:55			23 Jul 2019 09:53	100
HS19070994-18	WG-1620-FD03-20190718	18 Jul 2019 08:55			23 Jul 2019 09:26	10

WorkOrder: HS19070994
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000547	0.000400	0.00200

WorkOrder: HS19070994
InstrumentID: SV-7
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.00011	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.00010	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000096	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.00012	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.00011	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.00010	0.00012	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000013	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.00013	0.000047	0.0010
A	Acenaphthene	83-32-9	0.00010	0.00011	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.00010	0.00010	0.000015	0.00010
A	Anthracene	120-12-7	0.00010	0.00011	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.00010	0.000099	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.00010	0.000076	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.00012	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.000086	0.000037	0.00020
A	Chrysene	218-01-9	0.00010	0.00011	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.00010	0.000094	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.000099	0.000020	0.00020
A	Fluoranthene	206-44-0	0.00010	0.00012	0.000010	0.00010
A	Fluorene	86-73-7	0.00010	0.00012	0.000030	0.00010
A	Naphthalene	91-20-3	0.00010	0.00010	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00013	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00012	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000085	0.000079	0.00020
A	Phenanthrene	85-01-8	0.00010	0.00011	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000094	0.000035	0.00020
A	Pyrene	129-00-0	0.00010	0.00011	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS19070994
InstrumentID: VOA4
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00064	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00060	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00061	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00063	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00077	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00058	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00070	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00062	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

WorkOrder: HS19070994
InstrumentID: VOA2
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00067	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00056	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00059	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00051	0.00030	0.0010
A	Methylene chloride	75-09-2	0.00050	0.00054	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00056	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00052	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

WorkOrder: HS19070994
InstrumentID: VOA6
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00065	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00062	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00061	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00062	0.00030	0.0010
A	Methylene chloride	75-09-2	0.00050	0.00067	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00060	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00049	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.0019	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

QC BATCH REPORT

Batch ID: 143526 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-143526** Units: **mg/L** Analysis Date: **30-Jul-2019 21:22**
Client ID: Run ID: **ICPMS05_343276** SeqNo: **5187971** PrepDate: **29-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-143526** Units: **mg/L** Analysis Date: **30-Jul-2019 21:24**
Client ID: Run ID: **ICPMS05_343276** SeqNo: **5187972** PrepDate: **29-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04941	0.00200	0.05	0	98.8	80 - 120				

MS Sample ID: **HS19070994-02MS** Units: **mg/L** Analysis Date: **30-Jul-2019 21:31**
Client ID: **WG-1620-MW61A-20190717** Run ID: **ICPMS05_343276** SeqNo: **5187975** PrepDate: **29-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0527	0.00200	0.05	0.00117	103	80 - 120				

MSD Sample ID: **HS19070994-02MSD** Units: **mg/L** Analysis Date: **30-Jul-2019 21:33**
Client ID: **WG-1620-MW61A-20190717** Run ID: **ICPMS05_343276** SeqNo: **5187976** PrepDate: **29-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05075	0.00200	0.05	0.00117	99.2	80 - 120	0.0527	3.77	20	

PDS Sample ID: **HS19070994-02PDS** Units: **mg/L** Analysis Date: **30-Jul-2019 21:35**
Client ID: **WG-1620-MW61A-20190717** Run ID: **ICPMS05_343276** SeqNo: **5187977** PrepDate: **29-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1026	0.00200	0.1	0.00117	101	75 - 125				

SD Sample ID: **HS19070994-02SD** Units: **mg/L** Analysis Date: **30-Jul-2019 21:29**
Client ID: **WG-1620-MW61A-20190717** Run ID: **ICPMS05_343276** SeqNo: **5187974** PrepDate: **29-Jul-2019** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.00117	0	10	

The following samples were analyzed in this batch:

HS19070994-01	HS19070994-02	HS19070994-03	HS19070994-04
HS19070994-05	HS19070994-06	HS19070994-07	HS19070994-08
HS19070994-09	HS19070994-10	HS19070994-11	HS19070994-12
HS19070994-13	HS19070994-14	HS19070994-15	HS19070994-16
HS19070994-17	HS19070994-18	HS19070994-19	HS19070994-20

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

QC BATCH REPORT

Batch ID: 143558 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-143558** Units: **mg/L** Analysis Date: **30-Jul-2019 22:36**
Client ID: Run ID: **ICPMS05_343276** SeqNo: **5187939** PrepDate: **30-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-143558** Units: **mg/L** Analysis Date: **30-Jul-2019 22:39**
Client ID: Run ID: **ICPMS05_343276** SeqNo: **5187940** PrepDate: **30-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05011	0.00200	0.05	0	100	80 - 120				

MS Sample ID: **HS19070994-21MS** Units: **mg/L** Analysis Date: **30-Jul-2019 22:45**
Client ID: **WG-1620-MW83C-20190718** Run ID: **ICPMS05_343276** SeqNo: **5187943** PrepDate: **30-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05667	0.00200	0.05	0.006174	101	80 - 120				

MSD Sample ID: **HS19070994-21MSD** Units: **mg/L** Analysis Date: **30-Jul-2019 22:48**
Client ID: **WG-1620-MW83C-20190718** Run ID: **ICPMS05_343276** SeqNo: **5187944** PrepDate: **30-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05623	0.00200	0.05	0.006174	100	80 - 120	0.05667	0.771	20	

PDS Sample ID: **HS19070994-21PDS** Units: **mg/L** Analysis Date: **30-Jul-2019 22:50**
Client ID: **WG-1620-MW83C-20190718** Run ID: **ICPMS05_343276** SeqNo: **5187945** PrepDate: **30-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1089	0.00200	0.1	0.006174	103	75 - 125				

SD Sample ID: **HS19070994-21SD** Units: **mg/L** Analysis Date: **30-Jul-2019 22:43**
Client ID: **WG-1620-MW83C-20190718** Run ID: **ICPMS05_343276** SeqNo: **5187942** PrepDate: **30-Jul-2019** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.006418	0.0100					0.006174	0	10	J

The following samples were analyzed in this batch:

HS19070994-21	HS19070994-22	HS19070994-23	HS19070994-24
HS19070994-25	HS19070994-26	HS19070994-27	HS19070994-28
HS19070994-29	HS19070994-30	HS19070994-31	HS19070994-32

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

QC BATCH REPORT

Batch ID: 143239 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-143239** Units: **ug/L** Analysis Date: **23-Jul-2019 11:01**
Client ID: Run ID: **SV-7_342905** SeqNo: **5177235** PrepDate: **22-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*4.901*	*0.20*	*5*	*0*	*98.0*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*5.092*	*0.20*	*5*	*0*	*102*	*40 - 125*				
Surr: 2-Fluorophenol	*5.088*	*0.20*	*5*	*0*	*102*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.374*	*0.20*	*5*	*0*	*87.5*	*40 - 135*				
Surr: Nitrobenzene-d5	*5.314*	*0.20*	*5*	*0*	*106*	*41 - 120*				
Surr: Phenol-d6	*5.31*	*0.20*	*5*	*0*	*106*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

QC BATCH REPORT

Batch ID: 143239 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-143239** Units: **ug/L** Analysis Date: **23-Jul-2019 12:01**
Client ID: Run ID: **SV-7_342905** SeqNo: **5177237** PrepDate: **22-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.199	0.20	5	0	84.0	39 - 127				
2,4-Dimethylphenol	4.42	0.20	5	0	88.4	35 - 120				
2,4-Dinitrotoluene	5.269	0.20	5	0	105	50 - 122				
2,6-Dinitrotoluene	4.941	0.20	5	0	98.8	50 - 120				
2-Chloronaphthalene	4.227	0.20	5	0	84.5	50 - 120				
2-Methylnaphthalene	4.244	0.10	5	0	84.9	50 - 120				
4,6-Dinitro-2-methylphenol	4.356	0.20	5	0	87.1	25 - 121				
4-Nitrophenol	5.086	1.0	5	0	102	30 - 130				
Acenaphthene	4.208	0.10	5	0	84.2	45 - 120				
Acenaphthylene	4.309	0.10	5	0	86.2	47 - 120				
Anthracene	4.111	0.10	5	0	82.2	45 - 120				
Benz(a)anthracene	4.208	0.10	5	0	84.2	40 - 120				
Benzo(a)pyrene	4.855	0.10	5	0	97.1	45 - 120				
Bis(2-chloroethoxy)methane	4.151	0.20	5	0	83.0	45 - 120				
Bis(2-ethylhexyl)phthalate	3.673	0.20	5	0	73.5	40 - 139				
Chrysene	4.083	0.10	5	0	81.7	43 - 120				
Dibenzofuran	4.51	0.10	5	0	90.2	50 - 120				
Di-n-butyl phthalate	3.819	0.20	5	0	76.4	45 - 123				
Fluoranthene	4.501	0.10	5	0	90.0	45 - 125				
Fluorene	4.41	0.10	5	0	88.2	49 - 120				
Naphthalene	4.048	0.10	5	0	81.0	45 - 120				
Nitrobenzene	4.645	0.20	5	0	92.9	44 - 120				
N-Nitrosodiphenylamine	4.632	0.20	5	0	92.6	40 - 125				
Pentachlorophenol	3.799	0.20	5	0	76.0	19 - 121				
Phenanthrene	3.815	0.10	5	0	76.3	45 - 121				
Phenol	4.879	0.20	5	0	97.6	20 - 124				
Pyrene	4.227	0.10	5	0	84.5	40 - 130				
Surr: 2,4,6-Tribromophenol	*5.4*	*0.20*	*5*	*0*	*108*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.924*	*0.20*	*5*	*0*	*98.5*	*40 - 125*				
Surr: 2-Fluorophenol	*4.63*	*0.20*	*5*	*0*	*92.6*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.258*	*0.20*	*5*	*0*	*85.2*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.988*	*0.20*	*5*	*0*	*99.8*	*41 - 120*				
Surr: Phenol-d6	*5.053*	*0.20*	*5*	*0*	*101*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

QC BATCH REPORT

Batch ID: 143239 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MS Sample ID: **HS19070994-02MS** Units: **ug/L** Analysis Date: **23-Jul-2019 12:41**
Client ID: **WG-1620-MW61A-20190717** Run ID: **SV-7_342905** SeqNo: **5177239** PrepDate: **22-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.415	0.20	5	0	88.3	39 - 127				
2,4-Dimethylphenol	4.037	0.20	5	0	80.7	35 - 120				
2,4-Dinitrotoluene	5.451	0.20	5	0	109	50 - 122				
2,6-Dinitrotoluene	4.473	0.20	5	0	89.5	50 - 120				
2-Chloronaphthalene	3.33	0.20	5	0	66.6	50 - 120				
2-Methylnaphthalene	3.896	0.10	5	0	77.9	50 - 120				
4,6-Dinitro-2-methylphenol	5.429	0.20	5	0	109	25 - 121				
4-Nitrophenol	5.9	1.0	5	0	118	30 - 130				
Acenaphthene	3.872	0.10	5	0	77.4	45 - 120				
Acenaphthylene	3.749	0.10	5	0	75.0	47 - 120				
Anthracene	4.161	0.10	5	0	83.2	45 - 120				
Benz(a)anthracene	5.184	0.10	5	0	104	40 - 120				
Benzo(a)pyrene	5.7	0.10	5	0	114	45 - 120				
Bis(2-chloroethoxy)methane	3.56	0.20	5	0	71.2	45 - 120				
Bis(2-ethylhexyl)phthalate	4.733	0.20	5	0.3733	87.2	40 - 139				
Chrysene	5.104	0.10	5	0	102	43 - 120				
Dibenzofuran	4.1	0.10	5	0	82.0	50 - 120				
Di-n-butyl phthalate	4.681	0.20	5	0.0555	92.5	45 - 123				
Fluoranthene	5.584	0.10	5	0	112	45 - 125				
Fluorene	3.523	0.10	5	0	70.5	49 - 120				
Naphthalene	3.717	0.10	5	0	74.3	45 - 120				
Nitrobenzene	4.017	0.20	5	0	80.3	44 - 120				
N-Nitrosodiphenylamine	5.187	0.20	5	0	104	40 - 125				
Pentachlorophenol	5.322	0.20	5	0	106	19 - 121				
Phenanthrene	4.06	0.10	5	0	81.2	45 - 121				
Phenol	3.917	0.20	5	0.1053	76.2	20 - 124				
Pyrene	4.987	0.10	5	0	99.7	40 - 130				
Surr: 2,4,6-Tribromophenol	*5.013*	*0.20*	*5*	*0*	*100*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*3.557*	*0.20*	*5*	*0*	*71.1*	*40 - 125*				
Surr: 2-Fluorophenol	*3.895*	*0.20*	*5*	*0*	*77.9*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.264*	*0.20*	*5*	*0*	*105*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.008*	*0.20*	*5*	*0*	*80.2*	*41 - 120*				
Surr: Phenol-d6	*4.273*	*0.20*	*5*	*0*	*85.5*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

QC BATCH REPORT

Batch ID: 143239 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MSD Sample ID: **HS19070994-02MSD** Units: **ug/L** Analysis Date: **23-Jul-2019 13:00**
Client ID: **WG-1620-MW61A-20190717** Run ID: **SV-7_342905** SeqNo: **5177240** PrepDate: **22-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.835	0.20	5	0	76.7	39 - 127	4.415	14.1	20	
2,4-Dimethylphenol	4.214	0.20	5	0	84.3	35 - 120	4.037	4.29	20	
2,4-Dinitrotoluene	5.713	0.20	5	0	114	50 - 122	5.451	4.68	20	
2,6-Dinitrotoluene	5.485	0.20	5	0	110	50 - 120	4.473	20.3	20	R
2-Chloronaphthalene	3.935	0.20	5	0	78.7	50 - 120	3.33	16.7	20	
2-Methylnaphthalene	4.33	0.10	5	0	86.6	50 - 120	3.896	10.6	20	
4,6-Dinitro-2-methylphenol	4.985	0.20	5	0	99.7	25 - 121	5.429	8.53	30	
4-Nitrophenol	5.681	1.0	5	0	114	30 - 130	5.9	3.79	20	
Acenaphthene	3.837	0.10	5	0	76.7	45 - 120	3.872	0.909	20	
Acenaphthylene	4.093	0.10	5	0	81.9	47 - 120	3.749	8.78	20	
Anthracene	4.614	0.10	5	0	92.3	45 - 120	4.161	10.3	20	
Benz(a)anthracene	5.589	0.10	5	0	112	40 - 120	5.184	7.52	20	
Benzo(a)pyrene	7.055	0.10	5	0	141	45 - 120	5.7	21.2	20	SR
Bis(2-chloroethoxy)methane	3.926	0.20	5	0	78.5	45 - 120	3.56	9.79	20	
Bis(2-ethylhexyl)phthalate	5.527	0.20	5	0.3733	103	40 - 139	4.733	15.5	20	
Chrysene	5.555	0.10	5	0	111	43 - 120	5.104	8.47	20	
Dibenzofuran	4.216	0.10	5	0	84.3	50 - 120	4.1	2.79	20	
Di-n-butyl phthalate	5.227	0.20	5	0.0555	103	45 - 123	4.681	11	20	
Fluoranthene	5.526	0.10	5	0	111	45 - 125	5.584	1.05	20	
Fluorene	4.025	0.10	5	0	80.5	49 - 120	3.523	13.3	20	
Naphthalene	4.11	0.10	5	0	82.2	45 - 120	3.717	10	20	
Nitrobenzene	4.765	0.20	5	0	95.3	44 - 120	4.017	17	20	
N-Nitrosodiphenylamine	4.526	0.20	5	0	90.5	40 - 125	5.187	13.6	20	
Pentachlorophenol	5.029	0.20	5	0	101	19 - 121	5.322	5.66	20	
Phenanthrene	4.459	0.10	5	0	89.2	45 - 121	4.06	9.37	20	
Phenol	4.499	0.20	5	0.1053	87.9	20 - 124	3.917	13.8	20	
Pyrene	4.913	0.10	5	0	98.3	40 - 130	4.987	1.49	20	
Surr: 2,4,6-Tribromophenol	*6.449*	*0.20*	*5*	*0*	*129*	*34 - 129*	*5.013*	*25.1*	*20*	R
Surr: 2-Fluorobiphenyl	*4.764*	*0.20*	*5*	*0*	*95.3*	*40 - 125*	*3.557*	*29*	*20*	R
Surr: 2-Fluorophenol	*4.185*	*0.20*	*5*	*0*	*83.7*	*20 - 120*	*3.895*	*7.17*	*20*	
Surr: 4-Terphenyl-d14	*4.986*	*0.20*	*5*	*0*	*99.7*	*40 - 135*	*5.264*	*5.43*	*20*	
Surr: Nitrobenzene-d5	*4.82*	*0.20*	*5*	*0*	*96.4*	*41 - 120*	*4.008*	*18.4*	*20*	
Surr: Phenol-d6	*4.591*	*0.20*	*5*	*0*	*91.8*	*20 - 120*	*4.273*	*7.17*	*20*	

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	HS19070994

QC BATCH REPORT

Batch ID: 143239 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

The following samples were analyzed in this batch:

HS19070994-01	HS19070994-02	HS19070994-03	HS19070994-04
HS19070994-05	HS19070994-06	HS19070994-07	HS19070994-08
HS19070994-09	HS19070994-10	HS19070994-11	HS19070994-12
HS19070994-13	HS19070994-14	HS19070994-15	HS19070994-16
HS19070994-17	HS19070994-18	HS19070994-19	HS19070994-20

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

QC BATCH REPORT

Batch ID: 143295 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-143295** Units: **ug/L** Analysis Date: **24-Jul-2019 11:06**
Client ID: Run ID: **SV-7_342956** SeqNo: **5178273** PrepDate: **23-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*4.93*	*0.20*	*5*	*0*	*98.6*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.783*	*0.20*	*5*	*0*	*95.7*	*40 - 125*				
Surr: 2-Fluorophenol	*4.587*	*0.20*	*5*	*0*	*91.7*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.364*	*0.20*	*5*	*0*	*87.3*	*40 - 135*				
Surr: Nitrobenzene-d5	*5.101*	*0.20*	*5*	*0*	*102*	*41 - 120*				
Surr: Phenol-d6	*4.662*	*0.20*	*5*	*0*	*93.2*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

QC BATCH REPORT

Batch ID: 143295 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-143295** Units: **ug/L** Analysis Date: **24-Jul-2019 11:26**
Client ID: Run ID: **SV-7_342956** SeqNo: **5178274** PrepDate: **23-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.27	0.20	5	0	85.4	39 - 127				
2,4-Dimethylphenol	4.441	0.20	5	0	88.8	35 - 120				
2,4-Dinitrotoluene	5.322	0.20	5	0	106	50 - 122				
2,6-Dinitrotoluene	5.12	0.20	5	0	102	50 - 120				
2-Chloronaphthalene	4.199	0.20	5	0	84.0	50 - 120				
2-Methylnaphthalene	4.573	0.10	5	0	91.5	50 - 120				
4,6-Dinitro-2-methylphenol	4.011	0.20	5	0	80.2	25 - 121				
4-Nitrophenol	4.862	1.0	5	0	97.2	30 - 130				
Acenaphthene	4.17	0.10	5	0	83.4	45 - 120				
Acenaphthylene	4.231	0.10	5	0	84.6	47 - 120				
Anthracene	4.089	0.10	5	0	81.8	45 - 120				
Benz(a)anthracene	4.331	0.10	5	0	86.6	40 - 120				
Benzo(a)pyrene	4.809	0.10	5	0	96.2	45 - 120				
Bis(2-chloroethoxy)methane	4.11	0.20	5	0	82.2	45 - 120				
Bis(2-ethylhexyl)phthalate	3.802	0.20	5	0	76.0	40 - 139				
Chrysene	4.35	0.10	5	0	87.0	43 - 120				
Dibenzofuran	4.37	0.10	5	0	87.4	50 - 120				
Di-n-butyl phthalate	4.066	0.20	5	0	81.3	45 - 123				
Fluoranthene	4.558	0.10	5	0	91.2	45 - 125				
Fluorene	4.23	0.10	5	0	84.6	49 - 120				
Naphthalene	4.296	0.10	5	0	85.9	45 - 120				
Nitrobenzene	4.503	0.20	5	0	90.1	44 - 120				
N-Nitrosodiphenylamine	4.726	0.20	5	0	94.5	40 - 125				
Pentachlorophenol	3.475	0.20	5	0	69.5	19 - 121				
Phenanthrene	4.047	0.10	5	0	80.9	45 - 121				
Phenol	4.067	0.20	5	0	81.3	20 - 124				
Pyrene	4.074	0.10	5	0	81.5	40 - 130				
Surr: 2,4,6-Tribromophenol	*5.763*	*0.20*	*5*	*0*	*115*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*5.062*	*0.20*	*5*	*0*	*101*	*40 - 125*				
Surr: 2-Fluorophenol	*5.062*	*0.20*	*5*	*0*	*101*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.484*	*0.20*	*5*	*0*	*89.7*	*40 - 135*				
Surr: Nitrobenzene-d5	*5.287*	*0.20*	*5*	*0*	*106*	*41 - 120*				
Surr: Phenol-d6	*5.182*	*0.20*	*5*	*0*	*104*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

QC BATCH REPORT

Batch ID: 143295 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-143295** Units: **ug/L** Analysis Date: **24-Jul-2019 11:45**
Client ID: Run ID: **SV-7_342956** SeqNo: **5178275** PrepDate: **23-Jul-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.086	0.20	5	0	81.7	39 - 127	4.27	4.39	20	
2,4-Dimethylphenol	3.98	0.20	5	0	79.6	35 - 120	4.441	10.9	20	
2,4-Dinitrotoluene	4.984	0.20	5	0	99.7	50 - 122	5.322	6.57	20	
2,6-Dinitrotoluene	4.803	0.20	5	0	96.1	50 - 120	5.12	6.38	20	
2-Chloronaphthalene	4.174	0.20	5	0	83.5	50 - 120	4.199	0.592	20	
2-Methylnaphthalene	4.27	0.10	5	0	85.4	50 - 120	4.573	6.86	20	
4,6-Dinitro-2-methylphenol	4.202	0.20	5	0	84.0	25 - 121	4.011	4.64	30	
4-Nitrophenol	4.668	1.0	5	0	93.4	30 - 130	4.862	4.08	20	
Acenaphthene	4.187	0.10	5	0	83.7	45 - 120	4.17	0.401	20	
Acenaphthylene	4.194	0.10	5	0	83.9	47 - 120	4.231	0.87	20	
Anthracene	3.968	0.10	5	0	79.4	45 - 120	4.089	2.99	20	
Benz(a)anthracene	4.302	0.10	5	0	86.0	40 - 120	4.331	0.675	20	
Benzo(a)pyrene	4.814	0.10	5	0	96.3	45 - 120	4.809	0.104	20	
Bis(2-chloroethoxy)methane	3.975	0.20	5	0	79.5	45 - 120	4.11	3.33	20	
Bis(2-ethylhexyl)phthalate	4.142	0.20	5	0	82.8	40 - 139	3.802	8.55	20	
Chrysene	4.582	0.10	5	0	91.6	43 - 120	4.35	5.2	20	
Dibenzofuran	4.408	0.10	5	0	88.2	50 - 120	4.37	0.854	20	
Di-n-butyl phthalate	3.886	0.20	5	0	77.7	45 - 123	4.066	4.51	20	
Fluoranthene	4.17	0.10	5	0	83.4	45 - 125	4.558	8.9	20	
Fluorene	4.027	0.10	5	0	80.5	49 - 120	4.23	4.91	20	
Naphthalene	4.055	0.10	5	0	81.1	45 - 120	4.296	5.76	20	
Nitrobenzene	4.324	0.20	5	0	86.5	44 - 120	4.503	4.06	20	
N-Nitrosodiphenylamine	4.328	0.20	5	0	86.6	40 - 125	4.726	8.8	20	
Pentachlorophenol	3.469	0.20	5	0	69.4	19 - 121	3.475	0.178	20	
Phenanthrene	3.88	0.10	5	0	77.6	45 - 121	4.047	4.21	20	
Phenol	3.851	0.20	5	0	77.0	20 - 124	4.067	5.47	20	
Pyrene	4.178	0.10	5	0	83.6	40 - 130	4.074	2.54	20	
Surr: 2,4,6-Tribromophenol	*5.553*	*0.20*	*5*	*0*	*111*	*34 - 129*	*5.763*	*3.72*	*20*	
Surr: 2-Fluorobiphenyl	*5.19*	*0.20*	*5*	*0*	*104*	*40 - 125*	*5.062*	*2.49*	*20*	
Surr: 2-Fluorophenol	*4.776*	*0.20*	*5*	*0*	*95.5*	*20 - 120*	*5.062*	*5.8*	*20*	
Surr: 4-Terphenyl-d14	*4.505*	*0.20*	*5*	*0*	*90.1*	*40 - 135*	*4.484*	*0.476*	*20*	
Surr: Nitrobenzene-d5	*4.96*	*0.20*	*5*	*0*	*99.2*	*41 - 120*	*5.287*	*6.39*	*20*	
Surr: Phenol-d6	*4.968*	*0.20*	*5*	*0*	*99.4*	*20 - 120*	*5.182*	*4.22*	*20*	

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	HS19070994

QC BATCH REPORT

Batch ID: 143295 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

The following samples were analyzed in this batch:

HS19070994-21	HS19070994-22	HS19070994-23	HS19070994-24
HS19070994-25	HS19070994-26	HS19070994-27	HS19070994-28
HS19070994-29	HS19070994-30	HS19070994-31	HS19070994-32

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

QC BATCH REPORT

Batch ID: R342868 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-190722** Units: **ug/L** Analysis Date: **22-Jul-2019 23:59**
Client ID: Run ID: **VOA2_342868** SeqNo: **5176537** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*44.65*	*1.0*	*50*	*0*	*89.3*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.26*	*1.0*	*50*	*0*	*94.5*	*82 - 115*				
Surr: Dibromofluoromethane	*49.12*	*1.0*	*50*	*0*	*98.2*	*73 - 126*				
Surr: Toluene-d8	*50.45*	*1.0*	*50*	*0*	*101*	*81 - 120*				

LCS Sample ID: **VLCSW-190722** Units: **ug/L** Analysis Date: **22-Jul-2019 23:34**
Client ID: Run ID: **VOA2_342868** SeqNo: **5176536** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	19.73	1.0	20	0	98.6	70 - 124				
Benzene	19.51	1.0	20	0	97.6	74 - 120				
Chlorobenzene	18.74	1.0	20	0	93.7	76 - 113				
Ethylbenzene	19.69	1.0	20	0	98.5	77 - 117				
Methylene chloride	22.08	2.0	20	0	110	70 - 127				
Toluene	21.86	1.0	20	0	109	77 - 118				
Xylenes, Total	62.78	1.0	60	0	105	75 - 122				
Surr: 1,2-Dichloroethane-d4	*46.76*	*1.0*	*50*	*0*	*93.5*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*47.46*	*1.0*	*50*	*0*	*94.9*	*82 - 115*				
Surr: Dibromofluoromethane	*47.79*	*1.0*	*50*	*0*	*95.6*	*73 - 126*				
Surr: Toluene-d8	*49.22*	*1.0*	*50*	*0*	*98.4*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

QC BATCH REPORT

Batch ID: R342868 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS19070949-09MS** Units: **ug/L** Analysis Date: **23-Jul-2019 01:12**
Client ID: Run ID: **VOA2_342868** SeqNo: **5176540** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.08	1.0	20	0	80.4	70 - 127				
Benzene	16.82	1.0	20	0	84.1	70 - 127				
Chlorobenzene	16.71	1.0	20	0	83.5	70 - 114				
Ethylbenzene	17.05	1.0	20	0	85.2	70 - 124				
Methylene chloride	16.4	2.0	20	0	82.0	70 - 128				
Toluene	18.99	1.0	20	0	94.9	70 - 123				
Xylenes, Total	55.12	1.0	60	0	91.9	70 - 130				
Surr: 1,2-Dichloroethane-d4	*46.06*	*1.0*	*50*	*0*	*92.1*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*47.94*	*1.0*	*50*	*0*	*95.9*	*81 - 113*				
Surr: Dibromofluoromethane	*47.34*	*1.0*	*50*	*0*	*94.7*	*77 - 123*				
Surr: Toluene-d8	*49.78*	*1.0*	*50*	*0*	*99.6*	*82 - 127*				

MSD Sample ID: **HS19070949-09MSD** Units: **ug/L** Analysis Date: **23-Jul-2019 01:36**
Client ID: Run ID: **VOA2_342868** SeqNo: **5176541** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	15.97	1.0	20	0	79.9	70 - 127	16.08	0.65	20	
Benzene	16.22	1.0	20	0	81.1	70 - 127	16.82	3.64	20	
Chlorobenzene	16.12	1.0	20	0	80.6	70 - 114	16.71	3.54	20	
Ethylbenzene	16.48	1.0	20	0	82.4	70 - 124	17.05	3.37	20	
Methylene chloride	17.05	2.0	20	0	85.2	70 - 128	16.4	3.88	20	
Toluene	18.03	1.0	20	0	90.2	70 - 123	18.99	5.16	20	
Xylenes, Total	53.8	1.0	60	0	89.7	70 - 130	55.12	2.42	20	
Surr: 1,2-Dichloroethane-d4	*46.15*	*1.0*	*50*	*0*	*92.3*	*70 - 126*	*46.06*	*0.195*	*20*	
Surr: 4-Bromofluorobenzene	*47.96*	*1.0*	*50*	*0*	*95.9*	*81 - 113*	*47.94*	*0.0444*	*20*	
Surr: Dibromofluoromethane	*47.74*	*1.0*	*50*	*0*	*95.5*	*77 - 123*	*47.34*	*0.827*	*20*	
Surr: Toluene-d8	*49.92*	*1.0*	*50*	*0*	*99.8*	*82 - 127*	*49.78*	*0.281*	*20*	

The following samples were analyzed in this batch: HS19070994-19 HS19070994-20

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

QC BATCH REPORT

Batch ID: R342877 (0) **Instrument: VOA6** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-190722** Units: **ug/L** Analysis Date: **23-Jul-2019 02:01**
Client ID: Run ID: **VOA6_342877** SeqNo: **5176718** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*48.06*	*1.0*	*50*	*0*	*96.1*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*50.41*	*1.0*	*50*	*0*	*101*	*82 - 115*				
Surr: Dibromofluoromethane	*46.89*	*1.0*	*50*	*0*	*93.8*	*73 - 126*				
Surr: Toluene-d8	*52.48*	*1.0*	*50*	*0*	*105*	*81 - 120*				

LCS Sample ID: **VLCSW-190722** Units: **ug/L** Analysis Date: **23-Jul-2019 01:13**
Client ID: Run ID: **VOA6_342877** SeqNo: **5176717** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	20.99	1.0	20	0	105	70 - 124				
Benzene	20.69	1.0	20	0	103	74 - 120				
Chlorobenzene	21.43	1.0	20	0	107	76 - 113				
Ethylbenzene	22.09	1.0	20	0	110	77 - 117				
Methylene chloride	20.58	2.0	20	0	103	70 - 127				
Toluene	21.9	1.0	20	0	110	77 - 118				
Vinyl chloride	19	1.0	20	0	95.0	70 - 130				
Xylenes, Total	65.67	1.0	60	0	109	75 - 122				
Surr: 1,2-Dichloroethane-d4	*47.16*	*1.0*	*50*	*0*	*94.3*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*47.92*	*1.0*	*50*	*0*	*95.8*	*82 - 115*				
Surr: Dibromofluoromethane	*45.72*	*1.0*	*50*	*0*	*91.4*	*73 - 126*				
Surr: Toluene-d8	*46.8*	*1.0*	*50*	*0*	*93.6*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

QC BATCH REPORT

Batch ID: R342877 (0) **Instrument: VOA6** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS19070994-21MS** Units: **ug/L** Analysis Date: **23-Jul-2019 03:37**
Client ID: **WG-1620-MW83C-20190718** Run ID: **VOA6_342877** SeqNo: **5176722** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	20.44	1.0	20	0	102	70 - 127				
Benzene	20.94	1.0	20	0	105	70 - 127				
Chlorobenzene	21.37	1.0	20	0	107	70 - 114				
Ethylbenzene	22.48	1.0	20	0	112	70 - 124				
Methylene chloride	20.11	2.0	20	0	101	70 - 128				
Toluene	22.22	1.0	20	0	111	70 - 123				
Vinyl chloride	17.71	1.0	20	0	88.6	70 - 130				
Xylenes, Total	65.87	1.0	60	0	110	70 - 130				
Surr: 1,2-Dichloroethane-d4	*55.84*	*1.0*	*50*	*0*	*112*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*57.14*	*1.0*	*50*	*0*	*114*	*81 - 113*				S
Surr: Dibromofluoromethane	*56.54*	*1.0*	*50*	*0*	*113*	*77 - 123*				
Surr: Toluene-d8	*58.54*	*1.0*	*50*	*0*	*117*	*82 - 127*				

MSD Sample ID: **HS19070994-21MSD** Units: **ug/L** Analysis Date: **23-Jul-2019 04:01**
Client ID: **WG-1620-MW83C-20190718** Run ID: **VOA6_342877** SeqNo: **5176723** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	20.9	1.0	20	0	104	70 - 127	20.44	2.23	20	
Benzene	20.94	1.0	20	0	105	70 - 127	20.94	0.0341	20	
Chlorobenzene	21.3	1.0	20	0	107	70 - 114	21.37	0.321	20	
Ethylbenzene	22.27	1.0	20	0	111	70 - 124	22.48	0.963	20	
Methylene chloride	19.56	2.0	20	0	97.8	70 - 128	20.11	2.8	20	
Toluene	22.05	1.0	20	0	110	70 - 123	22.22	0.788	20	
Vinyl chloride	17.32	1.0	20	0	86.6	70 - 130	17.71	2.25	20	
Xylenes, Total	66.41	1.0	60	0	111	70 - 130	65.87	0.815	20	
Surr: 1,2-Dichloroethane-d4	*57.37*	*1.0*	*50*	*0*	*115*	*70 - 126*	*55.84*	*2.72*	*20*	
Surr: 4-Bromofluorobenzene	*57.48*	*1.0*	*50*	*0*	*115*	*81 - 113*	*57.14*	*0.606*	*20*	S
Surr: Dibromofluoromethane	*56.89*	*1.0*	*50*	*0*	*114*	*77 - 123*	*56.54*	*0.628*	*20*	
Surr: Toluene-d8	*58.25*	*1.0*	*50*	*0*	*116*	*82 - 127*	*58.54*	*0.502*	*20*	

The following samples were analyzed in this batch:

HS19070994-21	HS19070994-22	HS19070994-23	HS19070994-24
HS19070994-25	HS19070994-26	HS19070994-27	HS19070994-28
HS19070994-29	HS19070994-30	HS19070994-31	HS19070994-32
HS19070994-33	HS19070994-34		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

QC BATCH REPORT

Batch ID: R342879 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-190722** Units: **ug/L** Analysis Date: **23-Jul-2019 00:18**
Client ID: Run ID: **VOA4_342879** SeqNo: **5176775** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*51.51*	*1.0*	*50*	*0*	*103*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*48.74*	*1.0*	*50*	*0*	*97.5*	*82 - 115*				
Surr: Dibromofluoromethane	*53.07*	*1.0*	*50*	*0*	*106*	*73 - 126*				
Surr: Toluene-d8	*50.85*	*1.0*	*50*	*0*	*102*	*81 - 120*				

LCS Sample ID: **VLCSW-190722** Units: **ug/L** Analysis Date: **22-Jul-2019 23:29**
Client ID: Run ID: **VOA4_342879** SeqNo: **5176774** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.24	1.0	20	0	86.2	70 - 124				
Benzene	18.53	1.0	20	0	92.7	74 - 120				
Chlorobenzene	18.8	1.0	20	0	94.0	76 - 113				
Ethylbenzene	18.76	1.0	20	0	93.8	77 - 117				
Methylene chloride	21.91	2.0	20	0	110	70 - 127				
Toluene	18.63	1.0	20	0	93.2	77 - 118				
Vinyl chloride	17.76	1.0	20	0	88.8	70 - 130				
Xylenes, Total	58.77	1.0	60	0	97.9	75 - 122				
Surr: 1,2-Dichloroethane-d4	*49.31*	*1.0*	*50*	*0*	*98.6*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*49.64*	*1.0*	*50*	*0*	*99.3*	*82 - 115*				
Surr: Dibromofluoromethane	*52.39*	*1.0*	*50*	*0*	*105*	*73 - 126*				
Surr: Toluene-d8	*50.05*	*1.0*	*50*	*0*	*100*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19070994

QC BATCH REPORT

Batch ID: R342879 (0) **Instrument:** VOA4 **Method:** LOW LEVEL VOLATILES BY SW8260C

MS Sample ID: **HS19070994-02MS** Units: **ug/L** Analysis Date: **23-Jul-2019 01:56**
Client ID: **WG-1620-MW61A-20190717** Run ID: **VOA4_342879** SeqNo: **5176779** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	14.52	1.0	20	0	72.6	70 - 127				
Benzene	16.38	1.0	20	0	81.9	70 - 127				
Chlorobenzene	16.17	1.0	20	0	80.8	70 - 114				
Ethylbenzene	16.41	1.0	20	0	82.0	70 - 124				
Methylene chloride	16.8	2.0	20	0	84.0	70 - 128				
Toluene	16.66	1.0	20	0	83.3	70 - 123				
Vinyl chloride	16.09	1.0	20	0	80.4	70 - 130				
Xylenes, Total	52.27	1.0	60	0	87.1	70 - 130				
Surr: 1,2-Dichloroethane-d4	*48.95*	*1.0*	*50*	*0*	*97.9*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*50.73*	*1.0*	*50*	*0*	*101*	*81 - 113*				
Surr: Dibromofluoromethane	*52.02*	*1.0*	*50*	*0*	*104*	*77 - 123*				
Surr: Toluene-d8	*50.27*	*1.0*	*50*	*0*	*101*	*82 - 127*				

MSD Sample ID: **HS19070994-02MSD** Units: **ug/L** Analysis Date: **23-Jul-2019 02:21**
Client ID: **WG-1620-MW61A-20190717** Run ID: **VOA4_342879** SeqNo: **5176780** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	13.98	1.0	20	0	69.9	70 - 127	14.52	3.83	20	S
Benzene	15.56	1.0	20	0	77.8	70 - 127	16.38	5.12	20	
Chlorobenzene	15.68	1.0	20	0	78.4	70 - 114	16.17	3.03	20	
Ethylbenzene	15.79	1.0	20	0	79.0	70 - 124	16.41	3.81	20	
Methylene chloride	15.84	2.0	20	0	79.2	70 - 128	16.8	5.86	20	
Toluene	15.71	1.0	20	0	78.5	70 - 123	16.66	5.9	20	
Vinyl chloride	15.34	1.0	20	0	76.7	70 - 130	16.09	4.78	20	
Xylenes, Total	51.57	1.0	60	0	86.0	70 - 130	52.27	1.34	20	
Surr: 1,2-Dichloroethane-d4	*48.17*	*1.0*	*50*	*0*	*96.3*	*70 - 126*	*48.95*	*1.61*	*20*	
Surr: 4-Bromofluorobenzene	*51.55*	*1.0*	*50*	*0*	*103*	*81 - 113*	*50.73*	*1.61*	*20*	
Surr: Dibromofluoromethane	*50.79*	*1.0*	*50*	*0*	*102*	*77 - 123*	*52.02*	*2.39*	*20*	
Surr: Toluene-d8	*49*	*1.0*	*50*	*0*	*98.0*	*82 - 127*	*50.27*	*2.57*	*20*	

The following samples were analyzed in this batch:

HS19070994-01	HS19070994-02	HS19070994-03	HS19070994-04
HS19070994-05	HS19070994-06	HS19070994-07	HS19070994-08
HS19070994-09	HS19070994-10	HS19070994-11	HS19070994-12
HS19070994-13	HS19070994-14	HS19070994-15	HS19070994-16
HS19070994-17	HS19070994-18		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS19070994**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2019	31-Dec-2019
Oklahoma	2018-156	31-Aug-2019
Texas	TX104704231-19-23	30-Apr-2020

Sample Receipt Checklist

Client Name: PBW
Work Order: HS19070994

Date/Time Received: **19-Jul-2019 13:15**
Received by: **AC**

Checklist completed by: *Asad Chaudhry* eSignature 19-Jul-2019 Date

Reviewed by: *Dane J. Wacasey* eSignature 20-Jul-2019 Date

Matrices: **Water**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	4 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:196129, 196108, 196107, 196109
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	3.5c, 0.4c, 0.3c, 03c, 0.4c, 0.5c, 0.4c C/UC	IR 25
Cooler(s)/Kit(s):	43620, 44883, 43052, 44142, 44164, 45160, 45144	
Date/Time sample(s) sent to storage:	07/19/2019 19:00	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes: Extra trip blank received. Logged in with sample ID (TB06) and test code.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 4

COC ID: 196129

HS19070994

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-07-Rev0 SR 92688
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address	

A	8260_LL_W (5632528 Volatile Organics Site Specific)
B	8260_LL_W (5632528 VOC Site Specific + V.C.)
C	8270_LOW_W (5632532 SemiVolatiles Site specific)
D	ICP_TW (5636002 5652646 Metals - As, Pb)
E	MS/MSD
F	
G	
H	
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WO-1620-TRIP_-201801~~			~~Water~~	←	~~2~~		X									
2	WG-1620-FB04-20190716	7-16-19	1820			6		X	X	X							
3	WG-1620-MW61A-20190717	7-17-19	0750			12		X	X	X	X						
4	WG-1620-MW60A-20190717		0835			6		X	X	X							
5	WG-1620-MW69A-20190717		0935			6		X	X	X							
6	WG-1620-MW47C-20190717		1025			6	X		X	X							
7	WG-1620-MW48C-20190717		1120			6	X		X	X							
8	WG-1620-MW59A-20190717		1220			6		X	X	X							
9	WG-1620-MW59B-20190717		1310			6		X	X	X							
10	WG-1620-MW44A-20190717		1400			6		X	X	X							

Sampler(s) Please Print & Sign: JOHN BRAYTON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) ☐ Other ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by: Date: 7-19-19 Time: 1315

Relinquished by: Date: 7-19-19 Time: 13:15

Received by:

Received by (Laboratory): AC

Logged by (Laboratory): Date: Time:

Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
43620	3.5
44883	0.4
43052	0.3
44142	0.3
44164	0.4
45160	0.5

QC Package: (Check One Box Below)

☐ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SW846/CLP
☐ Other
☒ TRRP Checklist
☐ TRRP Level IV

IR#25

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 2 of 4

COC ID: 196108

HS19070994

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 Volatile Organics Site Specific)
Work Order		Project Number	1620-07-Rev0 SR 92688	B	8260_LL_W (5632528 VOC Site Specific + V.C.)
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 5632646 Metals - As, Pb)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WD-1620-TB0 20190[illegible]~~			~~Water~~	~~T~~	~~2~~		X									
2	WG-1620-MW87C-20190717	7-17-19	1540			6	X		X	X							
3	WG-1620-MW71B-20190717		1640			6	X		X	X							
4	WG-1620-MW33A-20190717		1750			6	X		X	X							
5	WG-1626-FD02-20190717		1750			6	X		X	X							
6	WG-1620-MW26A-20190717		1845			6	X		X	X							
7	WG-1620-FB05-20190717		1905			6	X		X	X							
8	WG-1620-MW68A-20190718	7-18-19	0755			6	X		X	X							
9	WG-1620-MW68B-20190718		0855			6	X		X	X							
10	WG-1620-FD03-20190718		0855			6	X		X	X							

Sampler(s) Please Print & Sign: JOHN BRAMTON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) ☐ Other ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by: Date: 7-19-19 Time: 1315 Received by:

Relinquished by: Date: 7-19-19 Time: 13:15 Received by (Laboratory): A-C

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)
☐ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SW846/CLP
☐ Other
☒ TRRP Checklist
☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 3 of 4

COC ID: 196107

HS19070994

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 Volatile Organics Site Specific)
Work Order		Project Number	1620-07-Rev0 SR 92688	B	8260_LL_W (5632528 VOC Site Specific + V.C.)
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 5652646 Metals - As, Pb)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 68179-0750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TRIP_20180[illegible]~~			~~Water~~	←	~~2~~		*									
2	WG-1620-MW68C-20190718	7-18-19	0945			6	X		X	X							
3	WG-1620-MW83B-20190718		1040			6	X		X	X							
4	WG-1620-MW83C-20190718		1130			6	X		X	X							
5	WG-1620-MW35A-20190718		1240			6	X		X	X							
6	WG-1620-MW35B-20190718		1330			6	X		X	X							
7	WG-1620-MW90B-20190718		1425			6	X		X	X							
8	WG-1620-MW89B-20190718		1515			6	X		X	X							
9	WG-1620-MW38B-20190718		1610			6	X		X	X							
10	WG-1620-MW27A-20190718		1715			6	X		X	X							

Sampler(s) Please Print & Sign: JOHN BRAYTON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by: Date: 7-19-19 Time: 1315 Received by:

Relinquished by: Date: 7-19-19 Time: 13:15 Received by (Laboratory): AC

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)

- ☐ Level II Std QC
- ☐ Level III Std QC/Raw Data
- ☐ Level IV SW846/CLP
- ☒ TRRP Check St
- ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody For

Page 4 of 4

COC ID: 196109

HS19070994

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 Volatile Organics Site Specific)
Work Order		Project Number	1620-07-Rev0 SR 92688	B	8260_LL_W (5632528 VOC Site Specific + V.C.)
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632632 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 5652646 Metals - As, Pb)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TB0 -201301~~			~~Water~~	~~-~~	~~2~~		X									
2	WG-1620-MW27C-20190718	7-18-19	1805			6	X		X	X							
3	WG-1620-MW51A-20190719	7-19-19	0725			6	X		X	X							
4	WG-1620-MW51C-20190719		0855			6	X		X	X							
5	WG-1620-MW81B-20190719		0945			6	X		X	X							
6	WG-1620-MW50A-20190719		1040			6	X		X	X							
7	WG-1620-TB05-20190719					2		X									
8																	
9																	
10																	

Sampler(s) Please Print & Sign: JOHN BRADLEY

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 WK Days [ ] 5 WK Days [ ] 2 WK Days [ ] 24 Hour [ ] Other

Results Due Date:

Relinquished by: Date: 7-19-19 Time: 1315 Received by:

Relinquished by: Date: 7-19-19 Time: 1315 Received by (Laboratory): AC

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR Houston MW/PW

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)

[ ] Level II Std QC
[ ] Level III Std QC/Raw Data
[ ] Level IV SW846/CLP
[ ] Other
[X] TRRP Checklist
[ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

August 12, 2019

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS19080069**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 13 sample(s) on Aug 01, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DAYNA.FISHER
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS19080069**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	**HS19080069**

TRRP Laboratory Data Package Cover Page

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 08/12/2019					
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS19080069					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 143727, 143772, R343615, R343708					
#[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				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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 SW-846 Method 5035?			X		
		If required for the project, 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			1
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 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				
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			2
		Were MS/MSD RPDs within laboratory QC limits?		X			3
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		
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				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				4
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 08/12/2019				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS19080069				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 143727, 143772, R343615, R343708				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group	LRC Date: 08/12/2019
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS19080069
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 143727, 143772, R343615, R343708

ER#[5]	Description
1	Batch 143727, Semivolatiles by Method SW8270, Samples WG-1620-MW33BR-20190730, WG-1620-MW77A-20190730, WG-1620-MW74B-20190730, WG-1620-MW79A-20190730: Surrogate recoveries could not be determined due to dilution below the calibration range. Batch R343708, Volatiles by Method SW8260, Sample WG-1620-MW79A-20190730, surrogate 4-Bromofluorobenzene recovered above upper control limits die to possible matrix effect.
2	Batch R343708, Volatiles by Method SW8260, Sample HS19080060-04, MSD was performed on an unrelated sample
3	Batch 143727, Semivolatiles by Method SW8270, Sample WG-1620-MW82B-20190730, MS/MSD RPD recovered above control limits for Naphthalene.
4	Batch R343708, Volatiles by Method SW8260, Sample WG-1620-MW74B-20190730, lowest practical dilution performed due to high concentration of non-target analyte(s).

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19080069

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19080069-01	WG-1620-MW32AR-20190730	Water		30-Jul-2019 07:25	01-Aug-2019 14:40	☐
HS19080069-02	WG-1620-MW33BR-20190730	Water		30-Jul-2019 08:20	01-Aug-2019 14:40	☐
HS19080069-03	WG-1620-MW84B-20190730	Water		30-Jul-2019 09:15	01-Aug-2019 14:40	☐
HS19080069-04	WG-1620-MW82B-20190730	Water		30-Jul-2019 10:10	01-Aug-2019 14:40	☐
HS19080069-05	WG-1620-MW80B-20190730	Water		30-Jul-2019 11:10	01-Aug-2019 14:40	☐
HS19080069-06	WG-1620-MW77A-20190730	Water		30-Jul-2019 11:55	01-Aug-2019 14:40	☐
HS19080069-07	WG-1620-MW85C-20190730	Water		30-Jul-2019 15:35	01-Aug-2019 14:40	☐
HS19080069-08	WG-1620-MW86C-20190730	Water		30-Jul-2019 16:40	01-Aug-2019 14:40	☐
HS19080069-09	WG-1620-FD04-20190730	Water		30-Jul-2019 16:40	01-Aug-2019 14:40	☐
HS19080069-10	WG-1620-MW76C-20190730	Water		30-Jul-2019 17:30	01-Aug-2019 14:40	☐
HS19080069-11	WG-1620-MW74B-20190730	Water		30-Jul-2019 18:20	01-Aug-2019 14:40	☐
HS19080069-12	WG-1620-MW79A-20190730	Water		30-Jul-2019 19:10	01-Aug-2019 14:40	☐
HS19080069-13	WG-1620-TB05-20190730	Water	CG 062119 -77	30-Jul-2019 00:00	01-Aug-2019 14:40	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW32AR-20190730
Collection Date: 30-Jul-2019 07:25

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	03-Aug-2019 06:33
Benzene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 06:33
Chlorobenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 06:33
Ethylbenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 06:33
Methylene chloride		U	0.0010	0.0020	mg/L	1	03-Aug-2019 06:33
Toluene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 06:33
Xylenes, Total		U	0.00030	0.0010	mg/L	1	03-Aug-2019 06:33
Surr: 1,2-Dichloroethane-d4	*96.7*			*70-126*	*%REC*	*1*	*03-Aug-2019 06:33*
Surr: 4-Bromofluorobenzene	*95.2*			*81-113*	*%REC*	*1*	*03-Aug-2019 06:33*
Surr: Dibromofluoromethane	*99.3*			*77-123*	*%REC*	*1*	*03-Aug-2019 06:33*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*03-Aug-2019 06:33*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW32AR-20190730
Collection Date: 30-Jul-2019 07:25

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 02-Aug-2019		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	02-Aug-2019 18:21
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	02-Aug-2019 18:21
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	02-Aug-2019 18:21
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	02-Aug-2019 18:21
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	02-Aug-2019 18:21
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	02-Aug-2019 18:21
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	02-Aug-2019 18:21
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	02-Aug-2019 18:21
Acenaphthene	U		0.000027	0.00010	mg/L	1	02-Aug-2019 18:21
Acenaphthylene	U		0.000015	0.00010	mg/L	1	02-Aug-2019 18:21
Anthracene	U		0.000014	0.00010	mg/L	1	02-Aug-2019 18:21
Benz(a)anthracene	**0.000054**	J	**0.000050**	**0.00010**	**mg/L**	1	02-Aug-2019 18:21
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	02-Aug-2019 18:21
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	02-Aug-2019 18:21
Bis(2-ethylhexyl)phthalate	**0.000074**	J	**0.000037**	**0.00020**	**mg/L**	1	02-Aug-2019 18:21
Chrysene	U		0.000021	0.00010	mg/L	1	02-Aug-2019 18:21
Dibenzofuran	U		0.000020	0.00010	mg/L	1	02-Aug-2019 18:21
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	02-Aug-2019 18:21
Fluoranthene	U		0.000010	0.00010	mg/L	1	02-Aug-2019 18:21
Fluorene	U		0.000030	0.00010	mg/L	1	02-Aug-2019 18:21
Naphthalene	U		0.000020	0.00010	mg/L	1	02-Aug-2019 18:21
Nitrobenzene	U		0.000024	0.00020	mg/L	1	02-Aug-2019 18:21
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	02-Aug-2019 18:21
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	02-Aug-2019 18:21
Phenanthrene	U		0.000021	0.00010	mg/L	1	02-Aug-2019 18:21
Phenol	U		0.000035	0.00020	mg/L	1	02-Aug-2019 18:21
Pyrene	**0.00045**		**0.000019**	**0.00010**	**mg/L**	1	02-Aug-2019 18:21
Surr: 2,4,6-Tribromophenol	*63.8*			*34-129*	*%REC*	*1*	*02-Aug-2019 18:21*
Surr: 2-Fluorobiphenyl	*74.7*			*40-125*	*%REC*	*1*	*02-Aug-2019 18:21*
Surr: 2-Fluorophenol	*59.9*			*20-120*	*%REC*	*1*	*02-Aug-2019 18:21*
Surr: 4-Terphenyl-d14	*80.7*			*40-135*	*%REC*	*1*	*02-Aug-2019 18:21*
Surr: Nitrobenzene-d5	*62.7*			*41-120*	*%REC*	*1*	*02-Aug-2019 18:21*
Surr: Phenol-d6	*63.3*			*20-120*	*%REC*	*1*	*02-Aug-2019 18:21*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 05-Aug-2019		Analyst: JHD
Arsenic	**0.0628**		**0.000400**	**0.00200**	**mg/L**	1	08-Aug-2019 22:50

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW33BR-20190730
Collection Date: 30-Jul-2019 08:20

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: PC
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	03-Aug-2019 00:29
Benzene	**0.25**		**0.0010**	**0.0050**	**mg/L**	5	03-Aug-2019 01:42
Chlorobenzene	U		0.00030	0.0010	mg/L	1	03-Aug-2019 00:29
Ethylbenzene	**0.065**		**0.00030**	**0.0010**	**mg/L**	1	03-Aug-2019 00:29
Methylene chloride	U		0.0010	0.0020	mg/L	1	03-Aug-2019 00:29
Toluene	**0.0031**		**0.00020**	**0.0010**	**mg/L**	1	03-Aug-2019 00:29
Vinyl chloride	U		0.00020	0.0010	mg/L	1	03-Aug-2019 00:29
Xylenes, Total	**0.016**		**0.00030**	**0.0010**	**mg/L**	1	03-Aug-2019 00:29
Surr: 1,2-Dichloroethane-d4	*97.3*			*70-126*	*%REC*	*1*	*03-Aug-2019 00:29*
Surr: 1,2-Dichloroethane-d4	*95.5*			*70-126*	*%REC*	*5*	*03-Aug-2019 01:42*
Surr: 4-Bromofluorobenzene	*98.9*			*81-113*	*%REC*	*1*	*03-Aug-2019 00:29*
Surr: 4-Bromofluorobenzene	*98.7*			*81-113*	*%REC*	*5*	*03-Aug-2019 01:42*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*03-Aug-2019 00:29*
Surr: Dibromofluoromethane	*97.8*			*77-123*	*%REC*	*5*	*03-Aug-2019 01:42*
Surr: Toluene-d8	*99.4*			*82-127*	*%REC*	*1*	*03-Aug-2019 00:29*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*5*	*03-Aug-2019 01:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW33BR-20190730
Collection Date: 30-Jul-2019 08:20

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 02-Aug-2019		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	02-Aug-2019 18:40
2,4-Dimethylphenol	**0.00028**		**0.000040**	**0.00020**	**mg/L**	1	02-Aug-2019 18:40
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	02-Aug-2019 18:40
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	02-Aug-2019 18:40
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	02-Aug-2019 18:40
2-Methylnaphthalene	**0.014**		**0.000095**	**0.00050**	**mg/L**	5	06-Aug-2019 21:12
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	02-Aug-2019 18:40
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	02-Aug-2019 18:40
Acenaphthene	**0.0078**		**0.000027**	**0.00010**	**mg/L**	1	02-Aug-2019 18:40
Acenaphthylene	U		0.000015	0.00010	mg/L	1	02-Aug-2019 18:40
Anthracene	**0.00055**		**0.000014**	**0.00010**	**mg/L**	1	02-Aug-2019 18:40
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	02-Aug-2019 18:40
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	02-Aug-2019 18:40
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	02-Aug-2019 18:40
Bis(2-ethylhexyl)phthalate	**0.000070**	J	**0.000037**	**0.00020**	**mg/L**	1	02-Aug-2019 18:40
Chrysene	U		0.000021	0.00010	mg/L	1	02-Aug-2019 18:40
Dibenzofuran	**0.012**		**0.00010**	**0.00050**	**mg/L**	5	06-Aug-2019 21:12
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	02-Aug-2019 18:40
Fluoranthene	**0.00039**		**0.000010**	**0.00010**	**mg/L**	1	02-Aug-2019 18:40
Fluorene	**0.0042**		**0.000030**	**0.00010**	**mg/L**	1	02-Aug-2019 18:40
Naphthalene	**0.53**		**0.0020**	**0.010**	**mg/L**	100	06-Aug-2019 21:31
Nitrobenzene	U		0.000024	0.00020	mg/L	1	02-Aug-2019 18:40
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	02-Aug-2019 18:40
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	02-Aug-2019 18:40
Phenanthrene	**0.0048**		**0.000021**	**0.00010**	**mg/L**	1	02-Aug-2019 18:40
Phenol	**0.00021**		**0.000035**	**0.00020**	**mg/L**	1	02-Aug-2019 18:40
Pyrene	**0.00026**		**0.000019**	**0.00010**	**mg/L**	1	02-Aug-2019 18:40
Surr: 2,4,6-Tribromophenol	*79.8*			*34-129*	*%REC*	*5*	*06-Aug-2019 21:12*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*06-Aug-2019 21:31*
Surr: 2,4,6-Tribromophenol	*67.0*			*34-129*	*%REC*	*1*	*02-Aug-2019 18:40*
Surr: 2-Fluorobiphenyl	*71.9*			*40-125*	*%REC*	*1*	*02-Aug-2019 18:40*
Surr: 2-Fluorobiphenyl	*78.3*			*40-125*	*%REC*	*5*	*06-Aug-2019 21:12*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*06-Aug-2019 21:31*
Surr: 2-Fluorophenol	*88.8*			*20-120*	*%REC*	*5*	*06-Aug-2019 21:12*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*06-Aug-2019 21:31*
Surr: 2-Fluorophenol	*80.7*			*20-120*	*%REC*	*1*	*02-Aug-2019 18:40*
Surr: 4-Terphenyl-d14	*84.8*			*40-135*	*%REC*	*1*	*02-Aug-2019 18:40*
Surr: 4-Terphenyl-d14	*91.4*			*40-135*	*%REC*	*5*	*06-Aug-2019 21:12*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*06-Aug-2019 21:31*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW33BR-20190730
Collection Date: 30-Jul-2019 08:20

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 02-Aug-2019		Analyst: LG
Surr: Nitrobenzene-d5	*71.1*			*41-120*	*%REC*	*1*	*02-Aug-2019 18:40*
Surr: Nitrobenzene-d5	*81.6*			*41-120*	*%REC*	*5*	*06-Aug-2019 21:12*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*06-Aug-2019 21:31*
Surr: Phenol-d6	*68.0*			*20-120*	*%REC*	*5*	*06-Aug-2019 21:12*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*06-Aug-2019 21:31*
Surr: Phenol-d6	*67.9*			*20-120*	*%REC*	*1*	*02-Aug-2019 18:40*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 05-Aug-2019		Analyst: JHD
Arsenic	**0.00117**	J	**0.000400**	**0.00200**	**mg/L**	1	08-Aug-2019 22:53

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW84B-20190730
Collection Date: 30-Jul-2019 09:15

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: PC
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	03-Aug-2019 06:58
Benzene	**0.010**		**0.00020**	**0.0010**	**mg/L**	1	03-Aug-2019 06:58
Chlorobenzene	U		0.00030	0.0010	mg/L	1	03-Aug-2019 06:58
Ethylbenzene	**0.013**		**0.00030**	**0.0010**	**mg/L**	1	03-Aug-2019 06:58
Methylene chloride	U		0.0010	0.0020	mg/L	1	03-Aug-2019 06:58
Toluene	**0.0015**		**0.00020**	**0.0010**	**mg/L**	1	03-Aug-2019 06:58
Xylenes, Total	**0.0041**		**0.00030**	**0.0010**	**mg/L**	1	03-Aug-2019 06:58
Surr: 1,2-Dichloroethane-d4	*98.2*			*70-126*	*%REC*	*1*	*03-Aug-2019 06:58*
Surr: 4-Bromofluorobenzene	*98.4*			*81-113*	*%REC*	*1*	*03-Aug-2019 06:58*
Surr: Dibromofluoromethane	*98.7*			*77-123*	*%REC*	*1*	*03-Aug-2019 06:58*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*03-Aug-2019 06:58*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW84B-20190730
Collection Date: 30-Jul-2019 09:15

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 02-Aug-2019		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	02-Aug-2019 18:59
2,4-Dimethylphenol	**0.00081**		**0.000040**	**0.00020**	**mg/L**	1	02-Aug-2019 18:59
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	02-Aug-2019 18:59
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	02-Aug-2019 18:59
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	02-Aug-2019 18:59
2-Methylnaphthalene	**0.0027**		**0.000019**	**0.00010**	**mg/L**	1	02-Aug-2019 18:59
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	02-Aug-2019 18:59
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	02-Aug-2019 18:59
Acenaphthene	**0.0080**		**0.000027**	**0.00010**	**mg/L**	1	02-Aug-2019 18:59
Acenaphthylene	**0.00030**		**0.000015**	**0.00010**	**mg/L**	1	02-Aug-2019 18:59
Anthracene	**0.00042**		**0.000014**	**0.00010**	**mg/L**	1	02-Aug-2019 18:59
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	02-Aug-2019 18:59
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	02-Aug-2019 18:59
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	02-Aug-2019 18:59
Bis(2-ethylhexyl)phthalate	**0.00026**		**0.000037**	**0.00020**	**mg/L**	1	02-Aug-2019 18:59
Chrysene	U		0.000021	0.00010	mg/L	1	02-Aug-2019 18:59
Dibenzofuran	**0.0054**		**0.000020**	**0.00010**	**mg/L**	1	02-Aug-2019 18:59
Di-n-butyl phthalate	**0.000055**	J	**0.000020**	**0.00020**	**mg/L**	1	02-Aug-2019 18:59
Fluoranthene	**0.00015**		**0.000010**	**0.00010**	**mg/L**	1	02-Aug-2019 18:59
Fluorene	**0.0026**		**0.000030**	**0.00010**	**mg/L**	1	02-Aug-2019 18:59
Naphthalene	**0.060**		**0.00020**	**0.0010**	**mg/L**	10	06-Aug-2019 18:21
Nitrobenzene	U		0.000024	0.00020	mg/L	1	02-Aug-2019 18:59
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	02-Aug-2019 18:59
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	02-Aug-2019 18:59
Phenanthrene	**0.0021**		**0.000021**	**0.00010**	**mg/L**	1	02-Aug-2019 18:59
Phenol	U		0.000035	0.00020	mg/L	1	02-Aug-2019 18:59
Pyrene	**0.00011**		**0.000019**	**0.00010**	**mg/L**	1	02-Aug-2019 18:59
Surr: 2,4,6-Tribromophenol	*74.5*			*34-129*	*%REC*	*1*	*02-Aug-2019 18:59*
Surr: 2,4,6-Tribromophenol	*66.0*			*34-129*	*%REC*	*10*	*06-Aug-2019 18:21*
Surr: 2-Fluorobiphenyl	*75.0*			*40-125*	*%REC*	*10*	*06-Aug-2019 18:21*
Surr: 2-Fluorobiphenyl	*66.3*			*40-125*	*%REC*	*1*	*02-Aug-2019 18:59*
Surr: 2-Fluorophenol	*67.6*			*20-120*	*%REC*	*1*	*02-Aug-2019 18:59*
Surr: 2-Fluorophenol	*71.6*			*20-120*	*%REC*	*10*	*06-Aug-2019 18:21*
Surr: 4-Terphenyl-d14	*113*			*40-135*	*%REC*	*10*	*06-Aug-2019 18:21*
Surr: 4-Terphenyl-d14	*92.1*			*40-135*	*%REC*	*1*	*02-Aug-2019 18:59*
Surr: Nitrobenzene-d5	*53.6*			*41-120*	*%REC*	*1*	*02-Aug-2019 18:59*
Surr: Nitrobenzene-d5	*74.0*			*41-120*	*%REC*	*10*	*06-Aug-2019 18:21*
Surr: Phenol-d6	*77.3*			*20-120*	*%REC*	*10*	*06-Aug-2019 18:21*
Surr: Phenol-d6	*53.5*			*20-120*	*%REC*	*1*	*02-Aug-2019 18:59*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client:	Golder Associates Inc.	**ANALYTICAL REPORT**
Project:	Houston TX-Wood Preserving Works	WorkOrder:HS19080069
Sample ID:	WG-1620-MW84B-20190730	Lab ID:HS19080069-03
Collection Date:	30-Jul-2019 09:15	Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 05-Aug-2019		Analyst: JHD
Arsenic	**0.00838**		**0.000400**	**0.00200**	**mg/L**	1	08-Aug-2019 22:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW82B-20190730
Collection Date: 30-Jul-2019 10:10

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	03-Aug-2019 00:05
Benzene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 00:05
Chlorobenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 00:05
Ethylbenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 00:05
Methylene chloride		U	0.0010	0.0020	mg/L	1	03-Aug-2019 00:05
Toluene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 00:05
Xylenes, Total		U	0.00030	0.0010	mg/L	1	03-Aug-2019 00:05
Surr: 1,2-Dichloroethane-d4	*97.1*			*70-126*	*%REC*	*1*	*03-Aug-2019 00:05*
Surr: 4-Bromofluorobenzene	*96.3*			*81-113*	*%REC*	*1*	*03-Aug-2019 00:05*
Surr: Dibromofluoromethane	*99.0*			*77-123*	*%REC*	*1*	*03-Aug-2019 00:05*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*03-Aug-2019 00:05*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW82B-20190730
Collection Date: 30-Jul-2019 10:10

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 02-Aug-2019		Analyst: LG
1,2-Diphenylhydrazine		U	0.000021	0.00020	mg/L	1	02-Aug-2019 19:18
2,4-Dimethylphenol		U	0.000040	0.00020	mg/L	1	02-Aug-2019 19:18
2,4-Dinitrotoluene		U	0.000058	0.00020	mg/L	1	02-Aug-2019 19:18
2,6-Dinitrotoluene		U	0.000042	0.00020	mg/L	1	02-Aug-2019 19:18
2-Chloronaphthalene		U	0.000021	0.00020	mg/L	1	02-Aug-2019 19:18
2-Methylnaphthalene		U	0.000019	0.00010	mg/L	1	02-Aug-2019 19:18
4,6-Dinitro-2-methylphenol		U	0.000020	0.00020	mg/L	1	02-Aug-2019 19:18
4-Nitrophenol		U	0.000047	0.0010	mg/L	1	02-Aug-2019 19:18
Acenaphthene		U	0.000027	0.00010	mg/L	1	02-Aug-2019 19:18
Acenaphthylene		U	0.000015	0.00010	mg/L	1	02-Aug-2019 19:18
Anthracene		U	0.000014	0.00010	mg/L	1	02-Aug-2019 19:18
Benz(a)anthracene		U	0.000050	0.00010	mg/L	1	02-Aug-2019 19:18
Benzo(a)pyrene		U	0.000020	0.00010	mg/L	1	02-Aug-2019 19:18
Bis(2-chloroethoxy)methane		U	0.000030	0.00020	mg/L	1	02-Aug-2019 19:18
Bis(2-ethylhexyl)phthalate		U	0.000037	0.00020	mg/L	1	02-Aug-2019 19:18
Chrysene		U	0.000021	0.00010	mg/L	1	02-Aug-2019 19:18
Dibenzofuran		U	0.000020	0.00010	mg/L	1	02-Aug-2019 19:18
Di-n-butyl phthalate		U	0.000020	0.00020	mg/L	1	02-Aug-2019 19:18
Fluoranthene		U	0.000010	0.00010	mg/L	1	02-Aug-2019 19:18
Fluorene		U	0.000030	0.00010	mg/L	1	02-Aug-2019 19:18
Naphthalene		U	0.000020	0.00010	mg/L	1	02-Aug-2019 19:18
Nitrobenzene		U	0.000024	0.00020	mg/L	1	02-Aug-2019 19:18
N-Nitrosodiphenylamine		U	0.000025	0.00020	mg/L	1	02-Aug-2019 19:18
Pentachlorophenol		U	0.000079	0.00020	mg/L	1	02-Aug-2019 19:18
Phenanthrene		U	0.000021	0.00010	mg/L	1	02-Aug-2019 19:18
Phenol		U	0.000035	0.00020	mg/L	1	02-Aug-2019 19:18
Pyrene		U	0.000019	0.00010	mg/L	1	02-Aug-2019 19:18
Surr: 2,4,6-Tribromophenol	*78.5*			*34-129*	*%REC*	*1*	*02-Aug-2019 19:18*
Surr: 2-Fluorobiphenyl	*75.6*			*40-125*	*%REC*	*1*	*02-Aug-2019 19:18*
Surr: 2-Fluorophenol	*59.2*			*20-120*	*%REC*	*1*	*02-Aug-2019 19:18*
Surr: 4-Terphenyl-d14	*95.7*			*40-135*	*%REC*	*1*	*02-Aug-2019 19:18*
Surr: Nitrobenzene-d5	*68.6*			*41-120*	*%REC*	*1*	*02-Aug-2019 19:18*
Surr: Phenol-d6	*64.6*			*20-120*	*%REC*	*1*	*02-Aug-2019 19:18*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 05-Aug-2019		Analyst: JHD
Arsenic	**0.00873**		**0.000400**	**0.00200**	**mg/L**	1	08-Aug-2019 22:34

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW80B-20190730
Collection Date: 30-Jul-2019 11:10

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	03-Aug-2019 07:22
Benzene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 07:22
Chlorobenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 07:22
Ethylbenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 07:22
Methylene chloride		U	0.0010	0.0020	mg/L	1	03-Aug-2019 07:22
Toluene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 07:22
Xylenes, Total		U	0.00030	0.0010	mg/L	1	03-Aug-2019 07:22
Surr: 1,2-Dichloroethane-d4	*97.3*			*70-126*	*%REC*	*1*	*03-Aug-2019 07:22*
Surr: 4-Bromofluorobenzene	*96.4*			*81-113*	*%REC*	*1*	*03-Aug-2019 07:22*
Surr: Dibromofluoromethane	*99.9*			*77-123*	*%REC*	*1*	*03-Aug-2019 07:22*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*03-Aug-2019 07:22*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW80B-20190730
Collection Date: 30-Jul-2019 11:10

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 02-Aug-2019		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	02-Aug-2019 20:16
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	02-Aug-2019 20:16
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	02-Aug-2019 20:16
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	02-Aug-2019 20:16
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	02-Aug-2019 20:16
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	02-Aug-2019 20:16
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	02-Aug-2019 20:16
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	02-Aug-2019 20:16
Acenaphthene	U		0.000027	0.00010	mg/L	1	02-Aug-2019 20:16
Acenaphthylene	U		0.000015	0.00010	mg/L	1	02-Aug-2019 20:16
Anthracene	U		0.000014	0.00010	mg/L	1	02-Aug-2019 20:16
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	02-Aug-2019 20:16
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	02-Aug-2019 20:16
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	02-Aug-2019 20:16
Bis(2-ethylhexyl)phthalate	**0.000070**	J	**0.000037**	**0.00020**	**mg/L**	1	02-Aug-2019 20:16
Chrysene	U		0.000021	0.00010	mg/L	1	02-Aug-2019 20:16
Dibenzofuran	U		0.000020	0.00010	mg/L	1	02-Aug-2019 20:16
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	02-Aug-2019 20:16
Fluoranthene	U		0.000010	0.00010	mg/L	1	02-Aug-2019 20:16
Fluorene	U		0.000030	0.00010	mg/L	1	02-Aug-2019 20:16
Naphthalene	U		0.000020	0.00010	mg/L	1	02-Aug-2019 20:16
Nitrobenzene	U		0.000024	0.00020	mg/L	1	02-Aug-2019 20:16
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	02-Aug-2019 20:16
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	02-Aug-2019 20:16
Phenanthrene	U		0.000021	0.00010	mg/L	1	02-Aug-2019 20:16
Phenol	U		0.000035	0.00020	mg/L	1	02-Aug-2019 20:16
Pyrene	U		0.000019	0.00010	mg/L	1	02-Aug-2019 20:16
Surr: 2,4,6-Tribromophenol	*85.6*			*34-129*	*%REC*	*1*	*02-Aug-2019 20:16*
Surr: 2-Fluorobiphenyl	*81.8*			*40-125*	*%REC*	*1*	*02-Aug-2019 20:16*
Surr: 2-Fluorophenol	*55.8*			*20-120*	*%REC*	*1*	*02-Aug-2019 20:16*
Surr: 4-Terphenyl-d14	*86.8*			*40-135*	*%REC*	*1*	*02-Aug-2019 20:16*
Surr: Nitrobenzene-d5	*59.3*			*41-120*	*%REC*	*1*	*02-Aug-2019 20:16*
Surr: Phenol-d6	*65.2*			*20-120*	*%REC*	*1*	*02-Aug-2019 20:16*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 05-Aug-2019		Analyst: JHD
Arsenic	**0.00162**	J	**0.000400**	**0.00200**	**mg/L**	1	08-Aug-2019 22:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW77A-20190730
Collection Date: 30-Jul-2019 11:55

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: PC
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	03-Aug-2019 09:23
Benzene	**0.063**		**0.00020**	**0.0010**	**mg/L**	1	03-Aug-2019 09:23
Chlorobenzene	U		0.00030	0.0010	mg/L	1	03-Aug-2019 09:23
Ethylbenzene	**0.072**		**0.00030**	**0.0010**	**mg/L**	1	03-Aug-2019 09:23
Methylene chloride	U		0.0010	0.0020	mg/L	1	03-Aug-2019 09:23
Toluene	**0.012**		**0.00020**	**0.0010**	**mg/L**	1	03-Aug-2019 09:23
Xylenes, Total	**0.097**		**0.00030**	**0.0010**	**mg/L**	1	03-Aug-2019 09:23
Surr: 1,2-Dichloroethane-d4	*97.7*			*70-126*	*%REC*	*1*	*03-Aug-2019 09:23*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*1*	*03-Aug-2019 09:23*
Surr: Dibromofluoromethane	*99.8*			*77-123*	*%REC*	*1*	*03-Aug-2019 09:23*
Surr: Toluene-d8	*99.8*			*82-127*	*%REC*	*1*	*03-Aug-2019 09:23*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW77A-20190730
Collection Date: 30-Jul-2019 11:55

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 02-Aug-2019		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	02-Aug-2019 20:35
2,4-Dimethylphenol	**0.062**		**0.00080**	**0.0040**	**mg/L**	20	06-Aug-2019 18:40
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	02-Aug-2019 20:35
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	02-Aug-2019 20:35
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	02-Aug-2019 20:35
2-Methylnaphthalene	**0.20**		**0.00038**	**0.0020**	**mg/L**	20	06-Aug-2019 18:40
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	02-Aug-2019 20:35
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	02-Aug-2019 20:35
Acenaphthene	**0.16**		**0.00054**	**0.0020**	**mg/L**	20	06-Aug-2019 18:40
Acenaphthylene	**0.0013**		**0.000015**	**0.00010**	**mg/L**	1	02-Aug-2019 20:35
Anthracene	**0.0028**		**0.000014**	**0.00010**	**mg/L**	1	02-Aug-2019 20:35
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	02-Aug-2019 20:35
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	02-Aug-2019 20:35
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	02-Aug-2019 20:35
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	02-Aug-2019 20:35
Chrysene	U		0.000021	0.00010	mg/L	1	02-Aug-2019 20:35
Dibenzofuran	**0.096**		**0.00040**	**0.0020**	**mg/L**	20	06-Aug-2019 18:40
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	02-Aug-2019 20:35
Fluoranthene	**0.00052**		**0.000010**	**0.00010**	**mg/L**	1	02-Aug-2019 20:35
Fluorene	**0.078**		**0.00060**	**0.0020**	**mg/L**	20	06-Aug-2019 18:40
Naphthalene	**4.9**		**0.040**	**0.20**	**mg/L**	2000	06-Aug-2019 18:59
Nitrobenzene	U		0.000024	0.00020	mg/L	1	02-Aug-2019 20:35
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	02-Aug-2019 20:35
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	02-Aug-2019 20:35
Phenanthrene	**0.032**		**0.00042**	**0.0020**	**mg/L**	20	06-Aug-2019 18:40
Phenol	U		0.000035	0.00020	mg/L	1	02-Aug-2019 20:35
Pyrene	**0.00041**		**0.000019**	**0.00010**	**mg/L**	1	02-Aug-2019 20:35
Surr: 2,4,6-Tribromophenol	*78.6*			*34-129*	*%REC*	*1*	*02-Aug-2019 20:35*
Surr: 2,4,6-Tribromophenol	*125*			*34-129*	*%REC*	*20*	*06-Aug-2019 18:40*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*2000*	*06-Aug-2019 18:59*
Surr: 2-Fluorobiphenyl	*90.5*			*40-125*	*%REC*	*20*	*06-Aug-2019 18:40*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*2000*	*06-Aug-2019 18:59*
Surr: 2-Fluorobiphenyl	*69.1*			*40-125*	*%REC*	*1*	*02-Aug-2019 20:35*
Surr: 2-Fluorophenol	*50.6*			*20-120*	*%REC*	*1*	*02-Aug-2019 20:35*
Surr: 2-Fluorophenol	*109*			*20-120*	*%REC*	*20*	*06-Aug-2019 18:40*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*2000*	*06-Aug-2019 18:59*
Surr: 4-Terphenyl-d14	*121*			*40-135*	*%REC*	*20*	*06-Aug-2019 18:40*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*2000*	*06-Aug-2019 18:59*
Surr: 4-Terphenyl-d14	*84.8*			*40-135*	*%REC*	*1*	*02-Aug-2019 20:35*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW77A-20190730
Collection Date: 30-Jul-2019 11:55

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 02-Aug-2019		Analyst: LG
Surr: Nitrobenzene-d5	*99.9*			*41-120*	*%REC*	*1*	*02-Aug-2019 20:35*
Surr: Nitrobenzene-d5	*63.6*	*J*		*41-120*	*%REC*	*20*	*06-Aug-2019 18:40*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*2000*	*06-Aug-2019 18:59*
Surr: Phenol-d6	*51.9*	*J*		*20-120*	*%REC*	*20*	*06-Aug-2019 18:40*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*2000*	*06-Aug-2019 18:59*
Surr: Phenol-d6	*61.3*			*20-120*	*%REC*	*1*	*02-Aug-2019 20:35*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 05-Aug-2019		Analyst: JHD
Arsenic	**0.0231**		**0.000400**	**0.00200**	**mg/L**	1	08-Aug-2019 22:59

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW85C-20190730
Collection Date: 30-Jul-2019 15:35

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: PC
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	03-Aug-2019 07:46
Benzene	**0.00093**	J	**0.00020**	**0.0010**	**mg/L**	1	03-Aug-2019 07:46
Chlorobenzene	U		0.00030	0.0010	mg/L	1	03-Aug-2019 07:46
Ethylbenzene	U		0.00030	0.0010	mg/L	1	03-Aug-2019 07:46
Methylene chloride	U		0.0010	0.0020	mg/L	1	03-Aug-2019 07:46
Toluene	U		0.00020	0.0010	mg/L	1	03-Aug-2019 07:46
Xylenes, Total	U		0.00030	0.0010	mg/L	1	03-Aug-2019 07:46
Surr: 1,2-Dichloroethane-d4	*98.4*			*70-126*	*%REC*	*1*	*03-Aug-2019 07:46*
Surr: 4-Bromofluorobenzene	*98.2*			*81-113*	*%REC*	*1*	*03-Aug-2019 07:46*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*03-Aug-2019 07:46*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*03-Aug-2019 07:46*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW85C-20190730
Collection Date: 30-Jul-2019 15:35

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 02-Aug-2019		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	02-Aug-2019 20:54
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	02-Aug-2019 20:54
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	02-Aug-2019 20:54
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	02-Aug-2019 20:54
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	02-Aug-2019 20:54
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	02-Aug-2019 20:54
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	02-Aug-2019 20:54
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	02-Aug-2019 20:54
Acenaphthene	U		0.000027	0.00010	mg/L	1	02-Aug-2019 20:54
Acenaphthylene	U		0.000015	0.00010	mg/L	1	02-Aug-2019 20:54
Anthracene	U		0.000014	0.00010	mg/L	1	02-Aug-2019 20:54
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	02-Aug-2019 20:54
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	02-Aug-2019 20:54
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	02-Aug-2019 20:54
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	02-Aug-2019 20:54
Chrysene	U		0.000021	0.00010	mg/L	1	02-Aug-2019 20:54
Dibenzofuran	U		0.000020	0.00010	mg/L	1	02-Aug-2019 20:54
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	02-Aug-2019 20:54
Fluoranthene	U		0.000010	0.00010	mg/L	1	02-Aug-2019 20:54
Fluorene	U		0.000030	0.00010	mg/L	1	02-Aug-2019 20:54
Naphthalene	**0.0012**		**0.000020**	**0.00010**	**mg/L**	1	02-Aug-2019 20:54
Nitrobenzene	U		0.000024	0.00020	mg/L	1	02-Aug-2019 20:54
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	02-Aug-2019 20:54
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	02-Aug-2019 20:54
Phenanthrene	U		0.000021	0.00010	mg/L	1	02-Aug-2019 20:54
Phenol	U		0.000035	0.00020	mg/L	1	02-Aug-2019 20:54
Pyrene	U		0.000019	0.00010	mg/L	1	02-Aug-2019 20:54
Surr: 2,4,6-Tribromophenol	*67.7*			*34-129*	*%REC*	*1*	*02-Aug-2019 20:54*
Surr: 2-Fluorobiphenyl	*67.0*			*40-125*	*%REC*	*1*	*02-Aug-2019 20:54*
Surr: 2-Fluorophenol	*55.2*			*20-120*	*%REC*	*1*	*02-Aug-2019 20:54*
Surr: 4-Terphenyl-d14	*87.2*			*40-135*	*%REC*	*1*	*02-Aug-2019 20:54*
Surr: Nitrobenzene-d5	*57.9*			*41-120*	*%REC*	*1*	*02-Aug-2019 20:54*
Surr: Phenol-d6	*56.2*			*20-120*	*%REC*	*1*	*02-Aug-2019 20:54*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 05-Aug-2019		Analyst: JHD
Arsenic	**0.000633**	J	**0.000400**	**0.00200**	**mg/L**	1	08-Aug-2019 23:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW86C-20190730
Collection Date: 30-Jul-2019 16:40

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	03-Aug-2019 08:10
Benzene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 08:10
Chlorobenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 08:10
Ethylbenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 08:10
Methylene chloride		U	0.0010	0.0020	mg/L	1	03-Aug-2019 08:10
Toluene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 08:10
Xylenes, Total		U	0.00030	0.0010	mg/L	1	03-Aug-2019 08:10
Surr: 1,2-Dichloroethane-d4	*97.3*			*70-126*	*%REC*	*1*	*03-Aug-2019 08:10*
Surr: 4-Bromofluorobenzene	*98.0*			*81-113*	*%REC*	*1*	*03-Aug-2019 08:10*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*03-Aug-2019 08:10*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*03-Aug-2019 08:10*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW86C-20190730
Collection Date: 30-Jul-2019 16:40

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 02-Aug-2019		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	02-Aug-2019 21:13
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	02-Aug-2019 21:13
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	02-Aug-2019 21:13
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	02-Aug-2019 21:13
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	02-Aug-2019 21:13
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	02-Aug-2019 21:13
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	02-Aug-2019 21:13
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	02-Aug-2019 21:13
Acenaphthene	U		0.000027	0.00010	mg/L	1	02-Aug-2019 21:13
Acenaphthylene	U		0.000015	0.00010	mg/L	1	02-Aug-2019 21:13
Anthracene	U		0.000014	0.00010	mg/L	1	02-Aug-2019 21:13
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	02-Aug-2019 21:13
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	02-Aug-2019 21:13
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	02-Aug-2019 21:13
Bis(2-ethylhexyl)phthalate	**0.000060**	J	**0.000037**	**0.00020**	**mg/L**	1	02-Aug-2019 21:13
Chrysene	U		0.000021	0.00010	mg/L	1	02-Aug-2019 21:13
Dibenzofuran	U		0.000020	0.00010	mg/L	1	02-Aug-2019 21:13
Di-n-butyl phthalate	**0.00011**	J	**0.000020**	**0.00020**	**mg/L**	1	02-Aug-2019 21:13
Fluoranthene	U		0.000010	0.00010	mg/L	1	02-Aug-2019 21:13
Fluorene	U		0.000030	0.00010	mg/L	1	02-Aug-2019 21:13
Naphthalene	**0.00012**		**0.000020**	**0.00010**	**mg/L**	1	02-Aug-2019 21:13
Nitrobenzene	U		0.000024	0.00020	mg/L	1	02-Aug-2019 21:13
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	02-Aug-2019 21:13
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	02-Aug-2019 21:13
Phenanthrene	U		0.000021	0.00010	mg/L	1	02-Aug-2019 21:13
Phenol	U		0.000035	0.00020	mg/L	1	02-Aug-2019 21:13
Pyrene	U		0.000019	0.00010	mg/L	1	02-Aug-2019 21:13
Surr: 2,4,6-Tribromophenol	*52.2*			*34-129*	*%REC*	*1*	*02-Aug-2019 21:13*
Surr: 2-Fluorobiphenyl	*53.5*			*40-125*	*%REC*	*1*	*02-Aug-2019 21:13*
Surr: 2-Fluorophenol	*52.0*			*20-120*	*%REC*	*1*	*02-Aug-2019 21:13*
Surr: 4-Terphenyl-d14	*80.5*			*40-135*	*%REC*	*1*	*02-Aug-2019 21:13*
Surr: Nitrobenzene-d5	*49.3*			*41-120*	*%REC*	*1*	*02-Aug-2019 21:13*
Surr: Phenol-d6	*49.0*			*20-120*	*%REC*	*1*	*02-Aug-2019 21:13*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 05-Aug-2019		Analyst: JHD
Arsenic	**0.00236**		**0.000400**	**0.00200**	**mg/L**	1	08-Aug-2019 23:04

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD04-20190730
Collection Date: 30-Jul-2019 16:40

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	03-Aug-2019 08:35
Benzene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 08:35
Chlorobenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 08:35
Ethylbenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 08:35
Methylene chloride		U	0.0010	0.0020	mg/L	1	03-Aug-2019 08:35
Toluene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 08:35
Vinyl chloride		U	0.00020	0.0010	mg/L	1	03-Aug-2019 08:35
Xylenes, Total		U	0.00030	0.0010	mg/L	1	03-Aug-2019 08:35
Surr: 1,2-Dichloroethane-d4	*99.2*			*70-126*	*%REC*	*1*	*03-Aug-2019 08:35*
Surr: 4-Bromofluorobenzene	*97.4*			*81-113*	*%REC*	*1*	*03-Aug-2019 08:35*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*03-Aug-2019 08:35*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*03-Aug-2019 08:35*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD04-20190730
Collection Date: 30-Jul-2019 16:40

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 02-Aug-2019		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	06-Aug-2019 17:05
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	06-Aug-2019 17:05
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	06-Aug-2019 17:05
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	06-Aug-2019 17:05
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	06-Aug-2019 17:05
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	06-Aug-2019 17:05
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	06-Aug-2019 17:05
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	06-Aug-2019 17:05
Acenaphthene	U		0.000027	0.00010	mg/L	1	06-Aug-2019 17:05
Acenaphthylene	U		0.000015	0.00010	mg/L	1	06-Aug-2019 17:05
Anthracene	U		0.000014	0.00010	mg/L	1	06-Aug-2019 17:05
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	06-Aug-2019 17:05
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	06-Aug-2019 17:05
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	06-Aug-2019 17:05
Bis(2-ethylhexyl)phthalate	**0.000050**	J	**0.000037**	**0.00020**	**mg/L**	1	06-Aug-2019 17:05
Chrysene	U		0.000021	0.00010	mg/L	1	06-Aug-2019 17:05
Dibenzofuran	U		0.000020	0.00010	mg/L	1	06-Aug-2019 17:05
Di-n-butyl phthalate	**0.000073**	J	**0.000020**	**0.00020**	**mg/L**	1	06-Aug-2019 17:05
Fluoranthene	U		0.000010	0.00010	mg/L	1	06-Aug-2019 17:05
Fluorene	U		0.000030	0.00010	mg/L	1	06-Aug-2019 17:05
Naphthalene	**0.00031**		**0.000020**	**0.00010**	**mg/L**	1	06-Aug-2019 17:05
Nitrobenzene	U		0.000024	0.00020	mg/L	1	06-Aug-2019 17:05
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	06-Aug-2019 17:05
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	06-Aug-2019 17:05
Phenanthrene	U		0.000021	0.00010	mg/L	1	06-Aug-2019 17:05
Phenol	U		0.000035	0.00020	mg/L	1	06-Aug-2019 17:05
Pyrene	U		0.000019	0.00010	mg/L	1	06-Aug-2019 17:05
Surr: 2,4,6-Tribromophenol	*56.1*			*34-129*	*%REC*	*1*	*06-Aug-2019 17:05*
Surr: 2-Fluorobiphenyl	*63.0*			*40-125*	*%REC*	*1*	*06-Aug-2019 17:05*
Surr: 2-Fluorophenol	*59.9*			*20-120*	*%REC*	*1*	*06-Aug-2019 17:05*
Surr: 4-Terphenyl-d14	*91.9*			*40-135*	*%REC*	*1*	*06-Aug-2019 17:05*
Surr: Nitrobenzene-d5	*56.6*			*41-120*	*%REC*	*1*	*06-Aug-2019 17:05*
Surr: Phenol-d6	*51.1*			*20-120*	*%REC*	*1*	*06-Aug-2019 17:05*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 05-Aug-2019		Analyst: JHD
Arsenic	**0.00190**	J	**0.000400**	**0.00200**	**mg/L**	1	08-Aug-2019 23:06

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW76C-20190730
Collection Date: 30-Jul-2019 17:30

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	03-Aug-2019 08:59
Benzene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 08:59
Chlorobenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 08:59
Ethylbenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 08:59
Methylene chloride		U	0.0010	0.0020	mg/L	1	03-Aug-2019 08:59
Toluene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 08:59
Xylenes, Total		U	0.00030	0.0010	mg/L	1	03-Aug-2019 08:59
Surr: 1,2-Dichloroethane-d4	*97.7*			*70-126*	*%REC*	*1*	*03-Aug-2019 08:59*
Surr: 4-Bromofluorobenzene	*96.0*			*81-113*	*%REC*	*1*	*03-Aug-2019 08:59*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*03-Aug-2019 08:59*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*03-Aug-2019 08:59*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW76C-20190730
Collection Date: 30-Jul-2019 17:30

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 02-Aug-2019		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	06-Aug-2019 17:24
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	06-Aug-2019 17:24
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	06-Aug-2019 17:24
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	06-Aug-2019 17:24
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	06-Aug-2019 17:24
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	06-Aug-2019 17:24
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	06-Aug-2019 17:24
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	06-Aug-2019 17:24
Acenaphthene	U		0.000027	0.00010	mg/L	1	06-Aug-2019 17:24
Acenaphthylene	U		0.000015	0.00010	mg/L	1	06-Aug-2019 17:24
Anthracene	U		0.000014	0.00010	mg/L	1	06-Aug-2019 17:24
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	06-Aug-2019 17:24
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	06-Aug-2019 17:24
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	06-Aug-2019 17:24
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	06-Aug-2019 17:24
Chrysene	U		0.000021	0.00010	mg/L	1	06-Aug-2019 17:24
Dibenzofuran	U		0.000020	0.00010	mg/L	1	06-Aug-2019 17:24
Di-n-butyl phthalate	**0.000054**	J	**0.000020**	**0.00020**	**mg/L**	1	06-Aug-2019 17:24
Fluoranthene	U		0.000010	0.00010	mg/L	1	06-Aug-2019 17:24
Fluorene	U		0.000030	0.00010	mg/L	1	06-Aug-2019 17:24
Naphthalene	**0.00018**		**0.000020**	**0.00010**	**mg/L**	1	06-Aug-2019 17:24
Nitrobenzene	U		0.000024	0.00020	mg/L	1	06-Aug-2019 17:24
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	06-Aug-2019 17:24
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	06-Aug-2019 17:24
Phenanthrene	U		0.000021	0.00010	mg/L	1	06-Aug-2019 17:24
Phenol	U		0.000035	0.00020	mg/L	1	06-Aug-2019 17:24
Pyrene	U		0.000019	0.00010	mg/L	1	06-Aug-2019 17:24
Surr: 2,4,6-Tribromophenol	*47.2*			*34-129*	*%REC*	*1*	*06-Aug-2019 17:24*
Surr: 2-Fluorobiphenyl	*69.9*			*40-125*	*%REC*	*1*	*06-Aug-2019 17:24*
Surr: 2-Fluorophenol	*55.3*			*20-120*	*%REC*	*1*	*06-Aug-2019 17:24*
Surr: 4-Terphenyl-d14	*92.9*			*40-135*	*%REC*	*1*	*06-Aug-2019 17:24*
Surr: Nitrobenzene-d5	*63.1*			*41-120*	*%REC*	*1*	*06-Aug-2019 17:24*
Surr: Phenol-d6	*57.4*			*20-120*	*%REC*	*1*	*06-Aug-2019 17:24*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 05-Aug-2019		Analyst: JHD
Arsenic	**0.00216**		**0.000400**	**0.00200**	**mg/L**	1	08-Aug-2019 23:08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW74B-20190730
Collection Date: 30-Jul-2019 18:20

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.0010	0.0050	mg/L	5	05-Aug-2019 18:44
Benzene	**0.59**		**0.0010**	**0.0050**	**mg/L**	5	05-Aug-2019 18:44
Chlorobenzene	U		0.0015	0.0050	mg/L	5	05-Aug-2019 18:44
Ethylbenzene	**0.15**		**0.0015**	**0.0050**	**mg/L**	5	05-Aug-2019 18:44
Methylene chloride	U		0.0050	0.010	mg/L	5	05-Aug-2019 18:44
Toluene	**0.52**		**0.0010**	**0.0050**	**mg/L**	5	05-Aug-2019 18:44
Xylenes, Total	**0.42**		**0.0015**	**0.0050**	**mg/L**	5	05-Aug-2019 18:44
Surr: 1,2-Dichloroethane-d4	*97.0*			*70-126*	*%REC*	*5*	*05-Aug-2019 18:44*
Surr: 4-Bromofluorobenzene	*99.2*			*81-113*	*%REC*	*5*	*05-Aug-2019 18:44*
Surr: Dibromofluoromethane	*106*			*77-123*	*%REC*	*5*	*05-Aug-2019 18:44*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*5*	*05-Aug-2019 18:44*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW74B-20190730
Collection Date: 30-Jul-2019 18:20

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 02-Aug-2019		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	06-Aug-2019 15:43
2,4-Dimethylphenol	**37**		**0.40**	**2.0**	**mg/L**	10000	06-Aug-2019 19:56
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	06-Aug-2019 15:43
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	06-Aug-2019 15:43
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	06-Aug-2019 15:43
2-Methylnaphthalene	**0.48**		**0.0019**	**0.010**	**mg/L**	100	06-Aug-2019 19:37
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	06-Aug-2019 15:43
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	06-Aug-2019 15:43
Acenaphthene	**0.24**		**0.0027**	**0.010**	**mg/L**	100	06-Aug-2019 19:37
Acenaphthylene	**0.0037**		**0.000015**	**0.00010**	**mg/L**	1	06-Aug-2019 15:43
Anthracene	**0.0071**		**0.000014**	**0.00010**	**mg/L**	1	06-Aug-2019 15:43
Benz(a)anthracene	**0.00022**		**0.000050**	**0.00010**	**mg/L**	1	06-Aug-2019 15:43
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	06-Aug-2019 15:43
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	06-Aug-2019 15:43
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	06-Aug-2019 15:43
Chrysene	**0.00016**		**0.000021**	**0.00010**	**mg/L**	1	06-Aug-2019 15:43
Dibenzofuran	**0.19**		**0.0020**	**0.010**	**mg/L**	100	06-Aug-2019 19:37
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	06-Aug-2019 15:43
Fluoranthene	**0.0035**		**0.000010**	**0.00010**	**mg/L**	1	06-Aug-2019 15:43
Fluorene	**0.14**		**0.0030**	**0.010**	**mg/L**	100	06-Aug-2019 19:37
Naphthalene	**13**		**0.20**	**1.0**	**mg/L**	10000	06-Aug-2019 19:56
Nitrobenzene	U		0.000024	0.00020	mg/L	1	06-Aug-2019 15:43
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	06-Aug-2019 15:43
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	06-Aug-2019 15:43
Phenanthrene	**0.087**		**0.00021**	**0.0010**	**mg/L**	10	06-Aug-2019 19:18
Phenol	**33**		**0.35**	**2.0**	**mg/L**	10000	06-Aug-2019 19:56
Pyrene	**0.0023**		**0.000019**	**0.00010**	**mg/L**	1	06-Aug-2019 15:43
Surr: 2,4,6-Tribromophenol	*40.9*			*34-129*	*%REC*	*1*	*06-Aug-2019 15:43*
Surr: 2,4,6-Tribromophenol	*85.9*			*34-129*	*%REC*	*10*	*06-Aug-2019 19:18*
Surr: 2,4,6-Tribromophenol	*117*	*J*		*34-129*	*%REC*	*100*	*06-Aug-2019 19:37*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*10000*	*06-Aug-2019 19:56*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*10000*	*06-Aug-2019 19:56*
Surr: 2-Fluorobiphenyl	*89.7*			*40-125*	*%REC*	*10*	*06-Aug-2019 19:18*
Surr: 2-Fluorobiphenyl	*104*	*J*		*40-125*	*%REC*	*100*	*06-Aug-2019 19:37*
Surr: 2-Fluorobiphenyl	*49.7*			*40-125*	*%REC*	*1*	*06-Aug-2019 15:43*
Surr: 2-Fluorophenol	*102*			*20-120*	*%REC*	*1*	*06-Aug-2019 15:43*
Surr: 2-Fluorophenol	*87.1*			*20-120*	*%REC*	*10*	*06-Aug-2019 19:18*
Surr: 2-Fluorophenol	*117*	*J*		*20-120*	*%REC*	*100*	*06-Aug-2019 19:37*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*10000*	*06-Aug-2019 19:56*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW74B-20190730
Collection Date: 30-Jul-2019 18:20

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 02-Aug-2019		Analyst: LG
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*10000*	*06-Aug-2019 19:56*
Surr: 4-Terphenyl-d14	*95.1*			*40-135*	*%REC*	*10*	*06-Aug-2019 19:18*
Surr: 4-Terphenyl-d14	*120*	*J*		*40-135*	*%REC*	*100*	*06-Aug-2019 19:37*
Surr: 4-Terphenyl-d14	*58.4*			*40-135*	*%REC*	*1*	*06-Aug-2019 15:43*
Surr: Nitrobenzene-d5	*73.3*			*41-120*	*%REC*	*1*	*06-Aug-2019 15:43*
Surr: Nitrobenzene-d5	*61.6*			*41-120*	*%REC*	*10*	*06-Aug-2019 19:18*
Surr: Nitrobenzene-d5	*106*	*J*		*41-120*	*%REC*	*100*	*06-Aug-2019 19:37*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*10000*	*06-Aug-2019 19:56*
Surr: Phenol-d6	*72.9*			*20-120*	*%REC*	*1*	*06-Aug-2019 15:43*
Surr: Phenol-d6	*88.6*			*20-120*	*%REC*	*10*	*06-Aug-2019 19:18*
Surr: Phenol-d6	*117*	*J*		*20-120*	*%REC*	*100*	*06-Aug-2019 19:37*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*10000*	*06-Aug-2019 19:56*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 05-Aug-2019		Analyst: JHD
Arsenic	**0.00128**	J	**0.000400**	**0.00200**	**mg/L**	1	09-Aug-2019 16:08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW79A-20190730
Collection Date: 30-Jul-2019 19:10

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	05-Aug-2019 18:17
Benzene	**0.013**		**0.00020**	**0.0010**	**mg/L**	1	05-Aug-2019 18:17
Chlorobenzene	U		0.00030	0.0010	mg/L	1	05-Aug-2019 18:17
Ethylbenzene	**0.0067**		**0.00030**	**0.0010**	**mg/L**	1	05-Aug-2019 18:17
Methylene chloride	U		0.0010	0.0020	mg/L	1	05-Aug-2019 18:17
Toluene	**0.018**		**0.00020**	**0.0010**	**mg/L**	1	05-Aug-2019 18:17
Xylenes, Total	**0.023**		**0.00030**	**0.0010**	**mg/L**	1	05-Aug-2019 18:17
Surr: 1,2-Dichloroethane-d4	*102*			*70-126*	*%REC*	*1*	*05-Aug-2019 18:17*
Surr: 4-Bromofluorobenzene	*121*	*S*		*81-113*	*%REC*	*1*	*05-Aug-2019 18:17*
Surr: Dibromofluoromethane	*104*			*77-123*	*%REC*	*1*	*05-Aug-2019 18:17*
Surr: Toluene-d8	*96.2*			*82-127*	*%REC*	*1*	*05-Aug-2019 18:17*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW79A-20190730
Collection Date: 30-Jul-2019 19:10

ANALYTICAL REPORT
WorkOrder:HS19080069
Lab ID:HS19080069-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 02-Aug-2019		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	06-Aug-2019 16:02
2,4-Dimethylphenol	**0.33**		**0.0040**	**0.020**	**mg/L**	100	06-Aug-2019 20:34
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	06-Aug-2019 16:02
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	06-Aug-2019 16:02
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	06-Aug-2019 16:02
2-Methylnaphthalene	**0.051**		**0.00019**	**0.0010**	**mg/L**	10	06-Aug-2019 20:15
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	06-Aug-2019 16:02
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	06-Aug-2019 16:02
Acenaphthene	**0.034**		**0.00027**	**0.0010**	**mg/L**	10	06-Aug-2019 20:15
Acenaphthylene	**0.00076**		**0.000015**	**0.00010**	**mg/L**	1	06-Aug-2019 16:02
Anthracene	**0.0020**		**0.000014**	**0.00010**	**mg/L**	1	06-Aug-2019 16:02
Benz(a)anthracene	**0.00023**		**0.000050**	**0.00010**	**mg/L**	1	06-Aug-2019 16:02
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	06-Aug-2019 16:02
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	06-Aug-2019 16:02
Bis(2-ethylhexyl)phthalate	**0.00055**		**0.000037**	**0.00020**	**mg/L**	1	06-Aug-2019 16:02
Chrysene	**0.00027**		**0.000021**	**0.00010**	**mg/L**	1	06-Aug-2019 16:02
Dibenzofuran	**0.026**		**0.00020**	**0.0010**	**mg/L**	10	06-Aug-2019 20:15
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	06-Aug-2019 16:02
Fluoranthene	**0.0012**		**0.000010**	**0.00010**	**mg/L**	1	06-Aug-2019 16:02
Fluorene	**0.017**		**0.00030**	**0.0010**	**mg/L**	10	06-Aug-2019 20:15
Naphthalene	**0.74**		**0.0020**	**0.010**	**mg/L**	100	06-Aug-2019 20:34
Nitrobenzene	U		0.000024	0.00020	mg/L	1	06-Aug-2019 16:02
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	06-Aug-2019 16:02
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	06-Aug-2019 16:02
Phenanthrene	**0.0082**		**0.000021**	**0.00010**	**mg/L**	1	06-Aug-2019 16:02
Phenol	**0.063**		**0.00035**	**0.0020**	**mg/L**	10	06-Aug-2019 20:15
Pyrene	**0.0011**		**0.000019**	**0.00010**	**mg/L**	1	06-Aug-2019 16:02
Surr: 2,4,6-Tribromophenol	*124*			*34-129*	*%REC*	*10*	*06-Aug-2019 20:15*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*06-Aug-2019 20:34*
Surr: 2,4,6-Tribromophenol	*72.9*			*34-129*	*%REC*	*1*	*06-Aug-2019 16:02*
Surr: 2-Fluorobiphenyl	*95.2*			*40-125*	*%REC*	*1*	*06-Aug-2019 16:02*
Surr: 2-Fluorobiphenyl	*114*			*40-125*	*%REC*	*10*	*06-Aug-2019 20:15*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*06-Aug-2019 20:34*
Surr: 2-Fluorophenol	*84.7*			*20-120*	*%REC*	*10*	*06-Aug-2019 20:15*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*06-Aug-2019 20:34*
Surr: 2-Fluorophenol	*93.9*			*20-120*	*%REC*	*1*	*06-Aug-2019 16:02*
Surr: 4-Terphenyl-d14	*104*			*40-135*	*%REC*	*1*	*06-Aug-2019 16:02*
Surr: 4-Terphenyl-d14	*103*			*40-135*	*%REC*	*10*	*06-Aug-2019 20:15*
Surr: 4-Terphenyl-d14	*161*	*JS*		*40-135*	*%REC*	*100*	*06-Aug-2019 20:34*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19080069
Sample ID: WG-1620-MW79A-20190730
Lab ID:HS19080069-12
Collection Date: 30-Jul-2019 19:10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 02-Aug-2019		Analyst: LG
Surr: Nitrobenzene-d5	*68.7*			*41-120*	*%REC*	*1*	*06-Aug-2019 16:02*
Surr: Nitrobenzene-d5	*103*			*41-120*	*%REC*	*10*	*06-Aug-2019 20:15*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*06-Aug-2019 20:34*
Surr: Phenol-d6	*92.9*			*20-120*	*%REC*	*10*	*06-Aug-2019 20:15*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*06-Aug-2019 20:34*
Surr: Phenol-d6	*85.4*			*20-120*	*%REC*	*1*	*06-Aug-2019 16:02*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 05-Aug-2019		Analyst: JHD
Arsenic	**0.00991**		**0.000400**	**0.00200**	**mg/L**	1	08-Aug-2019 23:17

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19080069
Sample ID: WG-1620-TB05-20190730
Lab ID:HS19080069-13
Collection Date: 30-Jul-2019 00:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: PC
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	03-Aug-2019 06:09
Benzene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 06:09
Chlorobenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 06:09
Ethylbenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 06:09
Methylene chloride		U	0.0010	0.0020	mg/L	1	03-Aug-2019 06:09
Toluene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 06:09
Vinyl chloride		U	0.00020	0.0010	mg/L	1	03-Aug-2019 06:09
Xylenes, Total		U	0.00030	0.0010	mg/L	1	03-Aug-2019 06:09
Surr: 1,2-Dichloroethane-d4	*97.1*			*70-126*	*%REC*	*1*	*03-Aug-2019 06:09*
Surr: 4-Bromofluorobenzene	*97.1*			*81-113*	*%REC*	*1*	*03-Aug-2019 06:09*
Surr: Dibromofluoromethane	*99.8*			*77-123*	*%REC*	*1*	*03-Aug-2019 06:09*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*03-Aug-2019 06:09*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080069

Batch ID: 143727 **Method:** LOW-LEVEL SEMIVOLATILES BY 8270D **Prep:** 3510_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19080069-01	1	1000	1 (mL)	0.001
HS19080069-02	1	1000	1 (mL)	0.001
HS19080069-03	1	1000	1 (mL)	0.001
HS19080069-04	1	1000	1 (mL)	0.001
HS19080069-05	1	1000	1 (mL)	0.001
HS19080069-06	1	1000	1 (mL)	0.001
HS19080069-07	1	1000	1 (mL)	0.001
HS19080069-08	1	1000	1 (mL)	0.001
HS19080069-09	1	1000	1 (mL)	0.001
HS19080069-10	1	1000	1 (mL)	0.001
HS19080069-11	1	1000	1 (mL)	0.001
HS19080069-12	1	1000	1 (mL)	0.001

Batch ID: 143772 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19080069-01	1	10	10 (mL)	1
HS19080069-02	1	10	10 (mL)	1
HS19080069-03	1	10	10 (mL)	1
HS19080069-04	1	10	10 (mL)	1
HS19080069-05	1	10	10 (mL)	1
HS19080069-06	1	10	10 (mL)	1
HS19080069-07	1	10	10 (mL)	1
HS19080069-08	1	10	10 (mL)	1
HS19080069-09	1	10	10 (mL)	1
HS19080069-10	1	10	10 (mL)	1
HS19080069-11	1	10	10 (mL)	1
HS19080069-12	1	10	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080069

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143727 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS19080069-01	WG-1620-MW32AR-20190730	30 Jul 2019 07:25		02 Aug 2019 07:00	02 Aug 2019 18:21	1
HS19080069-02	WG-1620-MW33BR-20190730	30 Jul 2019 08:20		02 Aug 2019 07:00	06 Aug 2019 21:31	100
HS19080069-02	WG-1620-MW33BR-20190730	30 Jul 2019 08:20		02 Aug 2019 07:00	06 Aug 2019 21:12	5
HS19080069-02	WG-1620-MW33BR-20190730	30 Jul 2019 08:20		02 Aug 2019 07:00	02 Aug 2019 18:40	1
HS19080069-03	WG-1620-MW84B-20190730	30 Jul 2019 09:15		02 Aug 2019 07:00	06 Aug 2019 18:21	10
HS19080069-03	WG-1620-MW84B-20190730	30 Jul 2019 09:15		02 Aug 2019 07:00	02 Aug 2019 18:59	1
HS19080069-04	WG-1620-MW82B-20190730	30 Jul 2019 10:10		02 Aug 2019 07:00	02 Aug 2019 19:18	1
HS19080069-05	WG-1620-MW80B-20190730	30 Jul 2019 11:10		02 Aug 2019 07:00	02 Aug 2019 20:16	1
HS19080069-06	WG-1620-MW77A-20190730	30 Jul 2019 11:55		02 Aug 2019 07:00	06 Aug 2019 18:59	2000
HS19080069-06	WG-1620-MW77A-20190730	30 Jul 2019 11:55		02 Aug 2019 07:00	06 Aug 2019 18:40	20
HS19080069-06	WG-1620-MW77A-20190730	30 Jul 2019 11:55		02 Aug 2019 07:00	02 Aug 2019 20:35	1
HS19080069-07	WG-1620-MW85C-20190730	30 Jul 2019 15:35		02 Aug 2019 07:00	02 Aug 2019 20:54	1
HS19080069-08	WG-1620-MW86C-20190730	30 Jul 2019 16:40		02 Aug 2019 07:00	02 Aug 2019 21:13	1
HS19080069-09	WG-1620-FD04-20190730	30 Jul 2019 16:40		02 Aug 2019 07:00	06 Aug 2019 17:05	1
HS19080069-10	WG-1620-MW76C-20190730	30 Jul 2019 17:30		02 Aug 2019 07:00	06 Aug 2019 17:24	1
HS19080069-11	WG-1620-MW74B-20190730	30 Jul 2019 18:20		02 Aug 2019 07:00	06 Aug 2019 19:56	10000
HS19080069-11	WG-1620-MW74B-20190730	30 Jul 2019 18:20		02 Aug 2019 07:00	06 Aug 2019 19:37	100
HS19080069-11	WG-1620-MW74B-20190730	30 Jul 2019 18:20		02 Aug 2019 07:00	06 Aug 2019 19:18	10
HS19080069-11	WG-1620-MW74B-20190730	30 Jul 2019 18:20		02 Aug 2019 07:00	06 Aug 2019 15:43	1
HS19080069-12	WG-1620-MW79A-20190730	30 Jul 2019 19:10		02 Aug 2019 07:00	06 Aug 2019 20:34	100
HS19080069-12	WG-1620-MW79A-20190730	30 Jul 2019 19:10		02 Aug 2019 07:00	06 Aug 2019 20:15	10
HS19080069-12	WG-1620-MW79A-20190730	30 Jul 2019 19:10		02 Aug 2019 07:00	06 Aug 2019 16:02	1
Batch ID: 143772 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS19080069-01	WG-1620-MW32AR-20190730	30 Jul 2019 07:25		05 Aug 2019 09:00	08 Aug 2019 22:50	1
HS19080069-02	WG-1620-MW33BR-20190730	30 Jul 2019 08:20		05 Aug 2019 09:00	08 Aug 2019 22:53	1
HS19080069-03	WG-1620-MW84B-20190730	30 Jul 2019 09:15		05 Aug 2019 09:00	08 Aug 2019 22:55	1
HS19080069-04	WG-1620-MW82B-20190730	30 Jul 2019 10:10		05 Aug 2019 09:00	08 Aug 2019 22:34	1
HS19080069-05	WG-1620-MW80B-20190730	30 Jul 2019 11:10		05 Aug 2019 09:00	08 Aug 2019 22:57	1
HS19080069-06	WG-1620-MW77A-20190730	30 Jul 2019 11:55		05 Aug 2019 09:00	08 Aug 2019 22:59	1
HS19080069-07	WG-1620-MW85C-20190730	30 Jul 2019 15:35		05 Aug 2019 09:00	08 Aug 2019 23:01	1
HS19080069-08	WG-1620-MW86C-20190730	30 Jul 2019 16:40		05 Aug 2019 09:00	08 Aug 2019 23:04	1
HS19080069-09	WG-1620-FD04-20190730	30 Jul 2019 16:40		05 Aug 2019 09:00	08 Aug 2019 23:06	1
HS19080069-10	WG-1620-MW76C-20190730	30 Jul 2019 17:30		05 Aug 2019 09:00	08 Aug 2019 23:08	1
HS19080069-11	WG-1620-MW74B-20190730	30 Jul 2019 18:20		05 Aug 2019 09:00	09 Aug 2019 16:08	1
HS19080069-12	WG-1620-MW79A-20190730	30 Jul 2019 19:10		05 Aug 2019 09:00	08 Aug 2019 23:17	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080069

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: R343615 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS19080069-01	WG-1620-MW32AR-20190730	30 Jul 2019 07:25			03 Aug 2019 06:33	1
HS19080069-02	WG-1620-MW33BR-20190730	30 Jul 2019 08:20			03 Aug 2019 01:42	5
HS19080069-02	WG-1620-MW33BR-20190730	30 Jul 2019 08:20			03 Aug 2019 00:29	1
HS19080069-03	WG-1620-MW84B-20190730	30 Jul 2019 09:15			03 Aug 2019 06:58	1
HS19080069-04	WG-1620-MW82B-20190730	30 Jul 2019 10:10			03 Aug 2019 00:05	1
HS19080069-05	WG-1620-MW80B-20190730	30 Jul 2019 11:10			03 Aug 2019 07:22	1
HS19080069-06	WG-1620-MW77A-20190730	30 Jul 2019 11:55			03 Aug 2019 09:23	1
HS19080069-07	WG-1620-MW85C-20190730	30 Jul 2019 15:35			03 Aug 2019 07:46	1
HS19080069-08	WG-1620-MW86C-20190730	30 Jul 2019 16:40			03 Aug 2019 08:10	1
HS19080069-09	WG-1620-FD04-20190730	30 Jul 2019 16:40			03 Aug 2019 08:35	1
HS19080069-10	WG-1620-MW76C-20190730	30 Jul 2019 17:30			03 Aug 2019 08:59	1
HS19080069-13	WG-1620-TB05-20190730	30 Jul 2019 00:00			03 Aug 2019 06:09	1
Batch ID: R343708 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS19080069-11	WG-1620-MW74B-20190730	30 Jul 2019 18:20			05 Aug 2019 18:44	5
HS19080069-12	WG-1620-MW79A-20190730	30 Jul 2019 19:10			05 Aug 2019 18:17	1

WorkOrder: HS19080069
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000547	0.000400	0.00200

WorkOrder: HS19080069
InstrumentID: SV-6
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.00011	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.00013	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.00012	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000053	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.00014	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.00010	0.00010	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.00016	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.00018	0.000047	0.0010
A	Acenaphthene	83-32-9	0.00010	0.00011	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.00010	0.00010	0.000015	0.00010
A	Anthracene	120-12-7	0.00010	0.00012	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.00010	0.00012	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.00010	0.00013	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000091	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.000084	0.000037	0.00020
A	Chrysene	218-01-9	0.00010	0.00010	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.00010	0.00011	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.00011	0.000020	0.00020
A	Fluoranthene	206-44-0	0.00010	0.00011	0.000010	0.00010
A	Fluorene	86-73-7	0.00010	0.00010	0.000030	0.00010
A	Naphthalene	91-20-3	0.00010	0.00012	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00017	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00015	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.00015	0.000079	0.00020
A	Phenanthrene	85-01-8	0.00010	0.00011	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.00013	0.000035	0.00020
A	Pyrene	129-00-0	0.00010	0.000099	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS19080069
InstrumentID: VOA9
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00058	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00059	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00060	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00063	0.00030	0.0010
A	Methylene chloride	75-09-2	0.00050	0.00061	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00058	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00052	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00063	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

WorkOrder: HS19080069
InstrumentID: VOA2
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00067	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00056	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00059	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00051	0.00030	0.0010
A	Methylene chloride	75-09-2	0.00050	0.00054	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00056	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00052	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080069

QC BATCH REPORT

Batch ID: 143772 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-143772** Units: **mg/L** Analysis Date: **08-Aug-2019 22:30**
Client ID: Run ID: **ICPMS05_343891** SeqNo: **5202657** PrepDate: **05-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-143772** Units: **mg/L** Analysis Date: **08-Aug-2019 22:32**
Client ID: Run ID: **ICPMS05_343891** SeqNo: **5202658** PrepDate: **05-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0475	0.00200	0.05	0	95.0	80 - 120				

MS Sample ID: **HS19080069-04MS** Units: **mg/L** Analysis Date: **08-Aug-2019 22:39**
Client ID: **WG-1620-MW82B-20190730** Run ID: **ICPMS05_343891** SeqNo: **5202661** PrepDate: **05-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.06004	0.00200	0.05	0.008727	103	80 - 120				

MSD Sample ID: **HS19080069-04MSD** Units: **mg/L** Analysis Date: **08-Aug-2019 22:41**
Client ID: **WG-1620-MW82B-20190730** Run ID: **ICPMS05_343891** SeqNo: **5202662** PrepDate: **05-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05823	0.00200	0.05	0.008727	99.0	80 - 120	0.06004	3.06	20	

PDS Sample ID: **HS19080069-04PDS** Units: **mg/L** Analysis Date: **08-Aug-2019 22:44**
Client ID: **WG-1620-MW82B-20190730** Run ID: **ICPMS05_343891** SeqNo: **5202663** PrepDate: **05-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1112	0.00200	0.1	0.008727	103	75 - 125				

SD Sample ID: **HS19080069-04SD** Units: **mg/L** Analysis Date: **08-Aug-2019 22:37**
Client ID: **WG-1620-MW82B-20190730** Run ID: **ICPMS05_343891** SeqNo: **5202660** PrepDate: **05-Aug-2019** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.008077	0.0100					0.008727	0	10	J

The following samples were analyzed in this batch:

HS19080069-01	HS19080069-02	HS19080069-03	HS19080069-04
HS19080069-05	HS19080069-06	HS19080069-07	HS19080069-08
HS19080069-09	HS19080069-10	HS19080069-11	HS19080069-12

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080069

QC BATCH REPORT

Batch ID: 143727 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-143727** Units: **ug/L** Analysis Date: **02-Aug-2019 13:29**
Client ID: Run ID: **SV-6_343627** SeqNo: **5196073** PrepDate: **02-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*3.503*	*0.20*	*5*	*0*	*70.1*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.588*	*0.20*	*5*	*0*	*91.8*	*40 - 125*				
Surr: 2-Fluorophenol	*4.162*	*0.20*	*5*	*0*	*83.2*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.367*	*0.20*	*5*	*0*	*87.3*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.55*	*0.20*	*5*	*0*	*91.0*	*41 - 120*				
Surr: Phenol-d6	*4.055*	*0.20*	*5*	*0*	*81.1*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080069

QC BATCH REPORT

Batch ID: 143727 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-143727** Units: **ug/L** Analysis Date: **02-Aug-2019 13:48**
Client ID: Run ID: **SV-6_343627** SeqNo: **5196074** PrepDate: **02-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.518	0.20	5	0	90.4	39 - 127				
2,4-Dimethylphenol	4.308	0.20	5	0	86.2	35 - 120				
2,4-Dinitrotoluene	4.312	0.20	5	0	86.2	50 - 122				
2,6-Dinitrotoluene	4.261	0.20	5	0	85.2	50 - 120				
2-Chloronaphthalene	4.56	0.20	5	0	91.2	50 - 120				
2-Methylnaphthalene	4.221	0.10	5	0	84.4	50 - 120				
4,6-Dinitro-2-methylphenol	4.02	0.20	5	0	80.4	25 - 121				
4-Nitrophenol	4.598	1.0	5	0	92.0	30 - 130				
Acenaphthene	4.112	0.10	5	0	82.2	45 - 120				
Acenaphthylene	4.516	0.10	5	0	90.3	47 - 120				
Anthracene	4.121	0.10	5	0	82.4	45 - 120				
Benz(a)anthracene	4.275	0.10	5	0	85.5	40 - 120				
Benzo(a)pyrene	4.39	0.10	5	0	87.8	45 - 120				
Bis(2-chloroethoxy)methane	4.166	0.20	5	0	83.3	45 - 120				
Bis(2-ethylhexyl)phthalate	4.912	0.20	5	0	98.2	40 - 139				
Chrysene	4.374	0.10	5	0	87.5	43 - 120				
Dibenzofuran	4.495	0.10	5	0	89.9	50 - 120				
Di-n-butyl phthalate	4.752	0.20	5	0	95.0	45 - 123				
Fluoranthene	4.286	0.10	5	0	85.7	45 - 125				
Fluorene	4.419	0.10	5	0	88.4	49 - 120				
Naphthalene	4.236	0.10	5	0	84.7	45 - 120				
Nitrobenzene	3.994	0.20	5	0	79.9	44 - 120				
N-Nitrosodiphenylamine	4.38	0.20	5	0	87.6	40 - 125				
Pentachlorophenol	1.98	0.20	5	0	39.6	19 - 121				
Phenanthrene	4.208	0.10	5	0	84.2	45 - 121				
Phenol	4.791	0.20	5	0	95.8	20 - 124				
Pyrene	4.756	0.10	5	0	95.1	40 - 130				
Surr: 2,4,6-Tribromophenol	*4.335*	*0.20*	*5*	*0*	*86.7*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*5.065*	*0.20*	*5*	*0*	*101*	*40 - 125*				
Surr: 2-Fluorophenol	*4.627*	*0.20*	*5*	*0*	*92.5*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.919*	*0.20*	*5*	*0*	*98.4*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.524*	*0.20*	*5*	*0*	*90.5*	*41 - 120*				
Surr: Phenol-d6	*4.738*	*0.20*	*5*	*0*	*94.8*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080069

QC BATCH REPORT

Batch ID: 143727 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MS Sample ID: **HS19080069-04MS** Units: **ug/L** Analysis Date: **02-Aug-2019 19:37**
Client ID: **WG-1620-MW82B-20190730** Run ID: **SV-6_343627** SeqNo: **5196079** PrepDate: **02-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.089	0.20	5	0	81.8	39 - 127				
2,4-Dimethylphenol	3.156	0.20	5	0	63.1	35 - 120				
2,4-Dinitrotoluene	4.03	0.20	5	0	80.6	50 - 122				
2,6-Dinitrotoluene	3.94	0.20	5	0	78.8	50 - 120				
2-Chloronaphthalene	3.639	0.20	5	0	72.8	50 - 120				
2-Methylnaphthalene	3.38	0.10	5	0	67.6	50 - 120				
4,6-Dinitro-2-methylphenol	3.401	0.20	5	0	68.0	25 - 121				
4-Nitrophenol	4.39	1.0	5	0	87.8	30 - 130				
Acenaphthene	3.739	0.10	5	0	74.8	45 - 120				
Acenaphthylene	3.891	0.10	5	0	77.8	47 - 120				
Anthracene	3.992	0.10	5	0	79.8	45 - 120				
Benz(a)anthracene	4.248	0.10	5	0	85.0	40 - 120				
Benzo(a)pyrene	4.45	0.10	5	0	89.0	45 - 120				
Bis(2-chloroethoxy)methane	3.177	0.20	5	0	63.5	45 - 120				
Bis(2-ethylhexyl)phthalate	4.984	0.20	5	0	99.7	40 - 139				
Chrysene	4.216	0.10	5	0	84.3	43 - 120				
Dibenzofuran	3.933	0.10	5	0	78.7	50 - 120				
Di-n-butyl phthalate	4.711	0.20	5	0	94.2	45 - 123				
Fluoranthene	4.273	0.10	5	0	85.5	45 - 125				
Fluorene	4.049	0.10	5	0	81.0	49 - 120				
Naphthalene	3.253	0.10	5	0	65.1	45 - 120				
Nitrobenzene	3.184	0.20	5	0	63.7	44 - 120				
N-Nitrosodiphenylamine	4.228	0.20	5	0	84.6	40 - 125				
Pentachlorophenol	1.635	0.20	5	0	32.7	19 - 121				
Phenanthrene	4.215	0.10	5	0	84.3	45 - 121				
Phenol	3.315	0.20	5	0	66.3	20 - 124				
Pyrene	4.551	0.10	5	0	91.0	40 - 130				
Surr: 2,4,6-Tribromophenol	*4.145*	*0.20*	*5*	*0*	*82.9*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.013*	*0.20*	*5*	*0*	*80.3*	*40 - 125*				
Surr: 2-Fluorophenol	*3.282*	*0.20*	*5*	*0*	*65.6*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.438*	*0.20*	*5*	*0*	*88.8*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.521*	*0.20*	*5*	*0*	*70.4*	*41 - 120*				
Surr: Phenol-d6	*3.445*	*0.20*	*5*	*0*	*68.9*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080069

QC BATCH REPORT

Batch ID: 143727 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MSD Sample ID: **HS19080069-04MSD** Units: **ug/L** Analysis Date: **02-Aug-2019 19:57**
Client ID: **WG-1620-MW82B-20190730** Run ID: **SV-6_343627** SeqNo: **5196080** PrepDate: **02-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.066	0.20	5	0	81.3	39 - 127	4.089	0.576	20	
2,4-Dimethylphenol	3.175	0.20	5	0	63.5	35 - 120	3.156	0.601	20	
2,4-Dinitrotoluene	4.251	0.20	5	0	85.0	50 - 122	4.03	5.36	20	
2,6-Dinitrotoluene	3.931	0.20	5	0	78.6	50 - 120	3.94	0.236	20	
2-Chloronaphthalene	3.31	0.20	5	0	66.2	50 - 120	3.639	9.48	20	
2-Methylnaphthalene	3.116	0.10	5	0	62.3	50 - 120	3.38	8.15	20	
4,6-Dinitro-2-methylphenol	3.77	0.20	5	0	75.4	25 - 121	3.401	10.3	30	
4-Nitrophenol	4.608	1.0	5	0	92.2	30 - 130	4.39	4.86	20	
Acenaphthene	3.471	0.10	5	0	69.4	45 - 120	3.739	7.43	20	
Acenaphthylene	3.67	0.10	5	0	73.4	47 - 120	3.891	5.84	20	
Anthracene	3.982	0.10	5	0	79.6	45 - 120	3.992	0.252	20	
Benz(a)anthracene	4.498	0.10	5	0	90.0	40 - 120	4.248	5.71	20	
Benzo(a)pyrene	4.831	0.10	5	0	96.6	45 - 120	4.45	8.21	20	
Bis(2-chloroethoxy)methane	3.181	0.20	5	0	63.6	45 - 120	3.177	0.126	20	
Bis(2-ethylhexyl)phthalate	5.362	0.20	5	0	107	40 - 139	4.984	7.3	20	
Chrysene	4.526	0.10	5	0	90.5	43 - 120	4.216	7.1	20	
Dibenzofuran	3.769	0.10	5	0	75.4	50 - 120	3.933	4.26	20	
Di-n-butyl phthalate	4.984	0.20	5	0	99.7	45 - 123	4.711	5.63	20	
Fluoranthene	4.559	0.10	5	0	91.2	45 - 125	4.273	6.47	20	
Fluorene	4.064	0.10	5	0	81.3	49 - 120	4.049	0.359	20	
Naphthalene	5.202	0.10	5	0	104	45 - 120	3.253	46.1	20	R
Nitrobenzene	3.038	0.20	5	0	60.8	44 - 120	3.184	4.7	20	
N-Nitrosodiphenylamine	4.292	0.20	5	0	85.8	40 - 125	4.228	1.5	20	
Pentachlorophenol	1.991	0.20	5	0	39.8	19 - 121	1.635	19.6	20	
Phenanthrene	4.176	0.10	5	0	83.5	45 - 121	4.215	0.934	20	
Phenol	3.678	0.20	5	0	73.6	20 - 124	3.315	10.4	20	
Pyrene	4.807	0.10	5	0	96.1	40 - 130	4.551	5.49	20	
Surr: 2,4,6-Tribromophenol	*4.112*	*0.20*	*5*	*0*	*82.2*	*34 - 129*	*4.145*	*0.793*	*20*	
Surr: 2-Fluorobiphenyl	*3.568*	*0.20*	*5*	*0*	*71.4*	*40 - 125*	*4.013*	*11.7*	*20*	
Surr: 2-Fluorophenol	*3.662*	*0.20*	*5*	*0*	*73.2*	*20 - 120*	*3.282*	*11*	*20*	
Surr: 4-Terphenyl-d14	*4.548*	*0.20*	*5*	*0*	*91.0*	*40 - 135*	*4.438*	*2.46*	*20*	
Surr: Nitrobenzene-d5	*3.299*	*0.20*	*5*	*0*	*66.0*	*41 - 120*	*3.521*	*6.51*	*20*	
Surr: Phenol-d6	*3.547*	*0.20*	*5*	*0*	*70.9*	*20 - 120*	*3.445*	*2.91*	*20*	

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	HS19080069

QC BATCH REPORT

Batch ID: 143727 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

The following samples were analyzed in this batch:

HS19080069-01	HS19080069-02	HS19080069-03	HS19080069-04
HS19080069-05	HS19080069-06	HS19080069-07	HS19080069-08
HS19080069-09	HS19080069-10	HS19080069-11	HS19080069-12

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080069

QC BATCH REPORT

Batch ID: R343615 (0) **Instrument: VOA9** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-190802** Units: **ug/L** Analysis Date: **02-Aug-2019 23:41**
Client ID: Run ID: **VOA9_343615** SeqNo: **5195198** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*48.44*	*1.0*	*50*	*0*	*96.9*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*48.54*	*1.0*	*50*	*0*	*97.1*	*82 - 115*				
Surr: Dibromofluoromethane	*49.58*	*1.0*	*50*	*0*	*99.2*	*73 - 126*				
Surr: Toluene-d8	*50.72*	*1.0*	*50*	*0*	*101*	*81 - 120*				

LCS Sample ID: **VLCSW-190802** Units: **ug/L** Analysis Date: **02-Aug-2019 23:17**
Client ID: Run ID: **VOA9_343615** SeqNo: **5195197** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.43	1.0	20	0	87.1	70 - 124				
Benzene	19.45	1.0	20	0	97.2	74 - 120				
Chlorobenzene	18.2	1.0	20	0	91.0	76 - 113				
Ethylbenzene	18.86	1.0	20	0	94.3	77 - 117				
Methylene chloride	19.47	2.0	20	0	97.3	70 - 127				
Toluene	18.57	1.0	20	0	92.8	77 - 118				
Vinyl chloride	19.04	1.0	20	0	95.2	70 - 130				
Xylenes, Total	56.17	1.0	60	0	93.6	75 - 122				
Surr: 1,2-Dichloroethane-d4	*47.02*	*1.0*	*50*	*0*	*94.0*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*50.28*	*1.0*	*50*	*0*	*101*	*82 - 115*				
Surr: Dibromofluoromethane	*50.5*	*1.0*	*50*	*0*	*101*	*73 - 126*				
Surr: Toluene-d8	*49.89*	*1.0*	*50*	*0*	*99.8*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080069

QC BATCH REPORT

Batch ID: R343615 (0) **Instrument: VOA9** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS19080069-04MS** Units: **ug/L** Analysis Date: **03-Aug-2019 00:54**
Client ID: **WG-1620-MW82B-20190730** Run ID: **VOA9_343615** SeqNo: **5195201** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	18.05	1.0	20	0	90.2	70 - 127				
Benzene	20.65	1.0	20	0	103	70 - 127				
Chlorobenzene	19.12	1.0	20	0	95.6	70 - 114				
Ethylbenzene	20.29	1.0	20	0	101	70 - 124				
Methylene chloride	19.82	2.0	20	0	99.1	70 - 128				
Toluene	19.74	1.0	20	0	98.7	70 - 123				
Vinyl chloride	16.73	1.0	20	0	83.7	70 - 130				
Xylenes, Total	60.26	1.0	60	0	100	70 - 130				
Surr: 1,2-Dichloroethane-d4	*47.31*	*1.0*	*50*	*0*	*94.6*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*50.26*	*1.0*	*50*	*0*	*101*	*81 - 113*				
Surr: Dibromofluoromethane	*50.29*	*1.0*	*50*	*0*	*101*	*77 - 123*				
Surr: Toluene-d8	*50.78*	*1.0*	*50*	*0*	*102*	*82 - 127*				

MSD Sample ID: **HS19080069-04MSD** Units: **ug/L** Analysis Date: **03-Aug-2019 01:18**
Client ID: **WG-1620-MW82B-20190730** Run ID: **VOA9_343615** SeqNo: **5195202** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	16.6	1.0	20	0	83.0	70 - 127	18.05	8.33	20	
Benzene	18.87	1.0	20	0	94.3	70 - 127	20.65	9.02	20	
Chlorobenzene	18.21	1.0	20	0	91.1	70 - 114	19.12	4.87	20	
Ethylbenzene	18.92	1.0	20	0	94.6	70 - 124	20.29	6.95	20	
Methylene chloride	18.04	2.0	20	0	90.2	70 - 128	19.82	9.39	20	
Toluene	18.52	1.0	20	0	92.6	70 - 123	19.74	6.39	20	
Vinyl chloride	15.02	1.0	20	0	75.1	70 - 130	16.73	10.8	20	
Xylenes, Total	57.07	1.0	60	0	95.1	70 - 130	60.26	5.44	20	
Surr: 1,2-Dichloroethane-d4	*45.93*	*1.0*	*50*	*0*	*91.9*	*70 - 126*	*47.31*	*2.97*	*20*	
Surr: 4-Bromofluorobenzene	*51.08*	*1.0*	*50*	*0*	*102*	*81 - 113*	*50.26*	*1.62*	*20*	
Surr: Dibromofluoromethane	*49.36*	*1.0*	*50*	*0*	*98.7*	*77 - 123*	*50.29*	*1.87*	*20*	
Surr: Toluene-d8	*51.66*	*1.0*	*50*	*0*	*103*	*82 - 127*	*50.78*	*1.71*	*20*	

The following samples were analyzed in this batch:

HS19080069-01	HS19080069-02	HS19080069-03	HS19080069-04
HS19080069-05	HS19080069-06	HS19080069-07	HS19080069-08
HS19080069-09	HS19080069-10	HS19080069-13	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080069

QC BATCH REPORT

Batch ID: R343708 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-190805** Units: **ug/L** Analysis Date: **05-Aug-2019 13:43**
Client ID: Run ID: **VOA2_343708** SeqNo: **5197254** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*50.8*	*1.0*	*50*	*0*	*102*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*49.57*	*1.0*	*50*	*0*	*99.1*	*82 - 115*				
Surr: Dibromofluoromethane	*51.41*	*1.0*	*50*	*0*	*103*	*73 - 126*				
Surr: Toluene-d8	*51.64*	*1.0*	*50*	*0*	*103*	*81 - 120*				

LCS Sample ID: **VLCSW-190805** Units: **ug/L** Analysis Date: **05-Aug-2019 13:19**
Client ID: Run ID: **VOA2_343708** SeqNo: **5197253** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	19.63	1.0	20	0	98.2	70 - 124				
Benzene	19.95	1.0	20	0	99.7	74 - 120				
Chlorobenzene	20.62	1.0	20	0	103	76 - 113				
Ethylbenzene	20.77	1.0	20	0	104	77 - 117				
Methylene chloride	21.15	2.0	20	0	106	70 - 127				
Toluene	20.27	1.0	20	0	101	77 - 118				
Xylenes, Total	69.61	1.0	60	0	116	75 - 122				
Surr: 1,2-Dichloroethane-d4	*52.59*	*1.0*	*50*	*0*	*105*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*57.5*	*1.0*	*50*	*0*	*115*	*82 - 115*				
Surr: Dibromofluoromethane	*48.38*	*1.0*	*50*	*0*	*96.8*	*73 - 126*				
Surr: Toluene-d8	*48.64*	*1.0*	*50*	*0*	*97.3*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080069

QC BATCH REPORT

Batch ID: R343708 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS19080060-04MS** Units: **ug/L** Analysis Date: **05-Aug-2019 17:01**
Client ID: Run ID: **VOA2_343708** SeqNo: **5197262** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	15.34	1.0	20	0	76.7	70 - 127				
Benzene	17.05	1.0	20	0	85.3	70 - 127				
Chlorobenzene	17.94	1.0	20	0	89.7	70 - 114				
Ethylbenzene	18.08	1.0	20	0	90.4	70 - 124				
Methylene chloride	15.91	2.0	20	0	79.5	70 - 128				
Toluene	18.72	1.0	20	0	93.6	70 - 123				
Xylenes, Total	56.34	1.0	60	0	93.9	70 - 130				
Surr: 1,2-Dichloroethane-d4	*47.1*	*1.0*	*50*	*0*	*94.2*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*48.39*	*1.0*	*50*	*0*	*96.8*	*81 - 113*				
Surr: Dibromofluoromethane	*50.39*	*1.0*	*50*	*0*	*101*	*77 - 123*				
Surr: Toluene-d8	*49.52*	*1.0*	*50*	*0*	*99.0*	*82 - 127*				

MSD Sample ID: **HS19080060-04MSD** Units: **ug/L** Analysis Date: **05-Aug-2019 17:26**
Client ID: Run ID: **VOA2_343708** SeqNo: **5197263** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	18.1	1.0	20	0	90.5	70 - 127	15.34	16.5	20	
Benzene	20.16	1.0	20	0	101	70 - 127	17.05	16.7	20	
Chlorobenzene	17.72	1.0	20	0	88.6	70 - 114	17.94	1.22	20	
Ethylbenzene	19.47	1.0	20	0	97.3	70 - 124	18.08	7.39	20	
Methylene chloride	14.72	2.0	20	0	73.6	70 - 128	15.91	7.76	20	
Toluene	17.49	1.0	20	0	87.4	70 - 123	18.72	6.81	20	
Xylenes, Total	61.55	1.0	60	0	103	70 - 130	56.34	8.84	20	
Surr: 1,2-Dichloroethane-d4	*50.73*	*1.0*	*50*	*0*	*101*	*70 - 126*	*47.1*	*7.44*	*20*	
Surr: 4-Bromofluorobenzene	*57.94*	*1.0*	*50*	*0*	*116*	*81 - 113*	*48.39*	*18*	*20*	S
Surr: Dibromofluoromethane	*49.57*	*1.0*	*50*	*0*	*99.1*	*77 - 123*	*50.39*	*1.64*	*20*	
Surr: Toluene-d8	*48.82*	*1.0*	*50*	*0*	*97.6*	*82 - 127*	*49.52*	*1.43*	*20*	

The following samples were analyzed in this batch: HS19080069-11 HS19080069-12

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS19080069**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2019	31-Dec-2019
Oklahoma	2018-156	31-Aug-2019
Texas	TX104704231-19-23	30-Apr-2020

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19080069

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19080069-01	WG-1620-MW32AR-20190730	Login	01/08/2019 17:01:24	JRM	MET074
HS19080069-01	WG-1620-MW32AR-20190730	Login	01/08/2019 17:01:24	JRM	EXT011
HS19080069-01	WG-1620-MW32AR-20190730	Login	01/08/2019 17:01:24	JRM	VOA153

Sample Receipt Checklist

Client Name: PBW
Work Order: HS19080069

Date/Time Received: **01-Aug-2019 14:40**
Received by: **AC**

Checklist completed by: *Jared R. Makan* eSignature 1-Aug-2019 Date

Reviewed by: *Dane J. Wacasey* eSignature 6-Aug-2019 Date

Matrices: **Water**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:196137, 196130
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.9c/1.9c, 1.6c/1.6c, 1.7c/1.7c UC/C	IR25	
Cooler(s)/Kit(s):	45149, 44874, 45101		
Date/Time sample(s) sent to storage:	08/01/2019 17:20		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 2

COC ID: 196137

HS19080069

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 Volatile Organics Site Specific)
Work Order		Project Number	1620-07-Rev0 SR 92688	B	8260_LL_W (5632528 VOC Site Specific + V.C.)
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 5652646 Metals - As, Pb)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	MS/MSD
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WQ-1620-TB0__-201801___			Water	1	2		X									
2	WG-1620-MW32AR-20190730	7-30-19	0725			6	X		X	X							
3	WG-1620-MW33BR-20190730		0820			6		X	X	X							
4	WG-1620-MW84B-20190730		0915			6	X		X	X							
5	WG-1620-MW82B-20190730		1010			12	X		X	X	X						
6	WG-1620-MW80B-20190730		1110			6	X		X	X							
7	WG-1620-MW77A-20190730		1155			6	X		X	X							
8	WG-1620-MW85C-20190730		1535			6	X		X	X							
9	WG-1620-MW86C-20190730		1640			6	X		X	X							
10	WG-1620-FD04-20190730		1640			6		X	X	X							

Sampler(s) Please Print & Sign: JOHN BRAYTON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results Due Date:

Relinquished by: — Date: 8-1-19 — Time: 1440 — Received by:

Relinquished by: — Date: 8-1-19 — Time: 14:40 — Received by (Laboratory): AC

Logged by (Laboratory): — Date: — Time: — Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
	0/C
45149	1.9
44874	1.6
45101	1.7

QC Package: (Check One Box Below)
[ ] Level II Std QC
[ ] Level III Std QC/Raw Data
[ ] Level IV SW846/CLP
[ ] Other
[X] TRRP Checklist
[ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 2 of 2

COC ID: 196130

HS19080069

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 Volatile Organics Site Specific)
Work Order		Project Number	1620-07-Rev0 SR 92688	B	8260_LL_W (5632528 VOC Site Specific + V.C.)
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- AVP	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 5632646 Metals - As, Pb)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0756	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WQ-1620-TB0__-201801__			Water	1	2		X									
2	WG-1620-MW76C-20190730	7-30-19	1730			6	X		X	X							
3	WG-1620-MW74B-20190730		1820			6	X		X	X							
4	WG-1620-MW79A-20190730		1910			6	X		X	X							
5	WG-1620-TB05-20190730					2		X									
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: JOHN BRAMLETT

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) ☐ Other ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by:	Date: 8/1/19	Time: 1440	Received by:	
Relinquished by:	Date: 8-1-19	Time: 14:40	Received by (Laboratory): AC	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)

☐ Level II Std QC ☒ TRRP Checklist
☐ Level III Std QC/Raw Data ☐ TRRP Level IV
☐ Level IV SW846/CLP
☐ Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

August 12, 2019

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS19080113**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 12 sample(s) on Aug 02, 2019 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DAYNA.FISHER
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS19080113**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS19080113**	

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 08/12/2019					
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS19080113					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 143759, 143819, 143865, R343626, R343632, R343643					
#[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				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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 SW-846 Method 5035?			X		
		If required for the project, 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 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				
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			1
		Were MS/MSD RPDs within laboratory QC limits?		X			2
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		
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				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 08/12/2019				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS19080113				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 143759, 143819, 143865, R343626, R343632, R343643				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group		LRC Date: 08/12/2019
Project Name: Houston TX-Wood Preserving Works		Laboratory Job Number: HS19080113
Reviewer Name: Dane Wacasey		Prep Batch Number(s): 143759, 143819, 143865, R343626, R343632, R343643
ER#[5]	**Description**	
1	Batch 143759, Semivolatiles by Method SW8270, Sample WG-1620-MW67B-20190731 and WG-1620-MW65D-20190731, MS and/or MSD recovered outside control limits for multiple compounds due to sample matrix interference.	
2	Batch 143759, Semivolatiles by Method SW8270, samples WG-1620-MW67B-20190731 and WG-1620-MW65D-20190731, MS/MSD RPD recovered above control limits for 4-Nitrophenol.	

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19080113

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19080113-01	WG-1620-MW36D-20190731	Water		31-Jul-2019 07:40	02-Aug-2019 12:00	☐
HS19080113-02	WG-1620-MW38A-20190731	Water		31-Jul-2019 08:35	02-Aug-2019 12:00	☐
HS19080113-03	WG-1620-MW65D-20190731	Water		31-Jul-2019 09:45	02-Aug-2019 12:00	☐
HS19080113-04	WG-1620-MW66D-20190731	Water		31-Jul-2019 10:45	02-Aug-2019 12:00	☐
HS19080113-05	WG-1620-MW59D-20190731	Water		31-Jul-2019 11:50	02-Aug-2019 12:00	☐
HS19080113-06	WG-1620-FD05-20190731	Water		31-Jul-2019 11:50	02-Aug-2019 12:00	☐
HS19080113-07	WG-1620-MW22AR-20190731	Water		31-Jul-2019 13:05	02-Aug-2019 12:00	☐
HS19080113-08	WG-1620-MW22BR-20190731	Water		31-Jul-2019 13:50	02-Aug-2019 12:00	☐
HS19080113-09	WG-1620-MW88C-20190731	Water		31-Jul-2019 15:45	02-Aug-2019 12:00	☐
HS19080113-10	WG-1620-MW67B-20190731	Water		31-Jul-2019 16:45	02-Aug-2019 12:00	☐
HS19080113-11	WG-1620-MW49A-20190731	Water		31-Jul-2019 17:45	02-Aug-2019 12:00	☐
HS19080113-12	WG-1620-TB06-20190731	Water		31-Jul-2019 00:00	02-Aug-2019 12:00	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW36D-20190731
Collection Date: 31-Jul-2019 07:40

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	03-Aug-2019 19:20
Benzene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 19:20
Chlorobenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 19:20
Ethylbenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 19:20
Methylene chloride		U	0.0010	0.0020	mg/L	1	03-Aug-2019 19:20
Toluene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 19:20
Xylenes, Total		U	0.00030	0.0010	mg/L	1	03-Aug-2019 19:20
Surr: 1,2-Dichloroethane-d4	*98.9*			*70-126*	*%REC*	*1*	*03-Aug-2019 19:20*
Surr: 4-Bromofluorobenzene	*99.5*			*81-113*	*%REC*	*1*	*03-Aug-2019 19:20*
Surr: Dibromofluoromethane	*96.9*			*77-123*	*%REC*	*1*	*03-Aug-2019 19:20*
Surr: Toluene-d8	*99.7*			*82-127*	*%REC*	*1*	*03-Aug-2019 19:20*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW36D-20190731
Collection Date: 31-Jul-2019 07:40

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 05-Aug-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	05-Aug-2019 19:43
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	05-Aug-2019 19:43
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	05-Aug-2019 19:43
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	05-Aug-2019 19:43
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	05-Aug-2019 19:43
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	05-Aug-2019 19:43
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	05-Aug-2019 19:43
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	05-Aug-2019 19:43
Acenaphthene	U		0.000027	0.00010	mg/L	1	05-Aug-2019 19:43
Acenaphthylene	U		0.000015	0.00010	mg/L	1	05-Aug-2019 19:43
Anthracene	**0.000017**	J	**0.000014**	**0.00010**	**mg/L**	1	05-Aug-2019 19:43
Benz(a)anthracene	**0.000053**	J	**0.000050**	**0.00010**	**mg/L**	1	05-Aug-2019 19:43
Benzo(a)pyrene	**0.000087**	J	**0.000020**	**0.00010**	**mg/L**	1	05-Aug-2019 19:43
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	05-Aug-2019 19:43
Bis(2-ethylhexyl)phthalate	**0.000080**	J	**0.000037**	**0.00020**	**mg/L**	1	05-Aug-2019 19:43
Chrysene	**0.000058**	J	**0.000021**	**0.00010**	**mg/L**	1	05-Aug-2019 19:43
Dibenzofuran	U		0.000020	0.00010	mg/L	1	05-Aug-2019 19:43
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	05-Aug-2019 19:43
Fluoranthene	**0.00011**		**0.000010**	**0.00010**	**mg/L**	1	05-Aug-2019 19:43
Fluorene	U		0.000030	0.00010	mg/L	1	05-Aug-2019 19:43
Naphthalene	U		0.000020	0.00010	mg/L	1	05-Aug-2019 19:43
Nitrobenzene	U		0.000024	0.00020	mg/L	1	05-Aug-2019 19:43
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	05-Aug-2019 19:43
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	05-Aug-2019 19:43
Phenanthrene	**0.000066**	J	**0.000021**	**0.00010**	**mg/L**	1	05-Aug-2019 19:43
Phenol	U		0.000035	0.00020	mg/L	1	05-Aug-2019 19:43
Pyrene	**0.000099**	J	**0.000019**	**0.00010**	**mg/L**	1	05-Aug-2019 19:43
Surr: 2,4,6-Tribromophenol	*83.0*			*34-129*	*%REC*	*1*	*05-Aug-2019 19:43*
Surr: 2-Fluorobiphenyl	*90.2*			*40-125*	*%REC*	*1*	*05-Aug-2019 19:43*
Surr: 2-Fluorophenol	*80.4*			*20-120*	*%REC*	*1*	*05-Aug-2019 19:43*
Surr: 4-Terphenyl-d14	*85.2*			*40-135*	*%REC*	*1*	*05-Aug-2019 19:43*
Surr: Nitrobenzene-d5	*94.2*			*41-120*	*%REC*	*1*	*05-Aug-2019 19:43*
Surr: Phenol-d6	*91.1*			*20-120*	*%REC*	*1*	*05-Aug-2019 19:43*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 06-Aug-2019		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	08-Aug-2019 00:06

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW38A-20190731
Collection Date: 31-Jul-2019 08:35

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	**0.00031**	J	**0.00020**	**0.0010**	**mg/L**	1	03-Aug-2019 19:44
Benzene	U		0.00020	0.0010	mg/L	1	03-Aug-2019 19:44
Chlorobenzene	U		0.00030	0.0010	mg/L	1	03-Aug-2019 19:44
Ethylbenzene	U		0.00030	0.0010	mg/L	1	03-Aug-2019 19:44
Methylene chloride	U		0.0010	0.0020	mg/L	1	03-Aug-2019 19:44
Toluene	U		0.00020	0.0010	mg/L	1	03-Aug-2019 19:44
Xylenes, Total	U		0.00030	0.0010	mg/L	1	03-Aug-2019 19:44
Surr: 1,2-Dichloroethane-d4	*98.7*			*70-126*	*%REC*	*1*	*03-Aug-2019 19:44*
Surr: 4-Bromofluorobenzene	*92.8*			*81-113*	*%REC*	*1*	*03-Aug-2019 19:44*
Surr: Dibromofluoromethane	*96.5*			*77-123*	*%REC*	*1*	*03-Aug-2019 19:44*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*03-Aug-2019 19:44*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW38A-20190731
Collection Date: 31-Jul-2019 08:35

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 05-Aug-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	05-Aug-2019 20:02
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	05-Aug-2019 20:02
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	05-Aug-2019 20:02
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	05-Aug-2019 20:02
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	05-Aug-2019 20:02
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	05-Aug-2019 20:02
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	05-Aug-2019 20:02
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	05-Aug-2019 20:02
Acenaphthene	U		0.000027	0.00010	mg/L	1	05-Aug-2019 20:02
Acenaphthylene	U		0.000015	0.00010	mg/L	1	05-Aug-2019 20:02
Anthracene	**0.000022**	J	**0.000014**	**0.00010**	**mg/L**	1	05-Aug-2019 20:02
Benz(a)anthracene	**0.000087**	J	**0.000050**	**0.00010**	**mg/L**	1	05-Aug-2019 20:02
Benzo(a)pyrene	**0.00012**		**0.000020**	**0.00010**	**mg/L**	1	05-Aug-2019 20:02
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	05-Aug-2019 20:02
Bis(2-ethylhexyl)phthalate	**0.000084**	J	**0.000037**	**0.00020**	**mg/L**	1	05-Aug-2019 20:02
Chrysene	**0.000092**	J	**0.000021**	**0.00010**	**mg/L**	1	05-Aug-2019 20:02
Dibenzofuran	U		0.000020	0.00010	mg/L	1	05-Aug-2019 20:02
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	05-Aug-2019 20:02
Fluoranthene	**0.00018**		**0.000010**	**0.00010**	**mg/L**	1	05-Aug-2019 20:02
Fluorene	U		0.000030	0.00010	mg/L	1	05-Aug-2019 20:02
Naphthalene	**0.000068**	J	**0.000020**	**0.00010**	**mg/L**	1	05-Aug-2019 20:02
Nitrobenzene	U		0.000024	0.00020	mg/L	1	05-Aug-2019 20:02
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	05-Aug-2019 20:02
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	05-Aug-2019 20:02
Phenanthrene	**0.00010**		**0.000021**	**0.00010**	**mg/L**	1	05-Aug-2019 20:02
Phenol	U		0.000035	0.00020	mg/L	1	05-Aug-2019 20:02
Pyrene	**0.00014**		**0.000019**	**0.00010**	**mg/L**	1	05-Aug-2019 20:02
Surr: 2,4,6-Tribromophenol	*82.1*			*34-129*	*%REC*	*1*	*05-Aug-2019 20:02*
Surr: 2-Fluorobiphenyl	*91.5*			*40-125*	*%REC*	*1*	*05-Aug-2019 20:02*
Surr: 2-Fluorophenol	*78.8*			*20-120*	*%REC*	*1*	*05-Aug-2019 20:02*
Surr: 4-Terphenyl-d14	*80.8*			*40-135*	*%REC*	*1*	*05-Aug-2019 20:02*
Surr: Nitrobenzene-d5	*90.5*			*41-120*	*%REC*	*1*	*05-Aug-2019 20:02*
Surr: Phenol-d6	*84.5*			*20-120*	*%REC*	*1*	*05-Aug-2019 20:02*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 06-Aug-2019		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	08-Aug-2019 00:08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW65D-20190731
Collection Date: 31-Jul-2019 09:45

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	03-Aug-2019 14:42
Benzene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 14:42
Chlorobenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 14:42
Ethylbenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 14:42
Methylene chloride		U	0.0010	0.0020	mg/L	1	03-Aug-2019 14:42
Toluene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 14:42
Xylenes, Total		U	0.00030	0.0010	mg/L	1	03-Aug-2019 14:42
Surr: 1,2-Dichloroethane-d4	*98.2*			*70-126*	*%REC*	*1*	*03-Aug-2019 14:42*
Surr: 4-Bromofluorobenzene	*99.6*			*81-113*	*%REC*	*1*	*03-Aug-2019 14:42*
Surr: Dibromofluoromethane	*103*			*77-123*	*%REC*	*1*	*03-Aug-2019 14:42*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*03-Aug-2019 14:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW65D-20190731
Collection Date: 31-Jul-2019 09:45

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 05-Aug-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	05-Aug-2019 20:21
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	05-Aug-2019 20:21
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	05-Aug-2019 20:21
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	05-Aug-2019 20:21
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	05-Aug-2019 20:21
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	05-Aug-2019 20:21
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	05-Aug-2019 20:21
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	05-Aug-2019 20:21
Acenaphthene	U		0.000027	0.00010	mg/L	1	05-Aug-2019 20:21
Acenaphthylene	U		0.000015	0.00010	mg/L	1	05-Aug-2019 20:21
Anthracene	U		0.000014	0.00010	mg/L	1	05-Aug-2019 20:21
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	05-Aug-2019 20:21
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	05-Aug-2019 20:21
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	05-Aug-2019 20:21
Bis(2-ethylhexyl)phthalate	**0.00016**	J	**0.000037**	**0.00020**	**mg/L**	1	05-Aug-2019 20:21
Chrysene	U		0.000021	0.00010	mg/L	1	05-Aug-2019 20:21
Dibenzofuran	U		0.000020	0.00010	mg/L	1	05-Aug-2019 20:21
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	05-Aug-2019 20:21
Fluoranthene	U		0.000010	0.00010	mg/L	1	05-Aug-2019 20:21
Fluorene	U		0.000030	0.00010	mg/L	1	05-Aug-2019 20:21
Naphthalene	U		0.000020	0.00010	mg/L	1	05-Aug-2019 20:21
Nitrobenzene	U		0.000024	0.00020	mg/L	1	05-Aug-2019 20:21
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	05-Aug-2019 20:21
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	05-Aug-2019 20:21
Phenanthrene	U		0.000021	0.00010	mg/L	1	05-Aug-2019 20:21
Phenol	U		0.000035	0.00020	mg/L	1	05-Aug-2019 20:21
Pyrene	U		0.000019	0.00010	mg/L	1	05-Aug-2019 20:21
Surr: 2,4,6-Tribromophenol	*91.0*			*34-129*	*%REC*	*1*	*05-Aug-2019 20:21*
Surr: 2-Fluorobiphenyl	*95.2*			*40-125*	*%REC*	*1*	*05-Aug-2019 20:21*
Surr: 2-Fluorophenol	*80.1*			*20-120*	*%REC*	*1*	*05-Aug-2019 20:21*
Surr: 4-Terphenyl-d14	*92.8*			*40-135*	*%REC*	*1*	*05-Aug-2019 20:21*
Surr: Nitrobenzene-d5	*102*			*41-120*	*%REC*	*1*	*05-Aug-2019 20:21*
Surr: Phenol-d6	*89.4*			*20-120*	*%REC*	*1*	*05-Aug-2019 20:21*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 06-Aug-2019		Analyst: JHD
Arsenic	**0.00135**	J	**0.000400**	**0.00200**	**mg/L**	1	07-Aug-2019 23:50

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW66D-20190731
Collection Date: 31-Jul-2019 10:45

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	03-Aug-2019 20:09
Benzene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 20:09
Chlorobenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 20:09
Ethylbenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 20:09
Methylene chloride		U	0.0010	0.0020	mg/L	1	03-Aug-2019 20:09
Toluene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 20:09
Xylenes, Total		U	0.00030	0.0010	mg/L	1	03-Aug-2019 20:09
Surr: 1,2-Dichloroethane-d4	*99.1*			*70-126*	*%REC*	*1*	*03-Aug-2019 20:09*
Surr: 4-Bromofluorobenzene	*93.0*			*81-113*	*%REC*	*1*	*03-Aug-2019 20:09*
Surr: Dibromofluoromethane	*97.2*			*77-123*	*%REC*	*1*	*03-Aug-2019 20:09*
Surr: Toluene-d8	*104*			*82-127*	*%REC*	*1*	*03-Aug-2019 20:09*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW66D-20190731
Collection Date: 31-Jul-2019 10:45

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 05-Aug-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	06-Aug-2019 13:29
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	06-Aug-2019 13:29
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	06-Aug-2019 13:29
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	06-Aug-2019 13:29
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	06-Aug-2019 13:29
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	06-Aug-2019 13:29
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	06-Aug-2019 13:29
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	06-Aug-2019 13:29
Acenaphthene	U		0.000027	0.00010	mg/L	1	06-Aug-2019 13:29
Acenaphthylene	U		0.000015	0.00010	mg/L	1	06-Aug-2019 13:29
Anthracene	U		0.000014	0.00010	mg/L	1	06-Aug-2019 13:29
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	06-Aug-2019 13:29
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	06-Aug-2019 13:29
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	06-Aug-2019 13:29
Bis(2-ethylhexyl)phthalate	**0.00022**		**0.000037**	**0.00020**	**mg/L**	1	06-Aug-2019 13:29
Chrysene	U		0.000021	0.00010	mg/L	1	06-Aug-2019 13:29
Dibenzofuran	U		0.000020	0.00010	mg/L	1	06-Aug-2019 13:29
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	06-Aug-2019 13:29
Fluoranthene	U		0.000010	0.00010	mg/L	1	06-Aug-2019 13:29
Fluorene	U		0.000030	0.00010	mg/L	1	06-Aug-2019 13:29
Naphthalene	U		0.000020	0.00010	mg/L	1	06-Aug-2019 13:29
Nitrobenzene	U		0.000024	0.00020	mg/L	1	06-Aug-2019 13:29
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	06-Aug-2019 13:29
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	06-Aug-2019 13:29
Phenanthrene	U		0.000021	0.00010	mg/L	1	06-Aug-2019 13:29
Phenol	U		0.000035	0.00020	mg/L	1	06-Aug-2019 13:29
Pyrene	U		0.000019	0.00010	mg/L	1	06-Aug-2019 13:29
Surr: 2,4,6-Tribromophenol	*82.7*			*34-129*	*%REC*	*1*	*06-Aug-2019 13:29*
Surr: 2-Fluorobiphenyl	*89.2*			*40-125*	*%REC*	*1*	*06-Aug-2019 13:29*
Surr: 2-Fluorophenol	*80.6*			*20-120*	*%REC*	*1*	*06-Aug-2019 13:29*
Surr: 4-Terphenyl-d14	*79.4*			*40-135*	*%REC*	*1*	*06-Aug-2019 13:29*
Surr: Nitrobenzene-d5	*91.2*			*41-120*	*%REC*	*1*	*06-Aug-2019 13:29*
Surr: Phenol-d6	*84.8*			*20-120*	*%REC*	*1*	*06-Aug-2019 13:29*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 06-Aug-2019		Analyst: JHD
Arsenic	**0.00124**	J	**0.000400**	**0.00200**	**mg/L**	1	08-Aug-2019 00:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW59D-20190731
Collection Date: 31-Jul-2019 11:50

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	03-Aug-2019 20:34
Benzene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 20:34
Chlorobenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 20:34
Ethylbenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 20:34
Methylene chloride		U	0.0010	0.0020	mg/L	1	03-Aug-2019 20:34
Toluene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 20:34
Xylenes, Total		U	0.00030	0.0010	mg/L	1	03-Aug-2019 20:34
Surr: 1,2-Dichloroethane-d4	*97.2*			*70-126*	*%REC*	*1*	*03-Aug-2019 20:34*
Surr: 4-Bromofluorobenzene	*96.4*			*81-113*	*%REC*	*1*	*03-Aug-2019 20:34*
Surr: Dibromofluoromethane	*95.5*			*77-123*	*%REC*	*1*	*03-Aug-2019 20:34*
Surr: Toluene-d8	*105*			*82-127*	*%REC*	*1*	*03-Aug-2019 20:34*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW59D-20190731
Collection Date: 31-Jul-2019 11:50

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 05-Aug-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	06-Aug-2019 13:48
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	06-Aug-2019 13:48
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	06-Aug-2019 13:48
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	06-Aug-2019 13:48
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	06-Aug-2019 13:48
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	06-Aug-2019 13:48
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	06-Aug-2019 13:48
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	06-Aug-2019 13:48
Acenaphthene	U		0.000027	0.00010	mg/L	1	06-Aug-2019 13:48
Acenaphthylene	U		0.000015	0.00010	mg/L	1	06-Aug-2019 13:48
Anthracene	U		0.000014	0.00010	mg/L	1	06-Aug-2019 13:48
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	06-Aug-2019 13:48
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	06-Aug-2019 13:48
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	06-Aug-2019 13:48
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	06-Aug-2019 13:48
Chrysene	U		0.000021	0.00010	mg/L	1	06-Aug-2019 13:48
Dibenzofuran	U		0.000020	0.00010	mg/L	1	06-Aug-2019 13:48
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	06-Aug-2019 13:48
Fluoranthene	U		0.000010	0.00010	mg/L	1	06-Aug-2019 13:48
Fluorene	U		0.000030	0.00010	mg/L	1	06-Aug-2019 13:48
Naphthalene	U		0.000020	0.00010	mg/L	1	06-Aug-2019 13:48
Nitrobenzene	U		0.000024	0.00020	mg/L	1	06-Aug-2019 13:48
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	06-Aug-2019 13:48
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	06-Aug-2019 13:48
Phenanthrene	U		0.000021	0.00010	mg/L	1	06-Aug-2019 13:48
Phenol	**0.00011**	J	**0.000035**	**0.00020**	**mg/L**	1	06-Aug-2019 13:48
Pyrene	U		0.000019	0.00010	mg/L	1	06-Aug-2019 13:48
Surr: 2,4,6-Tribromophenol	*87.8*			*34-129*	*%REC*	*1*	*06-Aug-2019 13:48*
Surr: 2-Fluorobiphenyl	*78.4*			*40-125*	*%REC*	*1*	*06-Aug-2019 13:48*
Surr: 2-Fluorophenol	*68.8*			*20-120*	*%REC*	*1*	*06-Aug-2019 13:48*
Surr: 4-Terphenyl-d14	*83.5*			*40-135*	*%REC*	*1*	*06-Aug-2019 13:48*
Surr: Nitrobenzene-d5	*81.9*			*41-120*	*%REC*	*1*	*06-Aug-2019 13:48*
Surr: Phenol-d6	*74.2*			*20-120*	*%REC*	*1*	*06-Aug-2019 13:48*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 06-Aug-2019		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	08-Aug-2019 00:13

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19080113
Sample ID: WG-1620-FD05-20190731
Lab ID:HS19080113-06
Collection Date: 31-Jul-2019 11:50
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	03-Aug-2019 20:58
Benzene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 20:58
Chlorobenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 20:58
Ethylbenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 20:58
Methylene chloride		U	0.0010	0.0020	mg/L	1	03-Aug-2019 20:58
Toluene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 20:58
Xylenes, Total		U	0.00030	0.0010	mg/L	1	03-Aug-2019 20:58
Surr: 1,2-Dichloroethane-d4	*97.7*			*70-126*	*%REC*	*1*	*03-Aug-2019 20:58*
Surr: 4-Bromofluorobenzene	*96.0*			*81-113*	*%REC*	*1*	*03-Aug-2019 20:58*
Surr: Dibromofluoromethane	*98.9*			*77-123*	*%REC*	*1*	*03-Aug-2019 20:58*
Surr: Toluene-d8	*103*			*82-127*	*%REC*	*1*	*03-Aug-2019 20:58*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD05-20190731
Collection Date: 31-Jul-2019 11:50

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 05-Aug-2019		Analyst: GEY
1,2-Diphenylhydrazine		U	0.000021	0.00020	mg/L	1	06-Aug-2019 14:07
2,4-Dimethylphenol		U	0.000040	0.00020	mg/L	1	06-Aug-2019 14:07
2,4-Dinitrotoluene		U	0.000058	0.00020	mg/L	1	06-Aug-2019 14:07
2,6-Dinitrotoluene		U	0.000042	0.00020	mg/L	1	06-Aug-2019 14:07
2-Chloronaphthalene		U	0.000021	0.00020	mg/L	1	06-Aug-2019 14:07
2-Methylnaphthalene		U	0.000019	0.00010	mg/L	1	06-Aug-2019 14:07
4,6-Dinitro-2-methylphenol		U	0.000020	0.00020	mg/L	1	06-Aug-2019 14:07
4-Nitrophenol		U	0.000047	0.0010	mg/L	1	06-Aug-2019 14:07
Acenaphthene		U	0.000027	0.00010	mg/L	1	06-Aug-2019 14:07
Acenaphthylene		U	0.000015	0.00010	mg/L	1	06-Aug-2019 14:07
Anthracene		U	0.000014	0.00010	mg/L	1	06-Aug-2019 14:07
Benz(a)anthracene		U	0.000050	0.00010	mg/L	1	06-Aug-2019 14:07
Benzo(a)pyrene		U	0.000020	0.00010	mg/L	1	06-Aug-2019 14:07
Bis(2-chloroethoxy)methane		U	0.000030	0.00020	mg/L	1	06-Aug-2019 14:07
Bis(2-ethylhexyl)phthalate		U	0.000037	0.00020	mg/L	1	06-Aug-2019 14:07
Chrysene		U	0.000021	0.00010	mg/L	1	06-Aug-2019 14:07
Dibenzofuran		U	0.000020	0.00010	mg/L	1	06-Aug-2019 14:07
Di-n-butyl phthalate		U	0.000020	0.00020	mg/L	1	06-Aug-2019 14:07
Fluoranthene		U	0.000010	0.00010	mg/L	1	06-Aug-2019 14:07
Fluorene		U	0.000030	0.00010	mg/L	1	06-Aug-2019 14:07
Naphthalene		U	0.000020	0.00010	mg/L	1	06-Aug-2019 14:07
Nitrobenzene		U	0.000024	0.00020	mg/L	1	06-Aug-2019 14:07
N-Nitrosodiphenylamine		U	0.000025	0.00020	mg/L	1	06-Aug-2019 14:07
Pentachlorophenol		U	0.000079	0.00020	mg/L	1	06-Aug-2019 14:07
Phenanthrene		U	0.000021	0.00010	mg/L	1	06-Aug-2019 14:07
Phenol		U	0.000035	0.00020	mg/L	1	06-Aug-2019 14:07
Pyrene		U	0.000019	0.00010	mg/L	1	06-Aug-2019 14:07
Surr: 2,4,6-Tribromophenol	*82.7*			*34-129*	*%REC*	*1*	*06-Aug-2019 14:07*
Surr: 2-Fluorobiphenyl	*79.6*			*40-125*	*%REC*	*1*	*06-Aug-2019 14:07*
Surr: 2-Fluorophenol	*72.8*			*20-120*	*%REC*	*1*	*06-Aug-2019 14:07*
Surr: 4-Terphenyl-d14	*83.9*			*40-135*	*%REC*	*1*	*06-Aug-2019 14:07*
Surr: Nitrobenzene-d5	*83.3*			*41-120*	*%REC*	*1*	*06-Aug-2019 14:07*
Surr: Phenol-d6	*77.9*			*20-120*	*%REC*	*1*	*06-Aug-2019 14:07*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 07-Aug-2019		Analyst: JC
Arsenic	**0.000502**	J	**0.000400**	**0.00200**	**mg/L**	1	07-Aug-2019 18:26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW22AR-20190731
Collection Date: 31-Jul-2019 13:05

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	04-Aug-2019 01:54
Benzene		U	0.00020	0.0010	mg/L	1	04-Aug-2019 01:54
Chlorobenzene		U	0.00030	0.0010	mg/L	1	04-Aug-2019 01:54
Ethylbenzene		U	0.00030	0.0010	mg/L	1	04-Aug-2019 01:54
Methylene chloride		U	0.0010	0.0020	mg/L	1	04-Aug-2019 01:54
Toluene		U	0.00020	0.0010	mg/L	1	04-Aug-2019 01:54
Xylenes, Total		U	0.00030	0.0010	mg/L	1	04-Aug-2019 01:54
Surr: 1,2-Dichloroethane-d4	*95.5*			*70-126*	*%REC*	*1*	*04-Aug-2019 01:54*
Surr: 4-Bromofluorobenzene	*99.1*			*81-113*	*%REC*	*1*	*04-Aug-2019 01:54*
Surr: Dibromofluoromethane	*95.4*			*77-123*	*%REC*	*1*	*04-Aug-2019 01:54*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*04-Aug-2019 01:54*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW22AR-20190731
Collection Date: 31-Jul-2019 13:05

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 05-Aug-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	06-Aug-2019 14:26
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	06-Aug-2019 14:26
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	06-Aug-2019 14:26
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	06-Aug-2019 14:26
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	06-Aug-2019 14:26
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	06-Aug-2019 14:26
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	06-Aug-2019 14:26
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	06-Aug-2019 14:26
Acenaphthene	U		0.000027	0.00010	mg/L	1	06-Aug-2019 14:26
Acenaphthylene	U		0.000015	0.00010	mg/L	1	06-Aug-2019 14:26
Anthracene	U		0.000014	0.00010	mg/L	1	06-Aug-2019 14:26
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	06-Aug-2019 14:26
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	06-Aug-2019 14:26
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	06-Aug-2019 14:26
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	06-Aug-2019 14:26
Chrysene	U		0.000021	0.00010	mg/L	1	06-Aug-2019 14:26
Dibenzofuran	U		0.000020	0.00010	mg/L	1	06-Aug-2019 14:26
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	06-Aug-2019 14:26
Fluoranthene	U		0.000010	0.00010	mg/L	1	06-Aug-2019 14:26
Fluorene	U		0.000030	0.00010	mg/L	1	06-Aug-2019 14:26
Naphthalene	U		0.000020	0.00010	mg/L	1	06-Aug-2019 14:26
Nitrobenzene	U		0.000024	0.00020	mg/L	1	06-Aug-2019 14:26
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	06-Aug-2019 14:26
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	06-Aug-2019 14:26
Phenanthrene	U		0.000021	0.00010	mg/L	1	06-Aug-2019 14:26
Phenol	U		0.000035	0.00020	mg/L	1	06-Aug-2019 14:26
Pyrene	U		0.000019	0.00010	mg/L	1	06-Aug-2019 14:26
Surr: 2,4,6-Tribromophenol	*85.8*			*34-129*	*%REC*	*1*	*06-Aug-2019 14:26*
Surr: 2-Fluorobiphenyl	*90.7*			*40-125*	*%REC*	*1*	*06-Aug-2019 14:26*
Surr: 2-Fluorophenol	*82.7*			*20-120*	*%REC*	*1*	*06-Aug-2019 14:26*
Surr: 4-Terphenyl-d14	*83.0*			*40-135*	*%REC*	*1*	*06-Aug-2019 14:26*
Surr: Nitrobenzene-d5	*93.4*			*41-120*	*%REC*	*1*	*06-Aug-2019 14:26*
Surr: Phenol-d6	*85.7*			*20-120*	*%REC*	*1*	*06-Aug-2019 14:26*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 07-Aug-2019		Analyst: JC
Arsenic	**0.000481**	J	**0.000400**	**0.00200**	**mg/L**	1	07-Aug-2019 18:28

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW22BR-20190731
Collection Date: 31-Jul-2019 13:50

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	04-Aug-2019 04:02
Benzene		U	0.00020	0.0010	mg/L	1	04-Aug-2019 04:02
Chlorobenzene		U	0.00030	0.0010	mg/L	1	04-Aug-2019 04:02
Ethylbenzene		U	0.00030	0.0010	mg/L	1	04-Aug-2019 04:02
Methylene chloride		U	0.0010	0.0020	mg/L	1	04-Aug-2019 04:02
Toluene		U	0.00020	0.0010	mg/L	1	04-Aug-2019 04:02
Xylenes, Total		U	0.00030	0.0010	mg/L	1	04-Aug-2019 04:02
Surr: 1,2-Dichloroethane-d4	*95.6*			*70-126*	*%REC*	*1*	*04-Aug-2019 04:02*
Surr: 4-Bromofluorobenzene	*96.4*			*81-113*	*%REC*	*1*	*04-Aug-2019 04:02*
Surr: Dibromofluoromethane	*98.5*			*77-123*	*%REC*	*1*	*04-Aug-2019 04:02*
Surr: Toluene-d8	*105*			*82-127*	*%REC*	*1*	*04-Aug-2019 04:02*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW22BR-20190731
Collection Date: 31-Jul-2019 13:50

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 05-Aug-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	06-Aug-2019 18:33
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	06-Aug-2019 18:33
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	06-Aug-2019 18:33
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	06-Aug-2019 18:33
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	06-Aug-2019 18:33
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	06-Aug-2019 18:33
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	06-Aug-2019 18:33
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	06-Aug-2019 18:33
Acenaphthene	U		0.000027	0.00010	mg/L	1	06-Aug-2019 18:33
Acenaphthylene	U		0.000015	0.00010	mg/L	1	06-Aug-2019 18:33
Anthracene	U		0.000014	0.00010	mg/L	1	06-Aug-2019 18:33
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	06-Aug-2019 18:33
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	06-Aug-2019 18:33
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	06-Aug-2019 18:33
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	06-Aug-2019 18:33
Chrysene	U		0.000021	0.00010	mg/L	1	06-Aug-2019 18:33
Dibenzofuran	U		0.000020	0.00010	mg/L	1	06-Aug-2019 18:33
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	06-Aug-2019 18:33
Fluoranthene	U		0.000010	0.00010	mg/L	1	06-Aug-2019 18:33
Fluorene	U		0.000030	0.00010	mg/L	1	06-Aug-2019 18:33
Naphthalene	U		0.000020	0.00010	mg/L	1	06-Aug-2019 18:33
Nitrobenzene	U		0.000024	0.00020	mg/L	1	06-Aug-2019 18:33
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	06-Aug-2019 18:33
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	06-Aug-2019 18:33
Phenanthrene	U		0.000021	0.00010	mg/L	1	06-Aug-2019 18:33
Phenol	**0.00069**		**0.000035**	**0.00020**	**mg/L**	1	06-Aug-2019 18:33
Pyrene	U		0.000019	0.00010	mg/L	1	06-Aug-2019 18:33
Surr: 2,4,6-Tribromophenol	*59.2*			*34-129*	*%REC*	*1*	*06-Aug-2019 18:33*
Surr: 2-Fluorobiphenyl	*82.9*			*40-125*	*%REC*	*1*	*06-Aug-2019 18:33*
Surr: 2-Fluorophenol	*68.9*			*20-120*	*%REC*	*1*	*06-Aug-2019 18:33*
Surr: 4-Terphenyl-d14	*86.5*			*40-135*	*%REC*	*1*	*06-Aug-2019 18:33*
Surr: Nitrobenzene-d5	*65.3*			*41-120*	*%REC*	*1*	*06-Aug-2019 18:33*
Surr: Phenol-d6	*72.2*			*20-120*	*%REC*	*1*	*06-Aug-2019 18:33*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 07-Aug-2019		Analyst: JC
Arsenic	**0.000559**	J	**0.000400**	**0.00200**	**mg/L**	1	07-Aug-2019 18:30

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW88C-20190731
Collection Date: 31-Jul-2019 15:45

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	04-Aug-2019 04:27
Benzene		U	0.00020	0.0010	mg/L	1	04-Aug-2019 04:27
Chlorobenzene		U	0.00030	0.0010	mg/L	1	04-Aug-2019 04:27
Ethylbenzene		U	0.00030	0.0010	mg/L	1	04-Aug-2019 04:27
Methylene chloride		U	0.0010	0.0020	mg/L	1	04-Aug-2019 04:27
Toluene		U	0.00020	0.0010	mg/L	1	04-Aug-2019 04:27
Xylenes, Total		U	0.00030	0.0010	mg/L	1	04-Aug-2019 04:27
Surr: 1,2-Dichloroethane-d4	*93.8*			*70-126*	*%REC*	*1*	*04-Aug-2019 04:27*
Surr: 4-Bromofluorobenzene	*100*			*81-113*	*%REC*	*1*	*04-Aug-2019 04:27*
Surr: Dibromofluoromethane	*94.0*			*77-123*	*%REC*	*1*	*04-Aug-2019 04:27*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*04-Aug-2019 04:27*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW88C-20190731
Collection Date: 31-Jul-2019 15:45

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 05-Aug-2019		Analyst: GEY
1,2-Diphenylhydrazine		U	0.000021	0.00020	mg/L	1	06-Aug-2019 18:52
2,4-Dimethylphenol		U	0.000040	0.00020	mg/L	1	06-Aug-2019 18:52
2,4-Dinitrotoluene		U	0.000058	0.00020	mg/L	1	06-Aug-2019 18:52
2,6-Dinitrotoluene		U	0.000042	0.00020	mg/L	1	06-Aug-2019 18:52
2-Chloronaphthalene		U	0.000021	0.00020	mg/L	1	06-Aug-2019 18:52
2-Methylnaphthalene		U	0.000019	0.00010	mg/L	1	06-Aug-2019 18:52
4,6-Dinitro-2-methylphenol		U	0.000020	0.00020	mg/L	1	06-Aug-2019 18:52
4-Nitrophenol		U	0.000047	0.0010	mg/L	1	06-Aug-2019 18:52
Acenaphthene		U	0.000027	0.00010	mg/L	1	06-Aug-2019 18:52
Acenaphthylene		U	0.000015	0.00010	mg/L	1	06-Aug-2019 18:52
Anthracene		U	0.000014	0.00010	mg/L	1	06-Aug-2019 18:52
Benz(a)anthracene		U	0.000050	0.00010	mg/L	1	06-Aug-2019 18:52
Benzo(a)pyrene		U	0.000020	0.00010	mg/L	1	06-Aug-2019 18:52
Bis(2-chloroethoxy)methane		U	0.000030	0.00020	mg/L	1	06-Aug-2019 18:52
Bis(2-ethylhexyl)phthalate		U	0.000037	0.00020	mg/L	1	06-Aug-2019 18:52
Chrysene		U	0.000021	0.00010	mg/L	1	06-Aug-2019 18:52
Dibenzofuran		U	0.000020	0.00010	mg/L	1	06-Aug-2019 18:52
Di-n-butyl phthalate		U	0.000020	0.00020	mg/L	1	06-Aug-2019 18:52
Fluoranthene		U	0.000010	0.00010	mg/L	1	06-Aug-2019 18:52
Fluorene		U	0.000030	0.00010	mg/L	1	06-Aug-2019 18:52
Naphthalene		U	0.000020	0.00010	mg/L	1	06-Aug-2019 18:52
Nitrobenzene		U	0.000024	0.00020	mg/L	1	06-Aug-2019 18:52
N-Nitrosodiphenylamine		U	0.000025	0.00020	mg/L	1	06-Aug-2019 18:52
Pentachlorophenol		U	0.000079	0.00020	mg/L	1	06-Aug-2019 18:52
Phenanthrene		U	0.000021	0.00010	mg/L	1	06-Aug-2019 18:52
Phenol	**0.00055**		**0.000035**	**0.00020**	**mg/L**	1	06-Aug-2019 18:52
Pyrene		U	0.000019	0.00010	mg/L	1	06-Aug-2019 18:52
Surr: 2,4,6-Tribromophenol	*46.6*			*34-129*	*%REC*	*1*	*06-Aug-2019 18:52*
Surr: 2-Fluorobiphenyl	*67.3*			*40-125*	*%REC*	*1*	*06-Aug-2019 18:52*
Surr: 2-Fluorophenol	*65.1*			*20-120*	*%REC*	*1*	*06-Aug-2019 18:52*
Surr: 4-Terphenyl-d14	*91.0*			*40-135*	*%REC*	*1*	*06-Aug-2019 18:52*
Surr: Nitrobenzene-d5	*58.8*			*41-120*	*%REC*	*1*	*06-Aug-2019 18:52*
Surr: Phenol-d6	*66.3*			*20-120*	*%REC*	*1*	*06-Aug-2019 18:52*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 07-Aug-2019		Analyst: JC
Arsenic		U	0.000400	0.00200	mg/L	1	07-Aug-2019 18:32

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW67B-20190731
Collection Date: 31-Jul-2019 16:45

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	03-Aug-2019 14:49
Benzene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 14:49
Chlorobenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 14:49
Ethylbenzene		U	0.00030	0.0010	mg/L	1	03-Aug-2019 14:49
Methylene chloride		U	0.0010	0.0020	mg/L	1	03-Aug-2019 14:49
Toluene		U	0.00020	0.0010	mg/L	1	03-Aug-2019 14:49
Xylenes, Total		U	0.00030	0.0010	mg/L	1	03-Aug-2019 14:49
Surr: 1,2-Dichloroethane-d4	*99.6*			*70-126*	*%REC*	*1*	*03-Aug-2019 14:49*
Surr: 4-Bromofluorobenzene	*94.2*			*81-113*	*%REC*	*1*	*03-Aug-2019 14:49*
Surr: Dibromofluoromethane	*97.0*			*77-123*	*%REC*	*1*	*03-Aug-2019 14:49*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*03-Aug-2019 14:49*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW67B-20190731
Collection Date: 31-Jul-2019 16:45

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 05-Aug-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	06-Aug-2019 19:11
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	06-Aug-2019 19:11
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	06-Aug-2019 19:11
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	06-Aug-2019 19:11
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	06-Aug-2019 19:11
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	06-Aug-2019 19:11
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	06-Aug-2019 19:11
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	06-Aug-2019 19:11
Acenaphthene	U		0.000027	0.00010	mg/L	1	06-Aug-2019 19:11
Acenaphthylene	U		0.000015	0.00010	mg/L	1	06-Aug-2019 19:11
Anthracene	U		0.000014	0.00010	mg/L	1	06-Aug-2019 19:11
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	06-Aug-2019 19:11
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	06-Aug-2019 19:11
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	06-Aug-2019 19:11
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	06-Aug-2019 19:11
Chrysene	U		0.000021	0.00010	mg/L	1	06-Aug-2019 19:11
Dibenzofuran	U		0.000020	0.00010	mg/L	1	06-Aug-2019 19:11
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	06-Aug-2019 19:11
Fluoranthene	U		0.000010	0.00010	mg/L	1	06-Aug-2019 19:11
Fluorene	U		0.000030	0.00010	mg/L	1	06-Aug-2019 19:11
Naphthalene	**0.000079**	J	**0.000020**	**0.00010**	**mg/L**	1	06-Aug-2019 19:11
Nitrobenzene	U		0.000024	0.00020	mg/L	1	06-Aug-2019 19:11
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	06-Aug-2019 19:11
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	06-Aug-2019 19:11
Phenanthrene	U		0.000021	0.00010	mg/L	1	06-Aug-2019 19:11
Phenol	U		0.000035	0.00020	mg/L	1	06-Aug-2019 19:11
Pyrene	U		0.000019	0.00010	mg/L	1	06-Aug-2019 19:11
Surr: 2,4,6-Tribromophenol	*66.1*			*34-129*	*%REC*	*1*	*06-Aug-2019 19:11*
Surr: 2-Fluorobiphenyl	*72.3*			*40-125*	*%REC*	*1*	*06-Aug-2019 19:11*
Surr: 2-Fluorophenol	*63.4*			*20-120*	*%REC*	*1*	*06-Aug-2019 19:11*
Surr: 4-Terphenyl-d14	*86.4*			*40-135*	*%REC*	*1*	*06-Aug-2019 19:11*
Surr: Nitrobenzene-d5	*58.1*			*41-120*	*%REC*	*1*	*06-Aug-2019 19:11*
Surr: Phenol-d6	*68.3*			*20-120*	*%REC*	*1*	*06-Aug-2019 19:11*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 07-Aug-2019		Analyst: JC
Arsenic	**0.000494**	J	**0.000400**	**0.00200**	**mg/L**	1	07-Aug-2019 18:34

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19080113
Sample ID: WG-1620-MW49A-20190731
Lab ID:HS19080113-11
Collection Date: 31-Jul-2019 17:45
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	04-Aug-2019 04:51
Benzene		U	0.00020	0.0010	mg/L	1	04-Aug-2019 04:51
Chlorobenzene		U	0.00030	0.0010	mg/L	1	04-Aug-2019 04:51
Ethylbenzene		U	0.00030	0.0010	mg/L	1	04-Aug-2019 04:51
Methylene chloride		U	0.0010	0.0020	mg/L	1	04-Aug-2019 04:51
Toluene		U	0.00020	0.0010	mg/L	1	04-Aug-2019 04:51
Vinyl chloride		U	0.00020	0.0010	mg/L	1	04-Aug-2019 04:51
Xylenes, Total		U	0.00030	0.0010	mg/L	1	04-Aug-2019 04:51
Surr: 1,2-Dichloroethane-d4	*95.1*			*70-126*	*%REC*	*1*	*04-Aug-2019 04:51*
Surr: 4-Bromofluorobenzene	*95.1*			*81-113*	*%REC*	*1*	*04-Aug-2019 04:51*
Surr: Dibromofluoromethane	*94.4*			*77-123*	*%REC*	*1*	*04-Aug-2019 04:51*
Surr: Toluene-d8	*103*			*82-127*	*%REC*	*1*	*04-Aug-2019 04:51*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW49A-20190731
Collection Date: 31-Jul-2019 17:45

ANALYTICAL REPORT
WorkOrder:HS19080113
Lab ID:HS19080113-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 05-Aug-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	06-Aug-2019 19:30
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	06-Aug-2019 19:30
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	06-Aug-2019 19:30
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	06-Aug-2019 19:30
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	06-Aug-2019 19:30
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	06-Aug-2019 19:30
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	06-Aug-2019 19:30
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	06-Aug-2019 19:30
Acenaphthene	U		0.000027	0.00010	mg/L	1	06-Aug-2019 19:30
Acenaphthylene	U		0.000015	0.00010	mg/L	1	06-Aug-2019 19:30
Anthracene	U		0.000014	0.00010	mg/L	1	06-Aug-2019 19:30
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	06-Aug-2019 19:30
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	06-Aug-2019 19:30
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	06-Aug-2019 19:30
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	06-Aug-2019 19:30
Chrysene	U		0.000021	0.00010	mg/L	1	06-Aug-2019 19:30
Dibenzofuran	U		0.000020	0.00010	mg/L	1	06-Aug-2019 19:30
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	06-Aug-2019 19:30
Fluoranthene	U		0.000010	0.00010	mg/L	1	06-Aug-2019 19:30
Fluorene	U		0.000030	0.00010	mg/L	1	06-Aug-2019 19:30
Naphthalene	U		0.000020	0.00010	mg/L	1	06-Aug-2019 19:30
Nitrobenzene	U		0.000024	0.00020	mg/L	1	06-Aug-2019 19:30
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	06-Aug-2019 19:30
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	06-Aug-2019 19:30
Phenanthrene	U		0.000021	0.00010	mg/L	1	06-Aug-2019 19:30
Phenol	**0.00064**		**0.000035**	**0.00020**	**mg/L**	1	06-Aug-2019 19:30
Pyrene	U		0.000019	0.00010	mg/L	1	06-Aug-2019 19:30
Surr: 2,4,6-Tribromophenol	*56.2*			*34-129*	*%REC*	*1*	*06-Aug-2019 19:30*
Surr: 2-Fluorobiphenyl	*73.1*			*40-125*	*%REC*	*1*	*06-Aug-2019 19:30*
Surr: 2-Fluorophenol	*65.3*			*20-120*	*%REC*	*1*	*06-Aug-2019 19:30*
Surr: 4-Terphenyl-d14	*87.7*			*40-135*	*%REC*	*1*	*06-Aug-2019 19:30*
Surr: Nitrobenzene-d5	*58.7*			*41-120*	*%REC*	*1*	*06-Aug-2019 19:30*
Surr: Phenol-d6	*67.2*			*20-120*	*%REC*	*1*	*06-Aug-2019 19:30*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 07-Aug-2019		Analyst: JC
Arsenic	**0.000658**	J	**0.000400**	**0.00200**	**mg/L**	1	07-Aug-2019 18:50

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS19080113
Sample ID: WG-1620-TB06-20190731
Lab ID:HS19080113-12
Collection Date: 31-Jul-2019 00:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	04-Aug-2019 00:40
Benzene		U	0.00020	0.0010	mg/L	1	04-Aug-2019 00:40
Chlorobenzene		U	0.00030	0.0010	mg/L	1	04-Aug-2019 00:40
Ethylbenzene		U	0.00030	0.0010	mg/L	1	04-Aug-2019 00:40
Methylene chloride		U	0.0010	0.0020	mg/L	1	04-Aug-2019 00:40
Toluene		U	0.00020	0.0010	mg/L	1	04-Aug-2019 00:40
Vinyl chloride		U	0.00020	0.0010	mg/L	1	04-Aug-2019 00:40
Xylenes, Total		U	0.00030	0.0010	mg/L	1	04-Aug-2019 00:40
Surr: 1,2-Dichloroethane-d4	*98.8*			*70-126*	*%REC*	*1*	*04-Aug-2019 00:40*
Surr: 4-Bromofluorobenzene	*94.4*			*81-113*	*%REC*	*1*	*04-Aug-2019 00:40*
Surr: Dibromofluoromethane	*98.3*			*77-123*	*%REC*	*1*	*04-Aug-2019 00:40*
Surr: Toluene-d8	*105*			*82-127*	*%REC*	*1*	*04-Aug-2019 00:40*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

WEIGHT LOG

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

Batch ID: 143759 **Method:** LOW-LEVEL SEMIVOLATILES BY 8270D **Prep:** 3510_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19080113-01	1	1000	1 (mL)	0.001
HS19080113-02	1	1000	1 (mL)	0.001
HS19080113-03	1	1000	1 (mL)	0.001
HS19080113-04	1	1000	1 (mL)	0.001
HS19080113-05	1	1000	1 (mL)	0.001
HS19080113-06	1	1000	1 (mL)	0.001
HS19080113-07	1	1000	1 (mL)	0.001
HS19080113-08	1	1000	1 (mL)	0.001
HS19080113-09	1	1000	1 (mL)	0.001
HS19080113-10	1	1000	1 (mL)	0.001
HS19080113-11	1	1000	1 (mL)	0.001

Batch ID: 143819 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19080113-01	1	10	10 (mL)	1
HS19080113-02	1	10	10 (mL)	1
HS19080113-03	1	10	10 (mL)	1
HS19080113-04	1	10	10 (mL)	1
HS19080113-05	1	10	10 (mL)	1

Batch ID: 143865 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19080113-06	1	10	10 (mL)	1
HS19080113-07	1	10	10 (mL)	1
HS19080113-08	1	10	10 (mL)	1
HS19080113-09	1	10	10 (mL)	1
HS19080113-10	1	10	10 (mL)	1
HS19080113-11	1	10	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: 143759 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS19080113-01	WG-1620-MW36D-20190731	31 Jul 2019 07:40		05 Aug 2019 09:58	05 Aug 2019 19:43	1
HS19080113-02	WG-1620-MW38A-20190731	31 Jul 2019 08:35		05 Aug 2019 09:58	05 Aug 2019 20:02	1
HS19080113-03	WG-1620-MW65D-20190731	31 Jul 2019 09:45		05 Aug 2019 09:58	05 Aug 2019 20:21	1
HS19080113-04	WG-1620-MW66D-20190731	31 Jul 2019 10:45		05 Aug 2019 09:58	06 Aug 2019 13:29	1
HS19080113-05	WG-1620-MW59D-20190731	31 Jul 2019 11:50		05 Aug 2019 09:58	06 Aug 2019 13:48	1
HS19080113-06	WG-1620-FD05-20190731	31 Jul 2019 11:50		05 Aug 2019 09:58	06 Aug 2019 14:07	1
HS19080113-07	WG-1620-MW22AR-20190731	31 Jul 2019 13:05		05 Aug 2019 09:58	06 Aug 2019 14:26	1
HS19080113-08	WG-1620-MW22BR-20190731	31 Jul 2019 13:50		05 Aug 2019 09:58	06 Aug 2019 18:33	1
HS19080113-09	WG-1620-MW88C-20190731	31 Jul 2019 15:45		05 Aug 2019 09:58	06 Aug 2019 18:52	1
HS19080113-10	WG-1620-MW67B-20190731	31 Jul 2019 16:45		05 Aug 2019 09:58	06 Aug 2019 19:11	1
HS19080113-11	WG-1620-MW49A-20190731	31 Jul 2019 17:45		05 Aug 2019 09:58	06 Aug 2019 19:30	1
Batch ID: 143819 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS19080113-01	WG-1620-MW36D-20190731	31 Jul 2019 07:40		06 Aug 2019 09:00	08 Aug 2019 00:06	1
HS19080113-02	WG-1620-MW38A-20190731	31 Jul 2019 08:35		06 Aug 2019 09:00	08 Aug 2019 00:08	1
HS19080113-03	WG-1620-MW65D-20190731	31 Jul 2019 09:45		06 Aug 2019 09:00	07 Aug 2019 23:50	1
HS19080113-04	WG-1620-MW66D-20190731	31 Jul 2019 10:45		06 Aug 2019 09:00	08 Aug 2019 00:10	1
HS19080113-05	WG-1620-MW59D-20190731	31 Jul 2019 11:50		06 Aug 2019 09:00	08 Aug 2019 00:13	1
Batch ID: 143865 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS19080113-06	WG-1620-FD05-20190731	31 Jul 2019 11:50		07 Aug 2019 09:00	07 Aug 2019 18:26	1
HS19080113-07	WG-1620-MW22AR-20190731	31 Jul 2019 13:05		07 Aug 2019 09:00	07 Aug 2019 18:28	1
HS19080113-08	WG-1620-MW22BR-20190731	31 Jul 2019 13:50		07 Aug 2019 09:00	07 Aug 2019 18:30	1
HS19080113-09	WG-1620-MW88C-20190731	31 Jul 2019 15:45		07 Aug 2019 09:00	07 Aug 2019 18:32	1
HS19080113-10	WG-1620-MW67B-20190731	31 Jul 2019 16:45		07 Aug 2019 09:00	07 Aug 2019 18:34	1
HS19080113-11	WG-1620-MW49A-20190731	31 Jul 2019 17:45		07 Aug 2019 09:00	07 Aug 2019 18:50	1
Batch ID: R343626 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS19080113-01	WG-1620-MW36D-20190731	31 Jul 2019 07:40			03 Aug 2019 19:20	1
HS19080113-02	WG-1620-MW38A-20190731	31 Jul 2019 08:35			03 Aug 2019 19:44	1
HS19080113-04	WG-1620-MW66D-20190731	31 Jul 2019 10:45			03 Aug 2019 20:09	1
HS19080113-05	WG-1620-MW59D-20190731	31 Jul 2019 11:50			03 Aug 2019 20:34	1
HS19080113-06	WG-1620-FD05-20190731	31 Jul 2019 11:50			03 Aug 2019 20:58	1
HS19080113-10	WG-1620-MW67B-20190731	31 Jul 2019 16:45			03 Aug 2019 14:49	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID: R343632 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS19080113-07	WG-1620-MW22AR-20190731	31 Jul 2019 13:05			04 Aug 2019 01:54	1
HS19080113-08	WG-1620-MW22BR-20190731	31 Jul 2019 13:50			04 Aug 2019 04:02	1
HS19080113-09	WG-1620-MW88C-20190731	31 Jul 2019 15:45			04 Aug 2019 04:27	1
HS19080113-11	WG-1620-MW49A-20190731	31 Jul 2019 17:45			04 Aug 2019 04:51	1
HS19080113-12	WG-1620-TB06-20190731	31 Jul 2019 00:00			04 Aug 2019 00:40	1
Batch ID: R343643 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS19080113-03	WG-1620-MW65D-20190731	31 Jul 2019 09:45			03 Aug 2019 14:42	1

WorkOrder: HS19080113
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000547	0.000400	0.00200

WorkOrder: HS19080113
InstrumentID: ICPMS04
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.00100	0.000579	0.000400	0.00200

WorkOrder: HS19080113
InstrumentID: SV-7
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.00011	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.00010	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000096	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.00012	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.00011	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000049	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000013	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.00013	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000051	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000050	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000055	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000068	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000053	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.00012	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.000086	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000066	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000052	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.000099	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000053	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000052	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000061	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00013	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00012	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000085	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000055	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000094	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000061	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS19080113
InstrumentID: VOA4
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00064	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00060	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00061	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00063	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00077	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00058	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00070	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00062	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

WorkOrder: HS19080113
InstrumentID: VOA2
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00067	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00056	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00059	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00051	0.00030	0.0010
A	Methylene chloride	75-09-2	0.00050	0.00054	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00056	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00052	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

QC BATCH REPORT

Batch ID: 143819 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-143819** Units: **mg/L** Analysis Date: **07-Aug-2019 23:45**
Client ID: Run ID: **ICPMS05_343857** SeqNo: **5201038** PrepDate: **06-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-143819** Units: **mg/L** Analysis Date: **07-Aug-2019 23:48**
Client ID: Run ID: **ICPMS05_343857** SeqNo: **5201039** PrepDate: **06-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04979	0.00200	0.05	0	99.6	80 - 120				

MS Sample ID: **HS19080113-03MS** Units: **mg/L** Analysis Date: **07-Aug-2019 23:55**
Client ID: **WG-1620-MW65D-20190731** Run ID: **ICPMS05_343857** SeqNo: **5201042** PrepDate: **06-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0508	0.00200	0.05	0.001348	98.9	80 - 120				

MSD Sample ID: **HS19080113-03MSD** Units: **mg/L** Analysis Date: **07-Aug-2019 23:57**
Client ID: **WG-1620-MW65D-20190731** Run ID: **ICPMS05_343857** SeqNo: **5201043** PrepDate: **06-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05054	0.00200	0.05	0.001348	98.4	80 - 120	0.0508	0.507	20	

PDS Sample ID: **HS19080113-03PDS** Units: **mg/L** Analysis Date: **07-Aug-2019 23:59**
Client ID: **WG-1620-MW65D-20190731** Run ID: **ICPMS05_343857** SeqNo: **5201044** PrepDate: **06-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1012	0.00200	0.1	0.001348	99.9	75 - 125				

SD Sample ID: **HS19080113-03SD** Units: **mg/L** Analysis Date: **07-Aug-2019 23:52**
Client ID: **WG-1620-MW65D-20190731** Run ID: **ICPMS05_343857** SeqNo: **5201041** PrepDate: **06-Aug-2019** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.001348	0	10	

The following samples were analyzed in this batch: HS19080113-01 HS19080113-02 HS19080113-03 HS19080113-04 HS19080113-05

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

QC BATCH REPORT

Batch ID: 143865 (0) **Instrument: ICPMS04** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-143865** Units: **mg/L** Analysis Date: **07-Aug-2019 18:22**
Client ID: Run ID: **ICPMS04_343800** SeqNo: **5200782** PrepDate: **07-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-143865** Units: **mg/L** Analysis Date: **07-Aug-2019 18:24**
Client ID: Run ID: **ICPMS04_343800** SeqNo: **5200783** PrepDate: **07-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0481	0.00200	0.05	0	96.2	80 - 120				

MS Sample ID: **HS19080113-10MS** Units: **mg/L** Analysis Date: **07-Aug-2019 18:38**
Client ID: **WG-1620-MW67B-20190731** Run ID: **ICPMS04_343800** SeqNo: **5200920** PrepDate: **07-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04857	0.00200	0.05	0.000494	96.2	80 - 120				

MSD Sample ID: **HS19080113-10MSD** Units: **mg/L** Analysis Date: **07-Aug-2019 18:46**
Client ID: **WG-1620-MW67B-20190731** Run ID: **ICPMS04_343800** SeqNo: **5200924** PrepDate: **07-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0492	0.00200	0.05	0.000494	97.4	80 - 120	0.04857	1.28	20	

PDS Sample ID: **HS19080113-10PDS** Units: **mg/L** Analysis Date: **07-Aug-2019 18:48**
Client ID: **WG-1620-MW67B-20190731** Run ID: **ICPMS04_343800** SeqNo: **5200925** PrepDate: **07-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1001	0.00200	0.1	0.000494	99.7	75 - 125				

SD Sample ID: **HS19080113-10SD** Units: **mg/L** Analysis Date: **07-Aug-2019 18:36**
Client ID: **WG-1620-MW67B-20190731** Run ID: **ICPMS04_343800** SeqNo: **5200919** PrepDate: **07-Aug-2019** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.000494	0	10	

The following samples were analyzed in this batch: HS19080113-06 HS19080113-07 HS19080113-08 HS19080113-09 HS19080113-10 HS19080113-11

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

QC BATCH REPORT

Batch ID: 143759 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-143759** Units: **ug/L** Analysis Date: **05-Aug-2019 13:03**
Client ID: Run ID: **SV-7_343719** SeqNo: **5197915** PrepDate: **05-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*2.803*	*0.20*	*5*	*0*	*56.1*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.478*	*0.20*	*5*	*0*	*89.6*	*40 - 125*				
Surr: 2-Fluorophenol	*3.943*	*0.20*	*5*	*0*	*78.9*	*20 - 120*				
Surr: 4-Terphenyl-d14	*3.689*	*0.20*	*5*	*0*	*73.8*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.625*	*0.20*	*5*	*0*	*92.5*	*41 - 120*				
Surr: Phenol-d6	*4.474*	*0.20*	*5*	*0*	*89.5*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

QC BATCH REPORT

Batch ID: 143759 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-143759** Units: **ug/L** Analysis Date: **05-Aug-2019 13:23**
Client ID: Run ID: **SV-7_343719** SeqNo: **5197916** PrepDate: **05-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.596	0.20	5	0	91.9	39 - 127				
2,4-Dimethylphenol	4.075	0.20	5	0	81.5	35 - 120				
2,4-Dinitrotoluene	4.768	0.20	5	0	95.4	50 - 122				
2,6-Dinitrotoluene	4.413	0.20	5	0	88.3	50 - 120				
2-Chloronaphthalene	4.117	0.20	5	0	82.3	50 - 120				
2-Methylnaphthalene	4.007	0.10	5	0	80.1	50 - 120				
4,6-Dinitro-2-methylphenol	3.484	0.20	5	0	69.7	25 - 121				
4-Nitrophenol	3.601	1.0	5	0	72.0	30 - 130				
Acenaphthene	4.114	0.10	5	0	82.3	45 - 120				
Acenaphthylene	4.278	0.10	5	0	85.6	47 - 120				
Anthracene	3.67	0.10	5	0	73.4	45 - 120				
Benz(a)anthracene	3.909	0.10	5	0	78.2	40 - 120				
Benzo(a)pyrene	3.355	0.10	5	0	67.1	45 - 120				
Bis(2-chloroethoxy)methane	3.992	0.20	5	0	79.8	45 - 120				
Bis(2-ethylhexyl)phthalate	4.151	0.20	5	0	83.0	40 - 139				
Chrysene	3.817	0.10	5	0	76.3	43 - 120				
Dibenzofuran	4.17	0.10	5	0	83.4	50 - 120				
Di-n-butyl phthalate	4.069	0.20	5	0	81.4	45 - 123				
Fluoranthene	3.867	0.10	5	0	77.3	45 - 125				
Fluorene	4.032	0.10	5	0	80.6	49 - 120				
Naphthalene	4.025	0.10	5	0	80.5	45 - 120				
Nitrobenzene	4.643	0.20	5	0	92.9	44 - 120				
N-Nitrosodiphenylamine	4.413	0.20	5	0	88.3	40 - 125				
Pentachlorophenol	2.175	0.20	5	0	43.5	19 - 121				
Phenanthrene	3.605	0.10	5	0	72.1	45 - 121				
Phenol	4.362	0.20	5	0	87.2	20 - 124				
Pyrene	4.031	0.10	5	0	80.6	40 - 130				
Surr: 2,4,6-Tribromophenol	*3.862*	*0.20*	*5*	*0*	*77.2*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.737*	*0.20*	*5*	*0*	*94.7*	*40 - 125*				
Surr: 2-Fluorophenol	*4.407*	*0.20*	*5*	*0*	*88.1*	*20 - 120*				
Surr: 4-Terphenyl-d14	*3.975*	*0.20*	*5*	*0*	*79.5*	*40 - 135*				
Surr: Nitrobenzene-d5	*5.04*	*0.20*	*5*	*0*	*101*	*41 - 120*				
Surr: Phenol-d6	*4.673*	*0.20*	*5*	*0*	*93.5*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

QC BATCH REPORT

Batch ID: 143759 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MS Sample ID: **HS19080113-10MS** Units: **ug/L** Analysis Date: **06-Aug-2019 19:49**
Client ID: **WG-1620-MW67B-20190731** Run ID: **SV-7_343746** SeqNo: **5199678** PrepDate: **05-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.613	0.20	5	0	72.3	39 - 127				
2,4-Dimethylphenol	2.852	0.20	5	0	57.0	35 - 120				
2,4-Dinitrotoluene	1.958	0.20	5	0	39.2	50 - 122				S
2,6-Dinitrotoluene	2.042	0.20	5	0	40.8	50 - 120				S
2-Chloronaphthalene	2.937	0.20	5	0	58.7	50 - 120				
2-Methylnaphthalene	4.153	0.10	5	0	83.1	50 - 120				
4,6-Dinitro-2-methylphenol	0.1571	0.20	5	0	3.14	25 - 121				JS
4-Nitrophenol	1.936	1.0	5	0	38.7	30 - 130				
Acenaphthene	2.841	0.10	5	0	56.8	45 - 120				
Acenaphthylene	2.95	0.10	5	0	59.0	47 - 120				
Anthracene	3.441	0.10	5	0	68.8	45 - 120				
Benz(a)anthracene	4.006	0.10	5	0	80.1	40 - 120				
Benzo(a)pyrene	5.331	0.10	5	0	107	45 - 120				
Bis(2-chloroethoxy)methane	2.695	0.20	5	0	53.9	45 - 120				
Bis(2-ethylhexyl)phthalate	4.215	0.20	5	0	84.3	40 - 139				
Chrysene	4.288	0.10	5	0	85.8	43 - 120				
Dibenzofuran	3.094	0.10	5	0	61.9	50 - 120				
Di-n-butyl phthalate	3.623	0.20	5	0	72.5	45 - 123				
Fluoranthene	3.444	0.10	5	0	68.9	45 - 125				
Fluorene	3.039	0.10	5	0	60.8	49 - 120				
Naphthalene	2.939	0.10	5	0.07887	57.2	45 - 120				
Nitrobenzene	3.422	0.20	5	0	68.4	44 - 120				
N-Nitrosodiphenylamine	4.15	0.20	5	0	83.0	40 - 125				
Pentachlorophenol	U	0.20	5	0	0	19 - 121				S
Phenanthrene	3.357	0.10	5	0	67.1	45 - 121				
Phenol	3.387	0.20	5	0	67.7	20 - 124				
Pyrene	4.191	0.10	5	0	83.8	40 - 130				
Surr: 2,4,6-Tribromophenol	*3.616*	*0.20*	*5*	*0*	*72.3*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*3.153*	*0.20*	*5*	*0*	*63.1*	*40 - 125*				
Surr: 2-Fluorophenol	*3.019*	*0.20*	*5*	*0*	*60.4*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.415*	*0.20*	*5*	*0*	*88.3*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.077*	*0.20*	*5*	*0*	*61.5*	*41 - 120*				
Surr: Phenol-d6	*3.356*	*0.20*	*5*	*0*	*67.1*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

QC BATCH REPORT

Batch ID: 143759 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MS Sample ID: **HS19080113-03MS** Units: **ug/L** Analysis Date: **05-Aug-2019 20:40**
Client ID: **WG-1620-MW65D-20190731** Run ID: **SV-7_343719** SeqNo: **5197927** PrepDate: **05-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.676	0.20	5	0	93.5	39 - 127				
2,4-Dimethylphenol	3.928	0.20	5	0	78.6	35 - 120				
2,4-Dinitrotoluene	4.766	0.20	5	0	95.3	50 - 122				
2,6-Dinitrotoluene	4.315	0.20	5	0	86.3	50 - 120				
2-Chloronaphthalene	4.479	0.20	5	0	89.6	50 - 120				
2-Methylnaphthalene	4.225	0.10	5	0	84.5	50 - 120				
4,6-Dinitro-2-methylphenol	1.14	0.20	5	0	22.8	25 - 121				S
4-Nitrophenol	3.606	1.0	5	0	72.1	30 - 130				
Acenaphthene	4.307	0.10	5	0	86.1	45 - 120				
Acenaphthylene	4.323	0.10	5	0	86.5	47 - 120				
Anthracene	3.817	0.10	5	0	76.3	45 - 120				
Benz(a)anthracene	4.159	0.10	5	0	83.2	40 - 120				
Benzo(a)pyrene	5.611	0.10	5	0	112	45 - 120				
Bis(2-chloroethoxy)methane	4.08	0.20	5	0	81.6	45 - 120				
Bis(2-ethylhexyl)phthalate	4.747	0.20	5	0.1617	91.7	40 - 139				
Chrysene	4.332	0.10	5	0	86.6	43 - 120				
Dibenzofuran	4.302	0.10	5	0	86.0	50 - 120				
Di-n-butyl phthalate	4.32	0.20	5	0	86.4	45 - 123				
Fluoranthene	4.236	0.10	5	0	84.7	45 - 125				
Fluorene	4.113	0.10	5	0	82.3	49 - 120				
Naphthalene	4.197	0.10	5	0	83.9	45 - 120				
Nitrobenzene	4.907	0.20	5	0	98.1	44 - 120				
N-Nitrosodiphenylamine	4.519	0.20	5	0	90.4	40 - 125				
Pentachlorophenol	2.946	0.20	5	0	58.9	19 - 121				
Phenanthrene	3.762	0.10	5	0	75.2	45 - 121				
Phenol	4.887	0.20	5	0	97.7	20 - 124				
Pyrene	4.342	0.10	5	0	86.8	40 - 130				
Surr: 2,4,6-Tribromophenol	*4.707*	*0.20*	*5*	*0*	*94.1*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.927*	*0.20*	*5*	*0*	*98.5*	*40 - 125*				
Surr: 2-Fluorophenol	*4.542*	*0.20*	*5*	*0*	*90.8*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.579*	*0.20*	*5*	*0*	*91.6*	*40 - 135*				
Surr: Nitrobenzene-d5	*5.221*	*0.20*	*5*	*0*	*104*	*41 - 120*				
Surr: Phenol-d6	*5.092*	*0.20*	*5*	*0*	*102*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

QC BATCH REPORT

Batch ID: 143759 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MS Sample ID: **HS19071516-01MS** Units: **ug/L** Analysis Date: **05-Aug-2019 15:55**
Client ID: Run ID: **SV-7_343719** SeqNo: **5197918** PrepDate: **05-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.399	0.20	5	0	88.0	39 - 127				
2,4-Dimethylphenol	3.824	0.20	5	0	76.5	35 - 120				
2,4-Dinitrotoluene	4.519	0.20	5	0	90.4	50 - 122				
2,6-Dinitrotoluene	4.262	0.20	5	0	85.2	50 - 120				
2-Chloronaphthalene	3.69	0.20	5	0	73.8	50 - 120				
2-Methylnaphthalene	3.94	0.10	5	0	78.8	50 - 120				
4,6-Dinitro-2-methylphenol	3.498	0.20	5	0	70.0	25 - 121				
4-Nitrophenol	4.386	1.0	5	0	87.7	30 - 130				
Acenaphthene	3.859	0.10	5	0	77.2	45 - 120				
Acenaphthylene	3.976	0.10	5	0	79.5	47 - 120				
Anthracene	3.561	0.10	5	0	71.2	45 - 120				
Benz(a)anthracene	3.993	0.10	5	0	79.9	40 - 120				
Benzo(a)pyrene	5.251	0.10	5	0	105	45 - 120				
Bis(2-chloroethoxy)methane	3.715	0.20	5	0	74.3	45 - 120				
Bis(2-ethylhexyl)phthalate	4.166	0.20	5	0	83.3	40 - 139				
Chrysene	3.847	0.10	5	0	76.9	43 - 120				
Dibenzofuran	3.979	0.10	5	0	79.6	50 - 120				
Di-n-butyl phthalate	4.067	0.20	5	0	81.3	45 - 123				
Fluoranthene	3.908	0.10	5	0	78.2	45 - 125				
Fluorene	3.81	0.10	5	0	76.2	49 - 120				
Naphthalene	3.784	0.10	5	0.04766	74.7	45 - 120				
Nitrobenzene	4.386	0.20	5	0	87.7	44 - 120				
N-Nitrosodiphenylamine	4.007	0.20	5	0	80.1	40 - 125				
Pentachlorophenol	2.421	0.20	5	0	48.4	19 - 121				
Phenanthrene	3.562	0.10	5	0	71.2	45 - 121				
Phenol	4.081	0.20	5	0	81.6	20 - 124				
Pyrene	4.149	0.10	5	0	83.0	40 - 130				
Surr: 2,4,6-Tribromophenol	*3.919*	*0.20*	*5*	*0*	*78.4*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.26*	*0.20*	*5*	*0*	*85.2*	*40 - 125*				
Surr: 2-Fluorophenol	*3.798*	*0.20*	*5*	*0*	*76.0*	*20 - 120*				
Surr: 4-Terphenyl-d14	*3.946*	*0.20*	*5*	*0*	*78.9*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.496*	*0.20*	*5*	*0*	*89.9*	*41 - 120*				
Surr: Phenol-d6	*4.355*	*0.20*	*5*	*0*	*87.1*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

QC BATCH REPORT

Batch ID: 143759 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MSD Sample ID: **HS19080113-10MSD** Units: **ug/L** Analysis Date: **06-Aug-2019 20:08**
Client ID: **WG-1620-MW67B-20190731** Run ID: **SV-7_343746** SeqNo: **5199679** PrepDate: **05-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.667	0.20	5	0	73.3	39 - 127	3.613	1.47	20	
2,4-Dimethylphenol	2.94	0.20	5	0	58.8	35 - 120	2.852	3.03	20	
2,4-Dinitrotoluene	1.928	0.20	5	0	38.6	50 - 122	1.958	1.51	20	S
2,6-Dinitrotoluene	2.041	0.20	5	0	40.8	50 - 120	2.042	0.0463	20	S
2-Chloronaphthalene	2.621	0.20	5	0	52.4	50 - 120	2.937	11.4	20	
2-Methylnaphthalene	4.352	0.10	5	0	87.0	50 - 120	4.153	4.67	20	
4,6-Dinitro-2-methylphenol	0.1604	0.20	5	0	3.21	25 - 121	0.1571	0	30	JS
4-Nitrophenol	7.878	1.0	5	0	158	30 - 130	1.936	121	20	SR
Acenaphthene	3.025	0.10	5	0	60.5	45 - 120	2.841	6.28	20	
Acenaphthylene	3.102	0.10	5	0	62.0	47 - 120	2.95	5.03	20	
Anthracene	3.501	0.10	5	0	70.0	45 - 120	3.441	1.73	20	
Benz(a)anthracene	3.825	0.10	5	0	76.5	40 - 120	4.006	4.62	20	
Benzo(a)pyrene	5.442	0.10	5	0	109	45 - 120	5.331	2.07	20	
Bis(2-chloroethoxy)methane	2.818	0.20	5	0	56.4	45 - 120	2.695	4.49	20	
Bis(2-ethylhexyl)phthalate	4.233	0.20	5	0	84.7	40 - 139	4.215	0.428	20	
Chrysene	4.383	0.10	5	0	87.7	43 - 120	4.288	2.19	20	
Dibenzofuran	3.285	0.10	5	0	65.7	50 - 120	3.094	5.97	20	
Di-n-butyl phthalate	3.876	0.20	5	0	77.5	45 - 123	3.623	6.75	20	
Fluoranthene	3.519	0.10	5	0	70.4	45 - 125	3.444	2.15	20	
Fluorene	3.179	0.10	5	0	63.6	49 - 120	3.039	4.5	20	
Naphthalene	3.058	0.10	5	0.07887	59.6	45 - 120	2.939	3.98	20	
Nitrobenzene	3.425	0.20	5	0	68.5	44 - 120	3.422	0.0745	20	
N-Nitrosodiphenylamine	4.252	0.20	5	0	85.0	40 - 125	4.15	2.43	20	
Pentachlorophenol	0.1573	0.20	5	0	3.15	19 - 121	0	0	20	JS
Phenanthrene	3.467	0.10	5	0	69.3	45 - 121	3.357	3.24	20	
Phenol	3.699	0.20	5	0	74.0	20 - 124	3.387	8.79	20	
Pyrene	4.308	0.10	5	0	86.2	40 - 130	4.191	2.74	20	
Surr: 2,4,6-Tribromophenol	*3.722*	*0.20*	*5*	*0*	*74.4*	*34 - 129*	*3.616*	*2.89*	*20*	
Surr: 2-Fluorobiphenyl	*3.234*	*0.20*	*5*	*0*	*64.7*	*40 - 125*	*3.153*	*2.54*	*20*	
Surr: 2-Fluorophenol	*3.12*	*0.20*	*5*	*0*	*62.4*	*20 - 120*	*3.019*	*3.3*	*20*	
Surr: 4-Terphenyl-d14	*4.422*	*0.20*	*5*	*0*	*88.4*	*40 - 135*	*4.415*	*0.152*	*20*	
Surr: Nitrobenzene-d5	*3.095*	*0.20*	*5*	*0*	*61.9*	*41 - 120*	*3.077*	*0.565*	*20*	
Surr: Phenol-d6	*3.408*	*0.20*	*5*	*0*	*68.2*	*20 - 120*	*3.356*	*1.52*	*20*	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

QC BATCH REPORT

Batch ID: 143759 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MSD Sample ID: **HS19080113-03MSD** Units: **ug/L** Analysis Date: **05-Aug-2019 20:59**
Client ID: **WG-1620-MW65D-20190731** Run ID: **SV-7_343719** SeqNo: **5197928** PrepDate: **05-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.528	0.20	5	0	90.6	39 - 127	4.676	3.22	20	
2,4-Dimethylphenol	3.961	0.20	5	0	79.2	35 - 120	3.928	0.822	20	
2,4-Dinitrotoluene	4.569	0.20	5	0	91.4	50 - 122	4.766	4.2	20	
2,6-Dinitrotoluene	4.034	0.20	5	0	80.7	50 - 120	4.315	6.73	20	
2-Chloronaphthalene	3.744	0.20	5	0	74.9	50 - 120	4.479	17.9	20	
2-Methylnaphthalene	4.133	0.10	5	0	82.7	50 - 120	4.225	2.19	20	
4,6-Dinitro-2-methylphenol	1.177	0.20	5	0	23.5	25 - 121	1.14	3.14	30	S
4-Nitrophenol	4.763	1.0	5	0	95.3	30 - 130	3.606	27.6	20	R
Acenaphthene	4.07	0.10	5	0	81.4	45 - 120	4.307	5.64	20	
Acenaphthylene	4.207	0.10	5	0	84.1	47 - 120	4.323	2.72	20	
Anthracene	3.8	0.10	5	0	76.0	45 - 120	3.817	0.46	20	
Benz(a)anthracene	4.432	0.10	5	0	88.6	40 - 120	4.159	6.35	20	
Benzo(a)pyrene	6.166	0.10	5	0	123	45 - 120	5.611	9.42	20	S
Bis(2-chloroethoxy)methane	4.019	0.20	5	0	80.4	45 - 120	4.08	1.5	20	
Bis(2-ethylhexyl)phthalate	4.852	0.20	5	0.1617	93.8	40 - 139	4.747	2.19	20	
Chrysene	4.549	0.10	5	0	91.0	43 - 120	4.332	4.9	20	
Dibenzofuran	4.121	0.10	5	0	82.4	50 - 120	4.302	4.3	20	
Di-n-butyl phthalate	4.609	0.20	5	0	92.2	45 - 123	4.32	6.47	20	
Fluoranthene	4.319	0.10	5	0	86.4	45 - 125	4.236	1.94	20	
Fluorene	3.934	0.10	5	0	78.7	49 - 120	4.113	4.45	20	
Naphthalene	4.063	0.10	5	0	81.3	45 - 120	4.197	3.24	20	
Nitrobenzene	4.783	0.20	5	0	95.7	44 - 120	4.907	2.57	20	
N-Nitrosodiphenylamine	4.317	0.20	5	0	86.3	40 - 125	4.519	4.59	20	
Pentachlorophenol	2.948	0.20	5	0	59.0	19 - 121	2.946	0.0694	20	
Phenanthrene	3.74	0.10	5	0	74.8	45 - 121	3.762	0.598	20	
Phenol	4.613	0.20	5	0	92.3	20 - 124	4.887	5.78	20	
Pyrene	4.298	0.10	5	0	86.0	40 - 130	4.342	1.03	20	
Surr: 2,4,6-Tribromophenol	*4.088*	*0.20*	*5*	*0*	*81.8*	*34 - 129*	*4.707*	*14.1*	*20*	
Surr: 2-Fluorobiphenyl	*4.35*	*0.20*	*5*	*0*	*87.0*	*40 - 125*	*4.927*	*12.4*	*20*	
Surr: 2-Fluorophenol	*3.992*	*0.20*	*5*	*0*	*79.8*	*20 - 120*	*4.542*	*12.9*	*20*	
Surr: 4-Terphenyl-d14	*4.195*	*0.20*	*5*	*0*	*83.9*	*40 - 135*	*4.579*	*8.76*	*20*	
Surr: Nitrobenzene-d5	*4.806*	*0.20*	*5*	*0*	*96.1*	*41 - 120*	*5.221*	*8.28*	*20*	
Surr: Phenol-d6	*4.535*	*0.20*	*5*	*0*	*90.7*	*20 - 120*	*5.092*	*11.6*	*20*	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

QC BATCH REPORT

Batch ID: 143759 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MSD Sample ID: **HS19071516-01MSD** Units: **ug/L** Analysis Date: **05-Aug-2019 16:14**
Client ID: Run ID: **SV-7_343719** SeqNo: **5197919** PrepDate: **05-Aug-2019** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.873	0.20	5	0	97.5	39 - 127	4.399	10.2	20	
2,4-Dimethylphenol	4.141	0.20	5	0	82.8	35 - 120	3.824	7.97	20	
2,4-Dinitrotoluene	4.836	0.20	5	0	96.7	50 - 122	4.519	6.77	20	
2,6-Dinitrotoluene	4.569	0.20	5	0	91.4	50 - 120	4.262	6.96	20	
2-Chloronaphthalene	4.261	0.20	5	0	85.2	50 - 120	3.69	14.4	20	
2-Methylnaphthalene	4.215	0.10	5	0	84.3	50 - 120	3.94	6.75	20	
4,6-Dinitro-2-methylphenol	3.803	0.20	5	0	76.1	25 - 121	3.498	8.35	30	
4-Nitrophenol	4.882	1.0	5	0	97.6	30 - 130	4.386	10.7	20	
Acenaphthene	4.269	0.10	5	0	85.4	45 - 120	3.859	10.1	20	
Acenaphthylene	4.432	0.10	5	0	88.6	47 - 120	3.976	10.9	20	
Anthracene	3.893	0.10	5	0	77.9	45 - 120	3.561	8.92	20	
Benz(a)anthracene	4.137	0.10	5	0	82.7	40 - 120	3.993	3.54	20	
Benzo(a)pyrene	5.708	0.10	5	0	114	45 - 120	5.251	8.34	20	
Bis(2-chloroethoxy)methane	4.091	0.20	5	0	81.8	45 - 120	3.715	9.62	20	
Bis(2-ethylhexyl)phthalate	4.551	0.20	5	0	91.0	40 - 139	4.166	8.83	20	
Chrysene	4.159	0.10	5	0	83.2	43 - 120	3.847	7.8	20	
Dibenzofuran	4.355	0.10	5	0	87.1	50 - 120	3.979	9.04	20	
Di-n-butyl phthalate	4.434	0.20	5	0	88.7	45 - 123	4.067	8.63	20	
Fluoranthene	4.184	0.10	5	0	83.7	45 - 125	3.908	6.82	20	
Fluorene	4.148	0.10	5	0	83.0	49 - 120	3.81	8.5	20	
Naphthalene	4.222	0.10	5	0.04766	83.5	45 - 120	3.784	11	20	
Nitrobenzene	4.847	0.20	5	0	96.9	44 - 120	4.386	9.97	20	
N-Nitrosodiphenylamine	4.594	0.20	5	0	91.9	40 - 125	4.007	13.6	20	
Pentachlorophenol	2.472	0.20	5	0	49.4	19 - 121	2.421	2.08	20	
Phenanthrene	3.882	0.10	5	0	77.6	45 - 121	3.562	8.6	20	
Phenol	4.803	0.20	5	0	96.1	20 - 124	4.081	16.2	20	
Pyrene	4.443	0.10	5	0	88.9	40 - 130	4.149	6.84	20	
Surr: 2,4,6-Tribromophenol	*4.157*	*0.20*	*5*	*0*	*83.1*	*34 - 129*	*3.919*	*5.88*	*20*	
Surr: 2-Fluorobiphenyl	*4.613*	*0.20*	*5*	*0*	*92.3*	*40 - 125*	*4.26*	*7.95*	*20*	
Surr: 2-Fluorophenol	*4.256*	*0.20*	*5*	*0*	*85.1*	*20 - 120*	*3.798*	*11.4*	*20*	
Surr: 4-Terphenyl-d14	*4.073*	*0.20*	*5*	*0*	*81.5*	*40 - 135*	*3.946*	*3.18*	*20*	
Surr: Nitrobenzene-d5	*4.919*	*0.20*	*5*	*0*	*98.4*	*41 - 120*	*4.496*	*8.99*	*20*	
Surr: Phenol-d6	*4.413*	*0.20*	*5*	*0*	*88.3*	*20 - 120*	*4.355*	*1.3*	*20*	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

QC BATCH REPORT

Batch ID: 143759 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

The following samples were analyzed in this batch:

HS19080113-01	HS19080113-02	HS19080113-03	HS19080113-04
HS19080113-05	HS19080113-06	HS19080113-07	HS19080113-08
HS19080113-09	HS19080113-10	HS19080113-11	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

QC BATCH REPORT

Batch ID: R343626 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-190803** Units: **ug/L** Analysis Date: **03-Aug-2019 11:32**
Client ID: Run ID: **VOA4_343626** SeqNo: **5195368** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*49.14*	*1.0*	*50*	*0*	*98.3*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.6*	*1.0*	*50*	*0*	*95.2*	*82 - 115*				
Surr: Dibromofluoromethane	*47.67*	*1.0*	*50*	*0*	*95.3*	*73 - 126*				
Surr: Toluene-d8	*52.25*	*1.0*	*50*	*0*	*104*	*81 - 120*				

LCS Sample ID: **VLCSW-190803** Units: **ug/L** Analysis Date: **03-Aug-2019 10:43**
Client ID: Run ID: **VOA4_343626** SeqNo: **5195366** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.53	1.0	20	0	87.7	70 - 124				
Benzene	17.53	1.0	20	0	87.6	74 - 120				
Chlorobenzene	19.08	1.0	20	0	95.4	76 - 113				
Ethylbenzene	20.7	1.0	20	0	104	77 - 117				
Methylene chloride	17.58	2.0	20	0	87.9	70 - 127				
Toluene	19.46	1.0	20	0	97.3	77 - 118				
Xylenes, Total	62.78	1.0	60	0	105	75 - 122				
Surr: 1,2-Dichloroethane-d4	*46.06*	*1.0*	*50*	*0*	*92.1*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*50.13*	*1.0*	*50*	*0*	*100*	*82 - 115*				
Surr: Dibromofluoromethane	*46.09*	*1.0*	*50*	*0*	*92.2*	*73 - 126*				
Surr: Toluene-d8	*52.04*	*1.0*	*50*	*0*	*104*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

QC BATCH REPORT

Batch ID: R343626 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS19080113-10MS** Units: **ug/L** Analysis Date: **03-Aug-2019 15:14**
Client ID: **WG-1620-MW67B-20190731** Run ID: **VOA4_343626** SeqNo: **5195377** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	14.8	1.0	20	0	74.0	70 - 127				
Benzene	15.06	1.0	20	0	75.3	70 - 127				
Chlorobenzene	16.65	1.0	20	0	83.3	70 - 114				
Ethylbenzene	17.5	1.0	20	0	87.5	70 - 124				
Methylene chloride	14.86	2.0	20	0	74.3	70 - 128				
Toluene	16.77	1.0	20	0	83.8	70 - 123				
Xylenes, Total	53.32	1.0	60	0	88.9	70 - 130				
Surr: 1,2-Dichloroethane-d4	*47.56*	*1.0*	*50*	*0*	*95.1*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*48.65*	*1.0*	*50*	*0*	*97.3*	*81 - 113*				
Surr: Dibromofluoromethane	*47.61*	*1.0*	*50*	*0*	*95.2*	*77 - 123*				
Surr: Toluene-d8	*52.52*	*1.0*	*50*	*0*	*105*	*82 - 127*				

MSD Sample ID: **HS19080113-10MSD** Units: **ug/L** Analysis Date: **03-Aug-2019 15:38**
Client ID: **WG-1620-MW67B-20190731** Run ID: **VOA4_343626** SeqNo: **5195378** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	14.38	1.0	20	0	71.9	70 - 127	14.8	2.86	20	
Benzene	14.66	1.0	20	0	73.3	70 - 127	15.06	2.74	20	
Chlorobenzene	16.08	1.0	20	0	80.4	70 - 114	16.65	3.48	20	
Ethylbenzene	17.23	1.0	20	0	86.1	70 - 124	17.5	1.53	20	
Methylene chloride	14.35	2.0	20	0	71.7	70 - 128	14.86	3.49	20	
Toluene	16.37	1.0	20	0	81.8	70 - 123	16.77	2.43	20	
Xylenes, Total	51.69	1.0	60	0	86.1	70 - 130	53.32	3.11	20	
Surr: 1,2-Dichloroethane-d4	*47.49*	*1.0*	*50*	*0*	*95.0*	*70 - 126*	*47.56*	*0.156*	*20*	
Surr: 4-Bromofluorobenzene	*48.71*	*1.0*	*50*	*0*	*97.4*	*81 - 113*	*48.65*	*0.105*	*20*	
Surr: Dibromofluoromethane	*47.86*	*1.0*	*50*	*0*	*95.7*	*77 - 123*	*47.61*	*0.52*	*20*	
Surr: Toluene-d8	*52.01*	*1.0*	*50*	*0*	*104*	*82 - 127*	*52.52*	*0.972*	*20*	

The following samples were analyzed in this batch: HS19080113-01 HS19080113-02 HS19080113-04 HS19080113-05 HS19080113-06 HS19080113-10

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

QC BATCH REPORT

Batch ID: R343632 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-190803** Units: **ug/L** Analysis Date: **03-Aug-2019 23:50**
Client ID: Run ID: **VOA4_343632** SeqNo: **5195438** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*48.83*	*1.0*	*50*	*0*	*97.7*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.55*	*1.0*	*50*	*0*	*95.1*	*82 - 115*				
Surr: Dibromofluoromethane	*48.6*	*1.0*	*50*	*0*	*97.2*	*73 - 126*				
Surr: Toluene-d8	*52.28*	*1.0*	*50*	*0*	*105*	*81 - 120*				

LCS Sample ID: **VLCSW-190803** Units: **ug/L** Analysis Date: **03-Aug-2019 23:01**
Client ID: Run ID: **VOA4_343632** SeqNo: **5195436** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.76	1.0	20	0	83.8	70 - 124				
Benzene	17.21	1.0	20	0	86.0	74 - 120				
Chlorobenzene	18.92	1.0	20	0	94.6	76 - 113				
Ethylbenzene	19.92	1.0	20	0	99.6	77 - 117				
Methylene chloride	16.69	2.0	20	0	83.4	70 - 127				
Toluene	18.81	1.0	20	0	94.1	77 - 118				
Vinyl chloride	16.62	1.0	20	0	83.1	70 - 130				
Xylenes, Total	59.58	1.0	60	0	99.3	75 - 122				
Surr: 1,2-Dichloroethane-d4	*45.68*	*1.0*	*50*	*0*	*91.4*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*49.82*	*1.0*	*50*	*0*	*99.6*	*82 - 115*				
Surr: Dibromofluoromethane	*46.67*	*1.0*	*50*	*0*	*93.3*	*73 - 126*				
Surr: Toluene-d8	*52.75*	*1.0*	*50*	*0*	*106*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

QC BATCH REPORT

Batch ID: R343632 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS19080113-07MS** Units: **ug/L** Analysis Date: **04-Aug-2019 02:45**
Client ID: **WG-1620-MW22AR-20190731** Run ID: **VOA4_343632** SeqNo: **5195445** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	15.58	1.0	20	0	77.9	70 - 127				
Benzene	16.65	1.0	20	0	83.2	70 - 127				
Chlorobenzene	17.56	1.0	20	0	87.8	70 - 114				
Ethylbenzene	19.01	1.0	20	0	95.0	70 - 124				
Methylene chloride	16.97	2.0	20	0	84.9	70 - 128				
Toluene	18.42	1.0	20	0	92.1	70 - 123				
Vinyl chloride	17.57	1.0	20	0	87.9	70 - 130				
Xylenes, Total	56.24	1.0	60	0	93.7	70 - 130				
Surr: 1,2-Dichloroethane-d4	*46.2*	*1.0*	*50*	*0*	*92.4*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*49.44*	*1.0*	*50*	*0*	*98.9*	*81 - 113*				
Surr: Dibromofluoromethane	*47.38*	*1.0*	*50*	*0*	*94.8*	*77 - 123*				
Surr: Toluene-d8	*52.67*	*1.0*	*50*	*0*	*105*	*82 - 127*				

MSD Sample ID: **HS19080113-07MSD** Units: **ug/L** Analysis Date: **04-Aug-2019 03:10**
Client ID: **WG-1620-MW22AR-20190731** Run ID: **VOA4_343632** SeqNo: **5195446** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	15.43	1.0	20	0	77.1	70 - 127	15.58	0.975	20	
Benzene	16.18	1.0	20	0	80.9	70 - 127	16.65	2.85	20	
Chlorobenzene	17.27	1.0	20	0	86.3	70 - 114	17.56	1.65	20	
Ethylbenzene	19.24	1.0	20	0	96.2	70 - 124	19.01	1.23	20	
Methylene chloride	15.86	2.0	20	0	79.3	70 - 128	16.97	6.8	20	
Toluene	17.3	1.0	20	0	86.5	70 - 123	18.42	6.27	20	
Vinyl chloride	16.33	1.0	20	0	81.7	70 - 130	17.57	7.31	20	
Xylenes, Total	56.89	1.0	60	0	94.8	70 - 130	56.24	1.15	20	
Surr: 1,2-Dichloroethane-d4	*46.64*	*1.0*	*50*	*0*	*93.3*	*70 - 126*	*46.2*	*0.937*	*20*	
Surr: 4-Bromofluorobenzene	*50.18*	*1.0*	*50*	*0*	*100*	*81 - 113*	*49.44*	*1.47*	*20*	
Surr: Dibromofluoromethane	*45.82*	*1.0*	*50*	*0*	*91.6*	*77 - 123*	*47.38*	*3.35*	*20*	
Surr: Toluene-d8	*50.65*	*1.0*	*50*	*0*	*101*	*82 - 127*	*52.67*	*3.91*	*20*	

The following samples were analyzed in this batch: HS19080113-07 HS19080113-08 HS19080113-09 HS19080113-11 HS19080113-12

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

QC BATCH REPORT

Batch ID: R343643 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-190803** Units: **ug/L** Analysis Date: **03-Aug-2019 11:02**
Client ID: Run ID: **VOA2_343643** SeqNo: **5195692** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*49.14*	*1.0*	*50*	*0*	*98.3*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*49.78*	*1.0*	*50*	*0*	*99.6*	*82 - 115*				
Surr: Dibromofluoromethane	*52.08*	*1.0*	*50*	*0*	*104*	*73 - 126*				
Surr: Toluene-d8	*51.74*	*1.0*	*50*	*0*	*103*	*81 - 120*				

LCS Sample ID: **VLCSW-190803** Units: **ug/L** Analysis Date: **03-Aug-2019 10:38**
Client ID: Run ID: **VOA2_343643** SeqNo: **5195691** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.9	1.0	20	0	94.5	70 - 124				
Benzene	19.91	1.0	20	0	99.5	74 - 120				
Chlorobenzene	20.14	1.0	20	0	101	76 - 113				
Ethylbenzene	20.43	1.0	20	0	102	77 - 117				
Methylene chloride	20.9	2.0	20	0	105	70 - 127				
Toluene	20.47	1.0	20	0	102	77 - 118				
Xylenes, Total	61.73	1.0	60	0	103	75 - 122				
Surr: 1,2-Dichloroethane-d4	*52.93*	*1.0*	*50*	*0*	*106*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*49.55*	*1.0*	*50*	*0*	*99.1*	*82 - 115*				
Surr: Dibromofluoromethane	*50.65*	*1.0*	*50*	*0*	*101*	*73 - 126*				
Surr: Toluene-d8	*49.94*	*1.0*	*50*	*0*	*99.9*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19080113

QC BATCH REPORT

Batch ID: R343643 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS19080113-03MS** Units: **ug/L** Analysis Date: **03-Aug-2019 15:07**
Client ID: **WG-1620-MW65D-20190731** Run ID: **VOA2_343643** SeqNo: **5195702** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	15.74	1.0	20	0	78.7	70 - 127				
Benzene	17.04	1.0	20	0	85.2	70 - 127				
Chlorobenzene	17.56	1.0	20	0	87.8	70 - 114				
Ethylbenzene	17.79	1.0	20	0	89.0	70 - 124				
Methylene chloride	16.71	2.0	20	0	83.5	70 - 128				
Toluene	17.73	1.0	20	0	88.7	70 - 123				
Xylenes, Total	54.55	1.0	60	0	90.9	70 - 130				
Surr: 1,2-Dichloroethane-d4	*50.62*	*1.0*	*50*	*0*	*101*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*48.95*	*1.0*	*50*	*0*	*97.9*	*81 - 113*				
Surr: Dibromofluoromethane	*50.18*	*1.0*	*50*	*0*	*100*	*77 - 123*				
Surr: Toluene-d8	*50.5*	*1.0*	*50*	*0*	*101*	*82 - 127*				

MSD Sample ID: **HS19080113-03MSD** Units: **ug/L** Analysis Date: **03-Aug-2019 15:31**
Client ID: **WG-1620-MW65D-20190731** Run ID: **VOA2_343643** SeqNo: **5195703** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	15.52	1.0	20	0	77.6	70 - 127	15.74	1.42	20	
Benzene	16.55	1.0	20	0	82.7	70 - 127	17.04	2.94	20	
Chlorobenzene	17.09	1.0	20	0	85.4	70 - 114	17.56	2.75	20	
Ethylbenzene	17.37	1.0	20	0	86.8	70 - 124	17.79	2.42	20	
Methylene chloride	16.66	2.0	20	0	83.3	70 - 128	16.71	0.3	20	
Toluene	17.45	1.0	20	0	87.3	70 - 123	17.73	1.61	20	
Xylenes, Total	52.42	1.0	60	0	87.4	70 - 130	54.55	3.99	20	
Surr: 1,2-Dichloroethane-d4	*50.41*	*1.0*	*50*	*0*	*101*	*70 - 126*	*50.62*	*0.421*	*20*	
Surr: 4-Bromofluorobenzene	*48.65*	*1.0*	*50*	*0*	*97.3*	*81 - 113*	*48.95*	*0.612*	*20*	
Surr: Dibromofluoromethane	*50.46*	*1.0*	*50*	*0*	*101*	*77 - 123*	*50.18*	*0.568*	*20*	
Surr: Toluene-d8	*49.74*	*1.0*	*50*	*0*	*99.5*	*82 - 127*	*50.5*	*1.53*	*20*	

The following samples were analyzed in this batch: HS19080113-03

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS19080113**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2019	31-Dec-2019
Oklahoma	2018-156	31-Aug-2019
Texas	TX104704231-19-23	30-Apr-2020

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19080113

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19080113-01	WG-1620-MW36D-20190731	Login	02/08/2019 12:41:31	JRM	MET001
HS19080113-01	WG-1620-MW36D-20190731	Login	02/08/2019 12:41:31	JRM	EXT002
HS19080113-01	WG-1620-MW36D-20190731	Login	02/08/2019 12:41:31	JRM	VOA088

Sample Receipt Checklist

Client Name: PBW
Work Order: HS19080113
Date/Time Received: **02-Aug-2019 12:00**
Received by: **JRM**

Checklist completed by: *Jared R. Makan* eSignature 2-Aug-2019 Date
Reviewed by: *Dane J. Wacasey* eSignature 6-Aug-2019 Date

Matrices: **Water**
Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:196136, 196124
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.3c/0.3c, 0.5c/0.5c, 0.6c/0.6c UC/C	IR25	
Cooler(s)/Kit(s):	45155, 444481, 7183		
Date/Time sample(s) sent to storage:	08/02/2019 14:10		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 2

COC ID: 196136

HS19080113

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-07-Rev0 SR 92688
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address	

A	8260_LL_W (5632528 Volatile Organics Site Specific)
B	8260_LL_W (5632528 VOC Site Specific + V.C.)
C	8270_LOW_W (5632532 SemiVolatiles Site specific)
D	ICP_TW (5636002 5652646 Metals - As, Pb)
E	MS/MSD
F	
G	
H	
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TB0-201801~~			Water	1	2		X									
2	WG-1620-MW36D-20190731	7-31-19	0740			6	X		X	X							
3	WG-1620-MW38A-20190731		0835			6	X		X	X							
4	WG-1620-MW65D-20190731		0945			12	X		X	X	X						
5	WG-1620-MW66D-20190731		1045			6	X		X	X							
6	WG-1620-MW59D-20190731		1150			6	X		X	X							
7	WG-1620-FD05-20190731		1150			6	X		X	X							
8	WG-1620-MW22AR-20190731		1305			6	X		X	X							
9	WG-1620-MW22BR-20190731		1350			6	X		X	X							
10	WG-1620-MW88C-20190731		1545			6	X		X	X							

Sampler(s) Please Print & Sign: JOHN BRAYTON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results Due Date:

Relinquished by: Date: 8-2-19 Time: 12:00 Received by:

Relinquished by: Date: 8/2/19 Time: 12:00 Received by (Laboratory): J. Munguia

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
	UC
45156	0.3
44481	0.5
7183	0.6
1225	CF 0.0

QC Package: (Check One Box Below)

- [ ] Level II Std QC
- [ ] Level III Std QC/Raw Data
- [ ] Level IV SW846/CLP
- [ ] Other
- [X] TRRP Checklist
- [ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 2 of 2

COC ID: 196124

HS19080113

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-07-Rev0 SR 92688
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- AP
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address	

A: 8260_LL_W (5632528 Volatile Organics Site Specific)
B: 8260_LL_W (5632528 VOC Site Specific + V.C.)
C: 8270_LOW_W (5632532 SemiVolatiles Site specific)
D: ICP_TW (5636002 5652646 Metals - As, Pb)
E: MS/MSD
F:
G:
H:
I:
J:

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TB0 -20190~~			Water	1	2		X									
2	WG-1620-MW67B-20190731	7-31-19	1645			12	X		X	X	X						
3	WG-1620-MW49A-20190731	↓	1745			6		X	X	X							
4	WG-1620-TB06-20190731					2		X									
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: JOHN BRAYTON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 hour [ ] Other

Results Due Date:

Relinquished by: Date: 8-2-19 Time: 12:00 Received by:

Relinquished by: Date: 8/2/19 Time: 12:00 Received by (Laboratory):

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)
[ ] Level II Std QC
[ ] Level III Std QC/Raw Data
[ ] Level IV SW846/CLP
[ ] Other
[X] TRRP Checklist
[ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

JANUARY-MARCH 2020

Memorandum

March 13, 2020
Revision: April 29, 2020

To:	Eric Matzner	Ref. No.:	11183954-1620
From:	Chris G. Knight/eew/557-NF	Tel:	512-506-8803
cc:	Jesse Orth, Jon Lang; Julie Lidstone		

Subject: **Data Usability Summary**
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 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 - Site-Wide Monitoring at the Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works site during January-February 2020. Samples were submitted to ALS Environmental (ALS), located in Houston, Texas and are reported in data packages HS20010407, HS20010442, HS20010596, HS20010713, HS20010767, HS20010930, HS20010958, HS20011116, HS20011249, and HS20020456. The intended use of the data is to support the HWPW - Site-Wide Monitoring 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, field quality assurance/quality control (QA/QC) samples, the laboratory review checklists (LRC), and the laboratory exception reports (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 # TX104704231 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 trip blank samples, field blank samples, field duplicate sample sets, and 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 with the following exceptions:

i) HS20010407 – The chain of custody listed nine sample containers submitted for all samples, however only six were received. No sample vials for total petroleum hydrocarbons (TPH) were received for WG1620-MW49A-20200107 and WG-1620-MW-80B-20200107. The laboratory logged in two sample vials for volatile organic compounds (VOCs) and one sample vial TPH analyses. The sample date differed on the chain of custody from the sample date listed on the sample container for sample WG-1620-FB03-20200109. The sample date listed on the sample container was used for login. No further actions were required.

ii) HS20010442 - The sample time differed on the chain of custody from the sample time listed on the sample container for sample WG-1620 FB 0420200110. The sample time listed on the chain of custody was used for login. No further action was required.

iii) HS20010713 - The sample time differed on the chain of custody from the sample time listed on the sample container for sample WG-1620-MW25C-20200115. The sample time listed on the chain of custody was used for login. No further action was required.

iv) HS20010767 – The following samples were received but not listed on the chain of custody: MW48C (01/16/20 10:20), MW47C (01/16/20 11:05), and MW61A MS & MSD (01/16/20 12:00). The laboratory added these samples to the chain of custody. No further actions were required.

v) HS20010958 – WG-1620-MW38B-20200121 was misidentified on the chain of custody as WG-1620-MW38C-20200121. The sample label was used for login. No further action was required.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

i) WG-1620-MW18C-20200108 was received in a properly preserved sample container for metals analysis. The included preservative was insufficient to reduce the pH to <2. Additional preservative was added by the laboratory bringing the pH to <2. No further action was 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.

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 packages.

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 packages.

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.

4.5 Internal Standard and Surrogate Spike Recoveries

Recoveries of internal standards are addressed in the LRC of the data packages. 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 VOCs, semi-volatile organic compounds (SVOCs), and TPH 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. Sample analyzed at elevated sample dilutions (five times or greater) were not assessed.

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/or RPDs were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision (where applicable) with the following exceptions (see Table 4):

i) One LCS was reported with an elevated recovery for vinyl chloride. The associated sample results was non-detect and not affected by the indicated high bias. No further action was required.

ii) One LCS was reported with elevated recoveries for 2,4-dinitrotoluene and 2,6-dinitrotoluene. Associated non-detect sample results would not be affected by the indicated high bias. No further actions were required. One associated detected sample results was qualified as estimated; biased high.

iii) One LCS/LCSD was reported with an elevated RPD for 2-methylnaphthalene. All associated sample results were qualified as estimated.

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/matrix spike duplicate (MSD) samples. The RPD between the MS and MSD is used to assess analytical precision.

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

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

i) One MS/MSD was reported with an elevated RPD for 4,6-dinitro-2-methylphenol. The associated sample result was non-detect and not affected by the indicated variability. No further action was required.

ii) One MS/MSD was reported with elevated MS recoveries for 4,6-dinitro-2-methylphenol and di-n-butyl phthalate. If only the MS or MSD recovery was outside of control limits, no qualification of the data was performed based on the acceptable recovery of the companion spike and the acceptable RPD. No further action was required.

iii) One MS/MSD was reported with elevated recoveries and/or elevated RPDs for the following SVOCs due to possible matrix interferences and were not assessed: 4-Nitrophenol, bis(2-ethylhexyl)phthalate, and di-n-butyl phthalate

The laboratory also performed additional MS/MSD 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 for arsenic. The RPD established by the laboratory are adopted as the acceptance criteria for the project.

All duplicate analyses performed were acceptable, demonstrating acceptable analytical precision with the following exception (see Table 5):

i) One duplicate analysis was reported with an elevated RPD for arsenic. 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 QA/QC Samples

The field QA/QC consisted of ten trip blank samples, thirteen field blank samples, and five field duplicate sample sets.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, ten trip blank samples were submitted to the laboratory for VOCs analysis. All results were non-detect for the compounds of interest.

Field Blank Sample Analysis

To assess ambient conditions at the site, thirteen field blank samples were submitted for analysis, as identified in Table 1. All results were non-detect for the compounds of interest with the following exceptions (see Table 6):

i) The following field blanks submitted yielded low level detections for various SVOCs: WG-1620-FB01-20200107, WG-1620-FB02-20200108, WG-1620-FB03-20200109, WG-1620-FB04-20200110, WG-1620-FB05-20200113, WG-1620-FB08-20200116, WG-1620-FB09-20200117, WG-1620-FB10-20200120, WG-1620-FB11-20200121,

WG-1620-FB12-20200123, and WG-1620-FB14-20200210. Associated sample results that were significantly greater than the concentrations found in the field blanks or were non-detect were not impacted. No further action was required. Associated sample results with comparable concentrations to the field blank detections were qualified as non-detect.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, five field duplicate sample sets were collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than thirty percent for water samples. The RPDs are only used when sample concentrations are above the estimated regions of detection.

Field duplicate summary data are presented in Table 2. All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision with the following exceptions (see Table 7):

i) WG-1620-MW35B-20200110 and WG-1620-FD01-20200110 did show some variability in VOCs and SVOCs results and were qualified as estimated.

ii) WG-1620-MW21C-20200114 and WG-1620-FD02-20200114 did show some variability in 2,6-dinitrotoluene results and were qualified as estimated.

iii) WG-1620-MW33A-20200120 and WG-1620-FD05-20200120 did show some variability in acenaphthene, fluoranthene, and pyrene results and were qualified as estimated.

4.10 Field Procedures

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

4.11 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 otherwise in this memorandum.

i) The following samples were analyzed at the lowest practical dilution for VOCs determinations due to sample matrix: WG-1620-MW18C-20200108, WG-1620-MW18A-20200108. No further actions were required.

ii) The following samples were analyzed at the lowest practical dilution for VOCs and/or SVOCs determinations due to elevated concentration of non-target analytes: WG-1620-MW32B-20200120, WG-1620-MW23C-20200109, WG-1620-MW49A-20200107, WG-1620-MW57B-20200108, WG-1620-MW70B-20200120, and WG-1620-MW72B-20200109. No further actions were required.

iii) The following samples were analyzed at the lowest practical dilution for VOCs determinations due to matrix interferences: WG-1620-MW57B-20200108, WG-1620-MW72B-20200109, WG-1620-MW23C-20200109. No further actions were required.

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 - Site-Wide Monitoring at the site by providing current concentration of chemicals of concern with the specific qualifications noted herein.

Table 1

Sample Collection and Analysis Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

					Analysis/Parameters				
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**TPH**	**Arsenic**	**Comments**
WG-1620-MW49A-20200107	MW-49A	Water	01/07/2020	13:10	X	X	X	X	
WG-1620-MW80B-20200107	MW-80B	Water	01/07/2020	16:00	X	X	X	X	
WG-1620-FB01-20200107	-	Water	01/07/2020	16:30	X	X		X	Field Blank
WG-1620-FB02-20200108	-	Water	01/08/2020	09:00	X	X		X	Field Blank
WG-1620-MW18C-20200108	MW-18C	Water	01/08/2020	10:10	X	X		X	
WG-1620-MW18A-20200108	MW-18A	Water	01/08/2020	11:10	X	X		X	
WG-1620-MW58A-20200108	MW-58A	Water	01/08/2020	12:15	X	X		X	
WG-1620-MW57B-20200108	MW-57B	Water	01/08/2020	13:30	X	X		X	
WG-1620-MW57A-20200108	MW-57A	Water	01/08/2020	14:55	X	X		X	
WG-1620-FB03-20200109	-	Water	01/09/2020	07:30	X	X		X	Field Blank
WG-1620-MW72B-20200109	MW-72B	Water	01/09/2020	08:35	X	X		X	
WG-1620-MW23C-20200109	MW-23C	Water	01/09/2020	09:40	X	X		X	
WG-1620-MW19C-20200109	MW-19C	Water	01/09/2020	10:45	X	X		X	MS/MSD-P; DUP
WG-1620-MW53C-20200109	MW-53C	Water	01/09/2020	11:15	X	X		X	MS/MSD-P; DUP
WG-1620-MW51A-20200109	MW-51A	Water	01/09/2020	11:50	X	X	X	X	MS/MSD-P

Table 1

Sample Collection and Analysis Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

					Analysis/Parameters				
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**TPH**	**Arsenic**	**Comments**
WG-1620-MW54C-20200109	MW-54C	Water	01/09/2020	12:35	X	X		X	
WG-1620-MW51C-20200109	MW-51C	Water	01/09/2020	12:40	X	X	X	X	
WG-1620-MW44A-20200109	MW-44A	Water	01/09/2020	13:30	X	X		X	MS/MSD-P
WG-1620-MW85C-20200109	MW-85C	Water	01/09/2020	13:35	X	X	X	X	
WG-1620-MW77A-20200109	MW-77A	Water	01/09/2020	14:25	X	X	X	X	
WG-1620-MW36B-20200109	MW-36B	Water	01/09/2020	14:40	X	X		X	
WG-1620-MW76C-20200109	MW-76C	Water	01/09/2020	15:20	X	X	X	X	
WG-1620-MW36A-20200109	MW-36A	Water	01/09/2020	16:00	X	X		X	
WG-1620-MW81B-20200109	MW-81B	Water	01/09/2020	16:20	X	X	X	X	
WG-1620-MW50A-20200109	MW-50A	Water	01/09/2020	17:15	X	X	X	X	
WG-1620-TB01-20200109	-	Water	01/09/2020	-	X				Trip Blank
WG-1620-MW83C-20200110	MW-83C	Water	01/10/2020	09:00	X	X		X	
WG-1620-MW83B-20200110	MW-83B	Water	01/10/2020	10:00	X	X		X	
WG-1620-FB04-20200110	-	Water	01/10/2020	10:30	X	X		X	Field Blank
WG-1620-MW35A-20200110	MW-35A	Water	01/10/2020	11:20	X	X		X	

Table 1

Sample Collection and Analysis Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

					Analysis/Parameters				
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**TPH**	**Arsenic**	**Comments**
WG-1620-MW35B-20200110	MW-35B	Water	01/10/2020	12:45	X	X		X	
WG-1620-FD01-20200110	MW-35B	Water	01/10/2020	12:45	X	X		X	Field duplciate of MW35B
WQ-1620-TB01-20200110	-	Water	01/10/2020	-	X				Trip Blank
WG-1620-MW40B-20200113	MW-40B	Water	01/13/2020	12:10	X	X		X	MS/MSD-P; DUP
WG-1620-MW42B-20200113	MW-42B	Water	01/13/2020	13:10	X	X		X	
WG-1620-TW41B-20200113	TW-41B	Water	01/13/2020	14:00	X	X		X	
WG-1620-MW05-20200113	MW-05	Water	01/13/2020	14:55	X	X		X	
WG-1620-MW12C-20200113	MW-12C	Water	01/13/2020	15:55	X	X		X	
WG-1620-MW12A-20200113	MW-12A	Water	01/13/2020	16:45	X	X		X	
WG-1620-MW39B-20200113	MW-39B	Water	01/13/2020	17:35	X	X		X	
WG-1620-FB05-20200113	-	Water	01/13/2020	17:50	X	X		X	Field Blank
WG-1620-MW13-20200114	MW-13	Water	01/14/2020	08:10	X	X		X	MS/MSD-P
WG-1620-MW09-20200114	MW-09	Water	01/14/2020	09:00	X	X		X	
WG-1620-MW21C-20200114	MW-21C	Water	01/14/2020	10:00	X	X		X	
WG-1620-FD02-20200114	MW-21C	Water	01/14/2020	10:00	X	X		X	Field duplciate of MW21C

Table 1

Sample Collection and Analysis Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

					Analysis/Parameters				
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**TPH**	**Arsenic**	**Comments**
WG-1620-P11-20200114	P-11	Water	01/14/2020	10:55	X	X		X	
WG-1620-MW88C-20200114	MW-88C	Water	01/14/2020	11:50	X	X		X	
WG-1620-MW20A-20200114	MW-20A	Water	01/14/2020	12:55	X	X		X	
WG-1620-MW15A-20200114	MW-15A	Water	01/14/2020	13:45	X	X		X	
WG-1620-MW15B-20200114	MW-15B	Water	01/14/2020	14:30	X	X		X	
WG-1620-MW15C-20200114	MW-15C	Water	01/14/2020	15:20	X	X		X	
WG-1620-MW14-20200114	MW-14	Water	01/14/2020	16:15	X	X		X	
WG-1620-MW17-20200114	MW-17	Water	01/14/2020	17:10	X	X		X	
WG-1620-FB06-20200114	-	Water	01/14/2020	17:25	X	X		X	Field Blank
WG-1620-TB03-20200114	-	Water	01/14/2020	-	X				Trip Blank
WG-1620-MW17C-20200115	MW-17C	Water	01/15/2020	08:15	X	X		X	
WG-1620-MW67B-20200115	MW-67B	Water	01/15/2020	09:30	X	X		X	MS/MSD; DUP
WG-1620-MW46C-20200115	MW-46C	Water	01/15/2020	10:25	X	X		X	
WG-1620-MW25A-20200115	MW-25A	Water	01/15/2020	11:20	X	X		X	
WG-1620-MW44C-20200115	MW-44C	Water	01/15/2020	13:15	X	X		X	

Table 1

Sample Collection and Analysis Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

					Analysis/Parameters				
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**TPH**	**Arsenic**	**Comments**
WG-1620-MW71B-20200115	MW-71B	Water	01/15/2020	14:00	X	X		X	
WG-1620-MW33BR-20200115	MW-33BR	Water	01/15/2020	15:00	X	X		X	
WG-1620-MW25C-20200115	MW-25C	Water	01/15/2020	15:50	X	X		X	
WG-1620-MW27A-20200115	MW-27A	Water	01/15/2020	16:40	X	X		X	
WG-1620-MW27C-20200115	MW-27C	Water	01/15/2020	17:20	X	X		X	
WQ-1620-TB04-20200115	-	Water	01/15/2020	-	X				Trip Blank
WG-1620-MW59A-20200116	MW-59A	Water	01/16/2020	08:05	X	X		X	
WG-1620-MW59B-20200116	MW-59B	Water	01/16/2020	09:00	X	X		X	
WG-1620-MW28A-20200116	MW-28A	Water	01/16/2020	09:10	X	X		X	
WG-1620-MW28C-20200116	MW-28C	Water	01/16/2020	10:15	X	X		X	MS/MSD; DUP
WG-1620-MW48C-20200116	MW-48C	Water	01/16/2020	10:20	X	X		X	
WG-1620-MW47C-20200116	MW-47C	Water	01/16/2020	11:05	X	X		X	
WG-1620-MW61A-20200116	MW-61A	Water	01/16/2020	12:00	X	X		X	MS/MSD; DUP
WG-1620-FB08-20200116	-	Water	01/16/2020	12:00	X	X		X	Field Blank
WG-1620-MW89B-20200116	MW-89B	Water	01/16/2020	12:45	X	X		X	

Table 1

Sample Collection and Analysis Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

					Analysis/Parameters				
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**TPH**	**Arsenic**	**Comments**
WG-1620-MW84B-20200116	MW-84B	Water	01/16/2020	13:45	X	X		X	MS/MSD-P
WG-1620-MW59D-20200116	MW-59D	Water	01/16/2020	13:50	X	X		X	
WG-1620-FD03-20200116	MW-59D	Water	01/16/2020	13:50	X	X		X	Field duplciate of MW59D
WG-1620-MW63B-20200116	MW-63B	Water	01/16/2020	14:45	X	X		X	
WG-1620-MW66D-20200116	MW-66D	Water	01/16/2020	15:00	X	X		X	
WG-1620-MW26A-20200116	MW-26A	Water	01/16/2020	16:00	X	X		X	
WG-1620-MW65D-20200116	MW-65D	Water	01/16/2020	16:20	X	X		X	MS/MSD; DUP
WG-1620-MW36D-20200116	MW-36D	Water	01/16/2020	17:25	X	X		X	
WG-1620-MW86C-20200117	MW-86C	Water	01/17/2020	07:25	X	X	X	X	
WG-1620-FD04-20200117	MW-86C	Water	01/17/2020	07:25	X	X	X	X	Field duplicate of MW86C
WG-1620-MW75B-20200117	MW-75B	Water	01/17/2020	08:15	X	X	X	X	
WG-1620-MW68C-20200117	MW-68C	Water	01/17/2020	09:10	X	X		X	
WG-1620-MW79A-20200117	MW-79A	Water	01/17/2020	09:20	X	X	X	X	
WG-1620-FB09-20200117	-	Water	01/17/2020	10:00	X	X		X	Field Blank
WG-1620-MW68A-20200117	MW-68A	Water	01/17/2020	10:15	X	X		X	

Table 1

Sample Collection and Analysis Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

					Analysis/Parameters				
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**TPH**	**Arsenic**	**Comments**
WG-1620-MW74B-20200117	MW-74B	Water	01/17/2020	10:20	X	X	X	X	
WG-1620-MW78A-20200117	MW-78A	Water	01/17/2020	11:25	X	X	X	X	
WQ-1620-TB05-2020117	-	Water	01/17/2020	-	X				Trip Blank
WG-1620-MW32AR-20200120	MW-32AR	Water	01/20/2020	09:10	X	X		X	MS/MSD-P; DUP
WG-1620-FB10-20200120	-	Water	01/20/2020	09:30	X	X		X	Field Blank
WG-1620-MW32B-20200120	MW-32B	Water	01/20/2020	10:15	X	X		X	
WG-1620-MW70B-20200120	MW-70B	Water	01/20/2020	11:30	X	X		X	
WG-1620-MW33A-20200120	MW-33A	Water	01/20/2020	12:45	X	X		X	
WG-1620-FD05-20200120	MW-33A	Water	01/20/2020	12:45	X	X		X	Field duplciate of MW-33A
WG-1620-MW87C-20200120	MW-87C	Water	01/20/2020	14:00	X	X		X	
WG-1620-MW90B-20200120	MW-90B	Water	01/20/2020	15:15	X	X		X	
WG-1620-MW45C-20200120	MW-45C	Water	01/20/2020	16:30	X	X		X	
WQ-1620-TB06-20200120	-	Water	01/20/2020	-	X				Trip Blank
WG-1620-MW82B-20200121	MW-82B	Water	01/21/2020	09:10	X	X		X	MS/MSD; DUP
WG-1620-MW38A-20200121	MW-38A	Water	01/21/2020	11:10	X	X		X	

Table 1

Sample Collection and Analysis Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

					Analysis/Parameters				
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**TPH**	**Arsenic**	**Comments**
WG-1620-MW38B-20200121	MW-38B	Water	01/21/2020	13:45	X	X		X	
WG-1620-MW03-20200121	MW-03	Water	01/21/2020	15:00	X	X		X	
WG-1620-FB11-20200121	-	Water	01/21/2020	15:30	X	X		X	Field Blank
WG-1620-MW04-20200121	MW-04	Water	01/21/2020	16:00	X	X		X	
WQ-1620-TB07-20200121	-	Water	01/21/2020	-	X				Trip Blank
WG-1620-MW41B-20200123	MW-41B	Water	01/23/2020	12:40	X	X		X	MS/MSD-P; DUP
WG-1620-FB12-20200123	-	Water	01/23/2020	13:00	X	X		X	Field Blank
WG-1620-MW12B-20200123	MW-12B	Water	01/23/2020	14:00	X	X		X	
WG-1620-MW68B-20200123	MW-68B	Water	01/23/2020	15:25	X	X		X	
WQ-1620-TB08-20200123	-	Water	01/23/2020	-	X				Trip Blank
WG-1620-MW62B-20200127	MW-62B	Water	01/27/2020	09:25	X	X		X	
WG-1620-MW64A-20200127	MW-64A	Water	01/27/2020	11:15	X	X		X	
WG-1620-FB13-20200127	-	Water	01/27/2020	12:00	X	X		X	Field Blank
WG-1620-MW49B-20200127	MW-49B	Water	01/27/2020	13:30	X	X		X	
WQ-1620-TB09-20200127	-	Water	01/27/2020	-	X				Trip Blank

Table 1

Sample Collection and Analysis Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

					Analysis/Parameters				
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**TPH**	**Arsenic**	**Comments**
WG-1620-MW22AR-20200210	MW-22AR	Water	02/10/2020	10:00	X	X		X	
WG-1620-MW22BR-20200210	MW-22BR	Water	02/10/2020	11:00	X	X		X	
WG-1620-FB14-20200210	-	Water	02/10/2020	11:30	X	X		X	Field Blank
WQ-1620-TB11-20200211	-	Water	02/11/2020	-	X	X		X	Trip Blank

Notes:

VOCs - Volatile Organic Compounds
SVOCs - Semi-volatile Organic Compounds
TPH - Total Petroleum Hydrocarbons
MS/MSD - Matrix Spike/ Matrix Spike Duplicate
MS/MSD-P - Matrix Spike/ Matrix Spike Duplicate (partial parameters)
DUP - Laboratory Duplicate
"-" - Not Applicable

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:	MW-03	MW-04	MW-05	MW-09	MW-12A
Sample Name:	WG-1620-MW03-20200121	WG-1620-MW04-20200121	WG-1620-MW05-20200113	WG-1620-MW09-20200114	WG-1620-MW12A-20200113
Sample Date:	01/21/2020	01/21/2020	01/13/2020	01/14/2020	01/13/2020
Parameters	**Unit**				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	--	--	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.000040	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.000045 J	0.00026	<0.000019	<0.000019	0.0023
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	0.000061 J	0.00015	<0.000027	<0.000027	0.28
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	<0.000015	0.0012
Anthracene	mg/L	0.000069 J	0.00010	<0.000014	<0.000014	0.0097
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	0.00015
Benzo(a)pyrene	mg/L	0.000024 J	0.000033 J	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.00011 J	0.0018	<0.000037	<0.000037	0.00011 J
Chrysene	mg/L	<0.000021	0.000034 J	<0.000021	<0.000021	0.00015
Di-n-butylphthalate (DBP)	mg/L	0.000029 J	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	<0.000020	0.000097 J	<0.000020	<0.000020	0.23
Fluoranthene	mg/L	0.000055 J	0.00029	<0.000010	<0.000010	0.0067
Fluorene	mg/L	<0.000030	0.000067 J	<0.000030	<0.000030	0.28
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-03	MW-04	MW-05	MW-09	MW-12A
Sample Name:		WG-1620-MW03-20200121	WG-1620-MW04-20200121	WG-1620-MW05-20200113	WG-1620-MW09-20200114	WG-1620-MW12A-20200113
Sample Date:		01/21/2020	01/21/2020	01/13/2020	01/14/2020	01/13/2020
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	<0.00024	0.0013	<0.00012	0.00011	<0.00051
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000021	0.00017	<0.000021	<0.000021	0.082
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	0.000036 J	0.00020	<0.000019	<0.000019	0.0031
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--	--	--
Metals						
Arsenic	mg/L	0.00207	0.00223	0.00146 J	0.00430	0.00134 J

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-12B	MW-12C	MW-13	MW-14	MW-15A
Sample Name:		WG-1620-MW12B-20200123	WG-1620-MW12C-20200113	WG-1620-MW13-20200114	WG-1620-MW14-20200114	WG-1620-MW15A-20200114
Sample Date:		01/23/2020	01/13/2020	01/14/2020	01/14/2020	01/14/2020
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	0.030	<0.00020	<0.00020	<0.00020	0.00034 J
Chlorobenzene	mg/L	<0.0075	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	0.014 J	<0.00030	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.025	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	<0.0050	--	--	--	--
Xylenes (total)	mg/L	<0.0075	<0.00030	<0.00030	<0.00030	0.00093 J
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.0021	<0.000021	<0.000021	<0.000021	0.00036
2,4-Dimethylphenol	mg/L	<0.0040	<0.000040	<0.000040	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.0058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.0042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.0021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	320 J	0.00018	0.000054 J	<0.000019	0.018
4,6-Dinitro-2-methylphenol	mg/L	<0.0020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.0047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	350	0.00015	0.00022	0.000091 J	0.14
Acenaphthylene	mg/L	5.7	<0.000015	<0.000015	<0.000015	0.00066
Anthracene	mg/L	160	<0.000014	<0.000014	<0.000014	0.0048
Benzo(a)anthracene	mg/L	79	<0.000050	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	22	<0.000020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.0030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.0037	<0.000037	<0.000037	<0.000037	<0.000037
Chrysene	mg/L	64	<0.000021	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.0020	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	320	0.00012	0.00016	<0.000020	0.036
Fluoranthene	mg/L	520	0.000091 J	<0.000010	0.000064 J	0.0031
Fluorene	mg/L	420	0.00019	0.00016	0.000057 J	0.065
N-Nitrosodiphenylamine	mg/L	<0.0025	<0.000025	<0.000025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-12B	MW-12C	MW-13	MW-14	MW-15A
Sample Name:		WG-1620-MW12B-20200123	WG-1620-MW12C-20200113	WG-1620-MW13-20200114	WG-1620-MW14-20200114	WG-1620-MW15A-20200114
Sample Date:		01/23/2020	01/13/2020	01/14/2020	01/14/2020	01/14/2020
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	760	0.0017	0.00026	<0.000020	0.00022
Nitrobenzene	mg/L	<0.0024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.0079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	1200	0.00015	<0.000021	<0.000021	0.025
Phenol	mg/L	<0.0035	0.00012 J	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	330	0.000068 J	<0.000019	0.000060 J	0.0013
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--	--	--
Metals						
Arsenic	mg/L	0.0491 J	0.00195 J	0.0642	0.00185 J	0.0441

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-15B	MW-15C	MW-17	MW-17C	MW-18A
Sample Name:		WG-1620-MW15B-20200114	WG-1620-MW15C-20200114	WG-1620-MW17-20200114	WG-1620-MW17C-20200115	WG-1620-MW18A-20200108
Sample Date:		01/14/2020	01/14/2020	01/14/2020	01/15/2020	01/08/2020
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.0050
Benzene	mg/L	<0.00020	0.00059 J	<0.00020	<0.00020	0.41
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.0075
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	0.32
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.025
Toluene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.11
Vinyl chloride	mg/L	--	--	--	--	<0.0050
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	0.50
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.000040	<0.000040	1.8
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	<0.000019	<0.000019	0.000073 J	0.36
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	0.0042
Acenaphthene	mg/L	0.000073 J	0.016	<0.000027	0.00023	0.33
Acenaphthylene	mg/L	<0.000015	0.00089	<0.000015	<0.000015	0.0081
Anthracene	mg/L	0.00011	0.00057	<0.000014	<0.000014	0.0082
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.000055 J	<0.000037	<0.000037	<0.000037	<0.00043
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	<0.000020	0.0045	<0.000020	0.000065 J	0.20
Fluoranthene	mg/L	0.00011	0.00066	0.00011	0.00034	0.0023
Fluorene	mg/L	0.000062 J	0.00051	<0.000030	0.000061 J	0.16
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-15B	MW-15C	MW-17	MW-17C	MW-18A
Sample Name:		WG-1620-MW15B-20200114	WG-1620-MW15C-20200114	WG-1620-MW17-20200114	WG-1620-MW17C-20200115	WG-1620-MW18A-20200108
Sample Date:		01/14/2020	01/14/2020	01/14/2020	01/15/2020	01/08/2020
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	<0.000020	0.00024	<0.000020	0.00016	4.6
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	0.000050 J	0.000080 J	<0.000021	<0.000021	0.10
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035	0.0014
Pyrene	mg/L	0.000060 J	0.00038	0.000066 J	0.00021	0.0013
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--	--	--
Metals						
Arsenic	mg/L	0.00343	0.000773 J	0.00154 J	0.00184 J	0.0236

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-18C	MW-19C	MW-20A	MW-21C	MW-21C
Sample Name:		WG-1620-MW18C-20200108	WG-1620-MW19C-20200109	WG-1620-MW20A-20200114	WG-1620-MW21C-20200114	WG-1620-FD02-20200114
Sample Date:		01/08/2020	01/09/2020	01/14/2020	01/14/2020	01/14/2020
						Duplicate
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.0020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	1.1	0.00032 J	0.020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.0030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	0.31	0.00064 J	0.025	<0.00030	<0.00030
Methylene chloride	mg/L	<0.010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.97	<0.00020	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	<0.0020	<0.00020	--	--	--
Xylenes (total)	mg/L	0.92	0.0012	0.024	<0.00030	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	0.000078 J	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	0.023	<0.000040	0.0018	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042 J	0.0030 J
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.31	<0.000019	0.075	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	0.093	0.00099	0.11	<0.000027	0.00020
Acenaphthylene	mg/L	0.0026	0.000050 J	0.00092	<0.000015	<0.000015
Anthracene	mg/L	0.020	<0.00017	0.0075	<0.000014	<0.000014
Benzo(a)anthracene	mg/L	0.0025	0.00026	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	0.00053	0.00010	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	<0.000071	<0.000037	0.00035	0.000065 J
Chrysene	mg/L	0.0027	0.00024	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	0.000021 J	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	0.085	0.00069	0.079	<0.000020	0.00017
Fluoranthene	mg/L	0.013	0.0011	0.00067	<0.000010	<0.000010
Fluorene	mg/L	0.043	0.00047	0.080	<0.000030	0.00018
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-18C	MW-19C	MW-20A	MW-21C	MW-21C
Sample Name:		WG-1620-MW18C-20200108	WG-1620-MW19C-20200109	WG-1620-MW20A-20200114	WG-1620-MW21C-20200114	WG-1620-FD02-20200114
Sample Date:		01/08/2020	01/09/2020	01/14/2020	01/14/2020	01/14/2020 Duplicate
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	14	<0.00011	2.0	0.00011	0.00013
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	0.023	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	0.065	<0.00045	0.028	<0.000021	0.000061 J
Phenol	mg/L	0.0062	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	0.0066	0.0014	0.00030	<0.000019	<0.000019
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--	--	--
Metals						
Arsenic	mg/L	0.00283	0.00140 J	0.00808	0.00109 J	0.00109 J

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:	MW-22AR	MW-22BR	MW-23C	MW-25A	MW-25C
Sample Name:	WG-1620-MW22AR-20200210	WG-1620-MW22BR-20200210	WG-1620-MW23C-20200109	WG-1620-MW25A-20200115	WG-1620-MW25C-20200115
Sample Date:	02/10/2020	02/10/2020	01/09/2020	01/15/2020	01/15/2020
Parameters	**Unit**				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.0010	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	0.0027 J	<0.00020	0.0017
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.0015	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	0.028	<0.00030	0.033
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0050	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.0010	<0.00020	0.010
Vinyl chloride	mg/L	--	--	--	<0.00020	<0.00020
Xylenes (total)	mg/L	<0.00030	<0.00030	0.025	<0.00030	0.22
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.00021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.047	<0.000040	0.0062
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.00058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.00042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	0.00011 J	<0.00021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.00012	<0.000043	0.12	<0.000019	0.96
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.00020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.00047	<0.000047	<0.000047
Acenaphthene	mg/L	<0.00015	0.018	0.21	<0.000027	0.36
Acenaphthylene	mg/L	<0.000015	0.00018	0.0029	<0.000015	0.0025
Anthracene	mg/L	0.00020	0.00042	0.035	0.000089 J	0.027
Benzo(a)anthracene	mg/L	0.00029	<0.000050	0.0080	0.00012	0.00057
Benzo(a)pyrene	mg/L	0.00010	<0.000020	0.0022	0.000038 J	0.00019
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.00030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.00011 J	0.000075 J	<0.00037	<0.000037	0.00066
Chrysene	mg/L	0.00032	<0.000021	0.0072	0.000097 J	0.00056
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.00020	<0.000020	0.00068
Dibenzofuran	mg/L	<0.00015	<0.00029	0.17	<0.000020	0.34
Fluoranthene	mg/L	0.0015	0.0017	0.068	0.00045	0.0058
Fluorene	mg/L	0.00019	0.0026	0.12	<0.000030	0.15
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.00025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-22AR	MW-22BR	MW-23C	MW-25A	MW-25C
Sample Name:		WG-1620-MW22AR-20200210	WG-1620-MW22BR-20200210	WG-1620-MW23C-20200109	WG-1620-MW25A-20200115	WG-1620-MW25C-20200115
Sample Date:		02/10/2020	02/10/2020	01/09/2020	01/15/2020	01/15/2020
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	<0.00044	<0.00013	0.66	0.00010	7.5
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.00024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.00079	<0.000079	0.17
Phenanthrene	mg/L	0.0015	<0.00013	0.25	0.00017	0.18
Phenol	mg/L	<0.000041	<0.000035	0.0079	<0.000035	<0.000035
Pyrene	mg/L	0.0010	0.00082	0.043	0.00035	0.0049
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--	--	--
Metals						
Arsenic	mg/L	0.00352	0.0160	0.00333	0.00216	0.00391

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-26A	MW-27A	MW-27C	MW-28A	MW-28C
Sample Name:		WG-1620-MW26A-20200116	WG-1620-MW27A-20200115	WG-1620-MW27C-20200115	WG-1620-MW28A-20200116	WG-1620-MW28C-20200116
Sample Date:		01/16/2020	01/15/2020	01/15/2020	01/16/2020	01/16/2020
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	--	--	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	0.000034 J	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.000040	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.000042	<0.000019	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	<0.00017	<0.000027	<0.000027	<0.00014	<0.000027
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	mg/L	<0.000087	<0.000014	<0.000014	<0.00013	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	0.000073 J	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	0.000052 J	<0.000020	0.000057 J	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	0.000062 J	<0.000037	0.000090 J	0.000072 J
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	0.000065 J	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	0.000032 J	<0.000020
Dibenzofuran	mg/L	<0.000044	<0.000020	<0.000020	<0.00010	<0.000020
Fluoranthene	mg/L	0.00073	<0.000010	<0.000010	0.00030	<0.000010
Fluorene	mg/L	<0.00029	<0.000030	<0.000030	<0.00014	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-26A	MW-27A	MW-27C	MW-28A	MW-28C
Sample Name:		WG-1620-MW26A-20200116	WG-1620-MW27A-20200115	WG-1620-MW27C-20200115	WG-1620-MW28A-20200116	WG-1620-MW28C-20200116
Sample Date:		01/16/2020	01/15/2020	01/15/2020	01/16/2020	01/16/2020
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	<0.00017	0.000053 J	0.000055 J	<0.00060	<0.00016
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000030	<0.000021	<0.000021	0.00048	<0.000021
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035	0.000086 J
Pyrene	mg/L	0.00035	<0.000019	<0.000019	0.00021	<0.000019
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--	--	--
Metals						
Arsenic	mg/L	0.0217	0.000859 J	0.000623 J	0.00664	0.000937 J

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-32AR	MW-32B	MW-33A	MW-33A	MW-33BR
Sample Name:		WG-1620-MW32AR-20200120	WG-1620-MW32B-20200120	WG-1620-MW33A-20200120	WG-1620-FD05-20200120	WG-1620-MW33BR-20200115
Sample Date:		01/20/2020	01/20/2020	01/20/2020	01/20/2020	01/15/2020
					Duplicate	
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.0050	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	1.8	<0.00020	<0.00020	0.12
Chlorobenzene	mg/L	<0.00030	<0.0075	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	0.73	<0.00030	<0.00030	0.043
Methylene chloride	mg/L	<0.0010	<0.025	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	2.3	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	<0.00020	<0.0050	<0.00020	<0.00020	<0.00020
Xylenes (total)	mg/L	<0.00030	2.1	<0.00030	<0.00030	0.011
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.00042	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	26	<0.000040	<0.000040	0.00018 J
2,4-Dinitrotoluene	mg/L	<0.000058	<0.0012	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.00084	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.00042	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.000028	50	<0.000063	<0.000095	0.00025
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.00040	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.00094	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	0.0014	26	0.00073 J	0.0011 J	0.0051
Acenaphthylene	mg/L	<0.000015	<0.00030	0.000049 J	0.000038 J	0.00015
Anthracene	mg/L	<0.000014	23	0.000057 J	0.000044 J	0.00046
Benzo(a)anthracene	mg/L	<0.000050	2.2	0.00012	0.00012	0.00010
Benzo(a)pyrene	mg/L	0.000081 J	0.74	0.000066 J	0.000072 J	0.000039 J
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.00060	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.000043 J	<0.00074	<0.000037	<0.000037	0.00067
Chrysene	mg/L	0.000042 J	2.4	0.000078 J	0.000093 J	0.00011
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.00040	<0.000020	<0.000020	0.00099
Dibenzofuran	mg/L	<0.000020	28	0.000096 J	0.000067 J	0.0039
Fluoranthene	mg/L	<0.00029	21	0.00035 J	0.00057 H	0.00082
Fluorene	mg/L	0.000038 J	23	0.000059 J	0.000072 J	0.0018
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.00050	<0.000025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		**MW-32AR**	**MW-32B**	**MW-33A**	**MW-33A**	**MW-33BR**
Sample Name:		**WG-1620-MW32AR-20200120**	**WG-1620-MW32B-20200120**	**WG-1620-MW33A-20200120**	**WG-1620-FD05-20200120**	**WG-1620-MW33BR-20200115**
Sample Date:		**01/20/2020**	**01/20/2020**	**01/20/2020**	**01/20/2020**	**01/15/2020**
					Duplicate	
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	<0.00014	300	<0.00050	<0.00066	0.0051
Nitrobenzene	mg/L	<0.000024	<0.00048	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.0016	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000032	69	<0.000056	<0.000046	0.0013
Phenol	mg/L	<0.000035	17	<0.000035	<0.000035	0.00018 J
Pyrene	mg/L	0.00042	14	<0.00019 J	0.00052 J	0.00057
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--	--	--
Metals						
Arsenic	mg/L	0.00770	0.00193 J	0.00810	0.00755	0.000877 J

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-35A	MW-35B	MW-35B	MW-36A	MW-36B
Sample Name:		WG-1620-MW35A-20200110	WG-1620-MW35B-20200110	WG-1620-FD01-20200110	WG-1620-MW36A-20200109	WG-1620-MW36B-20200109
Sample Date:		01/10/2020	01/10/2020	01/10/2020	01/09/2020	01/09/2020
				Duplicate		
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	0.025 J	0.016 J	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	0.096	0.083	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Xylenes (total)	mg/L	<0.00030	0.058 J	0.041 J	<0.00030	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	0.00021	<0.000052	<0.000054
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	0.14 J	0.062 J	<0.000019	<0.00013
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	<0.000027	0.059 J	0.033 J	<0.000027	<0.00017
Acenaphthylene	mg/L	<0.000015	0.00038	0.00027	<0.000015	<0.000015
Anthracene	mg/L	<0.000014	0.0029 J	0.0018 J	<0.000014	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.000061 J	<0.000037	<0.000037	<0.000037	<0.000037
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	<0.000020	0.054 J	0.031 J	<0.000020	<0.00012
Fluoranthene	mg/L	<0.000010	0.0015 J	0.00093 J	<0.000010	0.000051 J
Fluorene	mg/L	0.000065 J	0.028 J	0.015 J	<0.000030	<0.00012
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-35A	MW-35B	MW-35B	MW-36A	MW-36B
Sample Name:		WG-1620-MW35A-20200110	WG-1620-MW35B-20200110	WG-1620-FD01-20200110	WG-1620-MW36A-20200109	WG-1620-MW36B-20200109
Sample Date:		01/10/2020	01/10/2020	01/10/2020 Duplicate	01/09/2020	01/09/2020
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	<0.00020	2.0 J	0.13 J	<0.00034	<0.00093
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000021	0.024 J	0.013 J	<0.000021	<0.00010
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035	<0.000075
Pyrene	mg/L	<0.000019	0.00070 J	0.00045 J	<0.000019	<0.000019
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--	--	--
Metals						
Arsenic	mg/L	0.0219	0.0120	0.0159	0.00354	0.00100 J

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:	MW-36D	MW-38A	MW-38B	MW-39B	MW-40B
Sample Name:	WG-1620-MW36D-20200116	WG-1620-MW38A-20200121	WG-1620-MW38B-20200121	WG-1620-MW39B-20200113	WG-1620-MW40B-20200113
Sample Date:	01/16/2020	01/21/2020	01/21/2020	01/13/2020	01/13/2020
Parameters	**Unit**				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.011
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	0.089
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.022
Vinyl chloride	mg/L	--	--	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	0.16
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	0.00025	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.000040	<0.000040	0.0013
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	0.00017	0.00017	0.00021	0.34
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	<0.000027	0.00068	0.054	0.0012	0.39
Acenaphthylene	mg/L	<0.000015	<0.000015	0.00045	<0.000015	0.0021
Anthracene	mg/L	<0.000033	0.00015	0.0012	0.00016	0.040
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	0.000055 J	<0.000050	0.000094 J
Benzo(a)pyrene	mg/L	<0.000020	0.000032 J	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	0.000063 J	<0.000037	<0.000037	<0.000037
Chrysene	mg/L	<0.000021	0.000060 J	0.000057 J	<0.000021	0.000051 J
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	0.000036 J	<0.000020	<0.000020
Dibenzofuran	mg/L	<0.000020	0.00036	0.0054	0.00019	0.29
Fluoranthene	mg/L	<0.000010	0.00018	0.0025	0.00023	0.017
Fluorene	mg/L	<0.000030	0.00029	0.015	0.00032	0.30
N-Nitrosodiphenylamine	mg/L	<0.000025	0.00011 J	<0.000025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-36D	MW-38A	MW-38B	MW-39B	MW-40B
Sample Name:		WG-1620-MW36D-20200116	WG-1620-MW38A-20200121	WG-1620-MW38B-20200121	WG-1620-MW39B-20200113	WG-1620-MW40B-20200113
Sample Date:		01/16/2020	01/21/2020	01/21/2020	01/13/2020	01/13/2020
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	<0.000033	0.0011	0.00098	0.0023	7.9
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000047	0.00039	0.00095	0.00019	0.22
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	<0.000019	0.00014	0.0015	0.00022	0.0037
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--	--	--
Metals						
Arsenic	mg/L	0.000533 J	0.0177	0.0173	0.00248	0.0523

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-41B	MW-42B	MW-44A	MW-44C	MW-45C
Sample Name:		WG-1620-MW41B-20200123	WG-1620-MW42B-20200113	WG-1620-MW44A-20200109	WG-1620-MW44C-20200115	WG-1620-MW45C-20200120
Sample Date:		01/23/2020	01/13/2020	01/09/2020	01/15/2020	01/20/2020
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	0.012	<0.00020	<0.00020	<0.00020	0.00050 J
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	0.066	<0.00030	<0.00030	<0.00030	0.00044 J
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.087	<0.00020	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	<0.00020	--	--	--	<0.00020
Xylenes (total)	mg/L	0.16	<0.00030	<0.00030	<0.00030	0.0051
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000085
2,4-Dimethylphenol	mg/L	0.043	<0.000040	<0.00042	0.00011 J	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	0.0022 JH
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.67 J	0.000069 J	<0.00035	0.00012	<0.00013
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	0.000067 J
Acenaphthene	mg/L	0.49	0.00012	0.064	0.00045	0.000084 J
Acenaphthylene	mg/L	0.0089	<0.000015	0.00097	0.00065	0.000037 J
Anthracene	mg/L	0.045	0.000049 J	0.00027	0.0086	0.00090
Benzo(a)anthracene	mg/L	0.0040	<0.000050	0.000054 J	0.0018	0.00039
Benzo(a)pyrene	mg/L	0.00090	<0.000020	<0.000020	0.00065	0.00042
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.00032	0.00013 J	<0.000037	0.0012	0.000067 J
Chrysene	mg/L	0.0033	<0.000021	<0.000021	0.0022	0.00062
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	0.0016	<0.000020
Dibenzofuran	mg/L	0.39	0.000065 J	<0.00033	0.00034	0.000075 J
Fluoranthene	mg/L	0.052	0.00018	0.0059	0.0095	0.00062
Fluorene	mg/L	0.35	0.000067 J	0.0078	0.00067	0.00023
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-41B	MW-42B	MW-44A	MW-44C	MW-45C
Sample Name:		WG-1620-MW41B-20200123	WG-1620-MW42B-20200113	WG-1620-MW44A-20200109	WG-1620-MW44C-20200115	WG-1620-MW45C-20200120
Sample Date:		01/23/2020	01/13/2020	01/09/2020	01/15/2020	01/20/2020
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	10	<0.00076	<0.0030	0.000097 J	<0.00061
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	0.41	0.00012	<0.00022	0.0077	<0.00027
Phenol	mg/L	<0.000035	<0.000035	<0.00013	<0.000035	<0.000035
Pyrene	mg/L	0.029	0.00013	0.0045	0.0060	0.00068
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--	--	--
Metals						
Arsenic	mg/L	0.0842 J	0.00133 J	0.00966	0.00314	0.000730 J

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-46C	MW-47C	MW-48C	MW-49A	MW-49B
Sample Name:		WG-1620-MW46C-20200115	WG-1620-MW47C-20200116	WG-1620-MW48C-20200116	WG-1620-MW49A-20200107	WG-1620-MW49B-20200127
Sample Date:		01/15/2020	01/16/2020	01/16/2020	01/07/2020	01/27/2020
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.0020	<0.010
Benzene	mg/L	0.028	<0.00020	<0.00020	0.30	0.60
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	0.0063 J	<0.015
Ethylbenzene	mg/L	0.051	<0.00030	<0.00030	0.10	0.26
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.010	<0.050
Toluene	mg/L	0.0047	<0.00020	<0.00020	0.19	0.72
Vinyl chloride	mg/L	--	--	--	<0.0020	<0.010
Xylenes (total)	mg/L	0.11	<0.00030	<0.00030	0.24	0.71
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.0013
2,4-Dimethylphenol	mg/L	0.00016 J	0.00020	<0.000040	5.7	25
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.0035
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.0025
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.0013
2-Methylnaphthalene	mg/L	0.20	<0.00010	<0.000076	0.13	250
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.0012
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.0028
Acenaphthene	mg/L	0.16	<0.000057	<0.000073	0.057	190
Acenaphthylene	mg/L	0.0016	<0.000015	<0.000015	0.00097	2.1
Anthracene	mg/L	0.073	<0.000014	<0.000014	0.0028	87
Benzo(a)anthracene	mg/L	0.0071	<0.000050	<0.000050	<0.000050	23
Benzo(a)pyrene	mg/L	0.0021	0.000040 J	0.000021 J	<0.000020	7.5
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.0018
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.0011	0.00079	0.000039 J	<0.00011	<0.0022
Chrysene	mg/L	0.0068	0.000060 J	0.000029 J	<0.000021	23
Di-n-butylphthalate (DBP)	mg/L	<0.000020	0.0014	<0.000020	<0.000020	<0.0012
Dibenzofuran	mg/L	0.16	<0.000049	<0.000054	0.037	160
Fluoranthene	mg/L	0.084	<0.00011	<0.000061	0.00056	170
Fluorene	mg/L	0.12	<0.000042	<0.000050	0.027	170
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.0015

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-46C	MW-47C	MW-48C	MW-49A	MW-49B
Sample Name:		WG-1620-MW46C-20200115	WG-1620-MW47C-20200116	WG-1620-MW48C-20200116	WG-1620-MW49A-20200107	WG-1620-MW49B-20200127
Sample Date:		01/15/2020	01/16/2020	01/16/2020	01/07/2020	01/27/2020
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	1.8	<0.00056	<0.00052	4.5	1200
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.00024	<0.0014
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.0047
Phenanthrene	mg/L	0.24	<0.000088	<0.000052	0.016	500
Phenol	mg/L	<0.000035	<0.000035	<0.000035	0.17	<0.0021
Pyrene	mg/L	0.053	<0.00010	<0.000065	0.00052	96
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	--	--	--	32.0	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--	11	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--	<0.19	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--	21	--
Metals						
Arsenic	mg/L	0.00272	0.00234	0.00126 J	0.00463	0.0107

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:	MW-50A	MW-51A	MW-51C	MW-53C	MW-54C
Sample Name:	WG-1620-MW50A-20200109	WG-1620-MW51A-20200109	WG-1620-MW51C-20200109	WG-1620-MW53C-20200109	WG-1620-MW54C-20200109
Sample Date:	01/09/2020	01/09/2020	01/09/2020	01/09/2020	01/09/2020
Parameters	**Unit**				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	--	--	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.00071	<0.000040	<0.000040	<0.0011	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.00019	<0.000044	<0.000055	<0.00025	0.0020
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	<0.00037	<0.000040	<0.000094	<0.00032	0.021
Acenaphthylene	mg/L	0.000022 J	<0.000015	<0.000015	<0.000015	0.00023
Anthracene	mg/L	<0.000014	<0.000063	<0.00010	<0.000028	0.0015
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	0.000027 J	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000085	<0.00014	<0.000085	<0.000037	<0.00018
Chrysene	mg/L	<0.000021	0.000050 J	<0.000021	<0.000021	0.000054 J
Di-n-butylphthalate (DBP)	mg/L	<0.000020	0.000034 J	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	<0.00013	<0.000049	<0.00011	<0.00027	0.020
Fluoranthene	mg/L	0.000052 J	0.00013	0.00018	0.000071 J	0.0026
Fluorene	mg/L	<0.00011	<0.000043	<0.00011	<0.00020	0.0095
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	0.000056 J	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-50A	MW-51A	MW-51C	MW-53C	MW-54C
Sample Name:		WG-1620-MW50A-20200109	WG-1620-MW51A-20200109	WG-1620-MW51C-20200109	WG-1620-MW53C-20200109	WG-1620-MW54C-20200109
Sample Date:		01/09/2020	01/09/2020	01/09/2020	01/09/2020	01/09/2020
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	<0.0020	<0.00032	<0.00030	<0.0012	<0.035
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000070	<0.00021	<0.00056	<0.00025	0.0056
Phenol	mg/L	<0.000066	<0.000035	<0.000035	0.00050	<0.000064
Pyrene	mg/L	<0.000034	<0.000083	<0.00011	<0.000061	0.0014
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	<0.19	<0.19	<0.19	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	<0.19	<0.19	<0.19	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	<0.19	<0.19	<0.19	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	<0.19	<0.19	<0.19	--	--
Metals						
Arsenic	mg/L	0.000718 J	0.00188 J	0.000452 J	0.000728 J	0.00122 J

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-57A	MW-57B	MW-58A	MW-59A	MW-59B
Sample Name:		WG-1620-MW57A-20200108	WG-1620-MW57B-20200108	WG-1620-MW58A-20200108	WG-1620-MW59A-20200116	WG-1620-MW59B-20200116
Sample Date:		01/08/2020	01/08/2020	01/08/2020	01/16/2020	01/16/2020
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.0020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	0.038	0.52	0.0053	<0.00020	<0.00020
Chlorobenzene	mg/L	0.00046 J	<0.0030	0.00072 J	<0.00030	<0.00030
Ethylbenzene	mg/L	0.015	0.25	0.0098	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.010	0.64	<0.00020	<0.00020	0.18
Vinyl chloride	mg/L	<0.00020	--	<0.00020	<0.00020	<0.00020
Xylenes (total)	mg/L	0.026	0.70	0.028	<0.00030	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.00021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	0.41	2.8	<0.000040	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.00058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.00042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.00021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.18	1.1	0.080	<0.00016	<0.000038
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.00020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.00047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	0.19	0.55	0.27	<0.00029	<0.000051
Acenaphthylene	mg/L	0.0025	0.0086	0.0015	<0.000015	<0.000015
Anthracene	mg/L	0.048	0.19	0.018	<0.000027	<0.000031
Benzo(a)anthracene	mg/L	0.0036	0.040	0.000091 J	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	0.0011	0.012	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.00030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.00037	<0.00037	<0.00011	<0.000037	<0.000037
Chrysene	mg/L	0.0030	0.042	0.000071 J	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.00020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	0.15	0.49	0.13	<0.00016	<0.000050
Fluoranthene	mg/L	0.038	0.34	0.0099	<0.000032	<0.000025
Fluorene	mg/L	0.13	0.46	0.19	<0.00011	<0.000042
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.00025	<0.000025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-57A	MW-57B	MW-58A	MW-59A	MW-59B
Sample Name:		WG-1620-MW57A-20200108	WG-1620-MW57B-20200108	WG-1620-MW58A-20200108	WG-1620-MW59A-20200116	WG-1620-MW59B-20200116
Sample Date:		01/08/2020	01/08/2020	01/08/2020	01/16/2020	01/16/2020
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	1.0	13	1.2	<0.0012	<0.00024
Nitrobenzene	mg/L	<0.000024	<0.00024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.00079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	0.17	1.1	0.062	<0.00012	<0.000099
Phenol	mg/L	0.0049	0.32	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	0.025	0.21	0.0050	<0.000023	<0.000021
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--	--	--
Metals						
Arsenic	mg/L	0.0545	0.00404	0.000906 J	0.00368	0.000486 J

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-59D	MW-59D	MW-61A	MW-62B	MW-63B
Sample Name:		WG-1620-MW59D-20200116	WG-1620-FD03-20200116	WG-1620-MW61A-20200116	WG-1620-MW62B-20200127	WG-1620-MW63B-20200116
Sample Date:		01/16/2020	01/16/2020	01/16/2020	01/27/2020	01/16/2020
			Duplicate			
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.018
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	0.051
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	--	--	<0.00020	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	0.013
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.000040	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	0.00016 J	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	<0.000019	<0.000019	0.00011	<0.000056
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	<0.000036	<0.000027	<0.000052	0.040	<0.000059
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	0.00029	0.000032 J
Anthracene	mg/L	<0.000014	<0.000014	<0.000014	0.00096	<0.000081
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	<0.000037	0.000081 J	0.000095 J	0.000065 J
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	0.000027 J	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	0.00014 J	0.000034 J
Dibenzofuran	mg/L	<0.000028	<0.000020	<0.000020	0.0042	<0.000063
Fluoranthene	mg/L	<0.000010	<0.000010	<0.000060	0.0020	<0.000023
Fluorene	mg/L	<0.000031	<0.000030	<0.000030	0.011	<0.00012
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-59D	MW-59D	MW-61A	MW-62B	MW-63B
Sample Name:		WG-1620-MW59D-20200116	WG-1620-FD03-20200116	WG-1620-MW61A-20200116	WG-1620-MW62B-20200127	WG-1620-MW63B-20200116
Sample Date:		01/16/2020	01/16/2020	01/16/2020	01/27/2020	01/16/2020
			Duplicate			
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	<0.00013	<0.000020	<0.00021	0.0010	<0.00035
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000043	<0.000021	<0.00010	0.00087	<0.000072
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	<0.000019	<0.000019	<0.000059	0.0013	<0.000021
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--	--	--
Metals						
Arsenic	mg/L	0.000508 J	0.000478 J	0.00107 J	0.0161	0.00204

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

	Location ID:	MW-64A	MW-65D	MW-66D	MW-67B	MW-68A
	Sample Name:	WG-1620-MW64A-20200127	WG-1620-MW65D-20200116	WG-1620-MW66D-20200116	WG-1620-MW67B-20200115	WG-1620-MW68A-20200117
	Sample Date:	01/27/2020	01/16/2020	01/16/2020	01/15/2020	01/17/2020
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	--	--	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.000040	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.00037	<0.000019	<0.000095	<0.000019	0.000048 J
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	0.00016	<0.000027	<0.000027	<0.000027	0.00030
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	<0.000015	0.000054 J
Anthracene	mg/L	0.000096 J	<0.000014	<0.000014	<0.000014	0.000059 J
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.00031	0.00026	0.000046 J	0.000090 J	<0.000061
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	0.000079 J	<0.000020	<0.000020	<0.000020	0.000034 J
Dibenzofuran	mg/L	0.000100 J	<0.000020	<0.000020	<0.000020	<0.000020
Fluoranthene	mg/L	0.00028	<0.000010	<0.000010	<0.000010	0.00013
Fluorene	mg/L	0.000082 J	<0.000030	<0.000030	<0.000030	0.000069 J
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		**MW-64A**	**MW-65D**	**MW-66D**	**MW-67B**	**MW-68A**
Sample Name:		**WG-1620-MW64A-20200127**	**WG-1620-MW65D-20200116**	**WG-1620-MW66D-20200116**	**WG-1620-MW67B-20200115**	**WG-1620-MW68A-20200117**
Sample Date:		**01/27/2020**	**01/16/2020**	**01/16/2020**	**01/15/2020**	**01/17/2020**
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	0.0020	<0.000020	<0.00013	<0.000020	<0.00022
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	0.00016
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	0.00015	<0.000019	<0.000019	<0.000019	0.000068 J
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--	--	--
Metals						
Arsenic	mg/L	0.00126 J	0.000507 J	0.00138 J	0.000467 J	0.0423

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:	MW-68B	MW-68C	MW-70B	MW-71B	MW-72B
Sample Name:	WG-1620-MW68B-20200123	WG-1620-MW68C-20200117	WG-1620-MW70B-20200120	WG-1620-MW71B-20200115	WG-1620-MW72B-20200109
Sample Date:	01/23/2020	01/17/2020	01/20/2020	01/15/2020	01/09/2020
Parameters	**Unit**				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.0050	<0.00020	<0.010	<0.00020	<0.0020
Benzene	mg/L	1.4	0.00056 J	1.9	0.0021	0.70
Chlorobenzene	mg/L	<0.0075	<0.00030	<0.015	<0.00030	<0.0030
Ethylbenzene	mg/L	0.39	0.00047 J	0.57	0.0013	0.13
Methylene chloride	mg/L	<0.025	<0.0010	<0.050	<0.0010	<0.010
Toluene	mg/L	0.23	<0.00020	2.1	<0.00020	0.58
Vinyl chloride	mg/L	<0.0050	--	<0.010	--	--
Xylenes (total)	mg/L	1.1	0.00062 J	1.5	0.0030	0.36
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.00042	<0.000021	<0.00021
2,4-Dimethylphenol	mg/L	0.075	<0.000040	49	<0.000040	13
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.0012	<0.000058	<0.00058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.00084	<0.000042	<0.00042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.00042	<0.000021	<0.00021
2-Methylnaphthalene	mg/L	1.1 J	0.00033	10	0.0060	0.22
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.00040	<0.000020	<0.00020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.00094	<0.000047	<0.00047
Acenaphthene	mg/L	0.44	0.000036 J	7.1	0.0053	0.079
Acenaphthylene	mg/L	0.0037	0.000023 J	0.079	0.00015	0.0023
Anthracene	mg/L	0.15	0.000036 J	5.8	0.0039	0.020
Benzo(a)anthracene	mg/L	0.047	0.000055 J	0.52	0.0011	0.0031
Benzo(a)pyrene	mg/L	0.0089	0.000063 J	0.13	0.00052	0.0011
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.00060	<0.000030	<0.00030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.0011	0.00029	0.0039 J	0.00063	<0.00037
Chrysene	mg/L	0.040	0.000054 J	0.63	0.0011	0.0033
Di-n-butylphthalate (DBP)	mg/L	0.00018 J	<0.000020	<0.00040	0.00098	<0.00020
Dibenzofuran	mg/L	0.50	0.000030 J	6.2	0.0049	0.061
Fluoranthene	mg/L	0.31	0.000074 J	4.7	0.0057	0.024
Fluorene	mg/L	0.32	0.000036 J	6.7	0.0038	0.049
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.00050	<0.000025	<0.00025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-68B	MW-68C	MW-70B	MW-71B	MW-72B
Sample Name:		WG-1620-MW68B-20200123	WG-1620-MW68C-20200117	WG-1620-MW70B-20200120	WG-1620-MW71B-20200115	WG-1620-MW72B-20200109
Sample Date:		01/23/2020	01/17/2020	01/20/2020	01/15/2020	01/09/2020
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	12	<0.00052	71	0.0064	2.0
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.00048	<0.000024	<0.00024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.0016	<0.000079	<0.00079
Phenanthrene	mg/L	0.95	0.000042 J	14	0.017	0.075
Phenol	mg/L	<0.000035	<0.000035	3.4	<0.000035	5.2
Pyrene	mg/L	0.19	0.000092 J	3.2	0.0042	0.013
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--	--	--
Metals						
Arsenic	mg/L	0.00944 J	<0.000400	0.00120 J	0.00279	0.00105 J

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-74B	MW-75B	MW-76C	MW-77A	MW-78A
Sample Name:		WG-1620-MW74B-20200117	WG-1620-MW75B-20200117	WG-1620-MW76C-20200109	WG-1620-MW77A-20200109	WG-1620-MW78A-20200117
Sample Date:		01/17/2020	01/17/2020	01/09/2020	01/09/2020	01/17/2020
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	0.12	0.12	<0.00020	0.058	0.018
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	0.076	0.037	<0.00030	0.063	0.011
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.29	0.13	<0.00020	0.0069	0.033
Vinyl chloride	mg/L	--	--	--	--	--
Xylenes (total)	mg/L	0.20	0.11	<0.00030	0.065	0.028
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	0.21	0.86	<0.00038	0.055	2.5
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	1.3	0.81	<0.00045	0.22	0.13
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	0.98	0.67	<0.00041	0.13	0.071
Acenaphthylene	mg/L	0.018	0.0086	0.000035 J	0.0013	0.0015
Anthracene	mg/L	0.42	0.39	<0.00017	0.0036	0.0040
Benzo(a)anthracene	mg/L	0.13	0.12	0.00014	<0.000050	0.00043
Benzo(a)pyrene	mg/L	0.034	0.035	0.000037 J	<0.000020	0.00014
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.0014	0.0021	<0.00016	<0.000077	0.00092
Chrysene	mg/L	0.082	0.095	0.00013	0.000041 J	0.00039
Di-n-butylphthalate (DBP)	mg/L	0.0022	0.0016	<0.000020	<0.000020	0.0016
Dibenzofuran	mg/L	0.72	0.54	<0.00029	0.079	0.055
Fluoranthene	mg/L	0.67	0.75	0.0010	0.00071	0.0029
Fluorene	mg/L	0.88	0.61	<0.00032	0.067	0.040
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-74B	MW-75B	MW-76C	MW-77A	MW-78A
Sample Name:		WG-1620-MW74B-20200117	WG-1620-MW75B-20200117	WG-1620-MW76C-20200109	WG-1620-MW77A-20200109	WG-1620-MW78A-20200117
Sample Date:		01/17/2020	01/17/2020	01/09/2020	01/09/2020	01/17/2020
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	8.5	7.5	<0.0038	4.7	3.1
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	2.3	1.9	<0.00069	0.031	0.031
Phenol	mg/L	0.048	0.0029	<0.000035	<0.000035	0.13
Pyrene	mg/L	0.44	0.51	0.00070	0.00046	0.0018
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	25.5	34.9	<0.19	12.1	4.30
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	13	21	<0.19	3.8	1.6
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	0.47 J	0.91	<0.19	<0.19	<0.19
Total Petroleum Hydrocarbons (C6-C12)	mg/L	12	13	<0.19	8.3	2.7
Metals						
Arsenic	mg/L	0.000443 J	0.00167 J	0.00299	0.0237	0.00991

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-79A	MW-80B	MW-81B	MW-82B	MW-83B
Sample Name:		WG-1620-MW79A-20200117	WG-1620-MW80B-20200107	WG-1620-MW81B-20200109	WG-1620-MW82B-20200121	WG-1620-MW83B-20200110
Sample Date:		01/17/2020	01/07/2020	01/09/2020	01/21/2020	01/10/2020
Parameters	**Unit**					
Volatile Organic Compounds						
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	0.12	<0.00020	<0.00020	<0.00020	0.021
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	0.075	<0.00030	<0.00030	<0.00030	0.078
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.26	<0.00020	<0.00020	<0.00020	0.0052
Vinyl chloride	mg/L	--	--	--	--	<0.00020
Xylenes (total)	mg/L	0.20	<0.00030	<0.00030	<0.00030	0.098
Semi-volatile Organic Compounds						
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	6.7	0.00028	<0.000040	<0.000040	0.000072 J
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.43	<0.000036	<0.000019	0.00010	0.078
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	0.19	0.000046 J	<0.000077	0.000043 J	0.066
Acenaphthylene	mg/L	0.0036	<0.000015	<0.000015	<0.000015	0.00047
Anthracene	mg/L	0.0094	0.000026 J	<0.000014	0.000031 J	0.0039
Benzo(a)anthracene	mg/L	0.00081	<0.000050	<0.000050	<0.000050	0.000070 J
Benzo(a)pyrene	mg/L	0.00029	<0.000020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	<0.000069	<0.000066	<0.000037	<0.000037
Chrysene	mg/L	0.00072	<0.000021	<0.000021	<0.000021	0.000065 J
Di-n-butylphthalate (DBP)	mg/L	0.00098	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	0.14	0.000048 J	<0.000020	0.000040 J	0.023
Fluoranthene	mg/L	0.0076	<0.000010	<0.000010	<0.000010	0.0033
Fluorene	mg/L	0.094	0.000032 J	<0.000030	0.000037 J	0.024
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-79A	MW-80B	MW-81B	MW-82B	MW-83B
Sample Name:		WG-1620-MW79A-20200117	WG-1620-MW80B-20200107	WG-1620-MW81B-20200109	WG-1620-MW82B-20200121	WG-1620-MW83B-20200110
Sample Date:		01/17/2020	01/07/2020	01/09/2020	01/21/2020	01/10/2020
Parameters	**Unit**					
Semi-volatile Organic Compounds (Continued)						
Naphthalene	mg/L	9.0	<0.00034	<0.00023	<0.00041	1.2
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	0.081	0.000027 J	<0.000021	0.00012	0.021
Phenol	mg/L	0.35	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	0.0035	<0.000019	<0.000019	<0.000019	0.0022
Total Petroleum Hydrocarbons						
Total Petroleum Hydrocarbons	mg/L	37.0	<0.19	<0.19	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	16	<0.19	<0.19	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	<0.19	<0.19	<0.19	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	21	<0.19	<0.19	--	--
Metals						
Arsenic	mg/L	0.00893	0.00212	0.00130 J	0.00484	0.0709

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-83C	MW-84B	MW-85C	MW-86C
Sample Name:		WG-1620-MW83C-20200110	WG-1620-MW84B-20200116	WG-1620-MW85C-20200109	WG-1620-MW86C-20200117
Sample Date:		01/10/2020	01/16/2020	01/09/2020	01/17/2020
Parameters	**Unit**				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	0.0064	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	0.0094	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	0.0039
Vinyl chloride	mg/L	<0.00020	--	--	--
Xylenes (total)	mg/L	<0.00030	0.0032	<0.00030	<0.00030
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	0.00048	<0.000040	0.00018 J
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.00021	0.0065	<0.000041	0.000061 J
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	0.00035	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	0.00077 J	<0.000047
Acenaphthene	mg/L	0.00018	0.025	<0.000077	<0.000027
Acenaphthylene	mg/L	<0.000015	0.00031	<0.000015	<0.000015
Anthracene	mg/L	<0.000014	0.00095	<0.000014	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	0.000031 J	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	<0.000037	<0.00016	<0.000037
Chrysene	mg/L	<0.000021	<0.000021	0.000053 J	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	0.00015	0.015	<0.000059	<0.000020
Fluoranthene	mg/L	<0.000010	0.00037	0.00025	<0.000010
Fluorene	mg/L	0.00012	0.0063	<0.000055	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		**MW-83C**	**MW-84B**	**MW-85C**	**MW-86C**
Sample Name:		**WG-1620-MW83C-20200110**	**WG-1620-MW84B-20200116**	**WG-1620-MW85C-20200109**	**WG-1620-MW86C-20200117**
Sample Date:		**01/10/2020**	**01/16/2020**	**01/09/2020**	**01/17/2020**
Parameters	**Unit**				
Semi-volatile Organic Compounds (Continued)					
Naphthalene	mg/L	0.0018	0.13	<0.00046	<0.00075
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	0.00017	0.0065	<0.000067	<0.000021
Phenol	mg/L	<0.000035	<0.000035	<0.000042	<0.000035
Pyrene	mg/L	<0.000019	0.00025	0.00021	<0.000019
Total Petroleum Hydrocarbons					
Total Petroleum Hydrocarbons	mg/L	--	--	<0.20	<0.19
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	<0.20	<0.19
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	<0.20	<0.19
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	<0.20	<0.19
Metals					
Arsenic	mg/L	0.00564	0.00363	0.00272	0.000645 J

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-86C	MW-87C	MW-88C	MW-89B
Sample Name:		WG-1620-FD04-20200117	WG-1620-MW87C-20200120	WG-1620-MW88C-20200114	WG-1620-MW89B-20200116
Sample Date:		01/17/2020	01/20/2020	01/14/2020	01/16/2020
		Duplicate			
Parameters	**Unit**				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.0045	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	--	<0.00020	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.000066 J	0.00023	<0.000019	<0.000032
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	<0.000027	0.00011	<0.000027	<0.000083
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	0.000045 J
Anthracene	mg/L	0.00012	0.000088 J	<0.000014	0.00020
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	0.00017
Benzo(a)pyrene	mg/L	<0.000020	0.000066 J	<0.000020	0.000079 J
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000053	<0.000037	0.000064 J	0.000099 J
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	0.00024
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	0.000034 J
Dibenzofuran	mg/L	<0.000020	0.00011	<0.000020	<0.00011
Fluoranthene	mg/L	<0.000010	<0.000086	<0.000010	0.0012
Fluorene	mg/L	<0.000030	0.000093 J	<0.000030	<0.00018
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		MW-86C	MW-87C	MW-88C	MW-89B
Sample Name:		WG-1620-FD04-20200117	WG-1620-MW87C-20200120	WG-1620-MW88C-20200114	WG-1620-MW89B-20200116
Sample Date:		01/17/2020	01/20/2020	01/14/2020	01/16/2020
		Duplicate			
Parameters	**Unit**				
Semi-volatile Organic Compounds (Continued)					
Naphthalene	mg/L	<0.00022	0.0011	<0.000020	<0.00029
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	0.00036	<0.00028	<0.000021	0.00083
Phenol	mg/L	<0.000035	0.00048	<0.000035	<0.000035
Pyrene	mg/L	<0.000019	<0.000057	<0.000019	0.00081
Total Petroleum Hydrocarbons					
Total Petroleum Hydrocarbons	mg/L	<0.19	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	<0.19	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	<0.19	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	<0.19	--	--	--
Metals					
Arsenic	mg/L	0.000699 J	0.00135 J	0.000862 J	0.000463 J

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

	Location ID:	MW-90B	P-11	TW-41B
	Sample Name:	WG-1620-MW90B-20200120	WG-1620-P11-20200114	WG-1620-TW41B-20200113
	Sample Date:	01/20/2020	01/14/2020	01/13/2020
Parameters	**Unit**			
Volatile Organic Compounds				
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	0.00039 J
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	<0.00020	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	0.0021
Semi-volatile Organic Compounds				
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	0.000075 J	<0.000040	0.00017 J
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	0.00012 J
2-Methylnaphthalene	mg/L	0.00034	0.000076 J	0.0071
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	0.00015	0.0046	0.12
Acenaphthylene	mg/L	<0.000015	<0.000015	0.0011
Anthracene	mg/L	0.00014	0.000081 J	0.0031
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	0.000052 J	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	<0.000037	<0.000037
Chrysene	mg/L	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	0.00011	0.00016	0.055
Fluoranthene	mg/L	<0.00012	<0.000010	0.0021
Fluorene	mg/L	0.00013	0.0013	0.078
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025

Table 2

Analytical Results Summary
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Location ID:		**MW-90B**	**P-11**	**TW-41B**
Sample Name:		**WG-1620-MW90B-20200120**	**WG-1620-P11-20200114**	**WG-1620-TW41B-20200113**
Sample Date:		**01/20/2020**	**01/14/2020**	**01/13/2020**
Parameters	**Unit**			
Semi-volatile Organic Compounds (Continued)				
Naphthalene	mg/L	0.0030	0.00048	0.058
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	0.00040	0.00035	0.0084
Phenol	mg/L	0.00019 J	<0.000035	<0.000035
Pyrene	mg/L	<0.000077	<0.000019	0.00082
Total Petroleum Hydrocarbons				
Total Petroleum Hydrocarbons	mg/L	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--
Metals				
Arsenic	mg/L	0.00290	0.0360	0.0557

Notes:

< - Not detected at the associated reporting limit
J - Estimated concentration
JH - Estimated concentration; biased high
J - Estimated concentration
"--" - Not analyzed

Table 3

Analytical Methods
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

			Holding Time	
Parameter	**Method**	**Matrix**	**Collection to Extraction (Days)**	**Extraction to Analysis (Days)**
VOCs	SW-846 8260C	Water	-	14
SVOCs	SW-846 8270D	Water	7	40
TPH	TX1005	Water	14	40
Arsenic	SW-846 6020A	Water	-	180

Notes:

VOCs - Volatile Organic Compounds
SVOCs - Semi-volatile Organic Compounds
TPH - Total Petroleum Hydrocarbons
"-" - Not Applicable

Method References:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

Table 4

Qualified Sample Results Due to Outlying LCS/LCSD Results
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Parameter	Analyte	LCS Date (mm/dd/yyyy)	LCS % Recovery	LCSD % Recovery	RPD (percent)	Control Limits % Recovery	Control Limits RPD	Associated Sample ID	Qualified Result		Units
SVOCs	2-Methylnaphthalene	01/31/2020	95.4	117	20.1	50-120	20	WG-1620-MW12B-20200123	320	J	mg/L
								WG-1620-MW41B-20200123	0.67	J	mg/L
								WG-1620-MW68B-20200123	1.1	J	mg/L

Notes:

LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
RPD - Relative Percent Difference
SVOCs - Semi-volatile Organic Compounds
J - Estimated concentration

Table 5

Qualified Sample Data Due to Outlying Laboratory Duplicate Results
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Parameter	Sample ID	Analyte	RPD (percent)	RPD Control Limit (percent)	Associated Sample IDs	Qualified Result	Units
Metals	WG-1620-MW41B-20200123	Arsenic	11.1	10	WG-1620-MW12B-20200123	0.0491 J	mg/L
					WG-1620-MW41B-20200123	0.0842 J	mg/L
					WG-1620-MW68B-20200123	0.00944 J	mg/L

Notes:

RPD - Relative Percent Difference

J - Estimated concentration

Table 6

Qualified Sample Data Due to Analyte Concentrations in the Field Blanks
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Parameter	Field Blank ID	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
SVOCs	WG-1620-FB01-20200107	01/07/2020	2-Methylnaphthalene	0.000031 J	WG-1620-MW80B-20200107	0.000036 J	<0.000036	mg/L
			bis(2-Ethylhexyl)phthalate (DEHP)	0.00017 J	WG-1620-MW49A-20200107	0.00011 J	<0.00011	mg/L
					WG-1620-MW80B-20200107	0.000069 J	<0.000069	mg/L
			Naphthalene	0.00019	WG-1620-MW80B-20200107	0.00034	<0.00034	mg/L
SVOCs	WG-1620-FB02-20200108	01/08/2020	bis(2-Ethylhexyl)phthalate (DEHP)	0.000099 J	WG-1620-MW18A-20200108	0.00043	<0.00043	mg/L
					WG-1620-MW57A-20200108	0.00037	<0.00037	mg/L
					WG-1620-MW58A-20200108	0.00011 J	<0.00011	mg/L
SVOCs	WG-1620-FB03-20200109	01/09/2020	2,4-Dimethylphenol	0.001	WG-1620-MW23C-20200109	0.047	<0.047	mg/L
					WG-1620-MW36A-20200109	0.000052 J	<0.000052	mg/L
					WG-1620-MW36B-20200109	0.000054 J	<0.000054	mg/L
					WG-1620-MW44A-20200109	0.00042	<0.00042	mg/L
					WG-1620-MW50A-20200109	0.00071	<0.00071	mg/L
					WG-1620-MW53C-20200109	0.0011	<0.0011	mg/L
					WG-1620-MW76C-20200109	0.00038	<0.00038	mg/L
			2-Methylnaphthalene	0.00038	WG-1620-MW36B-20200109	0.00013	<0.00013	mg/L
					WG-1620-MW44A-20200109	0.00035	<0.00035	mg/L
					WG-1620-MW50A-20200109	0.00019	<0.00019	mg/L

Table 6

Qualified Sample Data Due to Analyte Concentrations in the Field Blanks
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Parameter	Field Blank ID	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
SVOCs	WG-1620-FB03-20200109	01/09/2020	2-Methylnaphthalene	0.00038	WG-1620-MW51A-20200109	0.000044 J	<0.000044	mg/L
					WG-1620-MW51C-20200109	0.000055 J	<0.000055	mg/L
					WG-1620-MW53C-20200109	0.00025	<0.00025	mg/L
					WG-1620-MW76C-20200109	0.00045	<0.00045	mg/L
					WG-1620-MW85C-20200109	0.000041 J	<0.000041	mg/L
			Acenaphthene	0.00015	WG-1620-MW36B-20200109	0.00017	<0.00017	mg/L
					WG-1620-MW50A-20200109	0.00037	<0.00037	mg/L
					WG-1620-MW51A-20200109	0.000040 J	<0.000040	mg/L
					WG-1620-MW51C-20200109	0.000094 J	<0.000094	mg/L
					WG-1620-MW53C-20200109	0.00032	<0.00032	mg/L
					WG-1620-MW76C-20200109	0.00041	<0.00041	mg/L
					WG-1620-MW81B-20200109	0.000077 J	<0.000077	mg/L
					WG-1620-MW85C-20200109	0.000077 J	<0.000077	mg/L
			Anthracene	0.000047 J	WG-1620-MW19C-20200109	0.00017	<0.00017	mg/L
					WG-1620-MW51A-20200109	0.000063 J	<0.000063	mg/L
					WG-1620-MW51C-20200109	0.00010	<0.00010	mg/L
					WG-1620-MW53C-20200109	0.000028 J	<0.000028	mg/L
					WG-1620-MW76C-20200109	0.00017	<0.00017	mg/L

Table 6

Qualified Sample Data Due to Analyte Concentrations in the Field Blanks
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Parameter	Field Blank ID	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
SVOCs	WG-1620-FB03-20200109	01/09/2020	bis(2-Ethylhexyl)phthalate (DEHP)	0.00011 J	WG-1620-MW19C-20200109	0.000071 J	<0.000071	mg/L
					WG-1620-MW50A-20200109	0.000085 J	<0.000085	mg/L
					WG-1620-MW51A-20200109	0.00014 J	<0.00014	mg/L
					WG-1620-MW51C-20200109	0.000085 J	<0.000085	mg/L
					WG-1620-MW54C-20200109	0.00018 J	<0.00018	mg/L
					WG-1620-MW76C-20200109	0.00016 J	<0.00016	mg/L
					WG-1620-MW77A-20200109	0.000077 J	<0.000077	mg/L
					WG-1620-MW81B-20200109	0.000066 J	<0.000066	mg/L
					WG-1620-MW85C-20200109	0.00016 J	<0.00016	mg/L
			Dibenzofuran	0.00012	WG-1620-MW36B-20200109	0.00012	<0.00012	mg/L
					WG-1620-MW44A-20200109	0.00033	<0.00033	mg/L
					WG-1620-MW50A-20200109	0.00013	<0.00013	mg/L
					WG-1620-MW51A-20200109	0.000049 J	<0.000049	mg/L
					WG-1620-MW51C-20200109	0.00011	<0.00011	mg/L
					WG-1620-MW53C-20200109	0.00027	<0.00027	mg/L
					WG-1620-MW76C-20200109	0.00029	<0.00029	mg/L
SVOCs	WG-1620-FB03-20200109	01/09/2020	Dibenzofuran	0.00012	WG-1620-MW85C-20200109	0.000059 J	<0.000059	mg/L
			Fluorene	0.000092 J	WG-1620-MW36B-20200109	0.00012	<0.00012	mg/L
					WG-1620-MW50A-20200109	0.00011	<0.00011	mg/L

Table 6

Qualified Sample Data Due to Analyte Concentrations in the Field Blanks
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Parameter	Field Blank ID	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
SVOCs	WG-1620-FB03-20200109	01/09/2020	Fluorene	0.000092 J	WG-1620-MW51A-20200109	0.000043 J	<0.000043	mg/L
					WG-1620-MW51C-20200109	0.00011	<0.00011	mg/L
					WG-1620-MW53C-20200109	0.00020	<0.00020	mg/L
					WG-1620-MW76C-20200109	0.00032	<0.00032	mg/L
					WG-1620-MW85C-20200109	0.000055 J	<0.000055	mg/L
			Naphthalene	0.0078	WG-1620-MW19C-20200109	0.00011	<0.00011	mg/L
					WG-1620-MW36A-20200109	0.00034	<0.00034	mg/L
					WG-1620-MW36B-20200109	0.00093	<0.00093	mg/L
					WG-1620-MW44A-20200109	0.0030	<0.0030	mg/L
					WG-1620-MW50A-20200109	0.0020	<0.0020	mg/L
					WG-1620-MW51A-20200109	0.00032	<0.00032	mg/L
					WG-1620-MW51C-20200109	0.00030	<0.00030	mg/L
					WG-1620-MW53C-20200109	0.0012	<0.0012	mg/L
					WG-1620-MW54C-20200109	0.035	<0.035	mg/L
					WG-1620-MW76C-20200109	0.0038	<0.0038	mg/L
					WG-1620-MW81B-20200109	0.00023	<0.00023	mg/L
					WG-1620-MW85C-20200109	0.00046	<0.00046	mg/L
			Phenanthrene	0.00019	WG-1620-MW19C-20200109	0.00045	<0.00045	mg/L
					WG-1620-MW36B-20200109	0.00010	<0.00010	mg/L

Table 6

Qualified Sample Data Due to Analyte Concentrations in the Field Blanks
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Parameter	Field Blank ID	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
SVOCs	WG-1620-FB03-20200109	01/09/2020	Phenanthrene	0.00019	WG-1620-MW44A-20200109	0.00022	<0.00022	mg/L
					WG-1620-MW50A-20200109	0.000070 J	<0.000070	mg/L
					WG-1620-MW51A-20200109	0.00021	<0.00021	mg/L
					WG-1620-MW51C-20200109	0.00056	<0.00056	mg/L
					WG-1620-MW53C-20200109	0.00025	<0.00025	mg/L
					WG-1620-MW76C-20200109	0.00069	<0.00069	mg/L
					WG-1620-MW85C-20200109	0.000067 J	<0.000067	mg/L
			Phenol	0.000053 J	WG-1620-MW36B-20200109	0.000075 J	<0.000075	mg/L
					WG-1620-MW44A-20200109	0.00013 J	<0.00013	mg/L
					WG-1620-MW50A-20200109	0.000066 J	<0.000066	mg/L
					WG-1620-MW50A-20200109	0.000034 J	<0.000034	mg/L
					WG-1620-MW51A-20200109	0.000083 J	<0.000083	mg/L
					WG-1620-MW51C-20200109	0.00011	<0.00011	mg/L
					WG-1620-MW53C-20200109	0.000061 J	<0.000061	mg/L
					WG-1620-MW54C-20200109	0.000064 J	<0.000064	mg/L
					WG-1620-MW85C-20200109	0.000042 J	<0.000042	mg/L
SVOCs	WG-1620-FB04-20200110	01/10/2020	Naphthalene	0.00020	WG-1620-MW35A-20200110	0.00020	<0.00020	mg/L

Table 6

Qualified Sample Data Due to Analyte Concentrations in the Field Blanks
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Parameter	Field Blank ID	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
SVOCs	WG-1620-FB05-20200113	01/13/2020	Naphthalene	0.00033	WG-1620-MW05-20200113	0.00012	<0.00012	mg/L
					WG-1620-MW12A-20200113	0.00051	<0.00051	mg/L
					WG-1620-MW42B-20200113	0.00076	<0.00076	mg/L
SVOCs	WG-1620-FB08-20200116	01/16/2020	2-Methylnaphthalene	0.000052 J	WG-1620-MW26A-20200116	0.000042 J	<0.000042	mg/L
					WG-1620-MW47C-20200116	0.00010	<0.00010	mg/L
					WG-1620-MW48C-20200116	0.000076 J	<0.000076	mg/L
					WG-1620-MW59A-20200116	0.00016	<0.00016	mg/L
					WG-1620-MW59B-20200116	0.000038 J	<0.000038	mg/L
					WG-1620-MW63B-20200116	0.000056 J	<0.000056	mg/L
					WG-1620-MW66D-20200116	0.000095 J	<0.000095	mg/L
SVOCs	WG-1620-FB08-20200116	01/16/2020	2-Methylnaphthalene	0.000052 J	WG-1620-MW89B-20200116	0.000032 J	<0.000032	mg/L
			Acenaphthene	0.000077 J	WG-1620-MW26A-20200116	0.00017	<0.00017	mg/L
					WG-1620-MW28A-20200116	0.00014	<0.00014	mg/L
					WG-1620-MW47C-20200116	0.000057 J	<0.000057	mg/L
					WG-1620-MW48C-20200116	0.000073 J	<0.000073	mg/L
					WG-1620-MW59A-20200116	0.00029	<0.00029	mg/L
					WG-1620-MW59B-20200116	0.000051 J	<0.000051	mg/L
					WG-1620-MW59D-20200116	0.000036 J	<0.000036	mg/L

Table 6

Qualified Sample Data Due to Analyte Concentrations in the Field Blanks
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Parameter	Field Blank ID	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
SVOCs	WG-1620-FB08-20200116	01/16/2020	Acenaphthene	0.000077 J	WG-1620-MW61A-20200116	0.000052 J	<0.000052	mg/L
					WG-1620-MW63B-20200116	0.000059 J	<0.000059	mg/L
					WG-1620-MW89B-20200116	0.000083 J	<0.000083	mg/L
			Anthracene	0.000027 J	WG-1620-MW26A-20200116	0.000087 J	<0.000087	mg/L
					WG-1620-MW28A-20200116	0.00013	<0.00013	mg/L
					WG-1620-MW36D-20200116	0.000033 J	<0.000033	mg/L
					WG-1620-MW59A-20200116	0.000027 J	<0.000027	mg/L
					WG-1620-MW59B-20200116	0.000031 J	<0.000031	mg/L
					WG-1620-MW63B-20200116	0.000081 J	<0.000081	mg/L
			Dibenzofuran	0.000066 J	WG-1620-MW26A-20200116	0.000044 J	<0.000044	mg/L
					WG-1620-MW28A-20200116	0.00010	<0.00010	mg/L
					WG-1620-MW47C-20200116	0.000049 J	<0.000049	mg/L
					WG-1620-MW48C-20200116	0.000054 J	<0.000054	mg/L
					WG-1620-MW59A-20200116	0.00016	<0.00016	mg/L
					WG-1620-MW59B-20200116	0.000050 J	<0.000050	mg/L
					WG-1620-MW59D-20200116	0.000028 J	<0.000028	mg/L
					WG-1620-MW63B-20200116	0.000063 J	<0.000063	mg/L
					WG-1620-MW89B-20200116	0.00011	<0.00011	mg/L

Table 6

Qualified Sample Data Due to Analyte Concentrations in the Field Blanks
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Parameter	Field Blank ID	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
SVOCs	WG-1620-FB08-20200116	01/16/2020	Fluoranthene	0.000033 J	WG-1620-MW47C-20200116	0.00011	<0.00011	mg/L
					WG-1620-MW48C-20200116	0.000061 J	<0.000061	mg/L
					WG-1620-MW59A-20200116	0.000032 J	<0.000032	mg/L
					WG-1620-MW59B-20200116	0.000025 J	<0.000025	mg/L
					WG-1620-MW61A-20200116	0.000060 J	<0.000060	mg/L
					WG-1620-MW63B-20200116	0.000023 J	<0.000023	mg/L
			Fluorene	0.000058 J	WG-1620-MW26A-20200116	0.00029	<0.00029	mg/L
					WG-1620-MW28A-20200116	0.00014	<0.00014	mg/L
					WG-1620-MW47C-20200116	0.000042 J	<0.000042	mg/L
					WG-1620-MW48C-20200116	0.000050 J	<0.000050	mg/L
					WG-1620-MW59A-20200116	0.00011	<0.00011	mg/L
					WG-1620-MW59B-20200116	0.000042 J	<0.000042	mg/L
					WG-1620-MW59D-20200116	0.000031 J	<0.000031	mg/L
					WG-1620-MW63B-20200116	0.00012	<0.00012	mg/L
					WG-1620-MW89B-20200116	0.00018	<0.00018	mg/L
			Naphthalene	0.00054	WG-1620-MW36D-20200116	0.000033 J	<0.000033	mg/L
					WG-1620-MW66D-20200116	0.00013	<0.00013	mg/L
					WG-1620-MW28C-20200116	0.00016	<0.00016	mg/L
					WG-1620-MW26A-20200116	0.00017	<0.00017	mg/L

Table 6

Qualified Sample Data Due to Analyte Concentrations in the Field Blanks
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Parameter	Field Blank ID	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
SVOCs	WG-1620-FB08-20200116	01/16/2020	Naphthalene	0.00054	WG-1620-MW61A-20200116	0.00021	<0.00021	mg/L
					WG-1620-MW59B-20200116	0.00024	<0.00024	mg/L
					WG-1620-MW89B-20200116	0.00029	<0.00029	mg/L
					WG-1620-MW63B-20200116	0.00035	<0.00035	mg/L
					WG-1620-MW59D-20200116	0.00013	<0.00013	mg/L
					WG-1620-MW48C-20200116	0.00052	<0.00052	mg/L
					WG-1620-MW47C-20200116	0.00056	<0.00056	mg/L
					WG-1620-MW28A-20200116	0.00060	<0.00060	mg/L
					WG-1620-MW59A-20200116	0.0012	<0.0012	mg/L
			Phenanthrene	0.000067 J	WG-1620-MW26A-20200116	0.000030 J	<0.000030	mg/L
					WG-1620-MW36D-20200116	0.000047 J	<0.000047	mg/L
					WG-1620-MW47C-20200116	0.000088 J	<0.000088	mg/L
					WG-1620-MW48C-20200116	0.000052 J	<0.000052	mg/L
					WG-1620-MW59A-20200116	0.00012	<0.00012	mg/L
					WG-1620-MW59B-20200116	0.000099 J	<0.000099	mg/L
					WG-1620-MW59D-20200116	0.000043 J	<0.000043	mg/L
					WG-1620-MW61A-20200116	0.00010	<0.00010	mg/L
					WG-1620-MW63B-20200116	0.000072 J	<0.000072	mg/L

Table 6

Qualified Sample Data Due to Analyte Concentrations in the Field Blanks
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Parameter	Field Blank ID	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
SVOCs	WG-1620-FB08-20200116	01/16/2020	Pyrene	0.000022 J	WG-1620-MW47C-20200116	0.00010	<0.00010	mg/L
					WG-1620-MW48C-20200116	0.000065 J	<0.000065	mg/L
					WG-1620-MW59A-20200116	0.000023 J	<0.000023	mg/L
					WG-1620-MW59B-20200116	0.000021 J	<0.000021	mg/L
					WG-1620-MW61A-20200116	0.000059 J	<0.000059	mg/L
					WG-1620-MW63B-20200116	0.000021 J	<0.000021	mg/L
SVOCs	WG-1620-FB09-20200117	01/17/2020	bis(2-Ethylhexyl)phthalate (DEHP)	0.000050 J	WG-1620-FD04-20200117	0.000053 J	<0.000053	mg/L
					WG-1620-MW68A-20200117	0.000061 J	<0.000061	mg/L
			Naphthalene	0.00017	WG-1620-FD04-20200117	0.00022	<0.00022	mg/L
					WG-1620-MW68A-20200117	0.00022	<0.00022	mg/L
					WG-1620-MW68C-20200117	0.00052	<0.00052	mg/L
					WG-1620-MW86C-20200117	0.00075	<0.00075	mg/L
SVOCs	WG-1620-FB10-20200120	01/20/2020	1,2-Diphenylhydrazine	0.000047 J	WG-1620-MW45C-20200120	0.000085 J	<0.000085	mg/L
			2-Methylnaphthalene	0.000035 J	WG-1620-FD05-20200120	0.000095 J	<0.000095	mg/L
SVOCs	WG-1620-FB10-20200120	01/20/2020	1,2-Diphenylhydrazine	0.000047 J	WG-1620-MW32AR-20200120	0.000028 J	<0.000028	mg/L
			2-Methylnaphthalene	0.000035 J	WG-1620-MW33A-20200120	0.000063 J	<0.000063	mg/L
					WG-1620-MW45C-20200120	0.00013	<0.00013	mg/L

Table 6

Qualified Sample Data Due to Analyte Concentrations in the Field Blanks
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Parameter	Field Blank ID	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
SVOCs	WG-1620-FB10-20200120	01/20/2020	Fluoranthene	0.000060 J	WG-1620-MW32AR-20200120	0.00029	<0.00029	mg/L
					WG-1620-MW87C-20200120	0.000086 J	<0.000086	mg/L
					WG-1620-MW90B-20200120	0.00012	<0.00012	mg/L
			Naphthalene	0.00019	WG-1620-FD05-20200120	0.00066	<0.00066	mg/L
					WG-1620-MW32AR-20200120	0.00014	<0.00014	mg/L
					WG-1620-MW33A-20200120	0.00050	<0.00050	mg/L
					WG-1620-MW45C-20200120	0.00061	<0.00061	mg/L
			Phenanthrene	0.000066 J	WG-1620-FD05-20200120	0.000046 J	<0.000046	mg/L
					WG-1620-MW32AR-20200120	0.000032 J	<0.000032	mg/L
					WG-1620-MW33A-20200120	0.000056 J	<0.000056	mg/L
					WG-1620-MW45C-20200120	0.00027	<0.00027	mg/L
					WG-1620-MW87C-20200120	0.00028	<0.00028	mg/L
			Pyrene	0.000040 J	WG-1620-MW33A-20200120	0.00019	<0.00019 J	mg/L
					WG-1620-MW87C-20200120	0.000057 J	<0.000057	mg/L
					WG-1620-MW90B-20200120	0.000077 J	<0.000077	mg/L
SVOCs	WG-1620-FB11-20200121	01/21/2020	Naphthalene	0.00018	WG-1620-MW03-20200121	0.00024	<0.00024	mg/L
					WG-1620-MW82B-20200121	0.00041	<0.00041	mg/L

Table 6

Qualified Sample Data Due to Analyte Concentrations in the Field Blanks
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Parameter	Field Blank ID	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
SVOCs	WG-1620-FB14-20200210	02/10/2020	2-Methylnaphthalene	0.00038	WG-1620-MW22AR-20200210	0.00012	<0.00012	mg/L
					WG-1620-MW22BR-20200210	0.000043 J	<0.000043	mg/L
SVOCs	WG-1620-FB14-20200210	02/10/2020	Acenaphthene	0.00020	WG-1620-MW22AR-20200210	0.00015	<0.00015	mg/L
			Dibenzofuran	0.00019	WG-1620-MW22AR-20200210	0.00015	<0.00015	mg/L
SVOCs	WG-1620-FB14-20200210	02/10/2020	Dibenzofuran	0.00019	WG-1620-MW22BR-20200210	0.00029	<0.00029	mg/L
			Naphthalene	0.0034	WG-1620-MW22AR-20200210	0.00044	<0.00044	mg/L
				0.0034	WG-1620-MW22BR-20200210	0.00013	<0.00013	mg/L
			Phenanthrene	0.000029 J	WG-1620-MW22BR-20200210	0.00013	<0.00013	mg/L
			Phenol	0.00053	WG-1620-MW22AR-20200210	0.000041 J	<0.000041	mg/L

Notes:

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

Table 7

Qualified Sample Data Due to Variability in Field Duplicate Results
HWPW - Site-Wide Monitoring
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January-February 2020

Parameter	Analyte	RPD	Diff	Sample ID	Qualified Result	Field Duplicate Sample ID	Qualified Result	Units
VOCs	Benzene	43.9	-	WG-1620-MW35B-20200110	0.025 J	WG-1620-FD01-20200110	0.016 J	mg/L
	Xylenes (total)	34.3	-		0.058 J		0.041 J	mg/L
SVOCs	2-Methylnaphthalene	77.2	-		0.14 J		0.062 J	mg/L
	Acenaphthene	56.5	-		0.059 J		0.033 J	mg/L
	Anthracene	46.8	-		0.0029 J		0.0018 J	mg/L
	Dibenzofuran	54.1	-		0.054 J		0.031 J	mg/L
	Fluoranthene	46.9	-		0.0015 J		0.00093 J	mg/L
	Fluorene	60.5	-		0.028 J		0.015 J	mg/L
	Naphthalene	175	-		2.0 J		0.13 J	mg/L
	Phenanthrene	59.5	-		0.024 J		0.013 J	mg/L
	Pyrene	43.5	-		0.00070 J		0.00045 J	mg/L
SVOCs	2,6-Dinitrotoluene	-	0.0028	WG-1620-MW21C-20200114	<0.00020 J	WG-1620-FD02-20200114	0.0030 J	mg/L
SVOCs	Acenaphthene	40.4	-	WG-1620-MW33A-20200120	0.00073 J	WG-1620-FD05-20200120	0.0011 J	mg/L
	Fluoranthene	47.8	-		0.00035 J		0.00057 J	mg/L
	Pyrene	-	0.00042		<0.00010 J		0.00052 J	mg/L

Notes:

RPD - Relative Percent Difference
Diff - Difference
VOCs - Volatile Organic Compounds
SVOCs - Semi-volatile Organic Compounds
J - Estimated concentration
< - Not detected at the associated reporting limit
"-" - Not Applicable

Attachment A
Laboratory NELAP Certificate

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Drinking Water***

Method EPA 1613

Analyte	AB	Analyte ID	Method ID
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10120408

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Copper	TX	1055	10014605
Lead	TX	1075	10014605

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	TX	1780	10116606

Method EPA 120.1

Analyte	AB	Analyte ID	Method ID
Conductivity	TX	1610	10006403

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	TX	849	10118806

Method EPA 1312

Analyte	AB	Analyte ID	Method ID
SPLP	TX	850	10119003

Method EPA 160.4

Analyte	AB	Analyte ID	Method ID
Residue-volatile	TX	1970	10010409

Method EPA 1613

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	TX	9516	10120408
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	TX	9519	10120408
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	TX	9420	10120408
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	TX	9426	10120408
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	TX	9423	10120408
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	TX	9471	10120408
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	TX	9453	10120408
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	TX	9474	10120408
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	TX	9456	10120408
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	TX	9477	10120408
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	TX	9459	10120408
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	TX	9543	10120408
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	TX	9540	10120408
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	TX	9480	10120408

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	TX	9549	10120408
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	TX	9612	10120408
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10120408
Total Heptachlorodibenzofuran (Total HpCDF)	TX	9444	10120408
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	TX	9438	10120408
Total Hexachlorodibenzofuran (Total HxCDF)	TX	9483	10120408
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	TX	9468	10120408
Total Pentachlorodibenzofuran (Total PeCDF)	TX	9552	10120408
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	TX	9555	10120408
Total Tetrachlorodibenzofuran (Total TCDF)	TX	9615	10120408
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	TX	9609	10120408

Method EPA 1664

Analyte	**AB**	**Analyte ID**	**Method ID**
n-Hexane Extractable Material (HEM) (O&G)	TX	1803	10127807

Method EPA 180.1

Analyte	**AB**	**Analyte ID**	**Method ID**
Turbidity	TX	2055	10011606

Method EPA 200.8

Analyte	**AB**	**Analyte ID**	**Method ID**
Aluminum	TX	1000	10014605
Antimony	TX	1005	10014605
Arsenic	TX	1010	10014605
Barium	TX	1015	10014605
Beryllium	TX	1020	10014605
Boron	TX	1025	10014605
Cadmium	TX	1030	10014605
Calcium	TX	1035	10014605
Chromium	TX	1040	10014605
Cobalt	TX	1050	10014605
Copper	TX	1055	10014605
Iron	TX	1070	10014605

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Lead	TX	1075	10014605
Magnesium	TX	1085	10014605
Manganese	TX	1090	10014605
Molybdenum	TX	1100	10014605
Nickel	TX	1105	10014605
Potassium	TX	1125	10014605
Selenium	TX	1140	10014605
Silver	TX	1150	10014605
Sodium	TX	1155	10014605
Strontium	TX	1160	10014605
Thallium	TX	1165	10014605
Tin	TX	1175	10014605
Titanium	TX	1180	10014605
Uranium	TX	3035	10014605
Vanadium	TX	1185	10014605
Zinc	TX	1190	10014605

Method EPA 245.1

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10036609

Method EPA 300.0

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

Method EPA 325.1

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

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Chloride	TX	1575	10056801

Method EPA 335.1

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	TX	1510	10060001

Method EPA 335.2

Analyte	AB	Analyte ID	Method ID
Total cyanide	TX	1645	10278203

Method EPA 335.4

Analyte	AB	Analyte ID	Method ID
Total cyanide	TX	1645	10061402

Method EPA 350.3

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	10064401

Method EPA 365.3

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	TX	1870	10070801
Phosphorus	TX	1910	10070801

Method EPA 375.4

Analyte	AB	Analyte ID	Method ID
Sulfate	TX	2000	10073800

Method EPA 376.1

Analyte	AB	Analyte ID	Method ID
Sulfide	TX	2005	10074201

Method EPA 410.4

Analyte	AB	Analyte ID	Method ID
Chemical oxygen demand (COD)	TX	1565	10077404

Method EPA 415.1

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	10078407

Method EPA 420.1

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10079400

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 420.4

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10080203

Method EPA 6020

Analyte	AB	Analyte ID	Method ID
Aluminum	TX	1000	10156419
Antimony	TX	1005	10156419
Arsenic	TX	1010	10156419
Barium	TX	1015	10156419
Beryllium	TX	1020	10156419
Boron	TX	1025	10156419
Cadmium	TX	1030	10156419
Calcium	TX	1035	10156419
Chromium	TX	1040	10156419
Cobalt	TX	1050	10156419
Copper	TX	1055	10156419
Iron	TX	1070	10156419
Lead	TX	1075	10156419
Lithium	TX	1080	10156419
Magnesium	TX	1085	10156419
Manganese	TX	1090	10156419
Molybdenum	TX	1100	10156419
Nickel	TX	1105	10156419
Potassium	TX	1125	10156419
Selenium	TX	1140	10156419
Silver	TX	1150	10156419
Sodium	TX	1155	10156419
Strontium	TX	1160	10156419
Thallium	TX	1165	10156419
Tin	TX	1175	10156419
Titanium	TX	1180	10156419

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Vanadium	TX	1185	10156419
Zinc	TX	1190	10156419

Method EPA 608

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	TX	7355	10103603
4,4'-DDE	TX	7360	10103603
4,4'-DDT	TX	7365	10103603
Aldrin	TX	7025	10103603
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10103603
alpha-Chlordane	TX	7240	10103603
Aroclor-1016 (PCB-1016)	TX	8880	10103603
Aroclor-1221 (PCB-1221)	TX	8885	10103603
Aroclor-1232 (PCB-1232)	TX	8890	10103603
Aroclor-1242 (PCB-1242)	TX	8895	10103603
Aroclor-1248 (PCB-1248)	TX	8900	10103603
Aroclor-1254 (PCB-1254)	TX	8905	10103603
Aroclor-1260 (PCB-1260)	TX	8910	10103603
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10103603
Chlordane (tech.)	TX	7250	10103603
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10103603
Dieldrin	TX	7470	10103603
Endosulfan I	TX	7510	10103603
Endosulfan II	TX	7515	10103603
Endosulfan sulfate	TX	7520	10103603
Endrin	TX	7540	10103603
Endrin aldehyde	TX	7530	10103603
Endrin ketone	TX	7535	10103603
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10103603
gamma-Chlordane	TX	7245	10103603
Heptachlor	TX	7685	10103603

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Heptachlor epoxide	TX	7690	10103603
Methoxychlor	TX	7810	10103603
Toxaphene (Chlorinated camphene)	TX	8250	10103603

Method EPA 624

Analyte	AB	Analyte ID	Method ID
1,1,1-Trichloroethane	TX	5160	10107207
1,1,2,2-Tetrachloroethane	TX	5110	10107207
1,1,2-Trichloroethane	TX	5165	10107207
1,1-Dichloroethane	TX	4630	10107207
1,1-Dichloroethylene	TX	4640	10107207
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10107207
1,2-Dichlorobenzene	TX	4610	10107207
1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10107207
1,2-Dichloropropane	TX	4655	10107207
1,3-Dichlorobenzene	TX	4615	10107207
1,4-Dichlorobenzene	TX	4620	10107207
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10107207
2-Chloroethyl vinyl ether	TX	4500	10107207
Acetone (2-Propanone)	TX	4315	10107207
Acrolein (Propenal)	TX	4325	10107207
Acrylonitrile	TX	4340	10107207
Benzene	TX	4375	10107207
Bromodichloromethane	TX	4395	10107207
Bromoform	TX	4400	10107207
Carbon tetrachloride	TX	4455	10107207
Chlorobenzene	TX	4475	10107207
Chlorodibromomethane	TX	4575	10107207
Chloroethane (Ethyl chloride)	TX	4485	10107207
Chloroform	TX	4505	10107207
cis-1,2-Dichloroethylene	TX	4645	10107207

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

cis-1,3-Dichloropropene	TX	4680	10107207
Ethylbenzene	TX	4765	10107207
m+p-xylene	TX	5240	10107207
Methyl bromide (Bromomethane)	TX	4950	10107207
Methyl chloride (Chloromethane)	TX	4960	10107207
Methyl tert-butyl ether (MTBE)	TX	5000	10107207
Methylene chloride (Dichloromethane)	TX	4975	10107207
Naphthalene	TX	5005	10107207
o-Xylene	TX	5250	10107207
Tetrachloroethylene (Perchloroethylene)	TX	5115	10107207
Toluene	TX	5140	10107207
trans-1,2-Dichloroethylene	TX	4700	10107207
trans-1,3-Dichloropropylene	TX	4685	10107207
Trichloroethene (Trichloroethylene)	TX	5170	10107207
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10107207
Vinyl chloride	TX	5235	10107207
Xylene (total)	TX	5260	10107207

Method EPA 625

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,4,5-Tetrachlorobenzene	TX	6715	10107401
1,2,4-Trichlorobenzene	TX	5155	10107401
1,2-Dichlorobenzene	TX	4610	10107401
1,2-Diphenylhydrazine	TX	6220	10107401
1,3-Dichlorobenzene	TX	4615	10107401
1,4-Dichlorobenzene	TX	4620	10107401
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	TX	4659	10107401
2,4,5-Trichlorophenol	TX	6835	10107401
2,4,6-Trichlorophenol	TX	6840	10107401
2,4-Dichlorophenol	TX	6000	10107401
2,4-Dimethylphenol	TX	6130	10107401

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

2,4-Dinitrophenol	TX	6175	10107401
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10107401
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10107401
2-Chloronaphthalene	TX	5795	10107401
2-Chlorophenol	TX	5800	10107401
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	TX	6360	10107401
2-Methylphenol (o-Cresol)	TX	6400	10107401
2-Nitrophenol	TX	6490	10107401
3,3'-Dichlorobenzidine	TX	5945	10107401
4-Bromophenyl phenyl ether (BDE-3)	TX	5660	10107401
4-Chloro-3-methylphenol	TX	5700	10107401
4-Chlorophenyl phenylether	TX	5825	10107401
4-Methylphenol (p-Cresol)	TX	6410	10107401
4-Nitrophenol	TX	6500	10107401
Acenaphthene	TX	5500	10107401
Acenaphthylene	TX	5505	10107401
Anthracene	TX	5555	10107401
Benzidine	TX	5595	10107401
Benzo(a)anthracene	TX	5575	10107401
Benzo(a)pyrene	TX	5580	10107401
Benzo(b)fluoranthene	TX	5585	10107401
Benzo(g,h,i)perylene	TX	5590	10107401
Benzo(k)fluoranthene	TX	5600	10107401
bis(2-Chloroethoxy)methane	TX	5760	10107401
bis(2-Chloroethyl) ether	TX	5765	10107401
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	TX	6065	10107401
Butyl benzyl phthalate	TX	5670	10107401
Chrysene	TX	5855	10107401
Dibenz(a,h) anthracene	TX	5895	10107401
Diethyl phthalate	TX	6070	10107401

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Dimethyl phthalate	TX	6135	10107401
Di-n-butyl phthalate	TX	5925	10107401
Di-n-octyl phthalate	TX	6200	10107401
Fluoranthene	TX	6265	10107401
Fluorene	TX	6270	10107401
Hexachlorobenzene	TX	6275	10107401
Hexachlorobutadiene	TX	4835	10107401
Hexachlorocyclopentadiene	TX	6285	10107401
Hexachloroethane	TX	4840	10107401
Indeno(1,2,3-cd) pyrene	TX	6315	10107401
Isophorone	TX	6320	10107401
Naphthalene	TX	5005	10107401
Nitrobenzene	TX	5015	10107401
n-Nitrosodiethylamine	TX	6525	10107401
n-Nitrosodimethylamine	TX	6530	10107401
n-Nitrosodi-n-butylamine	TX	5025	10107401
n-Nitrosodi-n-propylamine	TX	6545	10107401
n-Nitrosodiphenylamine	TX	6535	10107401
Pentachlorobenzene	TX	6590	10107401
Pentachlorophenol	TX	6605	10107401
Phenanthrene	TX	6615	10107401
Phenol	TX	6625	10107401
Pyrene	TX	6665	10107401
Pyridine	TX	5095	10107401

Method EPA 7196

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	TX	1045	10162206

Method EPA 7470

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10165603

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 8011

Analyte	AB	Analyte ID	Method ID
1,2,3-Trichloropropane	TX	5180	10173009
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10173009
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10173009

Method EPA 8015

Analyte	AB	Analyte ID	Method ID
Diesel range organics (DRO)	TX	9369	10173203
Ethanol	TX	4750	10173203
Ethylene glycol	TX	4785	10173203
Gasoline range organics (GRO)	TX	9408	10173203
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10173203
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10173203
Methanol	TX	4930	10173203
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10173203
n-Propanol (1-Propanol)	TX	5055	10173203
Propylene Glycol	TX	6657	10173203
tert-Butyl alcohol	TX	4420	10173203

Method EPA 8021

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

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	TX	7355	10178402
4,4'-DDE	TX	7360	10178402

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

4,4'-DDT	TX	7365	10178402
Aldrin	TX	7025	10178402
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10178402
alpha-Chlordane	TX	7240	10178402
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10178402
Chlordane (tech.)	TX	7250	10178402
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10178402
Dieldrin	TX	7470	10178402
Endosulfan I	TX	7510	10178402
Endosulfan II	TX	7515	10178402
Endosulfan sulfate	TX	7520	10178402
Endrin	TX	7540	10178402
Endrin aldehyde	TX	7530	10178402
Endrin ketone	TX	7535	10178402
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10178402
gamma-Chlordane	TX	7245	10178402
Heptachlor	TX	7685	10178402
Heptachlor epoxide	TX	7690	10178402
Hexachlorobenzene	TX	6275	10178402
Methoxychlor	TX	7810	10178402
Mirex	TX	7870	10178402
Toxaphene (Chlorinated camphene)	TX	8250	10178402

Method EPA 8082

Analyte	**AB**	**Analyte ID**	**Method ID**
Aroclor-1016 (PCB-1016)	TX	8880	10179201
Aroclor-1221 (PCB-1221)	TX	8885	10179201
Aroclor-1232 (PCB-1232)	TX	8890	10179201
Aroclor-1242 (PCB-1242)	TX	8895	10179201
Aroclor-1248 (PCB-1248)	TX	8900	10179201
Aroclor-1254 (PCB-1254)	TX	8905	10179201

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Aroclor-1260 (PCB-1260)	TX	8910	10179201
PCBs (total)	TX	8870	10179201

Method EPA 8151

Analyte	AB	Analyte ID	Method ID
2,4,5-T	TX	8655	10183003
2,4-D	TX	8545	10183003
2,4-DB	TX	8560	10183003
Dalapon	TX	8555	10183003
Dicamba	TX	8595	10183003
Dichloroprop (Dichlorprop, Weedone)	TX	8605	10183003
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10183003
MCPA	TX	7775	10183003
MCPP	TX	7780	10183003
Silvex (2,4,5-TP)	TX	8650	10183003

Method EPA 8260

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

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10184404
1,2-Dichloropropane	TX	4655	10184404
1,3,5-Trimethylbenzene	TX	5215	10184404
1,3-Dichlorobenzene	TX	4615	10184404
1,3-Dichloropropane	TX	4660	10184404
1,4-Dichlorobenzene	TX	4620	10184404
1,4-Dioxane (1,4-Diethyleneoxide)	TX	4735	10184404
1-Chlorohexane	TX	4510	10184404
1-Propanol	TX	5060	10184404
2,2-Dichloropropane	TX	4665	10184404
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10184404
2-Chloroethyl vinyl ether	TX	4500	10184404
2-Chlorotoluene	TX	4535	10184404
2-Hexanone (MBK)	TX	4860	10184404
2-Pentanone	TX	5045	10184404
4-Chlorotoluene	TX	4540	10184404
4-Isopropyltoluene (p-Cymene)	TX	4915	10184404
4-Methyl-2-pentanone (MIBK)	TX	4995	10184404
Acetone (2-Propanone)	TX	4315	10184404
Acetonitrile	TX	4320	10184404
Acrolein (Propenal)	TX	4325	10184404
Acrylonitrile	TX	4340	10184404
Allyl alcohol	TX	4350	10184404
Allyl chloride (3-Chloropropene)	TX	4355	10184404
Benzene	TX	4375	10184404
Benzyl chloride	TX	5635	10184404
Bromobenzene	TX	4385	10184404
Bromochloromethane	TX	4390	10184404
Bromodichloromethane	TX	4395	10184404
Bromoform	TX	4400	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Carbon disulfide	TX	4450	10184404
Carbon tetrachloride	TX	4455	10184404
Chlorobenzene	TX	4475	10184404
Chlorodibromomethane	TX	4575	10184404
Chloroethane (Ethyl chloride)	TX	4485	10184404
Chloroform	TX	4505	10184404
Chloroprene (2-Chloro-1,3-butadiene)	TX	4525	10184404
cis-1,2-Dichloroethylene	TX	4645	10184404
cis-1,3-Dichloropropene	TX	4680	10184404
Dibromofluoromethane	TX	4590	10184404
Dibromomethane (Methylene bromide)	TX	4595	10184404
Dichlorodifluoromethane (Freon-12)	TX	4625	10184404
Diethyl ether	TX	4725	10184404
Di-isopropylether (DIPE)	TX	9375	10184404
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	TX	4745	10184404
Ethanol	TX	4750	10184404
Ethyl acetate	TX	4755	10184404
Ethyl methacrylate	TX	4810	10184404
Ethylbenzene	TX	4765	10184404
Ethylene oxide	TX	4795	10184404
Ethyl-t-butylether (ETBE) (2-Ethoxy-2-methylpropane)	TX	4770	10184404
Hexachlorobutadiene	TX	4835	10184404
Iodomethane (Methyl iodide)	TX	4870	10184404
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10184404
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10184404
Isopropylbenzene (Cumene)	TX	4900	10184404
m+p-xylene	TX	5240	10184404
Methacrylonitrile	TX	4925	10184404
Methyl acetate	TX	4940	10184404
Methyl acrylate	TX	4945	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Methyl bromide (Bromomethane)	TX	4950	10184404
Methyl chloride (Chloromethane)	TX	4960	10184404
Methyl methacrylate	TX	4990	10184404
Methyl tert-butyl ether (MTBE)	TX	5000	10184404
Methylcyclohexane	TX	4965	10184404
Methylene chloride (Dichloromethane)	TX	4975	10184404
Naphthalene	TX	5005	10184404
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10184404
n-Butylbenzene	TX	4435	10184404
n-Propylbenzene	TX	5090	10184404
o-Xylene	TX	5250	10184404
Pentachloroethane	TX	5035	10184404
Propionitrile (Ethyl cyanide)	TX	5080	10184404
Pyridine	TX	5095	10184404
sec-Butylbenzene	TX	4440	10184404
Styrene	TX	5100	10184404
T-amylmethylether (TAME)	TX	4370	10184404
tert-Butyl alcohol	TX	4420	10184404
tert-Butylbenzene	TX	4445	10184404
Tetrachloroethylene (Perchloroethylene)	TX	5115	10184404
Toluene	TX	5140	10184404
trans-1,2-Dichloroethylene	TX	4700	10184404
trans-1,3-Dichloropropylene	TX	4685	10184404
trans-1,4-Dichloro-2-butene	TX	4605	10184404
Trichloroethene (Trichloroethylene)	TX	5170	10184404
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10184404
Vinyl acetate	TX	5225	10184404
Vinyl chloride	TX	5235	10184404
Xylene (total)	TX	5260	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
1,2,4,5-Tetrachlorobenzene	TX	6715	10185203
1,2,4-Trichlorobenzene	TX	5155	10185203
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10185203
1,2-Dichlorobenzene	TX	4610	10185203
1,2-Dinitrobenzene	TX	6155	10185203
1,2-Diphenylhydrazine	TX	6220	10185203
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10185203
1,3-Dichlorobenzene	TX	4615	10185203
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10185203
1,4-Dichlorobenzene	TX	4620	10185203
1,4-Dinitrobenzene	TX	6165	10185203
1,4-Naphthoquinone	TX	6420	10185203
1,4-Phenylenediamine	TX	6630	10185203
1-Chloronaphthalene	TX	5790	10185203
1-Naphthylamine	TX	6425	10185203
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	TX	4659	10185203
2,3,4,6-Tetrachlorophenol	TX	6735	10185203
2,4,5-Trichlorophenol	TX	6835	10185203
2,4,5-Trimethylaniline	TX	6880	10185203
2,4,6-Trichlorophenol	TX	6840	10185203
2,4-Diaminotoluene	TX	5880	10185203
2,4-Dichlorophenol	TX	6000	10185203
2,4-Dimethylphenol	TX	6130	10185203
2,4-Dinitrophenol	TX	6175	10185203
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10185203
2,6-Dichlorophenol	TX	6005	10185203
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10185203
2-Acetylaminofluorene	TX	5515	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

2-Chloronaphthalene	TX	5795	10185203
2-Chlorophenol	TX	5800	10185203
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	TX	6360	10185203
2-Methylaniline (o-Toluidine)	TX	5145	10185203
2-Methylnaphthalene	TX	6385	10185203
2-Methylphenol (o-Cresol)	TX	6400	10185203
2-Naphthylamine	TX	6430	10185203
2-Nitroaniline	TX	6460	10185203
2-Nitrophenol	TX	6490	10185203
2-Picoline (2-Methylpyridine)	TX	5050	10185203
3,3'-Dichlorobenzidine	TX	5945	10185203
3,3'-Dimethylbenzidine	TX	6120	10185203
3-Methylcholanthrene	TX	6355	10185203
3-Methylphenol (m-Cresol)	TX	6405	10185203
3-Nitroaniline	TX	6465	10185203
4-Aminobiphenyl	TX	5540	10185203
4-Bromophenyl phenyl ether (BDE-3)	TX	5660	10185203
4-Chloro-3-methylphenol	TX	5700	10185203
4-Chloroaniline	TX	5745	10185203
4-Chlorophenyl phenylether	TX	5825	10185203
4-Dimethyl aminoazobenzene	TX	6105	10185203
4-Methylphenol (p-Cresol)	TX	6410	10185203
4-Nitroaniline	TX	6470	10185203
4-Nitrobiphenyl	TX	6480	10185203
4-Nitrophenol	TX	6500	10185203
4-Nitroquinoline-1-oxide	TX	6510	10185203
5-Chloro-2-methylaniline	TX	5695	10185203
5-Nitro-o-toluidine	TX	6570	10185203
7,12-Dimethylbenz(a) anthracene	TX	6115	10185203
a-a-Dimethylphenethylamine	TX	6125	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Acenaphthene	TX	5500	10185203
Acenaphthylene	TX	5505	10185203
Acetophenone	TX	5510	10185203
Aniline	TX	5545	10185203
Anthracene	TX	5555	10185203
Aramite	TX	5560	10185203
Atrazine	TX	7065	10185203
Azinphos-methyl (Guthion)	TX	7075	10185203
Azobenzene	TX	5562	10185203
Benzenethiol (Thiophenol)	TX	6750	10185203
Benzidine	TX	5595	10185203
Benzo(a)anthracene	TX	5575	10185203
Benzo(a)pyrene	TX	5580	10185203
Benzo(b)fluoranthene	TX	5585	10185203
Benzo(e)pyrene	TX	5605	10185203
Benzo(g,h,i)perylene	TX	5590	10185203
Benzo(k)fluoranthene	TX	5600	10185203
Benzoic acid	TX	5610	10185203
Benzyl alcohol	TX	5630	10185203
Biphenyl	TX	5640	10185203
bis(2-Chloroethoxy)methane	TX	5760	10185203
bis(2-Chloroethyl) ether	TX	5765	10185203
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	TX	6065	10185203
Butyl benzyl phthalate	TX	5670	10185203
Caprolactam	TX	7180	10185203
Captan	TX	7190	10185203
Carbaryl (Sevin)	TX	7195	10185203
Carbazole	TX	5680	10185203
Carbophenothion	TX	7220	10185203
Chlorobenzilate	TX	7260	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Chrysene	TX	5855	10185203
Coumaphos	TX	7315	10185203
Demeton	TX	7390	10185203
Demeton	TX	7390	10185203
Demeton-o	TX	7395	10185203
Demeton-s	TX	7385	10185203
Diallate	TX	7405	10185203
Dibenz(a,h) anthracene	TX	5895	10185203
Dibenz(a,j) acridine	TX	5900	10185203
Dibenzofuran	TX	5905	10185203
Dichlorovos (DDVP, Dichlorvos)	TX	8610	10185203
Diethyl phthalate	TX	6070	10185203
Dimethoate	TX	7475	10185203
Dimethoate	TX	7475	10185203
Dimethyl phthalate	TX	6135	10185203
Di-n-butyl phthalate	TX	5925	10185203
Di-n-octyl phthalate	TX	6200	10185203
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10185203
Dioxathion	TX	7495	10185203
Diphenylamine	TX	6205	10185203
Disulfoton	TX	8625	10185203
Ethion	TX	7565	10185203
Ethyl methanesulfonate	TX	6260	10185203
Famphur	TX	7580	10185203
Fluoranthene	TX	6265	10185203
Fluorene	TX	6270	10185203
Hexachlorobenzene	TX	6275	10185203
Hexachlorobutadiene	TX	4835	10185203
Hexachlorocyclopentadiene	TX	6285	10185203
Hexachloroethane	TX	4840	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Hexachlorophene	TX	6290	10185203
Hexachloropropene	TX	6295	10185203
Indeno(1,2,3-cd) pyrene	TX	6315	10185203
Isodrin	TX	7725	10185203
Isophorone	TX	6320	10185203
Isosafrole	TX	6325	10185203
Kepone	TX	7740	10185203
Maleic anhydride	TX	6335	10185203
Methapyrilene	TX	6345	10185203
Methyl methanesulfonate	TX	6375	10185203
Methyl parathion (Parathion, methyl)	TX	7825	10185203
Mevinphos	TX	7850	10185203
Naled	TX	7905	10185203
Naphthalene	TX	5005	10185203
Nitrobenzene	TX	5015	10185203
n-Nitrosodiethylamine	TX	6525	10185203
n-Nitrosodimethylamine	TX	6530	10185203
n-Nitrosodi-n-butylamine	TX	5025	10185203
n-Nitrosodi-n-propylamine	TX	6545	10185203
n-Nitrosodiphenylamine	TX	6535	10185203
n-Nitrosomethylethylamine	TX	6550	10185203
n-Nitrosomorpholine	TX	6555	10185203
n-Nitrosopiperidine	TX	6560	10185203
n-Nitrosopyrrolidine	TX	6565	10185203
o,o,o-Triethyl phosphorothioate	TX	8290	10185203
o-Anisidine	TX	5550	10185203
Parathion, ethyl	TX	7955	10185203
p-Cresidine	TX	5860	10185203
Pentachlorobenzene	TX	6590	10185203
Pentachloronitrobenzene (PCNB)	TX	6600	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Pentachlorophenol	TX	6605	10185203
Phenacetin	TX	6610	10185203
Phenanthrene	TX	6615	10185203
Phenol	TX	6625	10185203
Phorate	TX	7985	10185203
Phosmet (Imidan)	TX	8000	10185203
Phthalic anhydride	TX	6640	10185203
Pronamide (Kerb)	TX	6650	10185203
Pyrene	TX	6665	10185203
Pyridine	TX	5095	10185203
Quinoline	TX	6670	10185203
Resorcinol	TX	6680	10185203
Safrole	TX	6685	10185203
Sulfotepp	TX	8155	10185203
Terbufos	TX	8185	10185203
Tetrachlorvinphos (Stirophos, Gardona)	TX	8197	10185203
Thionazin (Zinophos)	TX	8235	10185203
Toluene diisocyanate	TX	6775	10185203
Trifluralin (Treflan)	TX	8295	10185203

Method EPA 8290

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	TX	9516	10187209
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	TX	9519	10187209
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	TX	9420	10187209
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	TX	9426	10187209
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	TX	9423	10187209
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	TX	9471	10187209
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	TX	9453	10187209
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	TX	9474	10187209
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	TX	9456	10187209

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	TX	9477	10187209
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	TX	9459	10187209
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	TX	9543	10187209
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	TX	9540	10187209
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	TX	9480	10187209
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	TX	9549	10187209
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	TX	9612	10187209
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10187209
Total Heptachlorodibenzofuran (Total HpCDF)	TX	9444	10187209
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	TX	9438	10187209
Total Hexachlorodibenzofuran (Total HxCDF)	TX	9483	10187209
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	TX	9468	10187209
Total Pentachlorodibenzofuran (Total PeCDF)	TX	9552	10187209
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	TX	9555	10187209
Total Tetrachlorodibenzofuran (Total TCDF)	TX	9615	10187209
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	TX	9609	10187209

Method EPA 8316

Analyte	**AB**	**Analyte ID**	**Method ID**
Acrylamide	TX	4330	10188202

Method EPA 8330

Analyte	**AB**	**Analyte ID**	**Method ID**
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10189807
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10189807
2,4,6-Trinitrotoluene (2,4,6-TNT)	TX	9651	10189807
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10189807
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10189807
2-Amino-4,6-dinitrotoluene (2-am-dnt)	TX	9303	10189807
2-Nitrotoluene	TX	9507	10189807
3-Nitrotoluene	TX	9510	10189807
4-Amino-2,6-dinitrotoluene (4-am-dnt)	TX	9306	10189807
4-Nitrotoluene	TX	9513	10189807

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Methyl-2,4,6-trinitrophenylnitramine (tetryl)	TX	6415	10189807
Nitrobenzene	TX	5015	10189807
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	TX	9522	10189807
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	TX	9432	10189807

Method EPA 9014

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	TX	1510	10193803
Total cyanide	TX	1645	10193803

Method EPA 9038

Analyte	**AB**	**Analyte ID**	**Method ID**
Sulfate	TX	2000	10196608

Method EPA 9040

Analyte	**AB**	**Analyte ID**	**Method ID**
pH	TX	1900	10196802

Method EPA 9050

Analyte	**AB**	**Analyte ID**	**Method ID**
Conductivity	TX	1610	10198604

Method EPA 9056

Analyte	**AB**	**Analyte ID**	**Method ID**
Bromide	TX	1540	10199209
Chloride	TX	1575	10199209
Fluoride	TX	1730	10199209
Nitrate as N	TX	1810	10199209
Nitrate-nitrite	TX	1820	10199209
Nitrite as N	TX	1840	10199209
Orthophosphate as P	TX	1870	10199209
Sulfate	TX	2000	10199209

Method EPA 9060

Analyte	**AB**	**Analyte ID**	**Method ID**
Total Organic Carbon (TOC)	TX	2040	10200201

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 9065

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10200405

Method EPA 9066

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10200609

Method EPA 9250

Analyte	AB	Analyte ID	Method ID
Chloride	TX	1575	10207202

Method EPA RSK 175

Analyte	AB	Analyte ID	Method ID
2-methylpropane (Isobutane)	TX	4942	10212905
Ethane	TX	4747	10212905
Ethene	TX	4752	10212905
Methane	TX	4926	10212905
n-Butane	TX	5007	10212905
n-Propane	TX	5029	10212905

Method HACH 8000

Analyte	AB	Analyte ID	Method ID
Chemical oxygen demand (COD)	TX	1565	60003001

Method SM 2120 B

Analyte	AB	Analyte ID	Method ID
Color	TX	1605	20223807

Method SM 2310 B (4a)

Analyte	AB	Analyte ID	Method ID
Acidity, as CaCO3	TX	1500	20002806

Method SM 2320 B

Analyte	AB	Analyte ID	Method ID
Alkalinity as CaCO3	TX	1505	20045005

Method SM 2340 B

Analyte	AB	Analyte ID	Method ID

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Total hardness as CaCO3	TX	1755	20046008

Method SM 2510 B

Analyte	**AB**	**Analyte ID**	**Method ID**
Conductivity	TX	1610	20048004

Method SM 2540 B

Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-total (total solids)	TX	1950	20004608

Method SM 2540 C

Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-filterable (TDS)	TX	1955	20049803

Method SM 2540 D

Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-nonfilterable (TSS)	TX	1960	20004802

Method SM 3500-Cr B

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	TX	1045	20065809

Method SM 4500-Cl F

Analyte	**AB**	**Analyte ID**	**Method ID**
Total residual chlorine	TX	1940	20080482

Method SM 4500-Cl^- E

Analyte	**AB**	**Analyte ID**	**Method ID**
Chloride	TX	1575	20019209

Method SM 4500-CN^- C

Analyte	**AB**	**Analyte ID**	**Method ID**
Total cyanide	TX	1645	20020808

Method SM 4500-CN^- E

Analyte	**AB**	**Analyte ID**	**Method ID**
Total cyanide	TX	1645	20021209

Method SM 4500-CN^- G

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	TX	1510	20021607

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method SM 4500-H+ B

Analyte	AB	Analyte ID	Method ID
pH	TX	1900	20104603

Method SM 4500-NH3 D

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	20108809
Kjeldahl Nitrogen (Total Kjeldahl Nitrogen-TKN)	TX	1790	20108809

Method SM 4500-NH3 F

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	20023001

Method SM 4500-O G

Analyte	AB	Analyte ID	Method ID
Oxygen, dissolved	TX	1880	20025405

Method SM 4500-P E

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	TX	1870	20025803
Phosphorus	TX	1910	20025803

Method SM 4500-$S2^{-}$ F

Analyte	AB	Analyte ID	Method ID
Sulfide	TX	2005	20126209

Method SM 4500-SiO2 D

Analyte	AB	Analyte ID	Method ID
Silica as SiO2	TX	1990	20127202

Method SM 4500-$SO3^{-}$ B

Analyte	AB	Analyte ID	Method ID
Sulfite	TX	2015	20026806

Method SM 5210 B

Analyte	AB	Analyte ID	Method ID
Biochemical oxygen demand (BOD)	TX	1530	20027401
Carbonaceous BOD, CBOD	TX	1555	20027401

Method SM 5310 B

Analyte	AB	Analyte ID	Method ID

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Total Organic Carbon (TOC)	TX	2040	20137206

Method SM 5310 C

Analyte	**AB**	**Analyte ID**	**Method ID**
Total Organic Carbon (TOC)	TX	2040	20138209

Method SM 5540 C

Analyte	**AB**	**Analyte ID**	**Method ID**
Surfactants - MBAS	TX	2025	20144405

Method TCEQ 1005

Analyte	**AB**	**Analyte ID**	**Method ID**
Total Petroleum Hydrocarbons (TPH)	TX	2050	90019208

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Method ASTM D2216

Analyte	AB	Analyte ID	Method ID
Moisture	TX	10337	ASTM D2216-05

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	TX	1780	10116606

Method EPA 1030

Analyte	AB	Analyte ID	Method ID
Ignitability	TX	1780	10117201

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	TX	849	10118806

Method EPA 1312

Analyte	AB	Analyte ID	Method ID
SPLP	TX	850	10119003

Method EPA 1668

Analyte	AB	Analyte ID	Method ID
Decachlorobiphenyls	TX	10332	10262007
Dichlorobiphenyls	TX	464	10262007
Heptachlorobiphenyls	TX	486	10262007
Hexachlorobiphenyls	TX	487	10262007
Monochlorobiphenyls	TX	501	10262007
Nonachlorobiphenyls	TX	507	10262007
Octachlorobiphenyls	TX	508	10262007
Pentachlorobiphenyls	TX	515	10262007
Tetrachlorobiphenyls	TX	528	10262007
Trichlorobiphenyls	TX	541	10262007

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Uranium	TX	3035	10014605

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Method EPA 300.0

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

Method EPA 310.1

Analyte	AB	Analyte ID	Method ID
Alkalinity as CaCO3	TX	1505	10054805

Method EPA 350.3

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	10064401

Method EPA 365.3

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	TX	1870	10070801
Phosphorus	TX	1910	10070801

Method EPA 6020

Analyte	AB	Analyte ID	Method ID
Aluminum	TX	1000	10156204
Antimony	TX	1005	10156204
Arsenic	TX	1010	10156204
Barium	TX	1015	10156204
Beryllium	TX	1020	10156204
Boron	TX	1025	10156204
Cadmium	TX	1030	10156204
Calcium	TX	1035	10156204
Chromium	TX	1040	10156204

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Cobalt	TX	1050	10156204
Copper	TX	1055	10156204
Iron	TX	1070	10156204
Lead	TX	1075	10156204
Lithium	TX	1080	10156204
Magnesium	TX	1085	10156204
Manganese	TX	1090	10156204
Molybdenum	TX	1100	10156204
Nickel	TX	1105	10156204
Potassium	TX	1125	10156204
Selenium	TX	1140	10156204
Silver	TX	1150	10156204
Sodium	TX	1155	10156204
Strontium	TX	1160	10156204
Thallium	TX	1165	10156204
Tin	TX	1175	10156204
Titanium	TX	1180	10156204
Vanadium	TX	1185	10156204
Zinc	TX	1190	10156204

Method EPA 7196

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	TX	1045	10162206

Method EPA 7470

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10165603

Method EPA 7471

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10166004

Method EPA 8015

Analyte	**AB**	**Analyte ID**	**Method ID**
Diesel range organics (DRO)	TX	9369	10173203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Ethanol	TX	4750	10173203
Ethylene glycol	TX	4785	10173203
Gasoline range organics (GRO)	TX	9408	10173203
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10173203
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10173203
Methanol	TX	4930	10173203
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10173203
n-Propanol (1-Propanol)	TX	5055	10173203
Propylene Glycol	TX	6657	10173203
tert-Butyl alcohol	TX	4420	10173203

Method EPA 8021

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

Method EPA 8081

Analyte	**AB**	**Analyte ID**	**Method ID**
4,4'-DDD	TX	7355	10178402
4,4'-DDE	TX	7360	10178402
4,4'-DDT	TX	7365	10178402
Aldrin	TX	7025	10178402
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10178402
alpha-Chlordane	TX	7240	10178402
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10178402
Chlordane (tech.)	TX	7250	10178402
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10178402
Dieldrin	TX	7470	10178402

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Endosulfan I	TX	7510	10178402
Endosulfan II	TX	7515	10178402
Endosulfan sulfate	TX	7520	10178402
Endrin	TX	7540	10178402
Endrin aldehyde	TX	7530	10178402
Endrin ketone	TX	7535	10178402
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10178402
gamma-Chlordane	TX	7245	10178402
Heptachlor	TX	7685	10178402
Heptachlor epoxide	TX	7690	10178402
Methoxychlor	TX	7810	10178402
Mirex	TX	7870	10178402
Toxaphene (Chlorinated camphene)	TX	8250	10178402

Method EPA 8082

Analyte	**AB**	**Analyte ID**	**Method ID**
Aroclor-1016 (PCB-1016)	TX	8880	10179201
Aroclor-1221 (PCB-1221)	TX	8885	10179201
Aroclor-1232 (PCB-1232)	TX	8890	10179201
Aroclor-1242 (PCB-1242)	TX	8895	10179201
Aroclor-1248 (PCB-1248)	TX	8900	10179201
Aroclor-1254 (PCB-1254)	TX	8905	10179201
Aroclor-1260 (PCB-1260)	TX	8910	10179201
PCBs (total)	TX	8870	10179201

Method EPA 8260

Analyte	**AB**	**Analyte ID**	**Method ID**
1,1,1,2-Tetrachloroethane	TX	5105	10184404
1,1,1-Trichloroethane	TX	5160	10184404
1,1,2,2-Tetrachloroethane	TX	5110	10184404
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	TX	5195	10184404
1,1,2-Trichloroethane	TX	5165	10184404
1,1-Dichloroethane	TX	4630	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

1,1-Dichloroethylene	TX	4640	10184404
1,1-Dichloropropene	TX	4670	10184404
1,2,3-Trichlorobenzene	TX	5150	10184404
1,2,3-Trichloropropane	TX	5180	10184404
1,2,4-Trichlorobenzene	TX	5155	10184404
1,2,4-Trimethylbenzene	TX	5210	10184404
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10184404
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10184404
1,2-Dichlorobenzene	TX	4610	10184404
1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10184404
1,2-Dichloropropane	TX	4655	10184404
1,3,5-Trimethylbenzene	TX	5215	10184404
1,3-Dichlorobenzene	TX	4615	10184404
1,3-Dichloropropane	TX	4660	10184404
1,4-Dichlorobenzene	TX	4620	10184404
1,4-Dioxane (1,4-Diethyleneoxide)	TX	4735	10184404
1-Chlorohexane	TX	4510	10184404
1-Propanol	TX	5060	10184404
2,2-Dichloropropane	TX	4665	10184404
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10184404
2-Chloroethyl vinyl ether	TX	4500	10184404
2-Chlorotoluene	TX	4535	10184404
2-Hexanone (MBK)	TX	4860	10184404
4-Chlorotoluene	TX	4540	10184404
4-Isopropyltoluene (p-Cymene)	TX	4915	10184404
4-Methyl-2-pentanone (MIBK)	TX	4995	10184404
Acetone (2-Propanone)	TX	4315	10184404
Acetonitrile	TX	4320	10184404
Acrolein (Propenal)	TX	4325	10184404
Acrylonitrile	TX	4340	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Allyl chloride (3-Chloropropene)	TX	4355	10184404
Benzene	TX	4375	10184404
Benzyl chloride	TX	5635	10184404
Bromobenzene	TX	4385	10184404
Bromochloromethane	TX	4390	10184404
Bromodichloromethane	TX	4395	10184404
Bromoform	TX	4400	10184404
Carbon disulfide	TX	4450	10184404
Carbon tetrachloride	TX	4455	10184404
Chlorobenzene	TX	4475	10184404
Chlorodibromomethane	TX	4575	10184404
Chloroethane (Ethyl chloride)	TX	4485	10184404
Chloroform	TX	4505	10184404
Chloroprene (2-Chloro-1,3-butadiene)	TX	4525	10184404
cis-1,2-Dichloroethylene	TX	4645	10184404
cis-1,3-Dichloropropene	TX	4680	10184404
Dibromofluoromethane	TX	4590	10184404
Dibromomethane (Methylene bromide)	TX	4595	10184404
Dichlorodifluoromethane (Freon-12)	TX	4625	10184404
Diethyl ether	TX	4725	10184404
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	TX	4745	10184404
Ethanol	TX	4750	10184404
Ethyl acetate	TX	4755	10184404
Ethyl methacrylate	TX	4810	10184404
Ethylbenzene	TX	4765	10184404
Ethylene oxide	TX	4795	10184404
Hexachlorobutadiene	TX	4835	10184404
Iodomethane (Methyl iodide)	TX	4870	10184404
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10184404
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Isopropylbenzene (Cumene)	TX	4900	10184404
m+p-xylene	TX	5240	10184404
Methacrylonitrile	TX	4925	10184404
Methyl acetate	TX	4940	10184404
Methyl acrylate	TX	4945	10184404
Methyl bromide (Bromomethane)	TX	4950	10184404
Methyl chloride (Chloromethane)	TX	4960	10184404
Methyl methacrylate	TX	4990	10184404
Methyl tert-butyl ether (MTBE)	TX	5000	10184404
Methylcyclohexane	TX	4965	10184404
Methylene chloride (Dichloromethane)	TX	4975	10184404
Naphthalene	TX	5005	10184404
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10184404
n-Butylbenzene	TX	4435	10184404
n-Propylbenzene	TX	5090	10184404
o-Xylene	TX	5250	10184404
Pentachloroethane	TX	5035	10184404
Propionitrile (Ethyl cyanide)	TX	5080	10184404
Pyridine	TX	5095	10184404
sec-Butylbenzene	TX	4440	10184404
Styrene	TX	5100	10184404
tert-Butyl alcohol	TX	4420	10184404
tert-Butylbenzene	TX	4445	10184404
Tetrachloroethylene (Perchloroethylene)	TX	5115	10184404
Toluene	TX	5140	10184404
trans-1,2-Dichloroethylene	TX	4700	10184404
trans-1,3-Dichloropropylene	TX	4685	10184404
trans-1,4-Dichloro-2-butene	TX	4605	10184404
Trichloroethene (Trichloroethylene)	TX	5170	10184404
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Vinyl acetate	TX	5225	10184404
Vinyl chloride	TX	5235	10184404
Xylene (total)	TX	5260	10184404

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
1,2,4,5-Tetrachlorobenzene	TX	6715	10185203
1,2,4-Trichlorobenzene	TX	5155	10185203
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10185203
1,2-Dichlorobenzene	TX	4610	10185203
1,2-Dinitrobenzene	TX	6155	10185203
1,2-Diphenylhydrazine	TX	6220	10185203
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10185203
1,3-Dichlorobenzene	TX	4615	10185203
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10185203
1,4-Dichlorobenzene	TX	4620	10185203
1,4-Dinitrobenzene	TX	6165	10185203
1,4-Naphthoquinone	TX	6420	10185203
1,4-Phenylenediamine	TX	6630	10185203
1-Chloronaphthalene	TX	5790	10185203
1-Naphthylamine	TX	6425	10185203
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	TX	4659	10185203
2,3,4,6-Tetrachlorophenol	TX	6735	10185203
2,4,5-Trichlorophenol	TX	6835	10185203
2,4,5-Trimethylaniline	TX	6880	10185203
2,4,6-Trichlorophenol	TX	6840	10185203
2,4-Diaminotoluene	TX	5880	10185203
2,4-Dichlorophenol	TX	6000	10185203
2,4-Dimethylphenol	TX	6130	10185203
2,4-Dinitrophenol	TX	6175	10185203
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

2,6-Dichlorophenol	TX	6005	10185203
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10185203
2-Acetylaminofluorene	TX	5515	10185203
2-Chloronaphthalene	TX	5795	10185203
2-Chlorophenol	TX	5800	10185203
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	TX	6360	10185203
2-Methylaniline (o-Toluidine)	TX	5145	10185203
2-Methylnaphthalene	TX	6385	10185203
2-Methylphenol (o-Cresol)	TX	6400	10185203
2-Naphthylamine	TX	6430	10185203
2-Nitroaniline	TX	6460	10185203
2-Nitrophenol	TX	6490	10185203
2-Picoline (2-Methylpyridine)	TX	5050	10185203
3,3'-Dichlorobenzidine	TX	5945	10185203
3,3'-Dimethylbenzidine	TX	6120	10185203
3-Methylcholanthrene	TX	6355	10185203
3-Methylphenol (m-Cresol)	TX	6405	10185203
3-Nitroaniline	TX	6465	10185203
4-Aminobiphenyl	TX	5540	10185203
4-Bromophenyl phenyl ether (BDE-3)	TX	5660	10185203
4-Chloro-3-methylphenol	TX	5700	10185203
4-Chloroaniline	TX	5745	10185203
4-Chlorophenyl phenylether	TX	5825	10185203
4-Methylphenol (p-Cresol)	TX	6410	10185203
4-Nitroaniline	TX	6470	10185203
4-Nitrophenol	TX	6500	10185203
4-Nitroquinoline-1-oxide	TX	6510	10185203
5-Nitro-o-toluidine	TX	6570	10185203
7,12-Dimethylbenz(a) anthracene	TX	6115	10185203
a-a-Dimethylphenethylamine	TX	6125	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Acenaphthene	TX	5500	10185203
Acenaphthylene	TX	5505	10185203
Acetophenone	TX	5510	10185203
Aniline	TX	5545	10185203
Anthracene	TX	5555	10185203
Aramite	TX	5560	10185203
Atrazine	TX	7065	10185203
Azinphos-methyl (Guthion)	TX	7075	10185203
Azobenzene	TX	5562	10185203
Benzenethiol (Thiophenol)	TX	6750	10185203
Benzidine	TX	5595	10185203
Benzo(a)anthracene	TX	5575	10185203
Benzo(a)pyrene	TX	5580	10185203
Benzo(b)fluoranthene	TX	5585	10185203
Benzo(e)pyrene	TX	5605	10185203
Benzo(g,h,i)perylene	TX	5590	10185203
Benzo(k)fluoranthene	TX	5600	10185203
Benzoic acid	TX	5610	10185203
Benzyl alcohol	TX	5630	10185203
Biphenyl	TX	5640	10185203
bis(2-Chloroethoxy)methane	TX	5760	10185203
bis(2-Chloroethyl) ether	TX	5765	10185203
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	TX	6065	10185203
Butyl benzyl phthalate	TX	5670	10185203
Caprolactam	TX	7180	10185203
Carbaryl (Sevin)	TX	7195	10185203
Carbazole	TX	5680	10185203
Carbophenothion	TX	7220	10185203
Chlorobenzilate	TX	7260	10185203
Chrysene	TX	5855	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Demeton	TX	7390	10185203
Demeton-o	TX	7395	10185203
Demeton-s	TX	7385	10185203
Diallate	TX	7405	10185203
Dibenz(a,h) anthracene	TX	5895	10185203
Dibenz(a,j) acridine	TX	5900	10185203
Dibenzo(a,e) pyrene	TX	5890	10185203
Dibenzofuran	TX	5905	10185203
Dichlorovos (DDVP, Dichlorvos)	TX	8610	10185203
Diethyl phthalate	TX	6070	10185203
Dimethoate	TX	7475	10185203
Dimethyl phthalate	TX	6135	10185203
Di-n-butyl phthalate	TX	5925	10185203
Di-n-octyl phthalate	TX	6200	10185203
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10185203
Diphenylamine	TX	6205	10185203
Disulfoton	TX	8625	10185203
Ethyl methanesulfonate	TX	6260	10185203
Fluoranthene	TX	6265	10185203
Fluorene	TX	6270	10185203
Hexachlorobenzene	TX	6275	10185203
Hexachlorobutadiene	TX	4835	10185203
Hexachlorocyclopentadiene	TX	6285	10185203
Hexachloroethane	TX	4840	10185203
Hexachlorophene	TX	6290	10185203
Hexachloropropene	TX	6295	10185203
Indeno(1,2,3-cd) pyrene	TX	6315	10185203
Isodrin	TX	7725	10185203
Isophorone	TX	6320	10185203
Isosafrole	TX	6325	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Kepone	TX	7740	10185203
Malathion	TX	7770	10185203
Methapyrilene	TX	6345	10185203
Methyl methanesulfonate	TX	6375	10185203
Methyl parathion (Parathion, methyl)	TX	7825	10185203
Mevinphos	TX	7850	10185203
Naphthalene	TX	5005	10185203
Nitrobenzene	TX	5015	10185203
n-Nitrosodiethylamine	TX	6525	10185203
n-Nitrosodimethylamine	TX	6530	10185203
n-Nitrosodi-n-butylamine	TX	5025	10185203
n-Nitrosodi-n-propylamine	TX	6545	10185203
n-Nitrosodiphenylamine	TX	6535	10185203
n-Nitrosomethylethylamine	TX	6550	10185203
n-Nitrosomorpholine	TX	6555	10185203
n-Nitrosopiperidine	TX	6560	10185203
n-Nitrosopyrrolidine	TX	6565	10185203
o,o,o-Triethyl phosphorothioate	TX	8290	10185203
o-Anisidine	TX	5550	10185203
Parathion, ethyl	TX	7955	10185203
p-Cresidine	TX	5860	10185203
Pentachlorobenzene	TX	6590	10185203
Pentachloronitrobenzene (PCNB)	TX	6600	10185203
Pentachlorophenol	TX	6605	10185203
Phenacetin	TX	6610	10185203
Phenanthrene	TX	6615	10185203
Phenol	TX	6625	10185203
Phorate	TX	7985	10185203
Pronamide (Kerb)	TX	6650	10185203
Pyrene	TX	6665	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Pyridine	TX	5095	10185203
Quinoline	TX	6670	10185203
Safrole	TX	6685	10185203
Sulfotepp	TX	8155	10185203
Terbufos	TX	8185	10185203
Tetrachlorvinphos (Stirophos, Gardona)	TX	8197	10185203
Thionazin (Zinophos)	TX	8235	10185203
Toluene diisocyanate	TX	6775	10185203

Method EPA 8290

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	TX	9516	10187209
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	TX	9519	10187209
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	TX	9420	10187209
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	TX	9426	10187209
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	TX	9423	10187209
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	TX	9471	10187209
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	TX	9453	10187209
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	TX	9474	10187209
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	TX	9456	10187209
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	TX	9477	10187209
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	TX	9459	10187209
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	TX	9543	10187209
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	TX	9540	10187209
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	TX	9480	10187209
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	TX	9549	10187209
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	TX	9612	10187209
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10187209
Total Heptachlorodibenzofuran (Total HpCDF)	TX	9444	10187209
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	TX	9438	10187209
Total Hexachlorodibenzofuran (Total HxCDF)	TX	9483	10187209

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	TX	9468	10187209
Total Pentachlorodibenzofuran (Total PeCDF)	TX	9552	10187209
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	TX	9555	10187209
Total Tetrachlorodibenzofuran (Total TCDF)	TX	9615	10187209
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	TX	9609	10187209

Method EPA 8316

Analyte	**AB**	**Analyte ID**	**Method ID**
Acrylamide	TX	4330	10188202

Method EPA 8330

Analyte	**AB**	**Analyte ID**	**Method ID**
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10189807
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10189807
2,4,6-Trinitrotoluene (2,4,6-TNT)	TX	9651	10189807
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10189807
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10189807
2-Amino-4,6-dinitrotoluene (2-am-dnt)	TX	9303	10189807
2-Nitrotoluene	TX	9507	10189807
3-Nitrotoluene	TX	9510	10189807
4-Amino-2,6-dinitrotoluene (4-am-dnt)	TX	9306	10189807
4-Nitrotoluene	TX	9513	10189807
Methyl-2,4,6-trinitrophenylnitramine (tetryl)	TX	6415	10189807
Nitrobenzene	TX	5015	10189807
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	TX	9522	10189807
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	TX	9432	10189807

Method EPA 9014

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	TX	1510	10193803
Total cyanide	TX	1645	10193803

Method EPA 9038

Analyte	**AB**	**Analyte ID**	**Method ID**
Sulfate	TX	2000	10196608

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Method EPA 9040

Analyte	AB	Analyte ID	Method ID
Corrosivity	TX	1615	10197203
pH	TX	1900	10196802

Method EPA 9045

Analyte	AB	Analyte ID	Method ID
Corrosivity	TX	1615	10197805
pH	TX	1900	10197805

Method EPA 9050

Analyte	AB	Analyte ID	Method ID
Conductivity	TX	1610	10198604

Method EPA 9056

Analyte	AB	Analyte ID	Method ID
Bromide	TX	1540	10199209
Chloride	TX	1575	10199209
Fluoride	TX	1730	10199209
Nitrate as N	TX	1810	10199209
Nitrate-nitrite	TX	1820	10199209
Nitrite as N	TX	1840	10199209
Orthophosphate as P	TX	1870	10199209
Sulfate	TX	2000	10199209

Method EPA 9060

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	10200201

Method EPA 9065

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10200405

Method EPA 9071

Analyte	AB	Analyte ID	Method ID
n-Hexane Extractable Material (HEM) (O&G)	TX	1803	10201204

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Method	Analyte	AB	Analyte ID	Method ID
EPA 9095	Paint Filter Liquids Test	TX	10312	10204009
EPA 9250	Chloride	TX	1575	10207202
SM 2320 B	Alkalinity as CaCO3	TX	1505	20045005
SM 2510 B	Conductivity	TX	1610	20048004
SM 2540 G	Residue-total (total solids)	TX	1950	20005203
SSA/ASA Part 3:34	Carbon, organic (Walkley-Black)	TX	10340	SSA/ASA Pt 3:34
TCEQ 1005	Total Petroleum Hydrocarbons (TPH)	TX	2050	90019208

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

January 20, 2020

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS20010407**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 27 sample(s) on Jan 10, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DAYNA.FISHER
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20010407**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20010407**	

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 01/20/2020					
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20010407					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 149585, 149592, 149618, 149624, 149670, R354349, R354396, R354399, R354465					
#[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				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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 SW-846 Method 5035?			X		
		If required for the project, 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			1
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 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				
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			2
		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		
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				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				3
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 01/20/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20010407				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 149585, 149592, 149618, 149624, 149670, R354349, R354396, R354399, R354465				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group	LRC Date: 01/20/2020
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS20010407
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 149585, 149592, 149618, 149624, 149670, R354349, R354396, R354399, R354465

ER#[5]	Description
1	Batch 149624 and 149670, Semivolatiles by Method SW8270, Samples WG-1620-MW77A-20200109, WG-1620-MW49A-20200107, WG-1620-MW18C-20200108, WG-1620-MW18A-20200108, WG-1620-MW58A-20200108, WG-1620-MW57A-20200108, WG-1620-MW57B-20200108, WG-1620-MW72B-20200109: Surrogate recoveries could not be determined due to dilution below the calibration range. Batch 149670, Semivolatiles by Method SW8270, Sample WG-1620-MW23C-20200109, Surrogate Nitrobenzene-d5 recovered above upper control limits. This was due to a dilution required for sample analysis.
2	Batch R354396, Volatiles by Method SW8260, Sample HS20010411-10, MS and MSD were performed on an unrelated sample.
3	Batch R354396, Volatiles by Method SW8260, Samples WG-1620-MW18C-20200108, WG-1620-MW18A-20200108: Lowest practical dilution due to sample matrix. Batch R354465, Volatiles by Method SW8260, Samples WG-1620-MW23C-20200109, WG-1620-MW49A-20200107, WG-1620-MW57B-20200108, WG-1620-MW72B-20200109: Lowest practical dilution due to high concentration of non-target analyte(s). Batch 149670, Semivolatiles by Method SW8270, Sample WG-1620-MW57B-20200108, WG-1620-MW72B-20200109, WG-1620-MW23C-20200109: The GCMS semi-volatile extract of this sample was run at a dilution due to a high level of matrix interference.

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20010407

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20010407-01	WG-1620-MW19C-20200109	Water		09-Jan-2020 10:45	10-Jan-2020 09:35	
HS20010407-02	WG-1620-MW51A-20200109	Water		09-Jan-2020 11:50	10-Jan-2020 09:35	
HS20010407-03	WG-1620-MW51C-20200109	Water		09-Jan-2020 12:40	10-Jan-2020 09:35	
HS20010407-04	WG-1620-MW85C-20200109	Water		09-Jan-2020 13:35	10-Jan-2020 09:35	
HS20010407-05	WG-1620-MW77A-20200109	Water		09-Jan-2020 14:25	10-Jan-2020 09:35	
HS20010407-06	WG-1620-MW76C-20200109	Water		09-Jan-2020 15:20	10-Jan-2020 09:35	
HS20010407-07	WG-1620-MW81B-20200109	Water		09-Jan-2020 16:20	10-Jan-2020 09:35	
HS20010407-08	WG-1620-MW50A-20200109	Water		09-Jan-2020 17:15	10-Jan-2020 09:35	
HS20010407-09	WG-1620-MW49A-20200107	Water		07-Jan-2020 13:10	10-Jan-2020 09:35	
HS20010407-10	WG-1620-MW80B-20200107	Water		07-Jan-2020 16:00	10-Jan-2020 09:35	
HS20010407-11	WG-1620-FB01-20200107	Water		07-Jan-2020 16:30	10-Jan-2020 09:35	
HS20010407-12	WG-1620-FB02-20200108	Water		08-Jan-2020 09:00	10-Jan-2020 09:35	
HS20010407-13	WG-1620-MW18C-20200108	Water		08-Jan-2020 10:10	10-Jan-2020 09:35	
HS20010407-14	WG-1620-MW18A-20200108	Water		08-Jan-2020 11:10	10-Jan-2020 09:35	
HS20010407-15	WG-1620-MW58A-20200108	Water		08-Jan-2020 12:15	10-Jan-2020 09:35	
HS20010407-16	WG-1620-MW57A-20200108	Water		08-Jan-2020 14:55	10-Jan-2020 09:35	
HS20010407-17	WG-1620-MW57B-20200108	Water		08-Jan-2020 13:30	10-Jan-2020 09:35	
HS20010407-18	WG-1620-FB03-20200109	Water		09-Jan-2020 07:30	10-Jan-2020 09:35	
HS20010407-19	WG-1620-MW49B-20200107	Water		07-Jan-2020 14:30	10-Jan-2020 09:35	
HS20010407-20	WG-1620-MW72B-20200109	Water		09-Jan-2020 08:35	10-Jan-2020 09:35	
HS20010407-21	WG-1620-MW23C-20200109	Water		09-Jan-2020 09:40	10-Jan-2020 09:35	
HS20010407-22	WG-1620-MW53C-20200109	Water		09-Jan-2020 11:15	10-Jan-2020 09:35	
HS20010407-23	WG-1620-MW54C-20200109	Water		09-Jan-2020 12:35	10-Jan-2020 09:35	
HS20010407-24	WG-1620-MW44A-20200109	Water		09-Jan-2020 13:30	10-Jan-2020 09:35	
HS20010407-25	WG-1620-MW36B-20200109	Water		09-Jan-2020 14:40	10-Jan-2020 09:35	
HS20010407-26	WG-1620-MW36A-20200109	Water		09-Jan-2020 16:00	10-Jan-2020 09:35	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20010407

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20010407-27	WG-1620-TB01-20200109	Water		09-Jan-2020 00:00	10-Jan-2020 09:35	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW19C-20200109
Collection Date: 09-Jan-2020 10:45

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jan-2020 23:06
Benzene	**0.00032**	J	**0.00020**	**0.0010**	**mg/L**	1	14-Jan-2020 23:06
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2020 23:06
Ethylbenzene	**0.00064**	J	**0.00030**	**0.0010**	**mg/L**	1	14-Jan-2020 23:06
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jan-2020 23:06
Toluene	U		0.00020	0.0010	mg/L	1	14-Jan-2020 23:06
Vinyl chloride	U		0.00020	0.0010	mg/L	1	14-Jan-2020 23:06
Xylenes, Total	**0.0012**		**0.00030**	**0.0010**	**mg/L**	1	14-Jan-2020 23:06
Surr: 1,2-Dichloroethane-d4	*97.3*			*70-126*	*%REC*	*1*	*14-Jan-2020 23:06*
Surr: 4-Bromofluorobenzene	*95.1*			*81-113*	*%REC*	*1*	*14-Jan-2020 23:06*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*14-Jan-2020 23:06*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*14-Jan-2020 23:06*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW19C-20200109
Collection Date: 09-Jan-2020 10:45

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 14-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	**0.000078**	J	**0.000021**	**0.00020**	**mg/L**	1	15-Jan-2020 08:50
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	15-Jan-2020 08:50
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jan-2020 08:50
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jan-2020 08:50
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jan-2020 08:50
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	15-Jan-2020 08:50
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jan-2020 08:50
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jan-2020 08:50
Acenaphthene	**0.00099**		**0.000027**	**0.00010**	**mg/L**	1	15-Jan-2020 08:50
Acenaphthylene	**0.000050**	J	**0.000015**	**0.00010**	**mg/L**	1	15-Jan-2020 08:50
Anthracene	**0.00017**		**0.000014**	**0.00010**	**mg/L**	1	15-Jan-2020 08:50
Benz(a)anthracene	**0.00026**		**0.000050**	**0.00010**	**mg/L**	1	15-Jan-2020 08:50
Benzo(a)pyrene	**0.00010**		**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 08:50
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jan-2020 08:50
Bis(2-ethylhexyl)phthalate	**0.000071**	J	**0.000037**	**0.00020**	**mg/L**	1	15-Jan-2020 08:50
Chrysene	**0.00024**		**0.000021**	**0.00010**	**mg/L**	1	15-Jan-2020 08:50
Dibenzofuran	**0.00069**		**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 08:50
Di-n-butyl phthalate	**0.000021**	J	**0.000020**	**0.00020**	**mg/L**	1	15-Jan-2020 08:50
Fluoranthene	**0.0011**		**0.000010**	**0.00010**	**mg/L**	1	15-Jan-2020 08:50
Fluorene	**0.00047**		**0.000030**	**0.00010**	**mg/L**	1	15-Jan-2020 08:50
Naphthalene	**0.00011**		**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 08:50
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jan-2020 08:50
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jan-2020 08:50
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jan-2020 08:50
Phenanthrene	**0.00045**		**0.000021**	**0.00010**	**mg/L**	1	15-Jan-2020 08:50
Phenol	U		0.000035	0.00020	mg/L	1	15-Jan-2020 08:50
Pyrene	**0.0014**		**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 08:50
Surr: 2,4,6-Tribromophenol	*65.3*			*34-129*	*%REC*	*1*	*15-Jan-2020 08:50*
Surr: 2-Fluorobiphenyl	*61.5*			*40-125*	*%REC*	*1*	*15-Jan-2020 08:50*
Surr: 2-Fluorophenol	*54.7*			*20-120*	*%REC*	*1*	*15-Jan-2020 08:50*
Surr: 4-Terphenyl-d14	*82.1*			*40-135*	*%REC*	*1*	*15-Jan-2020 08:50*
Surr: Nitrobenzene-d5	*50.1*			*41-120*	*%REC*	*1*	*15-Jan-2020 08:50*
Surr: Phenol-d6	*52.1*			*20-120*	*%REC*	*1*	*15-Jan-2020 08:50*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	**0.00140**	J	**0.000400**	**0.00200**	**mg/L**	1	13-Jan-2020 22:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW51A-20200109
Collection Date: 09-Jan-2020 11:50

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jan-2020 01:27
Benzene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 01:27
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 01:27
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 01:27
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jan-2020 01:27
Toluene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 01:27
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jan-2020 01:27
Surr: 1,2-Dichloroethane-d4	*98.2*			*70-126*	*%REC*	*1*	*14-Jan-2020 01:27*
Surr: 4-Bromofluorobenzene	*95.0*			*81-113*	*%REC*	*1*	*14-Jan-2020 01:27*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*14-Jan-2020 01:27*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*14-Jan-2020 01:27*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW51A-20200109
Collection Date: 09-Jan-2020 11:50

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 14-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jan-2020 09:09
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	15-Jan-2020 09:09
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jan-2020 09:09
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jan-2020 09:09
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jan-2020 09:09
2-Methylnaphthalene	**0.000044**	J	**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 09:09
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jan-2020 09:09
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jan-2020 09:09
Acenaphthene	**0.000040**	J	**0.000027**	**0.00010**	**mg/L**	1	15-Jan-2020 09:09
Acenaphthylene	U		0.000015	0.00010	mg/L	1	15-Jan-2020 09:09
Anthracene	**0.000063**	J	**0.000014**	**0.00010**	**mg/L**	1	15-Jan-2020 09:09
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jan-2020 09:09
Benzo(a)pyrene	**0.000027**	J	**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 09:09
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jan-2020 09:09
Bis(2-ethylhexyl)phthalate	**0.00014**	J	**0.000037**	**0.00020**	**mg/L**	1	15-Jan-2020 09:09
Chrysene	**0.000050**	J	**0.000021**	**0.00010**	**mg/L**	1	15-Jan-2020 09:09
Dibenzofuran	**0.000049**	J	**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 09:09
Di-n-butyl phthalate	**0.000034**	J	**0.000020**	**0.00020**	**mg/L**	1	15-Jan-2020 09:09
Fluoranthene	**0.00013**		**0.000010**	**0.00010**	**mg/L**	1	15-Jan-2020 09:09
Fluorene	**0.000043**	J	**0.000030**	**0.00010**	**mg/L**	1	15-Jan-2020 09:09
Naphthalene	**0.00032**		**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 09:09
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jan-2020 09:09
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jan-2020 09:09
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jan-2020 09:09
Phenanthrene	**0.00021**		**0.000021**	**0.00010**	**mg/L**	1	15-Jan-2020 09:09
Phenol	U		0.000035	0.00020	mg/L	1	15-Jan-2020 09:09
Pyrene	**0.000083**	J	**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 09:09
Surr: 2,4,6-Tribromophenol	*74.3*			*34-129*	*%REC*	*1*	*15-Jan-2020 09:09*
Surr: 2-Fluorobiphenyl	*79.5*			*40-125*	*%REC*	*1*	*15-Jan-2020 09:09*
Surr: 2-Fluorophenol	*53.3*			*20-120*	*%REC*	*1*	*15-Jan-2020 09:09*
Surr: 4-Terphenyl-d14	*91.9*			*40-135*	*%REC*	*1*	*15-Jan-2020 09:09*
Surr: Nitrobenzene-d5	*63.9*			*41-120*	*%REC*	*1*	*15-Jan-2020 09:09*
Surr: Phenol-d6	*66.7*			*20-120*	*%REC*	*1*	*15-Jan-2020 09:09*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW51A-20200109
Collection Date: 09-Jan-2020 11:50

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005	**Method:TX1005**				Prep:TX1005PR / 13-Jan-2020		Analyst: MBG
nC6 to nC12	U		0.19	0.48	mg/L	1	13-Jan-2020 21:36
>nC12 to nC28	U		0.19	0.48	mg/L	1	13-Jan-2020 21:36
>nC28 to nC35	U		0.19	0.48	mg/L	1	13-Jan-2020 21:36
Total Petroleum Hydrocarbon	U		0.19	0.48	mg/L	1	13-Jan-2020 21:36
Surr: 2-Fluorobiphenyl	*104*			*70-130*	*%REC*	*1*	*13-Jan-2020 21:36*
Surr: Trifluoromethyl benzene	*106*			*70-130*	*%REC*	*1*	*13-Jan-2020 21:36*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	**0.00188**	J	**0.000400**	**0.00200**	**mg/L**	1	13-Jan-2020 22:25

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW51C-20200109
Collection Date: 09-Jan-2020 12:40

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jan-2020 03:29
Benzene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 03:29
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 03:29
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 03:29
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jan-2020 03:29
Toluene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 03:29
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jan-2020 03:29
Surr: 1,2-Dichloroethane-d4	*97.8*			*70-126*	*%REC*	*1*	*14-Jan-2020 03:29*
Surr: 4-Bromofluorobenzene	*94.5*			*81-113*	*%REC*	*1*	*14-Jan-2020 03:29*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*14-Jan-2020 03:29*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*14-Jan-2020 03:29*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW51C-20200109
Collection Date: 09-Jan-2020 12:40

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 14-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jan-2020 09:28
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	15-Jan-2020 09:28
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jan-2020 09:28
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jan-2020 09:28
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jan-2020 09:28
2-Methylnaphthalene	**0.000055**	J	**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 09:28
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jan-2020 09:28
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jan-2020 09:28
Acenaphthene	**0.000094**	J	**0.000027**	**0.00010**	**mg/L**	1	15-Jan-2020 09:28
Acenaphthylene	U		0.000015	0.00010	mg/L	1	15-Jan-2020 09:28
Anthracene	**0.00010**		**0.000014**	**0.00010**	**mg/L**	1	15-Jan-2020 09:28
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jan-2020 09:28
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jan-2020 09:28
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jan-2020 09:28
Bis(2-ethylhexyl)phthalate	**0.000085**	J	**0.000037**	**0.00020**	**mg/L**	1	15-Jan-2020 09:28
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jan-2020 09:28
Dibenzofuran	**0.00011**		**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 09:28
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jan-2020 09:28
Fluoranthene	**0.00018**		**0.000010**	**0.00010**	**mg/L**	1	15-Jan-2020 09:28
Fluorene	**0.00011**		**0.000030**	**0.00010**	**mg/L**	1	15-Jan-2020 09:28
Naphthalene	**0.00030**		**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 09:28
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jan-2020 09:28
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jan-2020 09:28
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jan-2020 09:28
Phenanthrene	**0.00056**		**0.000021**	**0.00010**	**mg/L**	1	15-Jan-2020 09:28
Phenol	U		0.000035	0.00020	mg/L	1	15-Jan-2020 09:28
Pyrene	**0.00011**		**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 09:28
Surr: 2,4,6-Tribromophenol	*64.9*			*34-129*	*%REC*	*1*	*15-Jan-2020 09:28*
Surr: 2-Fluorobiphenyl	*73.5*			*40-125*	*%REC*	*1*	*15-Jan-2020 09:28*
Surr: 2-Fluorophenol	*68.8*			*20-120*	*%REC*	*1*	*15-Jan-2020 09:28*
Surr: 4-Terphenyl-d14	*80.4*			*40-135*	*%REC*	*1*	*15-Jan-2020 09:28*
Surr: Nitrobenzene-d5	*55.9*			*41-120*	*%REC*	*1*	*15-Jan-2020 09:28*
Surr: Phenol-d6	*61.2*			*20-120*	*%REC*	*1*	*15-Jan-2020 09:28*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW51C-20200109
Collection Date: 09-Jan-2020 12:40

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 13-Jan-2020		Analyst: MBG
nC6 to nC12		U	0.19	0.48	mg/L	1	13-Jan-2020 22:05
>nC12 to nC28		U	0.19	0.48	mg/L	1	13-Jan-2020 22:05
>nC28 to nC35		U	0.19	0.48	mg/L	1	13-Jan-2020 22:05
Total Petroleum Hydrocarbon		U	0.19	0.48	mg/L	1	13-Jan-2020 22:05
Surr: 2-Fluorobiphenyl	*108*			*70-130*	*%REC*	*1*	*13-Jan-2020 22:05*
Surr: Trifluoromethyl benzene	*110*			*70-130*	*%REC*	*1*	*13-Jan-2020 22:05*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	**0.000452**	J	**0.000400**	**0.00200**	**mg/L**	1	13-Jan-2020 22:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW85C-20200109
Collection Date: 09-Jan-2020 13:35

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jan-2020 23:31
Benzene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 23:31
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 23:31
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 23:31
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jan-2020 23:31
Toluene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 23:31
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jan-2020 23:31
Surr: 1,2-Dichloroethane-d4	*96.4*			*70-126*	*%REC*	*1*	*14-Jan-2020 23:31*
Surr: 4-Bromofluorobenzene	*95.7*			*81-113*	*%REC*	*1*	*14-Jan-2020 23:31*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*14-Jan-2020 23:31*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*14-Jan-2020 23:31*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW85C-20200109
Collection Date: 09-Jan-2020 13:35

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 14-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jan-2020 09:46
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	15-Jan-2020 09:46
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jan-2020 09:46
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jan-2020 09:46
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jan-2020 09:46
2-Methylnaphthalene	**0.000041**	J	**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 09:46
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jan-2020 09:46
4-Nitrophenol	**0.00077**	J	**0.000047**	**0.0010**	**mg/L**	1	15-Jan-2020 09:46
Acenaphthene	**0.000077**	J	**0.000027**	**0.00010**	**mg/L**	1	15-Jan-2020 09:46
Acenaphthylene	U		0.000015	0.00010	mg/L	1	15-Jan-2020 09:46
Anthracene	U		0.000014	0.00010	mg/L	1	15-Jan-2020 09:46
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jan-2020 09:46
Benzo(a)pyrene	**0.000031**	J	**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 09:46
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jan-2020 09:46
Bis(2-ethylhexyl)phthalate	**0.00016**	J	**0.000037**	**0.00020**	**mg/L**	1	15-Jan-2020 09:46
Chrysene	**0.000053**	J	**0.000021**	**0.00010**	**mg/L**	1	15-Jan-2020 09:46
Dibenzofuran	**0.000059**	J	**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 09:46
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jan-2020 09:46
Fluoranthene	**0.00025**		**0.000010**	**0.00010**	**mg/L**	1	15-Jan-2020 09:46
Fluorene	**0.000055**	J	**0.000030**	**0.00010**	**mg/L**	1	15-Jan-2020 09:46
Naphthalene	**0.00046**		**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 09:46
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jan-2020 09:46
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jan-2020 09:46
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jan-2020 09:46
Phenanthrene	**0.000067**	J	**0.000021**	**0.00010**	**mg/L**	1	15-Jan-2020 09:46
Phenol	**0.000042**	J	**0.000035**	**0.00020**	**mg/L**	1	15-Jan-2020 09:46
Pyrene	**0.00021**		**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 09:46
Surr: 2,4,6-Tribromophenol	*84.0*			*34-129*	*%REC*	*1*	*15-Jan-2020 09:46*
Surr: 2-Fluorobiphenyl	*78.5*			*40-125*	*%REC*	*1*	*15-Jan-2020 09:46*
Surr: 2-Fluorophenol	*74.7*			*20-120*	*%REC*	*1*	*15-Jan-2020 09:46*
Surr: 4-Terphenyl-d14	*98.6*			*40-135*	*%REC*	*1*	*15-Jan-2020 09:46*
Surr: Nitrobenzene-d5	*62.9*			*41-120*	*%REC*	*1*	*15-Jan-2020 09:46*
Surr: Phenol-d6	*69.6*			*20-120*	*%REC*	*1*	*15-Jan-2020 09:46*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW85C-20200109
Collection Date: 09-Jan-2020 13:35

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 13-Jan-2020		Analyst: MBG
nC6 to nC12		U	0.20	0.49	mg/L	1	13-Jan-2020 22:34
>nC12 to nC28		U	0.20	0.49	mg/L	1	13-Jan-2020 22:34
>nC28 to nC35		U	0.20	0.49	mg/L	1	13-Jan-2020 22:34
Total Petroleum Hydrocarbon		U	0.20	0.49	mg/L	1	13-Jan-2020 22:34
Surr: 2-Fluorobiphenyl	*108*			*70-130*	*%REC*	*1*	*13-Jan-2020 22:34*
Surr: Trifluoromethyl benzene	*108*			*70-130*	*%REC*	*1*	*13-Jan-2020 22:34*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	**0.00272**		**0.000400**	**0.00200**	**mg/L**	1	13-Jan-2020 22:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW77A-20200109
Collection Date: 09-Jan-2020 14:25

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	15-Jan-2020 12:58
Benzene	**0.058**		**0.00020**	**0.0010**	**mg/L**	1	15-Jan-2020 12:58
Chlorobenzene	U		0.00030	0.0010	mg/L	1	15-Jan-2020 12:58
Ethylbenzene	**0.063**		**0.00030**	**0.0010**	**mg/L**	1	15-Jan-2020 12:58
Methylene chloride	U		0.0010	0.0020	mg/L	1	15-Jan-2020 12:58
Toluene	**0.0069**		**0.00020**	**0.0010**	**mg/L**	1	15-Jan-2020 12:58
Xylenes, Total	**0.065**		**0.00030**	**0.0010**	**mg/L**	1	15-Jan-2020 12:58
Surr: 1,2-Dichloroethane-d4	*99.0*			*70-126*	*%REC*	*1*	*15-Jan-2020 12:58*
Surr: 4-Bromofluorobenzene	*103*			*81-113*	*%REC*	*1*	*15-Jan-2020 12:58*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*15-Jan-2020 12:58*
Surr: Toluene-d8	*99.2*			*82-127*	*%REC*	*1*	*15-Jan-2020 12:58*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW77A-20200109
Collection Date: 09-Jan-2020 14:25

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 14-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jan-2020 10:05
2,4-Dimethylphenol	**0.055**		**0.00080**	**0.0040**	**mg/L**	20	15-Jan-2020 14:11
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jan-2020 10:05
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jan-2020 10:05
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jan-2020 10:05
2-Methylnaphthalene	**0.22**		**0.0019**	**0.010**	**mg/L**	100	15-Jan-2020 16:04
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jan-2020 10:05
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jan-2020 10:05
Acenaphthene	**0.13**		**0.00054**	**0.0020**	**mg/L**	20	15-Jan-2020 14:11
Acenaphthylene	**0.0013**		**0.000015**	**0.00010**	**mg/L**	1	15-Jan-2020 10:05
Anthracene	**0.0036**		**0.000014**	**0.00010**	**mg/L**	1	15-Jan-2020 10:05
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jan-2020 10:05
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jan-2020 10:05
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jan-2020 10:05
Bis(2-ethylhexyl)phthalate	**0.000077**	J	**0.000037**	**0.00020**	**mg/L**	1	15-Jan-2020 10:05
Chrysene	**0.000041**	J	**0.000021**	**0.00010**	**mg/L**	1	15-Jan-2020 10:05
Dibenzofuran	**0.079**		**0.00040**	**0.0020**	**mg/L**	20	15-Jan-2020 14:11
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jan-2020 10:05
Fluoranthene	**0.00071**		**0.000010**	**0.00010**	**mg/L**	1	15-Jan-2020 10:05
Fluorene	**0.067**		**0.00060**	**0.0020**	**mg/L**	20	15-Jan-2020 14:11
Naphthalene	**4.7**		**0.020**	**0.10**	**mg/L**	1000	15-Jan-2020 17:57
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jan-2020 10:05
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jan-2020 10:05
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jan-2020 10:05
Phenanthrene	**0.031**		**0.00042**	**0.0020**	**mg/L**	20	15-Jan-2020 14:11
Phenol	U		0.000035	0.00020	mg/L	1	15-Jan-2020 10:05
Pyrene	**0.00046**		**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 10:05
Surr: 2,4,6-Tribromophenol	*90.3*	*J*		*34-129*	*%REC*	*100*	*15-Jan-2020 16:04*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*1000*	*15-Jan-2020 17:57*
Surr: 2,4,6-Tribromophenol	*82.0*			*34-129*	*%REC*	*1*	*15-Jan-2020 10:05*
Surr: 2,4,6-Tribromophenol	*96.4*			*34-129*	*%REC*	*20*	*15-Jan-2020 14:11*
Surr: 2-Fluorobiphenyl	*80.0*			*40-125*	*%REC*	*1*	*15-Jan-2020 10:05*
Surr: 2-Fluorobiphenyl	*96.1*			*40-125*	*%REC*	*20*	*15-Jan-2020 14:11*
Surr: 2-Fluorobiphenyl	*101*	*J*		*40-125*	*%REC*	*100*	*15-Jan-2020 16:04*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*1000*	*15-Jan-2020 17:57*
Surr: 2-Fluorophenol	*79.1*	*J*		*20-120*	*%REC*	*20*	*15-Jan-2020 14:11*
Surr: 2-Fluorophenol	*110*	*J*		*20-120*	*%REC*	*100*	*15-Jan-2020 16:04*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*1000*	*15-Jan-2020 17:57*
Surr: 2-Fluorophenol	*67.3*			*20-120*	*%REC*	*1*	*15-Jan-2020 10:05*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW77A-20200109
Collection Date: 09-Jan-2020 14:25

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 14-Jan-2020		Analyst: LG
Surr: 4-Terphenyl-d14	*102*			*40-135*	*%REC*	*1*	*15-Jan-2020 10:05*
Surr: 4-Terphenyl-d14	*112*			*40-135*	*%REC*	*20*	*15-Jan-2020 14:11*
Surr: 4-Terphenyl-d14	*115*	*J*		*40-135*	*%REC*	*100*	*15-Jan-2020 16:04*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*1000*	*15-Jan-2020 17:57*
Surr: Nitrobenzene-d5	*93.9*			*41-120*	*%REC*	*20*	*15-Jan-2020 14:11*
Surr: Nitrobenzene-d5	*66.8*	*J*		*41-120*	*%REC*	*100*	*15-Jan-2020 16:04*
Surr: Nitrobenzene-d5	*95.0*			*41-120*	*%REC*	*1*	*15-Jan-2020 10:05*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*1000*	*15-Jan-2020 17:57*
Surr: Phenol-d6	*72.0*			*20-120*	*%REC*	*1*	*15-Jan-2020 10:05*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*1000*	*15-Jan-2020 17:57*
Surr: Phenol-d6	*77.0*	*J*		*20-120*	*%REC*	*20*	*15-Jan-2020 14:11*
Surr: Phenol-d6	*60.7*	*J*		*20-120*	*%REC*	*100*	*15-Jan-2020 16:04*
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 13-Jan-2020		Analyst: MBG
nC6 to nC12	**8.3**		**0.19**	**0.48**	**mg/L**	1	13-Jan-2020 23:03
>nC12 to nC28	**3.8**		**0.19**	**0.48**	**mg/L**	1	13-Jan-2020 23:03
>nC28 to nC35	U		0.19	0.48	mg/L	1	13-Jan-2020 23:03
Total Petroleum Hydrocarbon	**12.1**		**0.19**	**0.48**	**mg/L**	1	13-Jan-2020 23:03
Surr: 2-Fluorobiphenyl	*108*			*70-130*	*%REC*	*1*	*13-Jan-2020 23:03*
Surr: Trifluoromethyl benzene	*108*			*70-130*	*%REC*	*1*	*13-Jan-2020 23:03*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	**0.0237**		**0.000400**	**0.00200**	**mg/L**	1	13-Jan-2020 22:31

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW76C-20200109
Collection Date: 09-Jan-2020 15:20

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jan-2020 23:55
Benzene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 23:55
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 23:55
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 23:55
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jan-2020 23:55
Toluene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 23:55
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jan-2020 23:55
Surr: 1,2-Dichloroethane-d4	*97.7*			*70-126*	*%REC*	*1*	*14-Jan-2020 23:55*
Surr: 4-Bromofluorobenzene	*94.4*			*81-113*	*%REC*	*1*	*14-Jan-2020 23:55*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*14-Jan-2020 23:55*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*14-Jan-2020 23:55*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW76C-20200109
Collection Date: 09-Jan-2020 15:20

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 14-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jan-2020 10:24
2,4-Dimethylphenol	**0.00038**		**0.000040**	**0.00020**	**mg/L**	1	15-Jan-2020 10:24
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jan-2020 10:24
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jan-2020 10:24
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jan-2020 10:24
2-Methylnaphthalene	**0.00045**		**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 10:24
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jan-2020 10:24
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jan-2020 10:24
Acenaphthene	**0.00041**		**0.000027**	**0.00010**	**mg/L**	1	15-Jan-2020 10:24
Acenaphthylene	**0.000035**	J	**0.000015**	**0.00010**	**mg/L**	1	15-Jan-2020 10:24
Anthracene	**0.00017**		**0.000014**	**0.00010**	**mg/L**	1	15-Jan-2020 10:24
Benz(a)anthracene	**0.00014**		**0.000050**	**0.00010**	**mg/L**	1	15-Jan-2020 10:24
Benzo(a)pyrene	**0.000037**	J	**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 10:24
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jan-2020 10:24
Bis(2-ethylhexyl)phthalate	**0.00016**	J	**0.000037**	**0.00020**	**mg/L**	1	15-Jan-2020 10:24
Chrysene	**0.00013**		**0.000021**	**0.00010**	**mg/L**	1	15-Jan-2020 10:24
Dibenzofuran	**0.00029**		**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 10:24
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jan-2020 10:24
Fluoranthene	**0.0010**		**0.000010**	**0.00010**	**mg/L**	1	15-Jan-2020 10:24
Fluorene	**0.00032**		**0.000030**	**0.00010**	**mg/L**	1	15-Jan-2020 10:24
Naphthalene	**0.0038**		**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 10:24
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jan-2020 10:24
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jan-2020 10:24
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jan-2020 10:24
Phenanthrene	**0.00069**		**0.000021**	**0.00010**	**mg/L**	1	15-Jan-2020 10:24
Phenol	U		0.000035	0.00020	mg/L	1	15-Jan-2020 10:24
Pyrene	**0.00070**		**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 10:24
Surr: 2,4,6-Tribromophenol	*78.0*			*34-129*	*%REC*	*1*	*15-Jan-2020 10:24*
Surr: 2-Fluorobiphenyl	*72.0*			*40-125*	*%REC*	*1*	*15-Jan-2020 10:24*
Surr: 2-Fluorophenol	*52.2*			*20-120*	*%REC*	*1*	*15-Jan-2020 10:24*
Surr: 4-Terphenyl-d14	*91.3*			*40-135*	*%REC*	*1*	*15-Jan-2020 10:24*
Surr: Nitrobenzene-d5	*56.3*			*41-120*	*%REC*	*1*	*15-Jan-2020 10:24*
Surr: Phenol-d6	*58.5*			*20-120*	*%REC*	*1*	*15-Jan-2020 10:24*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW76C-20200109
Collection Date: 09-Jan-2020 15:20

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 13-Jan-2020		Analyst: MBG
nC6 to nC12		U	0.19	0.48	mg/L	1	13-Jan-2020 23:33
>nC12 to nC28		U	0.19	0.48	mg/L	1	13-Jan-2020 23:33
>nC28 to nC35		U	0.19	0.48	mg/L	1	13-Jan-2020 23:33
Total Petroleum Hydrocarbon		U	0.19	0.48	mg/L	1	13-Jan-2020 23:33
Surr: 2-Fluorobiphenyl	*116*			*70-130*	*%REC*	*1*	*13-Jan-2020 23:33*
Surr: Trifluoromethyl benzene	*116*			*70-130*	*%REC*	*1*	*13-Jan-2020 23:33*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	**0.00299**		**0.000400**	**0.00200**	**mg/L**	1	13-Jan-2020 22:34

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW81B-20200109
Collection Date: 09-Jan-2020 16:20

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jan-2020 03:54
Benzene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 03:54
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 03:54
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 03:54
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jan-2020 03:54
Toluene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 03:54
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jan-2020 03:54
Surr: 1,2-Dichloroethane-d4	*99.1*			*70-126*	*%REC*	*1*	*14-Jan-2020 03:54*
Surr: 4-Bromofluorobenzene	*94.1*			*81-113*	*%REC*	*1*	*14-Jan-2020 03:54*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*14-Jan-2020 03:54*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*14-Jan-2020 03:54*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW81B-20200109
Collection Date: 09-Jan-2020 16:20

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 14-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jan-2020 10:43
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	15-Jan-2020 10:43
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jan-2020 10:43
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jan-2020 10:43
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jan-2020 10:43
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	15-Jan-2020 10:43
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jan-2020 10:43
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jan-2020 10:43
Acenaphthene	**0.000077**	J	**0.000027**	**0.00010**	**mg/L**	1	15-Jan-2020 10:43
Acenaphthylene	U		0.000015	0.00010	mg/L	1	15-Jan-2020 10:43
Anthracene	U		0.000014	0.00010	mg/L	1	15-Jan-2020 10:43
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jan-2020 10:43
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jan-2020 10:43
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jan-2020 10:43
Bis(2-ethylhexyl)phthalate	**0.000066**	J	**0.000037**	**0.00020**	**mg/L**	1	15-Jan-2020 10:43
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jan-2020 10:43
Dibenzofuran	U		0.000020	0.00010	mg/L	1	15-Jan-2020 10:43
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jan-2020 10:43
Fluoranthene	U		0.000010	0.00010	mg/L	1	15-Jan-2020 10:43
Fluorene	U		0.000030	0.00010	mg/L	1	15-Jan-2020 10:43
Naphthalene	**0.00023**		**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 10:43
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jan-2020 10:43
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jan-2020 10:43
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jan-2020 10:43
Phenanthrene	U		0.000021	0.00010	mg/L	1	15-Jan-2020 10:43
Phenol	U		0.000035	0.00020	mg/L	1	15-Jan-2020 10:43
Pyrene	U		0.000019	0.00010	mg/L	1	15-Jan-2020 10:43
Surr: 2,4,6-Tribromophenol	*65.6*			*34-129*	*%REC*	*1*	*15-Jan-2020 10:43*
Surr: 2-Fluorobiphenyl	*65.2*			*40-125*	*%REC*	*1*	*15-Jan-2020 10:43*
Surr: 2-Fluorophenol	*63.5*			*20-120*	*%REC*	*1*	*15-Jan-2020 10:43*
Surr: 4-Terphenyl-d14	*85.7*			*40-135*	*%REC*	*1*	*15-Jan-2020 10:43*
Surr: Nitrobenzene-d5	*53.1*			*41-120*	*%REC*	*1*	*15-Jan-2020 10:43*
Surr: Phenol-d6	*56.4*			*20-120*	*%REC*	*1*	*15-Jan-2020 10:43*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW81B-20200109
Collection Date: 09-Jan-2020 16:20

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005	**Method:TX1005**				Prep:TX1005PR / 13-Jan-2020		Analyst: MBG
nC6 to nC12	U		0.19	0.48	mg/L	1	14-Jan-2020 00:02
>nC12 to nC28	U		0.19	0.48	mg/L	1	14-Jan-2020 00:02
>nC28 to nC35	U		0.19	0.48	mg/L	1	14-Jan-2020 00:02
Total Petroleum Hydrocarbon	U		0.19	0.48	mg/L	1	14-Jan-2020 00:02
Surr: 2-Fluorobiphenyl	*105*			*70-130*	*%REC*	*1*	*14-Jan-2020 00:02*
Surr: Trifluoromethyl benzene	*106*			*70-130*	*%REC*	*1*	*14-Jan-2020 00:02*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	**0.00130**	J	**0.000400**	**0.00200**	**mg/L**	1	13-Jan-2020 22:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW50A-20200109
Collection Date: 09-Jan-2020 17:15

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jan-2020 04:18
Benzene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 04:18
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 04:18
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 04:18
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jan-2020 04:18
Toluene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 04:18
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jan-2020 04:18
Surr: 1,2-Dichloroethane-d4	*95.8*			*70-126*	*%REC*	*1*	*14-Jan-2020 04:18*
Surr: 4-Bromofluorobenzene	*95.5*			*81-113*	*%REC*	*1*	*14-Jan-2020 04:18*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*14-Jan-2020 04:18*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*14-Jan-2020 04:18*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW50A-20200109
Collection Date: 09-Jan-2020 17:15

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 14-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jan-2020 11:02
2,4-Dimethylphenol	**0.00071**		**0.000040**	**0.00020**	**mg/L**	1	15-Jan-2020 11:02
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jan-2020 11:02
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jan-2020 11:02
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jan-2020 11:02
2-Methylnaphthalene	**0.00019**		**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 11:02
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jan-2020 11:02
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jan-2020 11:02
Acenaphthene	**0.00037**		**0.000027**	**0.00010**	**mg/L**	1	15-Jan-2020 11:02
Acenaphthylene	**0.000022**	J	**0.000015**	**0.00010**	**mg/L**	1	15-Jan-2020 11:02
Anthracene	U		0.000014	0.00010	mg/L	1	15-Jan-2020 11:02
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jan-2020 11:02
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jan-2020 11:02
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jan-2020 11:02
Bis(2-ethylhexyl)phthalate	**0.000085**	J	**0.000037**	**0.00020**	**mg/L**	1	15-Jan-2020 11:02
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jan-2020 11:02
Dibenzofuran	**0.00013**		**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 11:02
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jan-2020 11:02
Fluoranthene	**0.000052**	J	**0.000010**	**0.00010**	**mg/L**	1	15-Jan-2020 11:02
Fluorene	**0.00011**		**0.000030**	**0.00010**	**mg/L**	1	15-Jan-2020 11:02
Naphthalene	**0.0020**		**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 11:02
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jan-2020 11:02
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jan-2020 11:02
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jan-2020 11:02
Phenanthrene	**0.000070**	J	**0.000021**	**0.00010**	**mg/L**	1	15-Jan-2020 11:02
Phenol	**0.000066**	J	**0.000035**	**0.00020**	**mg/L**	1	15-Jan-2020 11:02
Pyrene	**0.000034**	J	**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 11:02
Surr: 2,4,6-Tribromophenol	*83.6*			*34-129*	*%REC*	*1*	*15-Jan-2020 11:02*
Surr: 2-Fluorobiphenyl	*81.2*			*40-125*	*%REC*	*1*	*15-Jan-2020 11:02*
Surr: 2-Fluorophenol	*57.4*			*20-120*	*%REC*	*1*	*15-Jan-2020 11:02*
Surr: 4-Terphenyl-d14	*93.2*			*40-135*	*%REC*	*1*	*15-Jan-2020 11:02*
Surr: Nitrobenzene-d5	*64.4*			*41-120*	*%REC*	*1*	*15-Jan-2020 11:02*
Surr: Phenol-d6	*63.4*			*20-120*	*%REC*	*1*	*15-Jan-2020 11:02*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW50A-20200109
Collection Date: 09-Jan-2020 17:15

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 13-Jan-2020		Analyst: MBG
nC6 to nC12	U		0.19	0.48	mg/L	1	14-Jan-2020 00:31
>nC12 to nC28	U		0.19	0.48	mg/L	1	14-Jan-2020 00:31
>nC28 to nC35	U		0.19	0.48	mg/L	1	14-Jan-2020 00:31
Total Petroleum Hydrocarbon	U		0.19	0.48	mg/L	1	14-Jan-2020 00:31
Surr: 2-Fluorobiphenyl	*103*			*70-130*	*%REC*	*1*	*14-Jan-2020 00:31*
Surr: Trifluoromethyl benzene	*103*			*70-130*	*%REC*	*1*	*14-Jan-2020 00:31*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	**0.000718**	J	**0.000400**	**0.00200**	**mg/L**	1	13-Jan-2020 22:38

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW49A-20200107
Collection Date: 07-Jan-2020 13:10

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.0020	0.010	mg/L	10	15-Jan-2020 14:41
Benzene	**0.30**		**0.0020**	**0.010**	**mg/L**	10	15-Jan-2020 14:41
Chlorobenzene	**0.0063**	J	**0.0030**	**0.010**	**mg/L**	10	15-Jan-2020 14:41
Ethylbenzene	**0.10**		**0.0030**	**0.010**	**mg/L**	10	15-Jan-2020 14:41
Methylene chloride	U		0.010	0.020	mg/L	10	15-Jan-2020 14:41
Toluene	**0.19**		**0.0020**	**0.010**	**mg/L**	10	15-Jan-2020 14:41
Vinyl chloride	U		0.0020	0.010	mg/L	10	15-Jan-2020 14:41
Xylenes, Total	**0.24**		**0.0030**	**0.010**	**mg/L**	10	15-Jan-2020 14:41
Surr: 1,2-Dichloroethane-d4	*94.4*			*70-126*	*%REC*	*10*	*15-Jan-2020 14:41*
Surr: 4-Bromofluorobenzene	*97.4*			*81-113*	*%REC*	*10*	*15-Jan-2020 14:41*
Surr: Dibromofluoromethane	*99.4*			*77-123*	*%REC*	*10*	*15-Jan-2020 14:41*
Surr: Toluene-d8	*98.8*			*82-127*	*%REC*	*10*	*15-Jan-2020 14:41*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW49A-20200107
Collection Date: 07-Jan-2020 13:10

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 14-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jan-2020 11:21
2,4-Dimethylphenol	**5.7**		**0.040**	**0.20**	**mg/L**	1000	15-Jan-2020 18:16
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jan-2020 11:21
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jan-2020 11:21
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jan-2020 11:21
2-Methylnaphthalene	**0.13**		**0.0019**	**0.010**	**mg/L**	100	15-Jan-2020 16:23
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jan-2020 11:21
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jan-2020 11:21
Acenaphthene	**0.057**		**0.00027**	**0.0010**	**mg/L**	10	15-Jan-2020 14:30
Acenaphthylene	**0.00097**		**0.000015**	**0.00010**	**mg/L**	1	15-Jan-2020 11:21
Anthracene	**0.0028**		**0.000014**	**0.00010**	**mg/L**	1	15-Jan-2020 11:21
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jan-2020 11:21
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jan-2020 11:21
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jan-2020 11:21
Bis(2-ethylhexyl)phthalate	**0.00011**	J	**0.000037**	**0.00020**	**mg/L**	1	15-Jan-2020 11:21
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jan-2020 11:21
Dibenzofuran	**0.037**		**0.00020**	**0.0010**	**mg/L**	10	15-Jan-2020 14:30
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jan-2020 11:21
Fluoranthene	**0.00056**		**0.000010**	**0.00010**	**mg/L**	1	15-Jan-2020 11:21
Fluorene	**0.027**		**0.00030**	**0.0010**	**mg/L**	10	15-Jan-2020 14:30
Naphthalene	**4.5**		**0.020**	**0.10**	**mg/L**	1000	15-Jan-2020 18:16
Nitrobenzene	U		0.00024	0.0020	mg/L	10	15-Jan-2020 14:30
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jan-2020 11:21
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jan-2020 11:21
Phenanthrene	**0.016**		**0.00021**	**0.0010**	**mg/L**	10	15-Jan-2020 14:30
Phenol	**0.17**		**0.0035**	**0.020**	**mg/L**	100	15-Jan-2020 16:23
Pyrene	**0.00052**		**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 11:21
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*1000*	*15-Jan-2020 18:16*
Surr: 2,4,6-Tribromophenol	*69.4*			*34-129*	*%REC*	*1*	*15-Jan-2020 11:21*
Surr: 2,4,6-Tribromophenol	*101*			*34-129*	*%REC*	*10*	*15-Jan-2020 14:30*
Surr: 2,4,6-Tribromophenol	*86.8*	*J*		*34-129*	*%REC*	*100*	*15-Jan-2020 16:23*
Surr: 2-Fluorobiphenyl	*59.3*			*40-125*	*%REC*	*1*	*15-Jan-2020 11:21*
Surr: 2-Fluorobiphenyl	*107*			*40-125*	*%REC*	*10*	*15-Jan-2020 14:30*
Surr: 2-Fluorobiphenyl	*107*	*J*		*40-125*	*%REC*	*100*	*15-Jan-2020 16:23*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*1000*	*15-Jan-2020 18:16*
Surr: 2-Fluorophenol	*75.3*			*20-120*	*%REC*	*1*	*15-Jan-2020 11:21*
Surr: 2-Fluorophenol	*83.0*			*20-120*	*%REC*	*10*	*15-Jan-2020 14:30*
Surr: 2-Fluorophenol	*86.4*	*J*		*20-120*	*%REC*	*100*	*15-Jan-2020 16:23*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*1000*	*15-Jan-2020 18:16*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW49A-20200107
Collection Date: 07-Jan-2020 13:10

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 14-Jan-2020		Analyst: LG
Surr: 4-Terphenyl-d14	*84.6*			*40-135*	*%REC*	*1*	*15-Jan-2020 11:21*
Surr: 4-Terphenyl-d14	*112*			*40-135*	*%REC*	*10*	*15-Jan-2020 14:30*
Surr: 4-Terphenyl-d14	*120*	*J*		*40-135*	*%REC*	*100*	*15-Jan-2020 16:23*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*1000*	*15-Jan-2020 18:16*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*1000*	*15-Jan-2020 18:16*
Surr: Nitrobenzene-d5	*55.3*			*41-120*	*%REC*	*1*	*15-Jan-2020 11:21*
Surr: Nitrobenzene-d5	*65.6*			*41-120*	*%REC*	*10*	*15-Jan-2020 14:30*
Surr: Nitrobenzene-d5	*65.6*	*J*		*41-120*	*%REC*	*100*	*15-Jan-2020 16:23*
Surr: Phenol-d6	*66.3*			*20-120*	*%REC*	*1*	*15-Jan-2020 11:21*
Surr: Phenol-d6	*87.2*			*20-120*	*%REC*	*10*	*15-Jan-2020 14:30*
Surr: Phenol-d6	*82.2*	*J*		*20-120*	*%REC*	*100*	*15-Jan-2020 16:23*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*1000*	*15-Jan-2020 18:16*
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 13-Jan-2020		Analyst: MBG
nC6 to nC12	**21**		**0.19**	**0.48**	**mg/L**	1	14-Jan-2020 01:00
>nC12 to nC28	**11**		**0.19**	**0.48**	**mg/L**	1	14-Jan-2020 01:00
>nC28 to nC35	U		0.19	0.48	mg/L	1	14-Jan-2020 01:00
Total Petroleum Hydrocarbon	**32.0**		**0.19**	**0.48**	**mg/L**	1	14-Jan-2020 01:00
Surr: 2-Fluorobiphenyl	*112*			*70-130*	*%REC*	*1*	*14-Jan-2020 01:00*
Surr: Trifluoromethyl benzene	*113*			*70-130*	*%REC*	*1*	*14-Jan-2020 01:00*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	**0.00463**		**0.000400**	**0.00200**	**mg/L**	1	13-Jan-2020 22:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW80B-20200107
Collection Date: 07-Jan-2020 16:00

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jan-2020 04:42
Benzene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 04:42
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 04:42
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 04:42
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jan-2020 04:42
Toluene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 04:42
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jan-2020 04:42
Surr: 1,2-Dichloroethane-d4	*98.3*			*70-126*	*%REC*	*1*	*14-Jan-2020 04:42*
Surr: 4-Bromofluorobenzene	*95.5*			*81-113*	*%REC*	*1*	*14-Jan-2020 04:42*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*14-Jan-2020 04:42*
Surr: Toluene-d8	*99.7*			*82-127*	*%REC*	*1*	*14-Jan-2020 04:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW80B-20200107
Collection Date: 07-Jan-2020 16:00

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 14-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jan-2020 11:40
2,4-Dimethylphenol	**0.00028**		**0.000040**	**0.00020**	**mg/L**	1	15-Jan-2020 11:40
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jan-2020 11:40
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jan-2020 11:40
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jan-2020 11:40
2-Methylnaphthalene	**0.000036**	J	**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 11:40
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jan-2020 11:40
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jan-2020 11:40
Acenaphthene	**0.000046**	J	**0.000027**	**0.00010**	**mg/L**	1	15-Jan-2020 11:40
Acenaphthylene	U		0.000015	0.00010	mg/L	1	15-Jan-2020 11:40
Anthracene	**0.000026**	J	**0.000014**	**0.00010**	**mg/L**	1	15-Jan-2020 11:40
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jan-2020 11:40
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jan-2020 11:40
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jan-2020 11:40
Bis(2-ethylhexyl)phthalate	**0.000069**	J	**0.000037**	**0.00020**	**mg/L**	1	15-Jan-2020 11:40
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jan-2020 11:40
Dibenzofuran	**0.000048**	J	**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 11:40
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jan-2020 11:40
Fluoranthene	U		0.000010	0.00010	mg/L	1	15-Jan-2020 11:40
Fluorene	**0.000032**	J	**0.000030**	**0.00010**	**mg/L**	1	15-Jan-2020 11:40
Naphthalene	**0.00034**		**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 11:40
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jan-2020 11:40
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jan-2020 11:40
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jan-2020 11:40
Phenanthrene	**0.000027**	J	**0.000021**	**0.00010**	**mg/L**	1	15-Jan-2020 11:40
Phenol	U		0.000035	0.00020	mg/L	1	15-Jan-2020 11:40
Pyrene	U		0.000019	0.00010	mg/L	1	15-Jan-2020 11:40
Surr: 2,4,6-Tribromophenol	*85.1*			*34-129*	*%REC*	*1*	*15-Jan-2020 11:40*
Surr: 2-Fluorobiphenyl	*74.9*			*40-125*	*%REC*	*1*	*15-Jan-2020 11:40*
Surr: 2-Fluorophenol	*62.2*			*20-120*	*%REC*	*1*	*15-Jan-2020 11:40*
Surr: 4-Terphenyl-d14	*93.7*			*40-135*	*%REC*	*1*	*15-Jan-2020 11:40*
Surr: Nitrobenzene-d5	*56.4*			*41-120*	*%REC*	*1*	*15-Jan-2020 11:40*
Surr: Phenol-d6	*63.5*			*20-120*	*%REC*	*1*	*15-Jan-2020 11:40*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW80B-20200107
Collection Date: 07-Jan-2020 16:00

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 13-Jan-2020		Analyst: MBG
nC6 to nC12		U	0.19	0.48	mg/L	1	14-Jan-2020 01:29
>nC12 to nC28		U	0.19	0.48	mg/L	1	14-Jan-2020 01:29
>nC28 to nC35		U	0.19	0.48	mg/L	1	14-Jan-2020 01:29
Total Petroleum Hydrocarbon		U	0.19	0.48	mg/L	1	14-Jan-2020 01:29
Surr: 2-Fluorobiphenyl	*105*			*70-130*	*%REC*	*1*	*14-Jan-2020 01:29*
Surr: Trifluoromethyl benzene	*104*			*70-130*	*%REC*	*1*	*14-Jan-2020 01:29*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	**0.00212**		**0.000400**	**0.00200**	**mg/L**	1	13-Jan-2020 22:42

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB01-20200107
Collection Date: 07-Jan-2020 16:30

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jan-2020 17:30
Benzene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 17:30
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 17:30
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 17:30
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jan-2020 17:30
Toluene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 17:30
Vinyl chloride		U	0.00020	0.0010	mg/L	1	14-Jan-2020 17:30
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jan-2020 17:30
Surr: 1,2-Dichloroethane-d4	*116*			*70-126*	*%REC*	*1*	*14-Jan-2020 17:30*
Surr: 4-Bromofluorobenzene	*103*			*81-113*	*%REC*	*1*	*14-Jan-2020 17:30*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*14-Jan-2020 17:30*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*14-Jan-2020 17:30*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB01-20200107
Collection Date: 07-Jan-2020 16:30

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 14-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	**0.000041**	J	**0.000021**	**0.00020**	**mg/L**	1	15-Jan-2020 11:59
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	15-Jan-2020 11:59
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jan-2020 11:59
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jan-2020 11:59
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jan-2020 11:59
2-Methylnaphthalene	**0.000031**	J	**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 11:59
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jan-2020 11:59
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jan-2020 11:59
Acenaphthene	U		0.000027	0.00010	mg/L	1	15-Jan-2020 11:59
Acenaphthylene	U		0.000015	0.00010	mg/L	1	15-Jan-2020 11:59
Anthracene	U		0.000014	0.00010	mg/L	1	15-Jan-2020 11:59
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jan-2020 11:59
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jan-2020 11:59
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jan-2020 11:59
Bis(2-ethylhexyl)phthalate	**0.00017**	J	**0.000037**	**0.00020**	**mg/L**	1	15-Jan-2020 11:59
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jan-2020 11:59
Dibenzofuran	U		0.000020	0.00010	mg/L	1	15-Jan-2020 11:59
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jan-2020 11:59
Fluoranthene	U		0.000010	0.00010	mg/L	1	15-Jan-2020 11:59
Fluorene	U		0.000030	0.00010	mg/L	1	15-Jan-2020 11:59
Naphthalene	**0.00019**		**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 11:59
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jan-2020 11:59
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jan-2020 11:59
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jan-2020 11:59
Phenanthrene	U		0.000021	0.00010	mg/L	1	15-Jan-2020 11:59
Phenol	U		0.000035	0.00020	mg/L	1	15-Jan-2020 11:59
Pyrene	U		0.000019	0.00010	mg/L	1	15-Jan-2020 11:59
Surr: 2,4,6-Tribromophenol	*77.5*			*34-129*	*%REC*	*1*	*15-Jan-2020 11:59*
Surr: 2-Fluorobiphenyl	*86.8*			*40-125*	*%REC*	*1*	*15-Jan-2020 11:59*
Surr: 2-Fluorophenol	*77.9*			*20-120*	*%REC*	*1*	*15-Jan-2020 11:59*
Surr: 4-Terphenyl-d14	*92.5*			*40-135*	*%REC*	*1*	*15-Jan-2020 11:59*
Surr: Nitrobenzene-d5	*68.9*			*41-120*	*%REC*	*1*	*15-Jan-2020 11:59*
Surr: Phenol-d6	*73.1*			*20-120*	*%REC*	*1*	*15-Jan-2020 11:59*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	13-Jan-2020 22:45

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB02-20200108
Collection Date: 08-Jan-2020 09:00

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jan-2020 17:55
Benzene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 17:55
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 17:55
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 17:55
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jan-2020 17:55
Toluene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 17:55
Vinyl chloride		U	0.00020	0.0010	mg/L	1	14-Jan-2020 17:55
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jan-2020 17:55
Surr: 1,2-Dichloroethane-d4	*118*			*70-126*	*%REC*	*1*	*14-Jan-2020 17:55*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*1*	*14-Jan-2020 17:55*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*14-Jan-2020 17:55*
Surr: Toluene-d8	*99.3*			*82-127*	*%REC*	*1*	*14-Jan-2020 17:55*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB02-20200108
Collection Date: 08-Jan-2020 09:00

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 14-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	**0.000044**	J	**0.000021**	**0.00020**	**mg/L**	1	15-Jan-2020 12:17
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	15-Jan-2020 12:17
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jan-2020 12:17
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jan-2020 12:17
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jan-2020 12:17
2-Methylnaphthalene	**0.000038**	J	**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 12:17
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jan-2020 12:17
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jan-2020 12:17
Acenaphthene	**0.000053**	J	**0.000027**	**0.00010**	**mg/L**	1	15-Jan-2020 12:17
Acenaphthylene	U		0.000015	0.00010	mg/L	1	15-Jan-2020 12:17
Anthracene	U		0.000014	0.00010	mg/L	1	15-Jan-2020 12:17
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jan-2020 12:17
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jan-2020 12:17
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jan-2020 12:17
Bis(2-ethylhexyl)phthalate	**0.000099**	J	**0.000037**	**0.00020**	**mg/L**	1	15-Jan-2020 12:17
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jan-2020 12:17
Dibenzofuran	U		0.000020	0.00010	mg/L	1	15-Jan-2020 12:17
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jan-2020 12:17
Fluoranthene	U		0.000010	0.00010	mg/L	1	15-Jan-2020 12:17
Fluorene	U		0.000030	0.00010	mg/L	1	15-Jan-2020 12:17
Naphthalene	**0.00030**		**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 12:17
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jan-2020 12:17
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jan-2020 12:17
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jan-2020 12:17
Phenanthrene	U		0.000021	0.00010	mg/L	1	15-Jan-2020 12:17
Phenol	U		0.000035	0.00020	mg/L	1	15-Jan-2020 12:17
Pyrene	U		0.000019	0.00010	mg/L	1	15-Jan-2020 12:17
Surr: 2,4,6-Tribromophenol	*67.4*			*34-129*	*%REC*	*1*	*15-Jan-2020 12:17*
Surr: 2-Fluorobiphenyl	*84.8*			*40-125*	*%REC*	*1*	*15-Jan-2020 12:17*
Surr: 2-Fluorophenol	*75.6*			*20-120*	*%REC*	*1*	*15-Jan-2020 12:17*
Surr: 4-Terphenyl-d14	*91.8*			*40-135*	*%REC*	*1*	*15-Jan-2020 12:17*
Surr: Nitrobenzene-d5	*71.7*			*41-120*	*%REC*	*1*	*15-Jan-2020 12:17*
Surr: Phenol-d6	*70.0*			*20-120*	*%REC*	*1*	*15-Jan-2020 12:17*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	13-Jan-2020 22:58

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW18C-20200108
Collection Date: 08-Jan-2020 10:10

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-13
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.0020	0.010	mg/L	10	14-Jan-2020 17:22
Benzene	**1.1**		**0.0020**	**0.010**	**mg/L**	10	14-Jan-2020 17:22
Chlorobenzene	U		0.0030	0.010	mg/L	10	14-Jan-2020 17:22
Ethylbenzene	**0.31**		**0.0030**	**0.010**	**mg/L**	10	14-Jan-2020 17:22
Methylene chloride	U		0.010	0.020	mg/L	10	14-Jan-2020 17:22
Toluene	**0.97**		**0.0020**	**0.010**	**mg/L**	10	14-Jan-2020 17:22
Vinyl chloride	U		0.0020	0.010	mg/L	10	14-Jan-2020 17:22
Xylenes, Total	**0.92**		**0.0030**	**0.010**	**mg/L**	10	14-Jan-2020 17:22
Surr: 1,2-Dichloroethane-d4	*94.1*			*70-126*	*%REC*	*10*	*14-Jan-2020 17:22*
Surr: 4-Bromofluorobenzene	*97.9*			*81-113*	*%REC*	*10*	*14-Jan-2020 17:22*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*10*	*14-Jan-2020 17:22*
Surr: Toluene-d8	*98.9*			*82-127*	*%REC*	*10*	*14-Jan-2020 17:22*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW18C-20200108
Collection Date: 08-Jan-2020 10:10

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-13
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 14-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jan-2020 12:36
2,4-Dimethylphenol	**0.023**		**0.00040**	**0.0020**	**mg/L**	10	15-Jan-2020 14:48
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jan-2020 12:36
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jan-2020 12:36
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jan-2020 12:36
2-Methylnaphthalene	**0.31**		**0.0019**	**0.010**	**mg/L**	100	15-Jan-2020 16:41
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jan-2020 12:36
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jan-2020 12:36
Acenaphthene	**0.093**		**0.00027**	**0.0010**	**mg/L**	10	15-Jan-2020 14:48
Acenaphthylene	**0.0026**		**0.000015**	**0.00010**	**mg/L**	1	15-Jan-2020 12:36
Anthracene	**0.020**		**0.00014**	**0.0010**	**mg/L**	10	15-Jan-2020 14:48
Benz(a)anthracene	**0.0025**		**0.000050**	**0.00010**	**mg/L**	1	15-Jan-2020 12:36
Benzo(a)pyrene	**0.00053**		**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 12:36
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jan-2020 12:36
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	15-Jan-2020 12:36
Chrysene	**0.0027**		**0.000021**	**0.00010**	**mg/L**	1	15-Jan-2020 12:36
Dibenzofuran	**0.085**		**0.00020**	**0.0010**	**mg/L**	10	15-Jan-2020 14:48
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jan-2020 12:36
Fluoranthene	**0.013**		**0.00010**	**0.0010**	**mg/L**	10	15-Jan-2020 14:48
Fluorene	**0.043**		**0.00030**	**0.0010**	**mg/L**	10	15-Jan-2020 14:48
Naphthalene	**14**		**0.040**	**0.20**	**mg/L**	2000	15-Jan-2020 18:35
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jan-2020 12:36
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jan-2020 12:36
Pentachlorophenol	**0.023**		**0.00079**	**0.0020**	**mg/L**	10	15-Jan-2020 14:48
Phenanthrene	**0.065**		**0.00021**	**0.0010**	**mg/L**	10	15-Jan-2020 14:48
Phenol	**0.0062**		**0.000035**	**0.00020**	**mg/L**	1	15-Jan-2020 12:36
Pyrene	**0.0066**		**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 12:36
Surr: 2,4,6-Tribromophenol	*66.4*			*34-129*	*%REC*	*1*	*15-Jan-2020 12:36*
Surr: 2,4,6-Tribromophenol	*86.5*			*34-129*	*%REC*	*10*	*15-Jan-2020 14:48*
Surr: 2,4,6-Tribromophenol	*112*	*J*		*34-129*	*%REC*	*100*	*15-Jan-2020 16:41*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*2000*	*15-Jan-2020 18:35*
Surr: 2-Fluorobiphenyl	*64.7*			*40-125*	*%REC*	*1*	*15-Jan-2020 12:36*
Surr: 2-Fluorobiphenyl	*92.7*			*40-125*	*%REC*	*10*	*15-Jan-2020 14:48*
Surr: 2-Fluorobiphenyl	*108*	*J*		*40-125*	*%REC*	*100*	*15-Jan-2020 16:41*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*2000*	*15-Jan-2020 18:35*
Surr: 2-Fluorophenol	*97.6*			*20-120*	*%REC*	*1*	*15-Jan-2020 12:36*
Surr: 2-Fluorophenol	*56.1*			*20-120*	*%REC*	*10*	*15-Jan-2020 14:48*
Surr: 2-Fluorophenol	*71.0*	*J*		*20-120*	*%REC*	*100*	*15-Jan-2020 16:41*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*2000*	*15-Jan-2020 18:35*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW18C-20200108
Collection Date: 08-Jan-2020 10:10

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-13
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 14-Jan-2020		Analyst: LG
Surr: 4-Terphenyl-d14	*70.5*			*40-135*	*%REC*	*1*	*15-Jan-2020 12:36*
Surr: 4-Terphenyl-d14	*105*			*40-135*	*%REC*	*10*	*15-Jan-2020 14:48*
Surr: 4-Terphenyl-d14	*104*	*J*		*40-135*	*%REC*	*100*	*15-Jan-2020 16:41*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*2000*	*15-Jan-2020 18:35*
Surr: Nitrobenzene-d5	*108*			*41-120*	*%REC*	*1*	*15-Jan-2020 12:36*
Surr: Nitrobenzene-d5	*78.6*			*41-120*	*%REC*	*10*	*15-Jan-2020 14:48*
Surr: Nitrobenzene-d5	*97.5*	*J*		*41-120*	*%REC*	*100*	*15-Jan-2020 16:41*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*2000*	*15-Jan-2020 18:35*
Surr: Phenol-d6	*59.5*	*J*		*20-120*	*%REC*	*100*	*15-Jan-2020 16:41*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*2000*	*15-Jan-2020 18:35*
Surr: Phenol-d6	*63.0*			*20-120*	*%REC*	*1*	*15-Jan-2020 12:36*
Surr: Phenol-d6	*73.0*			*20-120*	*%REC*	*10*	*15-Jan-2020 14:48*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	**0.00283**		**0.000400**	**0.00200**	**mg/L**	1	13-Jan-2020 23:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW18A-20200108
Collection Date: 08-Jan-2020 11:10

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-14
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.0050	0.025	mg/L	25	14-Jan-2020 17:49
Benzene	**0.41**		**0.0050**	**0.025**	**mg/L**	25	14-Jan-2020 17:49
Chlorobenzene	U		0.0075	0.025	mg/L	25	14-Jan-2020 17:49
Ethylbenzene	**0.32**		**0.0075**	**0.025**	**mg/L**	25	14-Jan-2020 17:49
Methylene chloride	U		0.025	0.050	mg/L	25	14-Jan-2020 17:49
Toluene	**0.11**		**0.0050**	**0.025**	**mg/L**	25	14-Jan-2020 17:49
Vinyl chloride	U		0.0050	0.025	mg/L	25	14-Jan-2020 17:49
Xylenes, Total	**0.50**		**0.0075**	**0.025**	**mg/L**	25	14-Jan-2020 17:49
Surr: 1,2-Dichloroethane-d4	*94.3*			*70-126*	*%REC*	*25*	*14-Jan-2020 17:49*
Surr: 4-Bromofluorobenzene	*97.1*			*81-113*	*%REC*	*25*	*14-Jan-2020 17:49*
Surr: Dibromofluoromethane	*99.1*			*77-123*	*%REC*	*25*	*14-Jan-2020 17:49*
Surr: Toluene-d8	*99.4*			*82-127*	*%REC*	*25*	*14-Jan-2020 17:49*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW18A-20200108
Collection Date: 08-Jan-2020 11:10

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-14
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 14-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jan-2020 12:55
2,4-Dimethylphenol	**1.8**		**0.020**	**0.10**	**mg/L**	500	15-Jan-2020 17:00
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jan-2020 12:55
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jan-2020 12:55
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jan-2020 12:55
2-Methylnaphthalene	**0.36**		**0.00095**	**0.0050**	**mg/L**	50	15-Jan-2020 15:07
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jan-2020 12:55
4-Nitrophenol	**0.0042**		**0.000047**	**0.0010**	**mg/L**	1	15-Jan-2020 12:55
Acenaphthene	**0.33**		**0.0014**	**0.0050**	**mg/L**	50	15-Jan-2020 15:07
Acenaphthylene	**0.0081**		**0.000015**	**0.00010**	**mg/L**	1	15-Jan-2020 12:55
Anthracene	**0.0082**		**0.000014**	**0.00010**	**mg/L**	1	15-Jan-2020 12:55
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	15-Jan-2020 12:55
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jan-2020 12:55
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jan-2020 12:55
Bis(2-ethylhexyl)phthalate	**0.00043**		**0.000037**	**0.00020**	**mg/L**	1	15-Jan-2020 12:55
Chrysene	U		0.000021	0.00010	mg/L	1	15-Jan-2020 12:55
Dibenzofuran	**0.20**		**0.0010**	**0.0050**	**mg/L**	50	15-Jan-2020 15:07
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jan-2020 12:55
Fluoranthene	**0.0023**		**0.000010**	**0.00010**	**mg/L**	1	15-Jan-2020 12:55
Fluorene	**0.16**		**0.0015**	**0.0050**	**mg/L**	50	15-Jan-2020 15:07
Naphthalene	**4.6**		**0.010**	**0.050**	**mg/L**	500	15-Jan-2020 17:00
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jan-2020 12:55
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jan-2020 12:55
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jan-2020 12:55
Phenanthrene	**0.10**		**0.0010**	**0.0050**	**mg/L**	50	15-Jan-2020 15:07
Phenol	**0.0014**		**0.000035**	**0.00020**	**mg/L**	1	15-Jan-2020 12:55
Pyrene	**0.0013**		**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 12:55
Surr: 2,4,6-Tribromophenol	*70.4*			*34-129*	*%REC*	*1*	*15-Jan-2020 12:55*
Surr: 2,4,6-Tribromophenol	*97.3*	*J*		*34-129*	*%REC*	*50*	*15-Jan-2020 15:07*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*500*	*15-Jan-2020 17:00*
Surr: 2-Fluorobiphenyl	*97.7*	*J*		*40-125*	*%REC*	*50*	*15-Jan-2020 15:07*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*500*	*15-Jan-2020 17:00*
Surr: 2-Fluorobiphenyl	*62.0*			*40-125*	*%REC*	*1*	*15-Jan-2020 12:55*
Surr: 2-Fluorophenol	*81.6*			*20-120*	*%REC*	*1*	*15-Jan-2020 12:55*
Surr: 2-Fluorophenol	*97.2*	*J*		*20-120*	*%REC*	*50*	*15-Jan-2020 15:07*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*500*	*15-Jan-2020 17:00*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*500*	*15-Jan-2020 17:00*
Surr: 4-Terphenyl-d14	*86.6*			*40-135*	*%REC*	*1*	*15-Jan-2020 12:55*
Surr: 4-Terphenyl-d14	*108*	*J*		*40-135*	*%REC*	*50*	*15-Jan-2020 15:07*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW18A-20200108
Collection Date: 08-Jan-2020 11:10

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-14
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 14-Jan-2020		Analyst: LG
Surr: Nitrobenzene-d5	*88.0*			*41-120*	*%REC*	*1*	*15-Jan-2020 12:55*
Surr: Nitrobenzene-d5	*77.8*	*J*		*41-120*	*%REC*	*50*	*15-Jan-2020 15:07*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*500*	*15-Jan-2020 17:00*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*500*	*15-Jan-2020 17:00*
Surr: Phenol-d6	*66.3*			*20-120*	*%REC*	*1*	*15-Jan-2020 12:55*
Surr: Phenol-d6	*79.6*	*J*		*20-120*	*%REC*	*50*	*15-Jan-2020 15:07*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	**0.0236**		**0.000400**	**0.00200**	**mg/L**	1	13-Jan-2020 23:03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW58A-20200108
Collection Date: 08-Jan-2020 12:15

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-15
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	15-Jan-2020 13:22
Benzene	**0.0053**		**0.00020**	**0.0010**	**mg/L**	1	15-Jan-2020 13:22
Chlorobenzene	**0.00072**	J	**0.00030**	**0.0010**	**mg/L**	1	15-Jan-2020 13:22
Ethylbenzene	**0.0098**		**0.00030**	**0.0010**	**mg/L**	1	15-Jan-2020 13:22
Methylene chloride	U		0.0010	0.0020	mg/L	1	15-Jan-2020 13:22
Toluene	U		0.00020	0.0010	mg/L	1	15-Jan-2020 13:22
Vinyl chloride	U		0.00020	0.0010	mg/L	1	15-Jan-2020 13:22
Xylenes, Total	**0.028**		**0.00030**	**0.0010**	**mg/L**	1	15-Jan-2020 13:22
Surr: 1,2-Dichloroethane-d4	*94.8*			*70-126*	*%REC*	*1*	*15-Jan-2020 13:22*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*1*	*15-Jan-2020 13:22*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*15-Jan-2020 13:22*
Surr: Toluene-d8	*98.8*			*82-127*	*%REC*	*1*	*15-Jan-2020 13:22*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW58A-20200108
Collection Date: 08-Jan-2020 12:15

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-15
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 14-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jan-2020 13:14
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	15-Jan-2020 13:14
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jan-2020 13:14
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jan-2020 13:14
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jan-2020 13:14
2-Methylnaphthalene	**0.080**		**0.00038**	**0.0020**	**mg/L**	20	15-Jan-2020 15:26
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jan-2020 13:14
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jan-2020 13:14
Acenaphthene	**0.27**		**0.0054**	**0.020**	**mg/L**	200	15-Jan-2020 17:19
Acenaphthylene	**0.0015**		**0.000015**	**0.00010**	**mg/L**	1	15-Jan-2020 13:14
Anthracene	**0.018**		**0.00028**	**0.0020**	**mg/L**	20	15-Jan-2020 15:26
Benz(a)anthracene	**0.000091**	J	**0.000050**	**0.00010**	**mg/L**	1	15-Jan-2020 13:14
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	15-Jan-2020 13:14
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jan-2020 13:14
Bis(2-ethylhexyl)phthalate	**0.00011**	J	**0.000037**	**0.00020**	**mg/L**	1	15-Jan-2020 13:14
Chrysene	**0.000071**	J	**0.000021**	**0.00010**	**mg/L**	1	15-Jan-2020 13:14
Dibenzofuran	**0.13**		**0.00040**	**0.0020**	**mg/L**	20	15-Jan-2020 15:26
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jan-2020 13:14
Fluoranthene	**0.0099**		**0.000010**	**0.00010**	**mg/L**	1	15-Jan-2020 13:14
Fluorene	**0.19**		**0.00060**	**0.0020**	**mg/L**	20	15-Jan-2020 15:26
Naphthalene	**1.2**		**0.0040**	**0.020**	**mg/L**	200	15-Jan-2020 17:19
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jan-2020 13:14
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jan-2020 13:14
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jan-2020 13:14
Phenanthrene	**0.062**		**0.00042**	**0.0020**	**mg/L**	20	15-Jan-2020 15:26
Phenol	U		0.000035	0.00020	mg/L	1	15-Jan-2020 13:14
Pyrene	**0.0050**		**0.000019**	**0.00010**	**mg/L**	1	15-Jan-2020 13:14
Surr: 2,4,6-Tribromophenol	*82.3*			*34-129*	*%REC*	*20*	*15-Jan-2020 15:26*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*200*	*15-Jan-2020 17:19*
Surr: 2,4,6-Tribromophenol	*73.5*			*34-129*	*%REC*	*1*	*15-Jan-2020 13:14*
Surr: 2-Fluorobiphenyl	*59.5*			*40-125*	*%REC*	*1*	*15-Jan-2020 13:14*
Surr: 2-Fluorobiphenyl	*87.0*			*40-125*	*%REC*	*20*	*15-Jan-2020 15:26*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*200*	*15-Jan-2020 17:19*
Surr: 2-Fluorophenol	*52.6*	*J*		*20-120*	*%REC*	*20*	*15-Jan-2020 15:26*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*200*	*15-Jan-2020 17:19*
Surr: 2-Fluorophenol	*50.4*			*20-120*	*%REC*	*1*	*15-Jan-2020 13:14*
Surr: 4-Terphenyl-d14	*87.2*			*40-135*	*%REC*	*1*	*15-Jan-2020 13:14*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*200*	*15-Jan-2020 17:19*
Surr: 4-Terphenyl-d14	*104*			*40-135*	*%REC*	*20*	*15-Jan-2020 15:26*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW58A-20200108
Collection Date: 08-Jan-2020 12:15

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-15
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 14-Jan-2020		Analyst: LG
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*200*	*15-Jan-2020 17:19*
Surr: Nitrobenzene-d5	*54.3*			*41-120*	*%REC*	*1*	*15-Jan-2020 13:14*
Surr: Nitrobenzene-d5	*66.9*	*J*		*41-120*	*%REC*	*20*	*15-Jan-2020 15:26*
Surr: Phenol-d6	*52.1*			*20-120*	*%REC*	*1*	*15-Jan-2020 13:14*
Surr: Phenol-d6	*56.2*	*J*		*20-120*	*%REC*	*20*	*15-Jan-2020 15:26*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*200*	*15-Jan-2020 17:19*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	**0.000906**	J	**0.000400**	**0.00200**	**mg/L**	1	13-Jan-2020 23:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW57A-20200108
Collection Date: 08-Jan-2020 14:55

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-16
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	15-Jan-2020 13:47
Benzene	**0.038**		**0.00020**	**0.0010**	**mg/L**	1	15-Jan-2020 13:47
Chlorobenzene	**0.00046**	J	**0.00030**	**0.0010**	**mg/L**	1	15-Jan-2020 13:47
Ethylbenzene	**0.015**		**0.00030**	**0.0010**	**mg/L**	1	15-Jan-2020 13:47
Methylene chloride	U		0.0010	0.0020	mg/L	1	15-Jan-2020 13:47
Toluene	**0.010**		**0.00020**	**0.0010**	**mg/L**	1	15-Jan-2020 13:47
Vinyl chloride	U		0.00020	0.0010	mg/L	1	15-Jan-2020 13:47
Xylenes, Total	**0.026**		**0.00030**	**0.0010**	**mg/L**	1	15-Jan-2020 13:47
Surr: 1,2-Dichloroethane-d4	*92.4*			*70-126*	*%REC*	*1*	*15-Jan-2020 13:47*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*1*	*15-Jan-2020 13:47*
Surr: Dibromofluoromethane	*99.1*			*77-123*	*%REC*	*1*	*15-Jan-2020 13:47*
Surr: Toluene-d8	*97.9*			*82-127*	*%REC*	*1*	*15-Jan-2020 13:47*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW57A-20200108
Collection Date: 08-Jan-2020 14:55

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-16
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 14-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	15-Jan-2020 13:33
2,4-Dimethylphenol	**0.41**		**0.0080**	**0.040**	**mg/L**	200	15-Jan-2020 17:38
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	15-Jan-2020 13:33
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	15-Jan-2020 13:33
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	15-Jan-2020 13:33
2-Methylnaphthalene	**0.18**		**0.00038**	**0.0020**	**mg/L**	20	15-Jan-2020 15:45
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	15-Jan-2020 13:33
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	15-Jan-2020 13:33
Acenaphthene	**0.19**		**0.00054**	**0.0020**	**mg/L**	20	15-Jan-2020 15:45
Acenaphthylene	**0.0025**		**0.000015**	**0.00010**	**mg/L**	1	15-Jan-2020 13:33
Anthracene	**0.048**		**0.00028**	**0.0020**	**mg/L**	20	15-Jan-2020 15:45
Benz(a)anthracene	**0.0036**		**0.000050**	**0.00010**	**mg/L**	1	15-Jan-2020 13:33
Benzo(a)pyrene	**0.0011**		**0.000020**	**0.00010**	**mg/L**	1	15-Jan-2020 13:33
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	15-Jan-2020 13:33
Bis(2-ethylhexyl)phthalate	**0.00037**		**0.000037**	**0.00020**	**mg/L**	1	15-Jan-2020 13:33
Chrysene	**0.0030**		**0.000021**	**0.00010**	**mg/L**	1	15-Jan-2020 13:33
Dibenzofuran	**0.15**		**0.00040**	**0.0020**	**mg/L**	20	15-Jan-2020 15:45
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	15-Jan-2020 13:33
Fluoranthene	**0.038**		**0.00020**	**0.0020**	**mg/L**	20	15-Jan-2020 15:45
Fluorene	**0.13**		**0.00060**	**0.0020**	**mg/L**	20	15-Jan-2020 15:45
Naphthalene	**1.0**		**0.0040**	**0.020**	**mg/L**	200	15-Jan-2020 17:38
Nitrobenzene	U		0.000024	0.00020	mg/L	1	15-Jan-2020 13:33
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	15-Jan-2020 13:33
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	15-Jan-2020 13:33
Phenanthrene	**0.17**		**0.00042**	**0.0020**	**mg/L**	20	15-Jan-2020 15:45
Phenol	**0.0049**		**0.000035**	**0.00020**	**mg/L**	1	15-Jan-2020 13:33
Pyrene	**0.025**		**0.00038**	**0.0020**	**mg/L**	20	15-Jan-2020 15:45
Surr: 2,4,6-Tribromophenol	*66.0*			*34-129*	*%REC*	*1*	*15-Jan-2020 13:33*
Surr: 2,4,6-Tribromophenol	*102*			*34-129*	*%REC*	*20*	*15-Jan-2020 15:45*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*200*	*15-Jan-2020 17:38*
Surr: 2-Fluorobiphenyl	*93.8*			*40-125*	*%REC*	*20*	*15-Jan-2020 15:45*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*200*	*15-Jan-2020 17:38*
Surr: 2-Fluorobiphenyl	*56.7*			*40-125*	*%REC*	*1*	*15-Jan-2020 13:33*
Surr: 2-Fluorophenol	*65.2*			*20-120*	*%REC*	*1*	*15-Jan-2020 13:33*
Surr: 2-Fluorophenol	*85.2*			*20-120*	*%REC*	*20*	*15-Jan-2020 15:45*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*200*	*15-Jan-2020 17:38*
Surr: 4-Terphenyl-d14	*115*			*40-135*	*%REC*	*20*	*15-Jan-2020 15:45*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*200*	*15-Jan-2020 17:38*
Surr: 4-Terphenyl-d14	*87.2*			*40-135*	*%REC*	*1*	*15-Jan-2020 13:33*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW57A-20200108
Collection Date: 08-Jan-2020 14:55

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-16
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 14-Jan-2020		Analyst: LG
Surr: Nitrobenzene-d5	*67.2*			*41-120*	*%REC*	*1*	*15-Jan-2020 13:33*
Surr: Nitrobenzene-d5	*75.6*	*J*		*41-120*	*%REC*	*20*	*15-Jan-2020 15:45*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*200*	*15-Jan-2020 17:38*
Surr: Phenol-d6	*59.7*			*20-120*	*%REC*	*1*	*15-Jan-2020 13:33*
Surr: Phenol-d6	*80.7*			*20-120*	*%REC*	*20*	*15-Jan-2020 15:45*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*200*	*15-Jan-2020 17:38*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	**0.0545**		**0.000400**	**0.00200**	**mg/L**	1	13-Jan-2020 23:07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW57B-20200108
Collection Date: 08-Jan-2020 13:30

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-17
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.0020	0.010	mg/L	10	15-Jan-2020 15:07
Benzene	**0.52**		**0.0020**	**0.010**	**mg/L**	10	15-Jan-2020 15:07
Chlorobenzene	U		0.0030	0.010	mg/L	10	15-Jan-2020 15:07
Ethylbenzene	**0.25**		**0.0030**	**0.010**	**mg/L**	10	15-Jan-2020 15:07
Methylene chloride	U		0.010	0.020	mg/L	10	15-Jan-2020 15:07
Toluene	**0.64**		**0.0020**	**0.010**	**mg/L**	10	15-Jan-2020 15:07
Xylenes, Total	**0.70**		**0.0030**	**0.010**	**mg/L**	10	15-Jan-2020 15:07
Surr: 1,2-Dichloroethane-d4	*95.6*			*70-126*	*%REC*	*10*	*15-Jan-2020 15:07*
Surr: 4-Bromofluorobenzene	*99.3*			*81-113*	*%REC*	*10*	*15-Jan-2020 15:07*
Surr: Dibromofluoromethane	*99.6*			*77-123*	*%REC*	*10*	*15-Jan-2020 15:07*
Surr: Toluene-d8	*98.9*			*82-127*	*%REC*	*10*	*15-Jan-2020 15:07*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW57B-20200108
Collection Date: 08-Jan-2020 13:30

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-17
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	17-Jan-2020 04:40
2,4-Dimethylphenol	**2.8**		**0.040**	**0.20**	**mg/L**	1000	17-Jan-2020 12:49
2,4-Dinitrotoluene	U		0.00058	0.0020	mg/L	10	17-Jan-2020 04:40
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	17-Jan-2020 04:40
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	17-Jan-2020 04:40
2-Methylnaphthalene	**1.1**		**0.019**	**0.10**	**mg/L**	1000	17-Jan-2020 12:49
4,6-Dinitro-2-methylphenol	U		0.00020	0.0020	mg/L	10	17-Jan-2020 04:40
4-Nitrophenol	U		0.00047	0.010	mg/L	10	17-Jan-2020 04:40
Acenaphthene	**0.55**		**0.0027**	**0.010**	**mg/L**	100	17-Jan-2020 12:29
Acenaphthylene	**0.0086**		**0.00015**	**0.0010**	**mg/L**	10	17-Jan-2020 04:40
Anthracene	**0.19**		**0.0014**	**0.010**	**mg/L**	100	17-Jan-2020 12:29
Benz(a)anthracene	**0.040**		**0.00050**	**0.0010**	**mg/L**	10	17-Jan-2020 04:40
Benzo(a)pyrene	**0.012**		**0.00020**	**0.0010**	**mg/L**	10	17-Jan-2020 04:40
Bis(2-chloroethoxy)methane	U		0.00030	0.0020	mg/L	10	17-Jan-2020 04:40
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	17-Jan-2020 04:40
Chrysene	**0.042**		**0.00021**	**0.0010**	**mg/L**	10	17-Jan-2020 04:40
Dibenzofuran	**0.49**		**0.0020**	**0.010**	**mg/L**	100	17-Jan-2020 12:29
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	17-Jan-2020 04:40
Fluoranthene	**0.34**		**0.0010**	**0.010**	**mg/L**	100	17-Jan-2020 12:29
Fluorene	**0.46**		**0.0030**	**0.010**	**mg/L**	100	17-Jan-2020 12:29
Naphthalene	**13**		**0.20**	**1.0**	**mg/L**	10000	17-Jan-2020 16:07
Nitrobenzene	U		0.00024	0.0020	mg/L	10	17-Jan-2020 04:40
N-Nitrosodiphenylamine	U		0.00025	0.0020	mg/L	10	17-Jan-2020 04:40
Pentachlorophenol	U		0.00079	0.0020	mg/L	10	17-Jan-2020 04:40
Phenanthrene	**1.1**		**0.021**	**0.10**	**mg/L**	1000	17-Jan-2020 12:49
Phenol	**0.32**		**0.0035**	**0.020**	**mg/L**	100	17-Jan-2020 12:29
Pyrene	**0.21**		**0.0019**	**0.010**	**mg/L**	100	17-Jan-2020 12:29
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*10000*	*17-Jan-2020 16:07*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*17-Jan-2020 12:29*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*1000*	*17-Jan-2020 12:49*
Surr: 2,4,6-Tribromophenol	*91.9*			*34-129*	*%REC*	*10*	*17-Jan-2020 04:40*
Surr: 2-Fluorobiphenyl	*80.9*			*40-125*	*%REC*	*10*	*17-Jan-2020 04:40*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*17-Jan-2020 12:29*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*1000*	*17-Jan-2020 12:49*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*10000*	*17-Jan-2020 16:07*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*10000*	*17-Jan-2020 16:07*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*17-Jan-2020 12:29*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*1000*	*17-Jan-2020 12:49*
Surr: 2-Fluorophenol	*117*			*20-120*	*%REC*	*10*	*17-Jan-2020 04:40*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW57B-20200108
Collection Date: 08-Jan-2020 13:30

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-17
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jan-2020		Analyst: GEY
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*17-Jan-2020 12:29*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*1000*	*17-Jan-2020 12:49*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*10000*	*17-Jan-2020 16:07*
Surr: 4-Terphenyl-d14	*112*			*40-135*	*%REC*	*10*	*17-Jan-2020 04:40*
Surr: Nitrobenzene-d5	*119*			*41-120*	*%REC*	*10*	*17-Jan-2020 04:40*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*1000*	*17-Jan-2020 12:49*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*10000*	*17-Jan-2020 16:07*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*17-Jan-2020 12:29*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*10000*	*17-Jan-2020 16:07*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*17-Jan-2020 12:29*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*1000*	*17-Jan-2020 12:49*
Surr: Phenol-d6	*99.2*			*20-120*	*%REC*	*10*	*17-Jan-2020 04:40*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	**0.00404**		**0.000400**	**0.00200**	**mg/L**	1	13-Jan-2020 23:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB03-20200109
Collection Date: 09-Jan-2020 07:30

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-18
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jan-2020 20:40
Benzene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 20:40
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 20:40
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 20:40
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jan-2020 20:40
Toluene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 20:40
Vinyl chloride		U	0.00020	0.0010	mg/L	1	14-Jan-2020 20:40
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jan-2020 20:40
Surr: 1,2-Dichloroethane-d4	*97.6*			*70-126*	*%REC*	*1*	*14-Jan-2020 20:40*
Surr: 4-Bromofluorobenzene	*94.5*			*81-113*	*%REC*	*1*	*14-Jan-2020 20:40*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*14-Jan-2020 20:40*
Surr: Toluene-d8	*103*			*82-127*	*%REC*	*1*	*14-Jan-2020 20:40*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB03-20200109
Collection Date: 09-Jan-2020 07:30

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-18
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jan-2020 04:59
2,4-Dimethylphenol	**0.0010**		**0.000040**	**0.00020**	**mg/L**	1	17-Jan-2020 04:59
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jan-2020 04:59
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jan-2020 04:59
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jan-2020 04:59
2-Methylnaphthalene	**0.00038**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 04:59
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jan-2020 04:59
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jan-2020 04:59
Acenaphthene	**0.00015**		**0.000027**	**0.00010**	**mg/L**	1	17-Jan-2020 04:59
Acenaphthylene	U		0.000015	0.00010	mg/L	1	17-Jan-2020 04:59
Anthracene	**0.000047**	J	**0.000014**	**0.00010**	**mg/L**	1	17-Jan-2020 04:59
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	17-Jan-2020 04:59
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jan-2020 04:59
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jan-2020 04:59
Bis(2-ethylhexyl)phthalate	**0.00011**	J	**0.000037**	**0.00020**	**mg/L**	1	17-Jan-2020 04:59
Chrysene	U		0.000021	0.00010	mg/L	1	17-Jan-2020 04:59
Dibenzofuran	**0.00012**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 04:59
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jan-2020 04:59
Fluoranthene	**0.000069**	J	**0.000010**	**0.00010**	**mg/L**	1	17-Jan-2020 04:59
Fluorene	**0.000092**	J	**0.000030**	**0.00010**	**mg/L**	1	17-Jan-2020 04:59
Naphthalene	**0.0078**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 04:59
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jan-2020 04:59
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jan-2020 04:59
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jan-2020 04:59
Phenanthrene	**0.00019**		**0.000021**	**0.00010**	**mg/L**	1	17-Jan-2020 04:59
Phenol	**0.000053**	J	**0.000035**	**0.00020**	**mg/L**	1	17-Jan-2020 04:59
Pyrene	**0.000039**	J	**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 04:59
Surr: 2,4,6-Tribromophenol	*67.8*			*34-129*	*%REC*	*1*	*17-Jan-2020 04:59*
Surr: 2-Fluorobiphenyl	*77.4*			*40-125*	*%REC*	*1*	*17-Jan-2020 04:59*
Surr: 2-Fluorophenol	*78.0*			*20-120*	*%REC*	*1*	*17-Jan-2020 04:59*
Surr: 4-Terphenyl-d14	*81.2*			*40-135*	*%REC*	*1*	*17-Jan-2020 04:59*
Surr: Nitrobenzene-d5	*78.3*			*41-120*	*%REC*	*1*	*17-Jan-2020 04:59*
Surr: Phenol-d6	*78.5*			*20-120*	*%REC*	*1*	*17-Jan-2020 04:59*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	13-Jan-2020 23:11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW72B-20200109
Collection Date: 09-Jan-2020 08:35

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-20
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.0020	0.010	mg/L	10	15-Jan-2020 15:34
Benzene	**0.70**		**0.0020**	**0.010**	**mg/L**	10	15-Jan-2020 15:34
Chlorobenzene	U		0.0030	0.010	mg/L	10	15-Jan-2020 15:34
Ethylbenzene	**0.13**		**0.0030**	**0.010**	**mg/L**	10	15-Jan-2020 15:34
Methylene chloride	U		0.010	0.020	mg/L	10	15-Jan-2020 15:34
Toluene	**0.58**		**0.0020**	**0.010**	**mg/L**	10	15-Jan-2020 15:34
Xylenes, Total	**0.36**		**0.0030**	**0.010**	**mg/L**	10	15-Jan-2020 15:34
Surr: 1,2-Dichloroethane-d4	*95.1*			*70-126*	*%REC*	*10*	*15-Jan-2020 15:34*
Surr: 4-Bromofluorobenzene	*98.7*			*81-113*	*%REC*	*10*	*15-Jan-2020 15:34*
Surr: Dibromofluoromethane	*99.8*			*77-123*	*%REC*	*10*	*15-Jan-2020 15:34*
Surr: Toluene-d8	*99.0*			*82-127*	*%REC*	*10*	*15-Jan-2020 15:34*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW72B-20200109
Collection Date: 09-Jan-2020 08:35

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-20
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	17-Jan-2020 13:08
2,4-Dimethylphenol	**13**		**0.40**	**2.0**	**mg/L**	10000	17-Jan-2020 16:26
2,4-Dinitrotoluene	U		0.00058	0.0020	mg/L	10	17-Jan-2020 13:08
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	17-Jan-2020 13:08
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	17-Jan-2020 13:08
2-Methylnaphthalene	**0.22**		**0.0019**	**0.010**	**mg/L**	100	17-Jan-2020 13:28
4,6-Dinitro-2-methylphenol	U		0.00020	0.0020	mg/L	10	17-Jan-2020 13:08
4-Nitrophenol	U		0.00047	0.010	mg/L	10	17-Jan-2020 13:08
Acenaphthene	**0.079**		**0.00027**	**0.0010**	**mg/L**	10	17-Jan-2020 13:08
Acenaphthylene	**0.0023**		**0.00015**	**0.0010**	**mg/L**	10	17-Jan-2020 13:08
Anthracene	**0.020**		**0.00014**	**0.0010**	**mg/L**	10	17-Jan-2020 13:08
Benz(a)anthracene	**0.0031**		**0.00050**	**0.0010**	**mg/L**	10	17-Jan-2020 13:08
Benzo(a)pyrene	**0.0011**		**0.00020**	**0.0010**	**mg/L**	10	17-Jan-2020 13:08
Bis(2-chloroethoxy)methane	U		0.00030	0.0020	mg/L	10	17-Jan-2020 13:08
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	17-Jan-2020 13:08
Chrysene	**0.0033**		**0.00021**	**0.0010**	**mg/L**	10	17-Jan-2020 13:08
Dibenzofuran	**0.061**		**0.00020**	**0.0010**	**mg/L**	10	17-Jan-2020 13:08
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	17-Jan-2020 13:08
Fluoranthene	**0.024**		**0.00010**	**0.0010**	**mg/L**	10	17-Jan-2020 13:08
Fluorene	**0.049**		**0.00030**	**0.0010**	**mg/L**	10	17-Jan-2020 13:08
Naphthalene	**2.0**		**0.020**	**0.10**	**mg/L**	1000	17-Jan-2020 13:48
Nitrobenzene	U		0.00024	0.0020	mg/L	10	17-Jan-2020 13:08
N-Nitrosodiphenylamine	U		0.00025	0.0020	mg/L	10	17-Jan-2020 13:08
Pentachlorophenol	U		0.00079	0.0020	mg/L	10	17-Jan-2020 13:08
Phenanthrene	**0.075**		**0.00021**	**0.0010**	**mg/L**	10	17-Jan-2020 13:08
Phenol	**5.2**		**0.035**	**0.20**	**mg/L**	1000	17-Jan-2020 13:48
Pyrene	**0.013**		**0.00019**	**0.0010**	**mg/L**	10	17-Jan-2020 13:08
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*10000*	*17-Jan-2020 16:26*
Surr: 2,4,6-Tribromophenol	*82.1*			*34-129*	*%REC*	*10*	*17-Jan-2020 13:08*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*17-Jan-2020 13:28*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*1000*	*17-Jan-2020 13:48*
Surr: 2-Fluorobiphenyl	*88.2*			*40-125*	*%REC*	*10*	*17-Jan-2020 13:08*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*17-Jan-2020 13:28*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*1000*	*17-Jan-2020 13:48*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*10000*	*17-Jan-2020 16:26*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*10000*	*17-Jan-2020 16:26*
Surr: 2-Fluorophenol	*108*			*20-120*	*%REC*	*10*	*17-Jan-2020 13:08*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*17-Jan-2020 13:28*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*1000*	*17-Jan-2020 13:48*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW72B-20200109
Collection Date: 09-Jan-2020 08:35

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-20
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jan-2020		Analyst: GEY
Surr: 4-Terphenyl-d14	*87.4*			*40-135*	*%REC*	*10*	*17-Jan-2020 13:08*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*17-Jan-2020 13:28*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*1000*	*17-Jan-2020 13:48*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*10000*	*17-Jan-2020 16:26*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*10000*	*17-Jan-2020 16:26*
Surr: Nitrobenzene-d5	*82.9*			*41-120*	*%REC*	*10*	*17-Jan-2020 13:08*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*17-Jan-2020 13:28*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*1000*	*17-Jan-2020 13:48*
Surr: Phenol-d6	*81.9*			*20-120*	*%REC*	*10*	*17-Jan-2020 13:08*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*17-Jan-2020 13:28*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*1000*	*17-Jan-2020 13:48*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*10000*	*17-Jan-2020 16:26*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	**0.00105**	J	**0.000400**	**0.00200**	**mg/L**	1	13-Jan-2020 23:14

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW23C-20200109
Collection Date: 09-Jan-2020 09:40

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-21
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.0010	0.0050	mg/L	5	15-Jan-2020 14:14
Benzene	**0.0027**	J	**0.0010**	**0.0050**	**mg/L**	5	15-Jan-2020 14:14
Chlorobenzene	U		0.0015	0.0050	mg/L	5	15-Jan-2020 14:14
Ethylbenzene	**0.028**		**0.0015**	**0.0050**	**mg/L**	5	15-Jan-2020 14:14
Methylene chloride	U		0.0050	0.010	mg/L	5	15-Jan-2020 14:14
Toluene	U		0.0010	0.0050	mg/L	5	15-Jan-2020 14:14
Xylenes, Total	**0.025**		**0.0015**	**0.0050**	**mg/L**	5	15-Jan-2020 14:14
Surr: 1,2-Dichloroethane-d4	*94.0*			*70-126*	*%REC*	*5*	*15-Jan-2020 14:14*
Surr: 4-Bromofluorobenzene	*95.8*			*81-113*	*%REC*	*5*	*15-Jan-2020 14:14*
Surr: Dibromofluoromethane	*99.0*			*77-123*	*%REC*	*5*	*15-Jan-2020 14:14*
Surr: Toluene-d8	*98.9*			*82-127*	*%REC*	*5*	*15-Jan-2020 14:14*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW23C-20200109
Collection Date: 09-Jan-2020 09:40

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-21
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	17-Jan-2020 14:08
2,4-Dimethylphenol	**0.047**		**0.00040**	**0.0020**	**mg/L**	10	17-Jan-2020 14:08
2,4-Dinitrotoluene	U		0.00058	0.0020	mg/L	10	17-Jan-2020 14:08
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	17-Jan-2020 14:08
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	17-Jan-2020 14:08
2-Methylnaphthalene	**0.12**		**0.0019**	**0.010**	**mg/L**	100	17-Jan-2020 16:46
4,6-Dinitro-2-methylphenol	U		0.00020	0.0020	mg/L	10	17-Jan-2020 14:08
4-Nitrophenol	U		0.00047	0.010	mg/L	10	17-Jan-2020 14:08
Acenaphthene	**0.21**		**0.0027**	**0.010**	**mg/L**	100	17-Jan-2020 16:46
Acenaphthylene	**0.0029**		**0.00015**	**0.0010**	**mg/L**	10	17-Jan-2020 14:08
Anthracene	**0.035**		**0.00014**	**0.0010**	**mg/L**	10	17-Jan-2020 14:08
Benz(a)anthracene	**0.0080**		**0.00050**	**0.0010**	**mg/L**	10	17-Jan-2020 14:08
Benzo(a)pyrene	**0.0022**		**0.00020**	**0.0010**	**mg/L**	10	17-Jan-2020 14:08
Bis(2-chloroethoxy)methane	U		0.00030	0.0020	mg/L	10	17-Jan-2020 14:08
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	17-Jan-2020 14:08
Chrysene	**0.0072**		**0.00021**	**0.0010**	**mg/L**	10	17-Jan-2020 14:08
Dibenzofuran	**0.17**		**0.0020**	**0.010**	**mg/L**	100	17-Jan-2020 16:46
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	17-Jan-2020 14:08
Fluoranthene	**0.068**		**0.00010**	**0.0010**	**mg/L**	10	17-Jan-2020 14:08
Fluorene	**0.12**		**0.0030**	**0.010**	**mg/L**	100	17-Jan-2020 16:46
Naphthalene	**0.66**		**0.0020**	**0.010**	**mg/L**	100	17-Jan-2020 16:46
Nitrobenzene	U		0.00024	0.0020	mg/L	10	17-Jan-2020 14:08
N-Nitrosodiphenylamine	U		0.00025	0.0020	mg/L	10	17-Jan-2020 14:08
Pentachlorophenol	U		0.00079	0.0020	mg/L	10	17-Jan-2020 14:08
Phenanthrene	**0.25**		**0.0021**	**0.010**	**mg/L**	100	17-Jan-2020 16:46
Phenol	**0.0079**		**0.00035**	**0.0020**	**mg/L**	10	17-Jan-2020 14:08
Pyrene	**0.043**		**0.00019**	**0.0010**	**mg/L**	10	17-Jan-2020 14:08
Surr: 2,4,6-Tribromophenol	*87.3*			*34-129*	*%REC*	*10*	*17-Jan-2020 14:08*
Surr: 2,4,6-Tribromophenol	*103*	*J*		*34-129*	*%REC*	*100*	*17-Jan-2020 16:46*
Surr: 2-Fluorobiphenyl	*67.3*	*J*		*40-125*	*%REC*	*100*	*17-Jan-2020 16:46*
Surr: 2-Fluorobiphenyl	*72.8*			*40-125*	*%REC*	*10*	*17-Jan-2020 14:08*
Surr: 2-Fluorophenol	*81.0*			*20-120*	*%REC*	*10*	*17-Jan-2020 14:08*
Surr: 2-Fluorophenol	*80.8*	*J*		*20-120*	*%REC*	*100*	*17-Jan-2020 16:46*
Surr: 4-Terphenyl-d14	*97.6*	*J*		*40-135*	*%REC*	*100*	*17-Jan-2020 16:46*
Surr: 4-Terphenyl-d14	*89.4*			*40-135*	*%REC*	*10*	*17-Jan-2020 14:08*
Surr: Nitrobenzene-d5	*131*	*JS*		*41-120*	*%REC*	*100*	*17-Jan-2020 16:46*
Surr: Nitrobenzene-d5	*116*			*41-120*	*%REC*	*10*	*17-Jan-2020 14:08*
Surr: Phenol-d6	*71.5*			*20-120*	*%REC*	*10*	*17-Jan-2020 14:08*
Surr: Phenol-d6	*84.0*	*J*		*20-120*	*%REC*	*100*	*17-Jan-2020 16:46*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW23C-20200109
Collection Date: 09-Jan-2020 09:40

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-21
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Jan-2020		Analyst: JHD
Arsenic	**0.00333**		**0.000400**	**0.00200**	**mg/L**	1	13-Jan-2020 23:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW53C-20200109
Collection Date: 09-Jan-2020 11:15

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-22
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jan-2020 05:56
Benzene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 05:56
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 05:56
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 05:56
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jan-2020 05:56
Toluene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 05:56
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jan-2020 05:56
Surr: 1,2-Dichloroethane-d4	*97.9*			*70-126*	*%REC*	*1*	*14-Jan-2020 05:56*
Surr: 4-Bromofluorobenzene	*94.9*			*81-113*	*%REC*	*1*	*14-Jan-2020 05:56*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*14-Jan-2020 05:56*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*14-Jan-2020 05:56*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW53C-20200109
Collection Date: 09-Jan-2020 11:15

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-22
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jan-2020 14:27
2,4-Dimethylphenol	**0.0011**		**0.000040**	**0.00020**	**mg/L**	1	17-Jan-2020 14:27
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jan-2020 14:27
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jan-2020 14:27
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jan-2020 14:27
2-Methylnaphthalene	**0.00025**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 14:27
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jan-2020 14:27
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jan-2020 14:27
Acenaphthene	**0.00032**		**0.000027**	**0.00010**	**mg/L**	1	17-Jan-2020 14:27
Acenaphthylene	U		0.000015	0.00010	mg/L	1	17-Jan-2020 14:27
Anthracene	**0.000028**	J	**0.000014**	**0.00010**	**mg/L**	1	17-Jan-2020 14:27
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	17-Jan-2020 14:27
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jan-2020 14:27
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jan-2020 14:27
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	17-Jan-2020 14:27
Chrysene	U		0.000021	0.00010	mg/L	1	17-Jan-2020 14:27
Dibenzofuran	**0.00027**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 14:27
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jan-2020 14:27
Fluoranthene	**0.000071**	J	**0.000010**	**0.00010**	**mg/L**	1	17-Jan-2020 14:27
Fluorene	**0.00020**		**0.000030**	**0.00010**	**mg/L**	1	17-Jan-2020 14:27
Naphthalene	**0.0012**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 14:27
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jan-2020 14:27
N-Nitrosodiphenylamine	**0.000056**	J	**0.000025**	**0.00020**	**mg/L**	1	17-Jan-2020 14:27
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jan-2020 14:27
Phenanthrene	**0.00025**		**0.000021**	**0.00010**	**mg/L**	1	17-Jan-2020 14:27
Phenol	**0.00050**		**0.000035**	**0.00020**	**mg/L**	1	17-Jan-2020 14:27
Pyrene	**0.000061**	J	**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 14:27
Surr: 2,4,6-Tribromophenol	*65.4*			*34-129*	*%REC*	*1*	*17-Jan-2020 14:27*
Surr: 2-Fluorobiphenyl	*64.0*			*40-125*	*%REC*	*1*	*17-Jan-2020 14:27*
Surr: 2-Fluorophenol	*66.8*			*20-120*	*%REC*	*1*	*17-Jan-2020 14:27*
Surr: 4-Terphenyl-d14	*91.4*			*40-135*	*%REC*	*1*	*17-Jan-2020 14:27*
Surr: Nitrobenzene-d5	*64.9*			*41-120*	*%REC*	*1*	*17-Jan-2020 14:27*
Surr: Phenol-d6	*68.0*			*20-120*	*%REC*	*1*	*17-Jan-2020 14:27*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 14-Jan-2020		Analyst: ALR
Arsenic	**0.000728**	J	**0.000400**	**0.00200**	**mg/L**	1	14-Jan-2020 21:37

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW54C-20200109
Collection Date: 09-Jan-2020 12:35

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-23
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jan-2020 06:20
Benzene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 06:20
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 06:20
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 06:20
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jan-2020 06:20
Toluene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 06:20
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jan-2020 06:20
Surr: 1,2-Dichloroethane-d4	*98.5*			*70-126*	*%REC*	*1*	*14-Jan-2020 06:20*
Surr: 4-Bromofluorobenzene	*95.3*			*81-113*	*%REC*	*1*	*14-Jan-2020 06:20*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*14-Jan-2020 06:20*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*14-Jan-2020 06:20*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW54C-20200109
Collection Date: 09-Jan-2020 12:35

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-23
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jan-2020 14:47
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	17-Jan-2020 14:47
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jan-2020 14:47
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jan-2020 14:47
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jan-2020 14:47
2-Methylnaphthalene	**0.0020**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 14:47
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jan-2020 14:47
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jan-2020 14:47
Acenaphthene	**0.021**		**0.00014**	**0.00050**	**mg/L**	5	17-Jan-2020 17:06
Acenaphthylene	**0.00023**		**0.000015**	**0.00010**	**mg/L**	1	17-Jan-2020 14:47
Anthracene	**0.0015**		**0.000014**	**0.00010**	**mg/L**	1	17-Jan-2020 14:47
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	17-Jan-2020 14:47
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jan-2020 14:47
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jan-2020 14:47
Bis(2-ethylhexyl)phthalate	**0.00018**	J	**0.000037**	**0.00020**	**mg/L**	1	17-Jan-2020 14:47
Chrysene	**0.000054**	J	**0.000021**	**0.00010**	**mg/L**	1	17-Jan-2020 14:47
Dibenzofuran	**0.020**		**0.00010**	**0.00050**	**mg/L**	5	17-Jan-2020 17:06
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jan-2020 14:47
Fluoranthene	**0.0026**		**0.000010**	**0.00010**	**mg/L**	1	17-Jan-2020 14:47
Fluorene	**0.0095**		**0.000030**	**0.00010**	**mg/L**	1	17-Jan-2020 14:47
Naphthalene	**0.035**		**0.00010**	**0.00050**	**mg/L**	5	17-Jan-2020 17:06
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jan-2020 14:47
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jan-2020 14:47
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jan-2020 14:47
Phenanthrene	**0.0056**		**0.000021**	**0.00010**	**mg/L**	1	17-Jan-2020 14:47
Phenol	**0.000064**	J	**0.000035**	**0.00020**	**mg/L**	1	17-Jan-2020 14:47
Pyrene	**0.0014**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 14:47
Surr: 2,4,6-Tribromophenol	*58.6*			*34-129*	*%REC*	*1*	*17-Jan-2020 14:47*
Surr: 2,4,6-Tribromophenol	*71.5*			*34-129*	*%REC*	*5*	*17-Jan-2020 17:06*
Surr: 2-Fluorobiphenyl	*65.7*			*40-125*	*%REC*	*5*	*17-Jan-2020 17:06*
Surr: 2-Fluorobiphenyl	*52.3*			*40-125*	*%REC*	*1*	*17-Jan-2020 14:47*
Surr: 2-Fluorophenol	*66.8*			*20-120*	*%REC*	*5*	*17-Jan-2020 17:06*
Surr: 2-Fluorophenol	*52.0*			*20-120*	*%REC*	*1*	*17-Jan-2020 14:47*
Surr: 4-Terphenyl-d14	*81.0*			*40-135*	*%REC*	*1*	*17-Jan-2020 14:47*
Surr: 4-Terphenyl-d14	*102*			*40-135*	*%REC*	*5*	*17-Jan-2020 17:06*
Surr: Nitrobenzene-d5	*58.3*			*41-120*	*%REC*	*1*	*17-Jan-2020 14:47*
Surr: Nitrobenzene-d5	*71.5*			*41-120*	*%REC*	*5*	*17-Jan-2020 17:06*
Surr: Phenol-d6	*54.6*			*20-120*	*%REC*	*1*	*17-Jan-2020 14:47*
Surr: Phenol-d6	*69.4*			*20-120*	*%REC*	*5*	*17-Jan-2020 17:06*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW54C-20200109
Collection Date: 09-Jan-2020 12:35

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-23
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 14-Jan-2020		Analyst: ALR
Arsenic	**0.00122**	J	**0.000400**	**0.00200**	**mg/L**	1	14-Jan-2020 21:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW44A-20200109
Collection Date: 09-Jan-2020 13:30

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-24
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	15-Jan-2020 12:33
Benzene		U	0.00020	0.0010	mg/L	1	15-Jan-2020 12:33
Chlorobenzene		U	0.00030	0.0010	mg/L	1	15-Jan-2020 12:33
Ethylbenzene		U	0.00030	0.0010	mg/L	1	15-Jan-2020 12:33
Methylene chloride		U	0.0010	0.0020	mg/L	1	15-Jan-2020 12:33
Toluene		U	0.00020	0.0010	mg/L	1	15-Jan-2020 12:33
Xylenes, Total		U	0.00030	0.0010	mg/L	1	15-Jan-2020 12:33
Surr: 1,2-Dichloroethane-d4	*100*			*70-126*	*%REC*	*1*	*15-Jan-2020 12:33*
Surr: 4-Bromofluorobenzene	*97.0*			*81-113*	*%REC*	*1*	*15-Jan-2020 12:33*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*15-Jan-2020 12:33*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*15-Jan-2020 12:33*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW44A-20200109
Collection Date: 09-Jan-2020 13:30

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-24
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 15-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jan-2020 15:07
2,4-Dimethylphenol	**0.00042**		**0.000040**	**0.00020**	**mg/L**	1	17-Jan-2020 15:07
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jan-2020 15:07
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jan-2020 15:07
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jan-2020 15:07
2-Methylnaphthalene	**0.00035**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 15:07
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jan-2020 15:07
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jan-2020 15:07
Acenaphthene	**0.064**		**0.00027**	**0.0010**	**mg/L**	10	17-Jan-2020 17:26
Acenaphthylene	**0.00097**		**0.000015**	**0.00010**	**mg/L**	1	17-Jan-2020 15:07
Anthracene	**0.00027**		**0.000014**	**0.00010**	**mg/L**	1	17-Jan-2020 15:07
Benz(a)anthracene	**0.000054**	J	**0.000050**	**0.00010**	**mg/L**	1	17-Jan-2020 15:07
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jan-2020 15:07
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jan-2020 15:07
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	17-Jan-2020 15:07
Chrysene	U		0.000021	0.00010	mg/L	1	17-Jan-2020 15:07
Dibenzofuran	**0.00033**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 15:07
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jan-2020 15:07
Fluoranthene	**0.0059**		**0.000010**	**0.00010**	**mg/L**	1	17-Jan-2020 15:07
Fluorene	**0.0078**		**0.000030**	**0.00010**	**mg/L**	1	17-Jan-2020 15:07
Naphthalene	**0.0030**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 15:07
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jan-2020 15:07
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jan-2020 15:07
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jan-2020 15:07
Phenanthrene	**0.00022**		**0.000021**	**0.00010**	**mg/L**	1	17-Jan-2020 15:07
Phenol	**0.00013**	J	**0.000035**	**0.00020**	**mg/L**	1	17-Jan-2020 15:07
Pyrene	**0.0045**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 15:07
Surr: 2,4,6-Tribromophenol	*75.5*			*34-129*	*%REC*	*1*	*17-Jan-2020 15:07*
Surr: 2,4,6-Tribromophenol	*95.3*			*34-129*	*%REC*	*10*	*17-Jan-2020 17:26*
Surr: 2-Fluorobiphenyl	*64.7*			*40-125*	*%REC*	*1*	*17-Jan-2020 15:07*
Surr: 2-Fluorobiphenyl	*79.8*			*40-125*	*%REC*	*10*	*17-Jan-2020 17:26*
Surr: 2-Fluorophenol	*59.8*			*20-120*	*%REC*	*1*	*17-Jan-2020 15:07*
Surr: 2-Fluorophenol	*83.8*			*20-120*	*%REC*	*10*	*17-Jan-2020 17:26*
Surr: 4-Terphenyl-d14	*82.7*			*40-135*	*%REC*	*1*	*17-Jan-2020 15:07*
Surr: 4-Terphenyl-d14	*114*			*40-135*	*%REC*	*10*	*17-Jan-2020 17:26*
Surr: Nitrobenzene-d5	*87.6*			*41-120*	*%REC*	*10*	*17-Jan-2020 17:26*
Surr: Nitrobenzene-d5	*61.3*			*41-120*	*%REC*	*1*	*17-Jan-2020 15:07*
Surr: Phenol-d6	*64.2*			*20-120*	*%REC*	*1*	*17-Jan-2020 15:07*
Surr: Phenol-d6	*82.5*			*20-120*	*%REC*	*10*	*17-Jan-2020 17:26*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW44A-20200109
Collection Date: 09-Jan-2020 13:30

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-24
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 14-Jan-2020		Analyst: ALR
Arsenic	**0.00966**		**0.000400**	**0.00200**	**mg/L**	1	14-Jan-2020 21:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW36B-20200109
Collection Date: 09-Jan-2020 14:40

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-25
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jan-2020 18:20
Benzene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 18:20
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 18:20
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 18:20
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jan-2020 18:20
Toluene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 18:20
Vinyl chloride		U	0.00020	0.0010	mg/L	1	14-Jan-2020 18:20
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jan-2020 18:20
Surr: 1,2-Dichloroethane-d4	*112*			*70-126*	*%REC*	*1*	*14-Jan-2020 18:20*
Surr: 4-Bromofluorobenzene	*98.0*			*81-113*	*%REC*	*1*	*14-Jan-2020 18:20*
Surr: Dibromofluoromethane	*105*			*77-123*	*%REC*	*1*	*14-Jan-2020 18:20*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*14-Jan-2020 18:20*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW36B-20200109
Collection Date: 09-Jan-2020 14:40

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-25
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jan-2020 15:27
2,4-Dimethylphenol	**0.000054**	J	**0.000040**	**0.00020**	**mg/L**	1	17-Jan-2020 15:27
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jan-2020 15:27
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jan-2020 15:27
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jan-2020 15:27
2-Methylnaphthalene	**0.00013**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 15:27
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jan-2020 15:27
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jan-2020 15:27
Acenaphthene	**0.00017**		**0.000027**	**0.00010**	**mg/L**	1	17-Jan-2020 15:27
Acenaphthylene	U		0.000015	0.00010	mg/L	1	17-Jan-2020 15:27
Anthracene	U		0.000014	0.00010	mg/L	1	17-Jan-2020 15:27
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	17-Jan-2020 15:27
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jan-2020 15:27
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jan-2020 15:27
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	17-Jan-2020 15:27
Chrysene	U		0.000021	0.00010	mg/L	1	17-Jan-2020 15:27
Dibenzofuran	**0.00012**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 15:27
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jan-2020 15:27
Fluoranthene	**0.000051**	J	**0.000010**	**0.00010**	**mg/L**	1	17-Jan-2020 15:27
Fluorene	**0.00012**		**0.000030**	**0.00010**	**mg/L**	1	17-Jan-2020 15:27
Naphthalene	**0.00093**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 15:27
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jan-2020 15:27
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jan-2020 15:27
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jan-2020 15:27
Phenanthrene	**0.00010**		**0.000021**	**0.00010**	**mg/L**	1	17-Jan-2020 15:27
Phenol	**0.000075**	J	**0.000035**	**0.00020**	**mg/L**	1	17-Jan-2020 15:27
Pyrene	U		0.000019	0.00010	mg/L	1	17-Jan-2020 15:27
Surr: 2,4,6-Tribromophenol	*70.4*			*34-129*	*%REC*	*1*	*17-Jan-2020 15:27*
Surr: 2-Fluorobiphenyl	*56.0*			*40-125*	*%REC*	*1*	*17-Jan-2020 15:27*
Surr: 2-Fluorophenol	*50.6*			*20-120*	*%REC*	*1*	*17-Jan-2020 15:27*
Surr: 4-Terphenyl-d14	*79.3*			*40-135*	*%REC*	*1*	*17-Jan-2020 15:27*
Surr: Nitrobenzene-d5	*56.4*			*41-120*	*%REC*	*1*	*17-Jan-2020 15:27*
Surr: Phenol-d6	*50.2*			*20-120*	*%REC*	*1*	*17-Jan-2020 15:27*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 14-Jan-2020		Analyst: ALR
Arsenic	**0.00100**	J	**0.000400**	**0.00200**	**mg/L**	1	14-Jan-2020 21:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW36A-20200109
Collection Date: 09-Jan-2020 16:00

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-26
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jan-2020 18:44
Benzene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 18:44
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 18:44
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 18:44
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jan-2020 18:44
Toluene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 18:44
Vinyl chloride		U	0.00020	0.0010	mg/L	1	14-Jan-2020 18:44
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jan-2020 18:44
Surr: 1,2-Dichloroethane-d4	*118*			*70-126*	*%REC*	*1*	*14-Jan-2020 18:44*
Surr: 4-Bromofluorobenzene	*99.4*			*81-113*	*%REC*	*1*	*14-Jan-2020 18:44*
Surr: Dibromofluoromethane	*109*			*77-123*	*%REC*	*1*	*14-Jan-2020 18:44*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*14-Jan-2020 18:44*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW36A-20200109
Collection Date: 09-Jan-2020 16:00

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-26
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 15-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jan-2020 15:47
2,4-Dimethylphenol	**0.000052**	J	**0.000040**	**0.00020**	**mg/L**	1	17-Jan-2020 15:47
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jan-2020 15:47
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jan-2020 15:47
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jan-2020 15:47
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	17-Jan-2020 15:47
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jan-2020 15:47
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jan-2020 15:47
Acenaphthene	U		0.000027	0.00010	mg/L	1	17-Jan-2020 15:47
Acenaphthylene	U		0.000015	0.00010	mg/L	1	17-Jan-2020 15:47
Anthracene	U		0.000014	0.00010	mg/L	1	17-Jan-2020 15:47
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	17-Jan-2020 15:47
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jan-2020 15:47
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jan-2020 15:47
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	17-Jan-2020 15:47
Chrysene	U		0.000021	0.00010	mg/L	1	17-Jan-2020 15:47
Dibenzofuran	U		0.000020	0.00010	mg/L	1	17-Jan-2020 15:47
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jan-2020 15:47
Fluoranthene	U		0.000010	0.00010	mg/L	1	17-Jan-2020 15:47
Fluorene	U		0.000030	0.00010	mg/L	1	17-Jan-2020 15:47
Naphthalene	**0.00034**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 15:47
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jan-2020 15:47
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jan-2020 15:47
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jan-2020 15:47
Phenanthrene	U		0.000021	0.00010	mg/L	1	17-Jan-2020 15:47
Phenol	U		0.000035	0.00020	mg/L	1	17-Jan-2020 15:47
Pyrene	U		0.000019	0.00010	mg/L	1	17-Jan-2020 15:47
Surr: 2,4,6-Tribromophenol	*54.7*			*34-129*	*%REC*	*1*	*17-Jan-2020 15:47*
Surr: 2-Fluorobiphenyl	*61.7*			*40-125*	*%REC*	*1*	*17-Jan-2020 15:47*
Surr: 2-Fluorophenol	*61.9*			*20-120*	*%REC*	*1*	*17-Jan-2020 15:47*
Surr: 4-Terphenyl-d14	*79.7*			*40-135*	*%REC*	*1*	*17-Jan-2020 15:47*
Surr: Nitrobenzene-d5	*62.1*			*41-120*	*%REC*	*1*	*17-Jan-2020 15:47*
Surr: Phenol-d6	*60.0*			*20-120*	*%REC*	*1*	*17-Jan-2020 15:47*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 14-Jan-2020		Analyst: ALR
Arsenic	**0.00354**		**0.000400**	**0.00200**	**mg/L**	1	14-Jan-2020 21:59

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-TB01-20200109
Collection Date: 09-Jan-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20010407
Lab ID:HS20010407-27
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	15-Jan-2020 12:09
Benzene		U	0.00020	0.0010	mg/L	1	15-Jan-2020 12:09
Chlorobenzene		U	0.00030	0.0010	mg/L	1	15-Jan-2020 12:09
Ethylbenzene		U	0.00030	0.0010	mg/L	1	15-Jan-2020 12:09
Methylene chloride		U	0.0010	0.0020	mg/L	1	15-Jan-2020 12:09
Toluene		U	0.00020	0.0010	mg/L	1	15-Jan-2020 12:09
Vinyl chloride		U	0.00020	0.0010	mg/L	1	15-Jan-2020 12:09
Xylenes, Total		U	0.00030	0.0010	mg/L	1	15-Jan-2020 12:09
Surr: 1,2-Dichloroethane-d4	*99.6*			*70-126*	*%REC*	*1*	*15-Jan-2020 12:09*
Surr: 4-Bromofluorobenzene	*95.3*			*81-113*	*%REC*	*1*	*15-Jan-2020 12:09*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*15-Jan-2020 12:09*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*15-Jan-2020 12:09*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

Batch ID: 149585 **Start Date:** 13 Jan 2020 10:30 **End Date:** 13 Jan 2020 13:30
Method: TX 1005 PREP **Prep Code:** TX 1005_W PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010407-02	1	31.02 (g)	3 (mL)	0.09671
HS20010407-03	1	31.1 (g)	3 (mL)	0.09646
HS20010407-04	1	30.67 (g)	3 (mL)	0.09782
HS20010407-05	1	31.05 (g)	3 (mL)	0.09662
HS20010407-06	1	31.3 (g)	3 (mL)	0.09585
HS20010407-07	1	31.21 (g)	3 (mL)	0.09612
HS20010407-08	1	31.12 (g)	3 (mL)	0.0964
HS20010407-09	1	31.54 (g)	3 (mL)	0.09512
HS20010407-10	1	31.32 (g)	3 (mL)	0.09579

Batch ID: 149592 **Start Date:** 13 Jan 2020 11:00 **End Date:** 13 Jan 2020 15:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010407-01		10 (mL)	10 (mL)	1
HS20010407-02		10 (mL)	10 (mL)	1
HS20010407-03		10 (mL)	10 (mL)	1
HS20010407-04		10 (mL)	10 (mL)	1
HS20010407-05		10 (mL)	10 (mL)	1
HS20010407-06		10 (mL)	10 (mL)	1
HS20010407-07		10 (mL)	10 (mL)	1
HS20010407-08		10 (mL)	10 (mL)	1
HS20010407-09		10 (mL)	10 (mL)	1
HS20010407-10		10 (mL)	10 (mL)	1
HS20010407-11		10 (mL)	10 (mL)	1
HS20010407-12		10 (mL)	10 (mL)	1
HS20010407-13		10 (mL)	10 (mL)	1
HS20010407-14		10 (mL)	10 (mL)	1
HS20010407-15		10 (mL)	10 (mL)	1
HS20010407-16		10 (mL)	10 (mL)	1
HS20010407-17		10 (mL)	10 (mL)	1
HS20010407-18		10 (mL)	10 (mL)	1
HS20010407-20		10 (mL)	10 (mL)	1
HS20010407-21		10 (mL)	10 (mL)	1

Batch ID: 149618 **Start Date:** 14 Jan 2020 08:30 **End Date:** 14 Jan 2020 16:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010407-22		10 (mL)	10 (mL)	1
HS20010407-23		10 (mL)	10 (mL)	1
HS20010407-24		10 (mL)	10 (mL)	1
HS20010407-25		10 (mL)	10 (mL)	1
HS20010407-26		10 (mL)	10 (mL)	1

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

Batch ID: 149624 **Start Date:** 14 Jan 2020 07:00 **End Date:** 14 Jan 2020 12:00
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010407-01	1	1000 (mL)	1 (mL)	0.001
HS20010407-02	1	1000 (mL)	1 (mL)	0.001
HS20010407-03	1	1000 (mL)	1 (mL)	0.001
HS20010407-04	1	1000 (mL)	1 (mL)	0.001
HS20010407-05	1	1000 (mL)	1 (mL)	0.001
HS20010407-06	1	1000 (mL)	1 (mL)	0.001
HS20010407-07	1	1000 (mL)	1 (mL)	0.001
HS20010407-08	1	1000 (mL)	1 (mL)	0.001
HS20010407-09	1	1000 (mL)	1 (mL)	0.001
HS20010407-10	1	1000 (mL)	1 (mL)	0.001
HS20010407-11	1	1000 (mL)	1 (mL)	0.001
HS20010407-12	1	1000 (mL)	1 (mL)	0.001
HS20010407-13	1	1000 (mL)	1 (mL)	0.001
HS20010407-14	1	1000 (mL)	1 (mL)	0.001
HS20010407-15	1	1000 (mL)	1 (mL)	0.001
HS20010407-16	1	1000 (mL)	1 (mL)	0.001

Batch ID: 149670 **Start Date:** 15 Jan 2020 08:00 **End Date:** 15 Jan 2020 14:00
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010407-17		1000 (mL)	1 (mL)	0.001
HS20010407-18		1000 (mL)	1 (mL)	0.001
HS20010407-20		1000 (mL)	1 (mL)	0.001
HS20010407-21		1000 (mL)	1 (mL)	0.001
HS20010407-22		1000 (mL)	1 (mL)	0.001
HS20010407-23		1000 (mL)	1 (mL)	0.001
HS20010407-24		1000 (mL)	1 (mL)	0.001
HS20010407-25		1000 (mL)	1 (mL)	0.001
HS20010407-26		1000 (mL)	1 (mL)	0.001

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 149585 (0)	**Test Name :** LOW-LEVEL TEXAS TPH BY TX1005				**Matrix:** Water	
HS20010407-02	WG-1620-MW51A-20200109	09 Jan 2020 11:50		13 Jan 2020 10:30	13 Jan 2020 21:36	1
HS20010407-03	WG-1620-MW51C-20200109	09 Jan 2020 12:40		13 Jan 2020 10:30	13 Jan 2020 22:05	1
HS20010407-04	WG-1620-MW85C-20200109	09 Jan 2020 13:35		13 Jan 2020 10:30	13 Jan 2020 22:34	1
HS20010407-05	WG-1620-MW77A-20200109	09 Jan 2020 14:25		13 Jan 2020 10:30	13 Jan 2020 23:03	1
HS20010407-06	WG-1620-MW76C-20200109	09 Jan 2020 15:20		13 Jan 2020 10:30	13 Jan 2020 23:33	1
HS20010407-07	WG-1620-MW81B-20200109	09 Jan 2020 16:20		13 Jan 2020 10:30	14 Jan 2020 00:02	1
HS20010407-08	WG-1620-MW50A-20200109	09 Jan 2020 17:15		13 Jan 2020 10:30	14 Jan 2020 00:31	1
HS20010407-09	WG-1620-MW49A-20200107	07 Jan 2020 13:10		13 Jan 2020 10:30	14 Jan 2020 01:00	1
HS20010407-10	WG-1620-MW80B-20200107	07 Jan 2020 16:00		13 Jan 2020 10:30	14 Jan 2020 01:29	1
Batch ID: 149592 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS20010407-01	WG-1620-MW19C-20200109	09 Jan 2020 10:45		13 Jan 2020 15:00	13 Jan 2020 22:09	1
HS20010407-02	WG-1620-MW51A-20200109	09 Jan 2020 11:50		13 Jan 2020 15:00	13 Jan 2020 22:25	1
HS20010407-03	WG-1620-MW51C-20200109	09 Jan 2020 12:40		13 Jan 2020 15:00	13 Jan 2020 22:27	1
HS20010407-04	WG-1620-MW85C-20200109	09 Jan 2020 13:35		13 Jan 2020 15:00	13 Jan 2020 22:29	1
HS20010407-05	WG-1620-MW77A-20200109	09 Jan 2020 14:25		13 Jan 2020 15:00	13 Jan 2020 22:31	1
HS20010407-06	WG-1620-MW76C-20200109	09 Jan 2020 15:20		13 Jan 2020 15:00	13 Jan 2020 22:34	1
HS20010407-07	WG-1620-MW81B-20200109	09 Jan 2020 16:20		13 Jan 2020 15:00	13 Jan 2020 22:36	1
HS20010407-08	WG-1620-MW50A-20200109	09 Jan 2020 17:15		13 Jan 2020 15:00	13 Jan 2020 22:38	1
HS20010407-09	WG-1620-MW49A-20200107	07 Jan 2020 13:10		13 Jan 2020 15:00	13 Jan 2020 22:40	1
HS20010407-10	WG-1620-MW80B-20200107	07 Jan 2020 16:00		13 Jan 2020 15:00	13 Jan 2020 22:42	1
HS20010407-11	WG-1620-FB01-20200107	07 Jan 2020 16:30		13 Jan 2020 15:00	13 Jan 2020 22:45	1
HS20010407-12	WG-1620-FB02-20200108	08 Jan 2020 09:00		13 Jan 2020 15:00	13 Jan 2020 22:58	1
HS20010407-13	WG-1620-MW18C-20200108	08 Jan 2020 10:10		13 Jan 2020 15:00	13 Jan 2020 23:00	1
HS20010407-14	WG-1620-MW18A-20200108	08 Jan 2020 11:10		13 Jan 2020 15:00	13 Jan 2020 23:03	1
HS20010407-15	WG-1620-MW58A-20200108	08 Jan 2020 12:15		13 Jan 2020 15:00	13 Jan 2020 23:05	1
HS20010407-16	WG-1620-MW57A-20200108	08 Jan 2020 14:55		13 Jan 2020 15:00	13 Jan 2020 23:07	1
HS20010407-17	WG-1620-MW57B-20200108	08 Jan 2020 13:30		13 Jan 2020 15:00	13 Jan 2020 23:09	1
HS20010407-18	WG-1620-FB03-20200109	09 Jan 2020 07:30		13 Jan 2020 15:00	13 Jan 2020 23:11	1
HS20010407-20	WG-1620-MW72B-20200109	09 Jan 2020 08:35		13 Jan 2020 15:00	13 Jan 2020 23:14	1
HS20010407-21	WG-1620-MW23C-20200109	09 Jan 2020 09:40		13 Jan 2020 15:00	13 Jan 2020 23:16	1
Batch ID: 149618 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS20010407-22	WG-1620-MW53C-20200109	09 Jan 2020 11:15		14 Jan 2020 16:00	14 Jan 2020 21:37	1
HS20010407-23	WG-1620-MW54C-20200109	09 Jan 2020 12:35		14 Jan 2020 16:00	14 Jan 2020 21:52	1
HS20010407-24	WG-1620-MW44A-20200109	09 Jan 2020 13:30		14 Jan 2020 16:00	14 Jan 2020 21:55	1
HS20010407-25	WG-1620-MW36B-20200109	09 Jan 2020 14:40		14 Jan 2020 16:00	14 Jan 2020 21:57	1
HS20010407-26	WG-1620-MW36A-20200109	09 Jan 2020 16:00		14 Jan 2020 16:00	14 Jan 2020 21:59	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 149624 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS20010407-01	WG-1620-MW19C-20200109	09 Jan 2020 10:45		14 Jan 2020 11:05	15 Jan 2020 08:50	1
HS20010407-02	WG-1620-MW51A-20200109	09 Jan 2020 11:50		14 Jan 2020 11:05	15 Jan 2020 09:09	1
HS20010407-03	WG-1620-MW51C-20200109	09 Jan 2020 12:40		14 Jan 2020 11:05	15 Jan 2020 09:28	1
HS20010407-04	WG-1620-MW85C-20200109	09 Jan 2020 13:35		14 Jan 2020 11:05	15 Jan 2020 09:46	1
HS20010407-05	WG-1620-MW77A-20200109	09 Jan 2020 14:25		14 Jan 2020 11:05	15 Jan 2020 17:57	1000
HS20010407-05	WG-1620-MW77A-20200109	09 Jan 2020 14:25		14 Jan 2020 11:05	15 Jan 2020 16:04	100
HS20010407-05	WG-1620-MW77A-20200109	09 Jan 2020 14:25		14 Jan 2020 11:05	15 Jan 2020 14:11	20
HS20010407-05	WG-1620-MW77A-20200109	09 Jan 2020 14:25		14 Jan 2020 11:05	15 Jan 2020 10:05	1
HS20010407-06	WG-1620-MW76C-20200109	09 Jan 2020 15:20		14 Jan 2020 11:05	15 Jan 2020 10:24	1
HS20010407-07	WG-1620-MW81B-20200109	09 Jan 2020 16:20		14 Jan 2020 11:05	15 Jan 2020 10:43	1
HS20010407-08	WG-1620-MW50A-20200109	09 Jan 2020 17:15		14 Jan 2020 11:05	15 Jan 2020 11:02	1
HS20010407-09	WG-1620-MW49A-20200107	07 Jan 2020 13:10		14 Jan 2020 11:05	15 Jan 2020 16:23	100
HS20010407-09	WG-1620-MW49A-20200107	07 Jan 2020 13:10		14 Jan 2020 11:05	15 Jan 2020 18:16	1000
HS20010407-09	WG-1620-MW49A-20200107	07 Jan 2020 13:10		14 Jan 2020 11:05	15 Jan 2020 14:30	10
HS20010407-09	WG-1620-MW49A-20200107	07 Jan 2020 13:10		14 Jan 2020 11:05	15 Jan 2020 11:21	1
HS20010407-10	WG-1620-MW80B-20200107	07 Jan 2020 16:00		14 Jan 2020 11:05	15 Jan 2020 11:40	1
HS20010407-11	WG-1620-FB01-20200107	07 Jan 2020 16:30		14 Jan 2020 11:05	15 Jan 2020 11:59	1
HS20010407-12	WG-1620-FB02-20200108	08 Jan 2020 09:00		14 Jan 2020 11:05	15 Jan 2020 12:17	1
HS20010407-13	WG-1620-MW18C-20200108	08 Jan 2020 10:10		14 Jan 2020 11:05	15 Jan 2020 16:41	100
HS20010407-13	WG-1620-MW18C-20200108	08 Jan 2020 10:10		14 Jan 2020 11:05	15 Jan 2020 18:35	2000
HS20010407-13	WG-1620-MW18C-20200108	08 Jan 2020 10:10		14 Jan 2020 11:05	15 Jan 2020 14:48	10
HS20010407-13	WG-1620-MW18C-20200108	08 Jan 2020 10:10		14 Jan 2020 11:05	15 Jan 2020 12:36	1
HS20010407-14	WG-1620-MW18A-20200108	08 Jan 2020 11:10		14 Jan 2020 11:05	15 Jan 2020 17:00	500
HS20010407-14	WG-1620-MW18A-20200108	08 Jan 2020 11:10		14 Jan 2020 11:05	15 Jan 2020 15:07	50
HS20010407-14	WG-1620-MW18A-20200108	08 Jan 2020 11:10		14 Jan 2020 11:05	15 Jan 2020 12:55	1
HS20010407-15	WG-1620-MW58A-20200108	08 Jan 2020 12:15		14 Jan 2020 11:05	15 Jan 2020 17:19	200
HS20010407-15	WG-1620-MW58A-20200108	08 Jan 2020 12:15		14 Jan 2020 11:05	15 Jan 2020 15:26	20
HS20010407-15	WG-1620-MW58A-20200108	08 Jan 2020 12:15		14 Jan 2020 11:05	15 Jan 2020 13:14	1
HS20010407-16	WG-1620-MW57A-20200108	08 Jan 2020 14:55		14 Jan 2020 11:05	15 Jan 2020 17:38	200
HS20010407-16	WG-1620-MW57A-20200108	08 Jan 2020 14:55		14 Jan 2020 11:05	15 Jan 2020 15:45	20
HS20010407-16	WG-1620-MW57A-20200108	08 Jan 2020 14:55		14 Jan 2020 11:05	15 Jan 2020 13:33	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 149670 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS20010407-17	WG-1620-MW57B-20200108	08 Jan 2020 13:30		15 Jan 2020 10:11	17 Jan 2020 16:07	10000
HS20010407-17	WG-1620-MW57B-20200108	08 Jan 2020 13:30		15 Jan 2020 10:11	17 Jan 2020 12:49	1000
HS20010407-17	WG-1620-MW57B-20200108	08 Jan 2020 13:30		15 Jan 2020 10:11	17 Jan 2020 12:29	100
HS20010407-17	WG-1620-MW57B-20200108	08 Jan 2020 13:30		15 Jan 2020 10:11	17 Jan 2020 04:40	10
HS20010407-18	WG-1620-FB03-20200109	09 Jan 2020 07:30		15 Jan 2020 10:11	17 Jan 2020 04:59	1
HS20010407-20	WG-1620-MW72B-20200109	09 Jan 2020 08:35		15 Jan 2020 10:11	17 Jan 2020 16:26	10000
HS20010407-20	WG-1620-MW72B-20200109	09 Jan 2020 08:35		15 Jan 2020 10:11	17 Jan 2020 13:48	1000
HS20010407-20	WG-1620-MW72B-20200109	09 Jan 2020 08:35		15 Jan 2020 10:11	17 Jan 2020 13:28	100
HS20010407-20	WG-1620-MW72B-20200109	09 Jan 2020 08:35		15 Jan 2020 10:11	17 Jan 2020 13:08	10
HS20010407-21	WG-1620-MW23C-20200109	09 Jan 2020 09:40		15 Jan 2020 10:11	17 Jan 2020 16:46	100
HS20010407-21	WG-1620-MW23C-20200109	09 Jan 2020 09:40		15 Jan 2020 10:11	17 Jan 2020 14:08	10
HS20010407-22	WG-1620-MW53C-20200109	09 Jan 2020 11:15		15 Jan 2020 10:11	17 Jan 2020 14:27	1
HS20010407-23	WG-1620-MW54C-20200109	09 Jan 2020 12:35		15 Jan 2020 10:11	17 Jan 2020 17:06	5
HS20010407-23	WG-1620-MW54C-20200109	09 Jan 2020 12:35		15 Jan 2020 10:11	17 Jan 2020 14:47	1
HS20010407-24	WG-1620-MW44A-20200109	09 Jan 2020 13:30		15 Jan 2020 10:11	17 Jan 2020 17:26	10
HS20010407-24	WG-1620-MW44A-20200109	09 Jan 2020 13:30		15 Jan 2020 10:11	17 Jan 2020 15:07	1
HS20010407-25	WG-1620-MW36B-20200109	09 Jan 2020 14:40		15 Jan 2020 10:11	17 Jan 2020 15:27	1
HS20010407-26	WG-1620-MW36A-20200109	09 Jan 2020 16:00		15 Jan 2020 10:11	17 Jan 2020 15:47	1
Batch ID: R354349 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010407-02	WG-1620-MW51A-20200109	09 Jan 2020 11:50			14 Jan 2020 01:27	1
HS20010407-03	WG-1620-MW51C-20200109	09 Jan 2020 12:40			14 Jan 2020 03:29	1
HS20010407-07	WG-1620-MW81B-20200109	09 Jan 2020 16:20			14 Jan 2020 03:54	1
HS20010407-08	WG-1620-MW50A-20200109	09 Jan 2020 17:15			14 Jan 2020 04:18	1
HS20010407-10	WG-1620-MW80B-20200107	07 Jan 2020 16:00			14 Jan 2020 04:42	1
HS20010407-22	WG-1620-MW53C-20200109	09 Jan 2020 11:15			14 Jan 2020 05:56	1
HS20010407-23	WG-1620-MW54C-20200109	09 Jan 2020 12:35			14 Jan 2020 06:20	1
Batch ID: R354396 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010407-01	WG-1620-MW19C-20200109	09 Jan 2020 10:45			14 Jan 2020 23:06	1
HS20010407-04	WG-1620-MW85C-20200109	09 Jan 2020 13:35			14 Jan 2020 23:31	1
HS20010407-06	WG-1620-MW76C-20200109	09 Jan 2020 15:20			14 Jan 2020 23:55	1
HS20010407-13	WG-1620-MW18C-20200108	08 Jan 2020 10:10			14 Jan 2020 17:22	10
HS20010407-14	WG-1620-MW18A-20200108	08 Jan 2020 11:10			14 Jan 2020 17:49	25
HS20010407-18	WG-1620-FB03-20200109	09 Jan 2020 07:30			14 Jan 2020 20:40	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R354399 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010407-11	WG-1620-FB01-20200107	07 Jan 2020 16:30			14 Jan 2020 17:30	1
HS20010407-12	WG-1620-FB02-20200108	08 Jan 2020 09:00			14 Jan 2020 17:55	1
HS20010407-25	WG-1620-MW36B-20200109	09 Jan 2020 14:40			14 Jan 2020 18:20	1
HS20010407-26	WG-1620-MW36A-20200109	09 Jan 2020 16:00			14 Jan 2020 18:44	1
Batch ID: R354465 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010407-05	WG-1620-MW77A-20200109	09 Jan 2020 14:25			15 Jan 2020 12:58	1
HS20010407-09	WG-1620-MW49A-20200107	07 Jan 2020 13:10			15 Jan 2020 14:41	10
HS20010407-15	WG-1620-MW58A-20200108	08 Jan 2020 12:15			15 Jan 2020 13:22	1
HS20010407-16	WG-1620-MW57A-20200108	08 Jan 2020 14:55			15 Jan 2020 13:47	1
HS20010407-17	WG-1620-MW57B-20200108	08 Jan 2020 13:30			15 Jan 2020 15:07	10
HS20010407-20	WG-1620-MW72B-20200109	09 Jan 2020 08:35			15 Jan 2020 15:34	10
HS20010407-21	WG-1620-MW23C-20200109	09 Jan 2020 09:40			15 Jan 2020 14:14	5
HS20010407-24	WG-1620-MW44A-20200109	09 Jan 2020 13:30			15 Jan 2020 12:33	1
HS20010407-27	WG-1620-TB01-20200109	09 Jan 2020 00:00			15 Jan 2020 12:09	1

WorkOrder: HS20010407
InstrumentID: FID-11
Test Code: TX1005_W_Low
Test Number: TX1005
Test Name: Low-level Texas TPH by TX1005

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	nC6 to nC12	TPH-1005-1	0.25	0.25	0.20	0.50
A	>nC12 to nC28	TPH-1005-2	0.25	0.29	0.20	0.50
A	>nC28 to nC35	TPH-1005-4	0.25	0.25	0.20	0.50
A	Total Petroleum Hydrocarbon	TPH	0.25	0.25	0.20	0.50
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	Trifluoromethyl benzene	98-08-8	0	0	0	0

WorkOrder: HS20010407
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000499	0.000400	0.00200

WorkOrder: HS20010407
InstrumentID: ICPMS04
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000456	0.000400	0.00200

WorkOrder: HS20010407
InstrumentID: SV-6
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.000098	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000051	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000094	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000083	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.000093	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000060	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000031	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000037	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000059	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000050	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000047	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000059	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000050	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000081	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00012	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000060	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000050	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.00011	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000049	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000053	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000049	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00012	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00011	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.0000094	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000049	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000096	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000047	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS20010407
InstrumentID: SV-7
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.00013	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000081	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.00010	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.00010	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.00012	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000052	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000060	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000069	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000050	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000046	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000046	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000057	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000047	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.00012	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00014	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000049	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000050	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.00012	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000053	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000050	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000048	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00014	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00012	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000057	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000047	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.00012	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000051	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS20010407
InstrumentID: VOA2
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00062	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00059	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00071	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00063	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00075	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00069	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00044	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00059	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

WorkOrder: HS20010407
InstrumentID: VOA4
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00061	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00057	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00058	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00048	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00070	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00050	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00045	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00070	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: 149585 (0) **Instrument: FID-11** **Method: LOW-LEVEL TEXAS TPH BY TX1005**

MBLK Sample ID: **MBLK-149585** Units: **mg/L** Analysis Date: **13-Jan-2020 18:11**
Client ID: Run ID: **FID-11_354328** SeqNo: **5433689** PrepDate: **13-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	U	0.50								
>nC12 to nC28	U	0.50								
>nC28 to nC35	U	0.50								
Total Petroleum Hydrocarbon	U	0.50								
Surr: 2-Fluorobiphenyl	*2.667*	*0*	*2.5*	*0*	*107*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.689*	*0*	*2.5*	*0*	*108*	*70 - 130*				

LCS Sample ID: **LCS-149585** Units: **mg/L** Analysis Date: **13-Jan-2020 18:40**
Client ID: Run ID: **FID-11_354328** SeqNo: **5433690** PrepDate: **13-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	25.62	0.50	25	0	102	75 - 125				
>nC12 to nC28	23.57	0.50	25	0	94.3	75 - 125				
Surr: 2-Fluorobiphenyl	*2.945*	*0*	*2.5*	*0*	*118*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.74*	*0*	*2.5*	*0*	*110*	*70 - 130*				

LCSD Sample ID: **LCSD-149585** Units: **mg/L** Analysis Date: **13-Jan-2020 19:09**
Client ID: Run ID: **FID-11_354328** SeqNo: **5433691** PrepDate: **13-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	27.82	0.50	25	0	111	75 - 125	25.62	8.24	20	
>nC12 to nC28	22.91	0.50	25	0	91.6	75 - 125	23.57	2.87	20	
Surr: 2-Fluorobiphenyl	*3.003*	*0*	*2.5*	*0*	*120*	*70 - 130*	*2.945*	*1.96*	*20*	
Surr: Trifluoromethyl benzene	*2.941*	*0*	*2.5*	*0*	*118*	*70 - 130*	*2.74*	*7.09*	*20*	

MS Sample ID: **HS20010449-05MS** Units: **mg/L** Analysis Date: **13-Jan-2020 20:08**
Client ID: Run ID: **FID-11_354328** SeqNo: **5433693** PrepDate: **13-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	25.84	0.48	23.79	0	109	75 - 125				
>nC12 to nC28	21.53	0.48	23.79	0	90.5	75 - 125				
Surr: 2-Fluorobiphenyl	*2.988*	*0*	*2.379*	*0*	*126*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.864*	*0*	*2.379*	*0*	*120*	*70 - 130*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: 149585 (0) **Instrument: FID-11** **Method: LOW-LEVEL TEXAS TPH BY TX1005**

MSD Sample ID: **HS20010449-05MSD** Units: **mg/L** Analysis Date: **13-Jan-2020 20:37**
Client ID: Run ID: **FID-11_354328** SeqNo: **5433694** PrepDate: **13-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	26.05	0.48	24.06	0	108	75 - 125	25.84	0.8	20	
>nC12 to nC28	22.27	0.48	24.06	0	92.6	75 - 125	21.53	3.38	20	
Surr: 2-Fluorobiphenyl	*3.117*	*0*	*2.406*	*0*	*130*	*70 - 130*	*2.988*	*4.23*	*20*	
Surr: Trifluoromethyl benzene	*3.06*	*0*	*2.406*	*0*	*127*	*70 - 130*	*2.864*	*6.62*	*20*	

The following samples were analyzed in this batch: HS20010407-02, HS20010407-03, HS20010407-04, HS20010407-05, HS20010407-06, HS20010407-07, HS20010407-08, HS20010407-09, HS20010407-10

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: 149592 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-149592** Units: **mg/L** Analysis Date: **13-Jan-2020 22:05**
Client ID: Run ID: **ICPMS05_354278** SeqNo: **5433457** PrepDate: **13-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-149592** Units: **mg/L** Analysis Date: **13-Jan-2020 22:07**
Client ID: Run ID: **ICPMS05_354278** SeqNo: **5433458** PrepDate: **13-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04766	0.00200	0.05	0	95.3	80 - 120				

MS Sample ID: **HS20010407-01MS** Units: **mg/L** Analysis Date: **13-Jan-2020 22:14**
Client ID: **WG-1620-MW19C-20200109** Run ID: **ICPMS05_354278** SeqNo: **5433463** PrepDate: **13-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05662	0.00200	0.05	0.001405	110	80 - 120				

MSD Sample ID: **HS20010407-01MSD** Units: **mg/L** Analysis Date: **13-Jan-2020 22:16**
Client ID: **WG-1620-MW19C-20200109** Run ID: **ICPMS05_354278** SeqNo: **5433464** PrepDate: **13-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0493	0.00200	0.05	0.001405	95.8	80 - 120	0.05662	13.8	20	

PDS Sample ID: **HS20010407-01PDS** Units: **mg/L** Analysis Date: **13-Jan-2020 22:18**
Client ID: **WG-1620-MW19C-20200109** Run ID: **ICPMS05_354278** SeqNo: **5433465** PrepDate: **13-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1219	0.00200	0.1	0.001405	121	75 - 125				

SD Sample ID: **HS20010407-01SD** Units: **mg/L** Analysis Date: **13-Jan-2020 22:11**
Client ID: **WG-1620-MW19C-20200109** Run ID: **ICPMS05_354278** SeqNo: **5433460** PrepDate: **13-Jan-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.001405	0	10	

The following samples were analyzed in this batch:

HS20010407-01	HS20010407-02	HS20010407-03	HS20010407-04
HS20010407-05	HS20010407-06	HS20010407-07	HS20010407-08
HS20010407-09	HS20010407-10	HS20010407-11	HS20010407-12
HS20010407-13	HS20010407-14	HS20010407-15	HS20010407-16
HS20010407-17	HS20010407-18	HS20010407-20	HS20010407-21

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: 149618 (0) **Instrument: ICPMS04** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-149618** Units: **mg/L** Analysis Date: **14-Jan-2020 21:28**
Client ID: Run ID: **ICPMS04_354392** SeqNo: **5434990** PrepDate: **14-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-149618** Units: **mg/L** Analysis Date: **14-Jan-2020 21:30**
Client ID: Run ID: **ICPMS04_354392** SeqNo: **5434991** PrepDate: **14-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05218	0.00200	0.05	0	104	80 - 120				

MS Sample ID: **HS20010407-22MS** Units: **mg/L** Analysis Date: **14-Jan-2020 21:41**
Client ID: **WG-1620-MW53C-20200109** Run ID: **ICPMS04_354392** SeqNo: **5434996** PrepDate: **14-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05347	0.00200	0.05	0.000728	105	80 - 120				

MSD Sample ID: **HS20010407-22MSD** Units: **mg/L** Analysis Date: **14-Jan-2020 21:44**
Client ID: **WG-1620-MW53C-20200109** Run ID: **ICPMS04_354392** SeqNo: **5434997** PrepDate: **14-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05102	0.00200	0.05	0.000728	101	80 - 120	0.05347	4.68	20	

PDS Sample ID: **HS20010407-22PDS** Units: **mg/L** Analysis Date: **14-Jan-2020 21:46**
Client ID: **WG-1620-MW53C-20200109** Run ID: **ICPMS04_354392** SeqNo: **5434998** PrepDate: **14-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1134	0.00200	0.1	0.000728	113	75 - 125				

SD Sample ID: **HS20010407-22SD** Units: **mg/L** Analysis Date: **14-Jan-2020 21:39**
Client ID: **WG-1620-MW53C-20200109** Run ID: **ICPMS04_354392** SeqNo: **5434995** PrepDate: **14-Jan-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.000728	0	10	

The following samples were analyzed in this batch: HS20010407-22 HS20010407-23 HS20010407-24 HS20010407-25 HS20010407-26

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: 149624 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-149624** Units: **ug/L** Analysis Date: **14-Jan-2020 11:54**
Client ID: Run ID: **SV-6_354345** SeqNo: **5435594** PrepDate: **14-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*3.342*	*0.20*	*5*	*0*	*66.8*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.576*	*0.20*	*5*	*0*	*91.5*	*40 - 125*				
Surr: 2-Fluorophenol	*3.643*	*0.20*	*5*	*0*	*72.9*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.605*	*0.20*	*5*	*0*	*92.1*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.631*	*0.20*	*5*	*0*	*72.6*	*41 - 120*				
Surr: Phenol-d6	*3.457*	*0.20*	*5*	*0*	*69.1*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: 149624 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-149624** Units: **ug/L** Analysis Date: **14-Jan-2020 12:13**
Client ID: Run ID: **SV-6_354345** SeqNo: **5435595** PrepDate: **14-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.509	0.20	5	0	90.2	39 - 127				
2,4-Dimethylphenol	4.222	0.20	5	0	84.4	35 - 120				
2,4-Dinitrotoluene	5.427	0.20	5	0	109	50 - 122				
2,6-Dinitrotoluene	5.379	0.20	5	0	108	50 - 120				
2-Chloronaphthalene	4.621	0.20	5	0	92.4	50 - 120				
2-Methylnaphthalene	4.461	0.10	5	0	89.2	50 - 120				
4,6-Dinitro-2-methylphenol	5.218	0.20	5	0	104	25 - 121				
4-Nitrophenol	4.957	1.0	5	0	99.1	30 - 130				
Acenaphthene	4.67	0.10	5	0	93.4	45 - 120				
Acenaphthylene	4.934	0.10	5	0	98.7	47 - 120				
Anthracene	5.352	0.10	5	0	107	45 - 120				
Benz(a)anthracene	4.963	0.10	5	0	99.3	40 - 120				
Benzo(a)pyrene	4.889	0.10	5	0	97.8	45 - 120				
Bis(2-chloroethoxy)methane	4.092	0.20	5	0	81.8	45 - 120				
Bis(2-ethylhexyl)phthalate	5.661	0.20	5	0	113	40 - 139				
Chrysene	5.074	0.10	5	0	101	43 - 120				
Dibenzofuran	4.846	0.10	5	0	96.9	50 - 120				
Di-n-butyl phthalate	5.647	0.20	5	0	113	45 - 123				
Fluoranthene	4.974	0.10	5	0	99.5	45 - 125				
Fluorene	5.112	0.10	5	0	102	49 - 120				
Naphthalene	4.743	0.10	5	0	94.9	45 - 120				
Nitrobenzene	4	0.20	5	0	80.0	44 - 120				
N-Nitrosodiphenylamine	5.745	0.20	5	0	115	40 - 125				
Pentachlorophenol	3.506	0.20	5	0	70.1	19 - 121				
Phenanthrene	4.852	0.10	5	0	97.0	45 - 121				
Phenol	3.759	0.20	5	0	75.2	20 - 124				
Pyrene	5.037	0.10	5	0	101	40 - 130				
Surr: 2,4,6-Tribromophenol	*4.25*	*0.20*	*5*	*0*	*85.0*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.482*	*0.20*	*5*	*0*	*89.6*	*40 - 125*				
Surr: 2-Fluorophenol	*3.707*	*0.20*	*5*	*0*	*74.1*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.481*	*0.20*	*5*	*0*	*89.6*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.639*	*0.20*	*5*	*0*	*72.8*	*41 - 120*				
Surr: Phenol-d6	*3.704*	*0.20*	*5*	*0*	*74.1*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: 149624 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-149624** Units: **ug/L** Analysis Date: **14-Jan-2020 12:31**
Client ID: Run ID: **SV-6_354345** SeqNo: **5435596** PrepDate: **14-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.829	0.20	5	0	96.6	39 - 127	4.509	6.83	20	
2,4-Dimethylphenol	4.34	0.20	5	0	86.8	35 - 120	4.222	2.76	20	
2,4-Dinitrotoluene	5.633	0.20	5	0	113	50 - 122	5.427	3.73	20	
2,6-Dinitrotoluene	5.545	0.20	5	0	111	50 - 120	5.379	3.02	20	
2-Chloronaphthalene	5.172	0.20	5	0	103	50 - 120	4.621	11.2	20	
2-Methylnaphthalene	4.729	0.10	5	0	94.6	50 - 120	4.461	5.83	20	
4,6-Dinitro-2-methylphenol	5.955	0.20	5	0	119	25 - 121	5.218	13.2	30	
4-Nitrophenol	5.539	1.0	5	0	111	30 - 130	4.957	11.1	20	
Acenaphthene	4.912	0.10	5	0	98.2	45 - 120	4.67	5.04	20	
Acenaphthylene	5.119	0.10	5	0	102	47 - 120	4.934	3.68	20	
Anthracene	5.346	0.10	5	0	107	45 - 120	5.352	0.112	20	
Benz(a)anthracene	5.559	0.10	5	0	111	40 - 120	4.963	11.3	20	
Benzo(a)pyrene	5.228	0.10	5	0	105	45 - 120	4.889	6.72	20	
Bis(2-chloroethoxy)methane	4.243	0.20	5	0	84.9	45 - 120	4.092	3.63	20	
Bis(2-ethylhexyl)phthalate	6.111	0.20	5	0	122	40 - 139	5.661	7.65	20	
Chrysene	5.131	0.10	5	0	103	43 - 120	5.074	1.12	20	
Dibenzofuran	5.09	0.10	5	0	102	50 - 120	4.846	4.91	20	
Di-n-butyl phthalate	6.115	0.20	5	0	122	45 - 123	5.647	7.97	20	
Fluoranthene	5.298	0.10	5	0	106	45 - 125	4.974	6.3	20	
Fluorene	5.396	0.10	5	0	108	49 - 120	5.112	5.4	20	
Naphthalene	4.921	0.10	5	0	98.4	45 - 120	4.743	3.68	20	
Nitrobenzene	4.07	0.20	5	0	81.4	44 - 120	4	1.75	20	
N-Nitrosodiphenylamine	5.768	0.20	5	0	115	40 - 125	5.745	0.406	20	
Pentachlorophenol	3.936	0.20	5	0	78.7	19 - 121	3.506	11.6	20	
Phenanthrene	5.216	0.10	5	0	104	45 - 121	4.852	7.23	20	
Phenol	4.067	0.20	5	0	81.3	20 - 124	3.759	7.87	20	
Pyrene	5.47	0.10	5	0	109	40 - 130	5.037	8.23	20	
Surr: 2,4,6-Tribromophenol	*4.446*	*0.20*	*5*	*0*	*88.9*	*34 - 129*	*4.25*	*4.5*	*20*	
Surr: 2-Fluorobiphenyl	*4.64*	*0.20*	*5*	*0*	*92.8*	*40 - 125*	*4.482*	*3.46*	*20*	
Surr: 2-Fluorophenol	*4.254*	*0.20*	*5*	*0*	*85.1*	*20 - 120*	*3.707*	*13.8*	*20*	
Surr: 4-Terphenyl-d14	*4.914*	*0.20*	*5*	*0*	*98.3*	*40 - 135*	*4.481*	*9.21*	*20*	
Surr: Nitrobenzene-d5	*3.552*	*0.20*	*5*	*0*	*71.0*	*41 - 120*	*3.639*	*2.42*	*20*	
Surr: Phenol-d6	*3.871*	*0.20*	*5*	*0*	*77.4*	*20 - 120*	*3.704*	*4.4*	*20*	

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	HS20010407

QC BATCH REPORT

Batch ID: 149624 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

The following samples were analyzed in this batch:

HS20010407-01	HS20010407-02	HS20010407-03	HS20010407-04
HS20010407-05	HS20010407-06	HS20010407-07	HS20010407-08
HS20010407-09	HS20010407-10	HS20010407-11	HS20010407-12
HS20010407-13	HS20010407-14	HS20010407-15	HS20010407-16

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: 149670 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-149670** Units: **ug/L** Analysis Date: **15-Jan-2020 10:42**
Client ID: Run ID: **SV-7_354430** SeqNo: **5436172** PrepDate: **15-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*5.283*	*0.20*	*5*	*0*	*106*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.701*	*0.20*	*5*	*0*	*94.0*	*40 - 125*				
Surr: 2-Fluorophenol	*3.816*	*0.20*	*5*	*0*	*76.3*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.833*	*0.20*	*5*	*0*	*96.7*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.164*	*0.20*	*5*	*0*	*63.3*	*41 - 120*				
Surr: Phenol-d6	*3.547*	*0.20*	*5*	*0*	*70.9*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: 149670 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-149670** Units: **ug/L** Analysis Date: **15-Jan-2020 11:21**
Client ID: Run ID: **SV-7_354430** SeqNo: **5436173** PrepDate: **15-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.467	0.20	5	0	69.3	39 - 127				
2,4-Dimethylphenol	3.994	0.20	5	0	79.9	35 - 120				
2,4-Dinitrotoluene	4.458	0.20	5	0	89.2	50 - 122				
2,6-Dinitrotoluene	4.495	0.20	5	0	89.9	50 - 120				
2-Chloronaphthalene	4.578	0.20	5	0	91.6	50 - 120				
2-Methylnaphthalene	4.353	0.10	5	0	87.1	50 - 120				
4,6-Dinitro-2-methylphenol	4.277	0.20	5	0	85.5	25 - 121				
4-Nitrophenol	4.553	1.0	5	0	91.1	30 - 130				
Acenaphthene	4.129	0.10	5	0	82.6	45 - 120				
Acenaphthylene	4.347	0.10	5	0	86.9	47 - 120				
Anthracene	4.583	0.10	5	0	91.7	45 - 120				
Benz(a)anthracene	4.026	0.10	5	0	80.5	40 - 120				
Benzo(a)pyrene	4.379	0.10	5	0	87.6	45 - 120				
Bis(2-chloroethoxy)methane	3.263	0.20	5	0	65.3	45 - 120				
Bis(2-ethylhexyl)phthalate	4.686	0.20	5	0	93.7	40 - 139				
Chrysene	4.461	0.10	5	0	89.2	43 - 120				
Dibenzofuran	4.41	0.10	5	0	88.2	50 - 120				
Di-n-butyl phthalate	4.842	0.20	5	0	96.8	45 - 123				
Fluoranthene	4.447	0.10	5	0	88.9	45 - 125				
Fluorene	4.442	0.10	5	0	88.8	49 - 120				
Naphthalene	4.37	0.10	5	0	87.4	45 - 120				
Nitrobenzene	2.972	0.20	5	0	59.4	44 - 120				
N-Nitrosodiphenylamine	4.559	0.20	5	0	91.2	40 - 125				
Pentachlorophenol	2.864	0.20	5	0	57.3	19 - 121				
Phenanthrene	4.457	0.10	5	0	89.1	45 - 121				
Phenol	3.476	0.20	5	0	69.5	20 - 124				
Pyrene	4.412	0.10	5	0	88.2	40 - 130				
Surr: 2,4,6-Tribromophenol	*5.275*	*0.20*	*5*	*0*	*105*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.513*	*0.20*	*5*	*0*	*90.3*	*40 - 125*				
Surr: 2-Fluorophenol	*3.534*	*0.20*	*5*	*0*	*70.7*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.504*	*0.20*	*5*	*0*	*90.1*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.162*	*0.20*	*5*	*0*	*63.2*	*41 - 120*				
Surr: Phenol-d6	*3.471*	*0.20*	*5*	*0*	*69.4*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: 149670 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-149670** Units: **ug/L** Analysis Date: **15-Jan-2020 11:40**
Client ID: Run ID: **SV-7_354430** SeqNo: **5436174** PrepDate: **15-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.453	0.20	5	0	69.1	39 - 127	3.467	0.41	20	
2,4-Dimethylphenol	3.884	0.20	5	0	77.7	35 - 120	3.994	2.81	20	
2,4-Dinitrotoluene	4.441	0.20	5	0	88.8	50 - 122	4.458	0.366	20	
2,6-Dinitrotoluene	4.362	0.20	5	0	87.2	50 - 120	4.495	3.01	20	
2-Chloronaphthalene	4.546	0.20	5	0	90.9	50 - 120	4.578	0.706	20	
2-Methylnaphthalene	4.339	0.10	5	0	86.8	50 - 120	4.353	0.309	20	
4,6-Dinitro-2-methylphenol	4.522	0.20	5	0	90.4	25 - 121	4.277	5.58	30	
4-Nitrophenol	4.659	1.0	5	0	93.2	30 - 130	4.553	2.31	20	
Acenaphthene	4.083	0.10	5	0	81.7	45 - 120	4.129	1.1	20	
Acenaphthylene	4.304	0.10	5	0	86.1	47 - 120	4.347	1	20	
Anthracene	4.551	0.10	5	0	91.0	45 - 120	4.583	0.688	20	
Benz(a)anthracene	4.096	0.10	5	0	81.9	40 - 120	4.026	1.71	20	
Benzo(a)pyrene	4.392	0.10	5	0	87.8	45 - 120	4.379	0.304	20	
Bis(2-chloroethoxy)methane	3.282	0.20	5	0	65.6	45 - 120	3.263	0.583	20	
Bis(2-ethylhexyl)phthalate	4.83	0.20	5	0	96.6	40 - 139	4.686	3.03	20	
Chrysene	4.427	0.10	5	0	88.5	43 - 120	4.461	0.775	20	
Dibenzofuran	4.305	0.10	5	0	86.1	50 - 120	4.41	2.43	20	
Di-n-butyl phthalate	4.945	0.20	5	0	98.9	45 - 123	4.842	2.11	20	
Fluoranthene	4.517	0.10	5	0	90.3	45 - 125	4.447	1.55	20	
Fluorene	4.431	0.10	5	0	88.6	49 - 120	4.442	0.249	20	
Naphthalene	4.337	0.10	5	0	86.7	45 - 120	4.37	0.757	20	
Nitrobenzene	2.885	0.20	5	0	57.7	44 - 120	2.972	2.99	20	
N-Nitrosodiphenylamine	4.481	0.20	5	0	89.6	40 - 125	4.559	1.74	20	
Pentachlorophenol	2.789	0.20	5	0	55.8	19 - 121	2.864	2.66	20	
Phenanthrene	4.556	0.10	5	0	91.1	45 - 121	4.457	2.19	20	
Phenol	3.665	0.20	5	0	73.3	20 - 124	3.476	5.3	20	
Pyrene	4.528	0.10	5	0	90.6	40 - 130	4.412	2.6	20	
Surr: 2,4,6-Tribromophenol	*5.124*	*0.20*	*5*	*0*	*102*	*34 - 129*	*5.275*	*2.9*	*20*	
Surr: 2-Fluorobiphenyl	*4.48*	*0.20*	*5*	*0*	*89.6*	*40 - 125*	*4.513*	*0.72*	*20*	
Surr: 2-Fluorophenol	*3.744*	*0.20*	*5*	*0*	*74.9*	*20 - 120*	*3.534*	*5.78*	*20*	
Surr: 4-Terphenyl-d14	*4.601*	*0.20*	*5*	*0*	*92.0*	*40 - 135*	*4.504*	*2.14*	*20*	
Surr: Nitrobenzene-d5	*3.042*	*0.20*	*5*	*0*	*60.8*	*41 - 120*	*3.162*	*3.86*	*20*	
Surr: Phenol-d6	*3.574*	*0.20*	*5*	*0*	*71.5*	*20 - 120*	*3.471*	*2.92*	*20*	

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	HS20010407

QC BATCH REPORT

Batch ID: 149670 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

The following samples were analyzed in this batch:

HS20010407-17	HS20010407-18	HS20010407-20	HS20010407-21
HS20010407-22	HS20010407-23	HS20010407-24	HS20010407-25
HS20010407-26			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: R354349 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200113** Units: **ug/L** Analysis Date: **13-Jan-2020 23:49**
Client ID: Run ID: **VOA2_354349** SeqNo: **5434111** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*48.84*	*1.0*	*50*	*0*	*97.7*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.45*	*1.0*	*50*	*0*	*94.9*	*82 - 115*				
Surr: Dibromofluoromethane	*50.51*	*1.0*	*50*	*0*	*101*	*73 - 126*				
Surr: Toluene-d8	*50.14*	*1.0*	*50*	*0*	*100*	*81 - 120*				

LCS Sample ID: **VLCSW-200113** Units: **ug/L** Analysis Date: **13-Jan-2020 23:00**
Client ID: Run ID: **VOA2_354349** SeqNo: **5434110** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.96	1.0	20	0	94.8	70 - 124				
Benzene	18.2	1.0	20	0	91.0	74 - 120				
Chlorobenzene	19.65	1.0	20	0	98.2	76 - 113				
Ethylbenzene	19.26	1.0	20	0	96.3	77 - 117				
Methylene chloride	18.51	2.0	20	0	92.5	70 - 127				
Toluene	20.36	1.0	20	0	102	77 - 118				
Xylenes, Total	57.72	1.0	60	0	96.2	75 - 122				
Surr: 1,2-Dichloroethane-d4	*47.89*	*1.0*	*50*	*0*	*95.8*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*48.36*	*1.0*	*50*	*0*	*96.7*	*82 - 115*				
Surr: Dibromofluoromethane	*49.14*	*1.0*	*50*	*0*	*98.3*	*73 - 126*				
Surr: Toluene-d8	*49.24*	*1.0*	*50*	*0*	*98.5*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: R354349 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010407-02MS** Units: **ug/L** Analysis Date: **14-Jan-2020 01:51**
Client ID: **WG-1620-MW51A-20200109** Run ID: **VOA2_354349** SeqNo: **5434116** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.57	1.0	20	0	87.8	70 - 127				
Benzene	17.81	1.0	20	0	89.0	70 - 127				
Chlorobenzene	18.54	1.0	20	0	92.7	70 - 114				
Ethylbenzene	18.26	1.0	20	0	91.3	70 - 124				
Methylene chloride	16.96	2.0	20	0	84.8	70 - 128				
Toluene	19.27	1.0	20	0	96.3	70 - 123				
Xylenes, Total	55.25	1.0	60	0	92.1	70 - 130				
Surr: 1,2-Dichloroethane-d4	*48.95*	*1.0*	*50*	*0*	*97.9*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*49.03*	*1.0*	*50*	*0*	*98.1*	*81 - 113*				
Surr: Dibromofluoromethane	*50.01*	*1.0*	*50*	*0*	*100*	*77 - 123*				
Surr: Toluene-d8	*48.69*	*1.0*	*50*	*0*	*97.4*	*82 - 127*				

MSD Sample ID: **HS20010407-02MSD** Units: **ug/L** Analysis Date: **14-Jan-2020 02:16**
Client ID: **WG-1620-MW51A-20200109** Run ID: **VOA2_354349** SeqNo: **5434117** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.38	1.0	20	0	86.9	70 - 127	17.57	1.05	20	
Benzene	17.31	1.0	20	0	86.5	70 - 127	17.81	2.84	20	
Chlorobenzene	18.55	1.0	20	0	92.8	70 - 114	18.54	0.0788	20	
Ethylbenzene	18.19	1.0	20	0	91.0	70 - 124	18.26	0.356	20	
Methylene chloride	15.63	2.0	20	0	78.2	70 - 128	16.96	8.15	20	
Toluene	19.36	1.0	20	0	96.8	70 - 123	19.27	0.472	20	
Xylenes, Total	55.39	1.0	60	0	92.3	70 - 130	55.25	0.244	20	
Surr: 1,2-Dichloroethane-d4	*47.78*	*1.0*	*50*	*0*	*95.6*	*70 - 126*	*48.95*	*2.43*	*20*	
Surr: 4-Bromofluorobenzene	*48.28*	*1.0*	*50*	*0*	*96.6*	*81 - 113*	*49.03*	*1.55*	*20*	
Surr: Dibromofluoromethane	*49.18*	*1.0*	*50*	*0*	*98.4*	*77 - 123*	*50.01*	*1.67*	*20*	
Surr: Toluene-d8	*49.56*	*1.0*	*50*	*0*	*99.1*	*82 - 127*	*48.69*	*1.77*	*20*	

The following samples were analyzed in this batch:

HS20010407-02	HS20010407-03	HS20010407-07	HS20010407-08
HS20010407-10	HS20010407-22	HS20010407-23	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: R354396 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200114** Units: **ug/L** Analysis Date: **14-Jan-2020 14:53**
Client ID: Run ID: **VOA2_354396** SeqNo: **5435103** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*48.5*	*1.0*	*50*	*0*	*97.0*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.21*	*1.0*	*50*	*0*	*94.4*	*82 - 115*				
Surr: Dibromofluoromethane	*49.74*	*1.0*	*50*	*0*	*99.5*	*73 - 126*				
Surr: Toluene-d8	*50.39*	*1.0*	*50*	*0*	*101*	*81 - 120*				

LCS Sample ID: **VLCSW-200214** Units: **ug/L** Analysis Date: **14-Jan-2020 14:04**
Client ID: Run ID: **VOA2_354396** SeqNo: **5435102** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18	1.0	20	0	90.0	70 - 124				
Benzene	17.81	1.0	20	0	89.1	74 - 120				
Chlorobenzene	18.74	1.0	20	0	93.7	76 - 113				
Ethylbenzene	18.45	1.0	20	0	92.3	77 - 117				
Methylene chloride	18.59	2.0	20	0	93.0	70 - 127				
Toluene	19.5	1.0	20	0	97.5	77 - 118				
Vinyl chloride	17.32	1.0	20	0	86.6	70 - 130				
Xylenes, Total	56.46	1.0	60	0	94.1	75 - 122				
Surr: 1,2-Dichloroethane-d4	*49.52*	*1.0*	*50*	*0*	*99.0*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*48.68*	*1.0*	*50*	*0*	*97.4*	*82 - 115*				
Surr: Dibromofluoromethane	*49.44*	*1.0*	*50*	*0*	*98.9*	*73 - 126*				
Surr: Toluene-d8	*48.75*	*1.0*	*50*	*0*	*97.5*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: R354396 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010411-10MS** Units: **ug/L** Analysis Date: **14-Jan-2020 18:13**
Client ID: Run ID: **VOA2_354396** SeqNo: **5435111** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.57	1.0	20	0	82.9	70 - 127				
Benzene	18.27	1.0	20	0.9903	86.4	70 - 127				
Chlorobenzene	17.64	1.0	20	0	88.2	70 - 114				
Ethylbenzene	22.73	1.0	20	5.13	88.0	70 - 124				
Methylene chloride	16.6	2.0	20	0	83.0	70 - 128				
Toluene	19.16	1.0	20	0	95.8	70 - 123				
Vinyl chloride	16.93	1.0	20	0	84.6	70 - 130				
Xylenes, Total	344.6	1.0	60	319.7	41.5	70 - 130				SO
Surr: 1,2-Dichloroethane-d4	*48.09*	*1.0*	*50*	*0*	*96.2*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*52.3*	*1.0*	*50*	*0*	*105*	*81 - 113*				
Surr: Dibromofluoromethane	*48.53*	*1.0*	*50*	*0*	*97.1*	*77 - 123*				
Surr: Toluene-d8	*47.83*	*1.0*	*50*	*0*	*95.7*	*82 - 127*				

MSD Sample ID: **HS20010411-10MSD** Units: **ug/L** Analysis Date: **14-Jan-2020 18:37**
Client ID: Run ID: **VOA2_354396** SeqNo: **5435112** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.84	1.0	20	0	84.2	70 - 127	16.57	1.58	20	
Benzene	17.96	1.0	20	0.9903	84.9	70 - 127	18.27	1.68	20	
Chlorobenzene	17.63	1.0	20	0	88.1	70 - 114	17.64	0.0493	20	
Ethylbenzene	22.1	1.0	20	5.13	84.8	70 - 124	22.73	2.82	20	
Methylene chloride	16.24	2.0	20	0	81.2	70 - 128	16.6	2.19	20	
Toluene	18.83	1.0	20	0	94.2	70 - 123	19.16	1.72	20	
Vinyl chloride	16.95	1.0	20	0	84.8	70 - 130	16.93	0.151	20	
Xylenes, Total	335.7	1.0	60	319.7	26.5	70 - 130	344.6	2.64	20	SO
Surr: 1,2-Dichloroethane-d4	*47.45*	*1.0*	*50*	*0*	*94.9*	*70 - 126*	*48.09*	*1.33*	*20*	
Surr: 4-Bromofluorobenzene	*51.4*	*1.0*	*50*	*0*	*103*	*81 - 113*	*52.3*	*1.73*	*20*	
Surr: Dibromofluoromethane	*48*	*1.0*	*50*	*0*	*96.0*	*77 - 123*	*48.53*	*1.09*	*20*	
Surr: Toluene-d8	*48.3*	*1.0*	*50*	*0*	*96.6*	*82 - 127*	*47.83*	*0.978*	*20*	

The following samples were analyzed in this batch: HS20010407-01 HS20010407-04 HS20010407-06 HS20010407-13 HS20010407-14 HS20010407-18

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: R354399 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200114** Units: **ug/L** Analysis Date: **14-Jan-2020 12:50**
Client ID: Run ID: **VOA4_354399** SeqNo: **5435154** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*57.34*	*1.0*	*50*	*0*	*115*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*49.44*	*1.0*	*50*	*0*	*98.9*	*82 - 115*				
Surr: Dibromofluoromethane	*52.52*	*1.0*	*50*	*0*	*105*	*73 - 126*				
Surr: Toluene-d8	*51.53*	*1.0*	*50*	*0*	*103*	*81 - 120*				

LCS Sample ID: **VLCSW-200114** Units: **ug/L** Analysis Date: **14-Jan-2020 12:01**
Client ID: Run ID: **VOA4_354399** SeqNo: **5435153** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	23.08	1.0	20	0	115	70 - 124				
Benzene	20.28	1.0	20	0	101	74 - 120				
Chlorobenzene	18.89	1.0	20	0	94.5	76 - 113				
Ethylbenzene	19.37	1.0	20	0	96.8	77 - 117				
Methylene chloride	21.61	2.0	20	0	108	70 - 127				
Toluene	21.14	1.0	20	0	106	77 - 118				
Vinyl chloride	21.93	1.0	20	0	110	70 - 130				
Xylenes, Total	61.14	1.0	60	0	102	75 - 122				
Surr: 1,2-Dichloroethane-d4	*56.63*	*1.0*	*50*	*0*	*113*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*50.69*	*1.0*	*50*	*0*	*101*	*82 - 115*				
Surr: Dibromofluoromethane	*53.13*	*1.0*	*50*	*0*	*106*	*73 - 126*				
Surr: Toluene-d8	*51.51*	*1.0*	*50*	*0*	*103*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: R354399 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010411-05MS** Units: **ug/L** Analysis Date: **14-Jan-2020 15:47**
Client ID: Run ID: **VOA4_354399** SeqNo: **5435161** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	20.56	1.0	20	0	103	70 - 127				
Benzene	19.01	1.0	20	0	95.0	70 - 127				
Chlorobenzene	17.18	1.0	20	0	85.9	70 - 114				
Ethylbenzene	20.13	1.0	20	0	101	70 - 124				
Methylene chloride	17.46	2.0	20	0	87.3	70 - 128				
Toluene	22.65	1.0	20	0	113	70 - 123				
Vinyl chloride	24.4	1.0	20	0	122	70 - 130				
Xylenes, Total	69.5	1.0	60	0	116	70 - 130				
Surr: 1,2-Dichloroethane-d4	*57.78*	*1.0*	*50*	*0*	*116*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*51.46*	*1.0*	*50*	*0*	*103*	*81 - 113*				
Surr: Dibromofluoromethane	*54.66*	*1.0*	*50*	*0*	*109*	*77 - 123*				
Surr: Toluene-d8	*50.14*	*1.0*	*50*	*0*	*100*	*82 - 127*				

MSD Sample ID: **HS20010411-05MSD** Units: **ug/L** Analysis Date: **14-Jan-2020 16:11**
Client ID: Run ID: **VOA4_354399** SeqNo: **5435162** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	22.07	1.0	20	0	110	70 - 127	20.56	7.1	20	
Benzene	19.34	1.0	20	0	96.7	70 - 127	19.01	1.72	20	
Chlorobenzene	17.77	1.0	20	0	88.8	70 - 114	17.18	3.33	20	
Ethylbenzene	18.83	1.0	20	0	94.2	70 - 124	20.13	6.64	20	
Methylene chloride	17.52	2.0	20	0	87.6	70 - 128	17.46	0.372	20	
Toluene	21.23	1.0	20	0	106	70 - 123	22.65	6.47	20	
Vinyl chloride	23.62	1.0	20	0	118	70 - 130	24.4	3.26	20	
Xylenes, Total	63.98	1.0	60	0	107	70 - 130	69.5	8.28	20	
Surr: 1,2-Dichloroethane-d4	*57.39*	*1.0*	*50*	*0*	*115*	*70 - 126*	*57.78*	*0.68*	*20*	
Surr: 4-Bromofluorobenzene	*51.73*	*1.0*	*50*	*0*	*103*	*81 - 113*	*51.46*	*0.515*	*20*	
Surr: Dibromofluoromethane	*54.13*	*1.0*	*50*	*0*	*108*	*77 - 123*	*54.66*	*0.963*	*20*	
Surr: Toluene-d8	*50.24*	*1.0*	*50*	*0*	*100*	*82 - 127*	*50.14*	*0.198*	*20*	

The following samples were analyzed in this batch: HS20010407-11 HS20010407-12 HS20010407-25 HS20010407-26

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: R354465 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200115** Units: **ug/L** Analysis Date: **15-Jan-2020 11:45**
Client ID: Run ID: **VOA2_354465** SeqNo: **5436426** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*49.42*	*1.0*	*50*	*0*	*98.8*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.35*	*1.0*	*50*	*0*	*94.7*	*82 - 115*				
Surr: Dibromofluoromethane	*50.91*	*1.0*	*50*	*0*	*102*	*73 - 126*				
Surr: Toluene-d8	*50.78*	*1.0*	*50*	*0*	*102*	*81 - 120*				

LCS Sample ID: **VLCSW-200215** Units: **ug/L** Analysis Date: **15-Jan-2020 10:56**
Client ID: Run ID: **VOA2_354465** SeqNo: **5436425** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.44	1.0	20	0	92.2	70 - 124				
Benzene	17.88	1.0	20	0	89.4	74 - 120				
Chlorobenzene	18.53	1.0	20	0	92.6	76 - 113				
Ethylbenzene	18.15	1.0	20	0	90.8	77 - 117				
Methylene chloride	19.11	2.0	20	0	95.6	70 - 127				
Toluene	19.34	1.0	20	0	96.7	77 - 118				
Vinyl chloride	17.21	1.0	20	0	86.0	70 - 130				
Xylenes, Total	54.69	1.0	60	0	91.2	75 - 122				
Surr: 1,2-Dichloroethane-d4	*48.66*	*1.0*	*50*	*0*	*97.3*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*48.37*	*1.0*	*50*	*0*	*96.7*	*82 - 115*				
Surr: Dibromofluoromethane	*49.09*	*1.0*	*50*	*0*	*98.2*	*73 - 126*				
Surr: Toluene-d8	*48.37*	*1.0*	*50*	*0*	*96.7*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010407

QC BATCH REPORT

Batch ID: R354465 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010407-24MS** Units: **ug/L** Analysis Date: **15-Jan-2020 16:50**
Client ID: **WG-1620-MW44A-20200109** Run ID: **VOA2_354465** SeqNo: **5436438** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.97	1.0	20	0	84.8	70 - 127				
Benzene	17.78	1.0	20	0	88.9	70 - 127				
Chlorobenzene	17.83	1.0	20	0	89.2	70 - 114				
Ethylbenzene	17.86	1.0	20	0	89.3	70 - 124				
Methylene chloride	16.86	2.0	20	0	84.3	70 - 128				
Toluene	19.06	1.0	20	0	95.3	70 - 123				
Vinyl chloride	17.26	1.0	20	0	86.3	70 - 130				
Xylenes, Total	54.2	1.0	60	0	90.3	70 - 130				
Surr: 1,2-Dichloroethane-d4	*48.67*	*1.0*	*50*	*0*	*97.3*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*48.96*	*1.0*	*50*	*0*	*97.9*	*81 - 113*				
Surr: Dibromofluoromethane	*49.55*	*1.0*	*50*	*0*	*99.1*	*77 - 123*				
Surr: Toluene-d8	*47.85*	*1.0*	*50*	*0*	*95.7*	*82 - 127*				

MSD Sample ID: **HS20010407-24MSD** Units: **ug/L** Analysis Date: **15-Jan-2020 17:15**
Client ID: **WG-1620-MW44A-20200109** Run ID: **VOA2_354465** SeqNo: **5436439** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.39	1.0	20	0	87.0	70 - 127	16.97	2.48	20	
Benzene	17.36	1.0	20	0	86.8	70 - 127	17.78	2.36	20	
Chlorobenzene	18.08	1.0	20	0	90.4	70 - 114	17.83	1.36	20	
Ethylbenzene	18.24	1.0	20	0	91.2	70 - 124	17.86	2.1	20	
Methylene chloride	16.44	2.0	20	0	82.2	70 - 128	16.86	2.52	20	
Toluene	19.31	1.0	20	0	96.5	70 - 123	19.06	1.3	20	
Vinyl chloride	16.59	1.0	20	0	82.9	70 - 130	17.26	4	20	
Xylenes, Total	54.24	1.0	60	0	90.4	70 - 130	54.2	0.0713	20	
Surr: 1,2-Dichloroethane-d4	*47.49*	*1.0*	*50*	*0*	*95.0*	*70 - 126*	*48.67*	*2.44*	*20*	
Surr: 4-Bromofluorobenzene	*48.84*	*1.0*	*50*	*0*	*97.7*	*81 - 113*	*48.96*	*0.246*	*20*	
Surr: Dibromofluoromethane	*48.36*	*1.0*	*50*	*0*	*96.7*	*77 - 123*	*49.55*	*2.43*	*20*	
Surr: Toluene-d8	*48.82*	*1.0*	*50*	*0*	*97.6*	*82 - 127*	*47.85*	*2.01*	*20*	

The following samples were analyzed in this batch:

HS20010407-05	HS20010407-09	HS20010407-15	HS20010407-16
HS20010407-17	HS20010407-20	HS20010407-21	HS20010407-24
HS20010407-27			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS20010407**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	T104704231-19-25	30-Apr-2020

ALS Houston, US Date: 20-Jan-20

Sample Receipt Checklist

Client Name: PBW
Work Order: HS20010407

Date/Time Received: **10-Jan-2020 09:35**
Received by: **NDR**

Checklist completed by: *Nilesh D. Ranchod* eSignature — 10-Jan-2020 Date

Reviewed by: *Corey Grandits* eSignature — 13-Jan-2020 Date

Matrices: **Water**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	3 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:206389/206388/206386
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s): 0.8C/0.8C,1.2C/1.2C,1.0C/1.0C,1.0C/1.0C,0.8C/0.8C,0.8C/0.8C UC/C — IR # 25

Cooler(s)/Kit(s): 45678/45710/45492/45533/44308/45063

Date/Time sample(s) sent to storage: 01/10/2020 18:00

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☑	N/A ☐
pH adjusted?	Yes ☑	No ☐	N/A ☐

pH adjusted by: Si Ma

Login Notes: Sx WG1620-MW49A-20200107, WG-1620-MW-80B-20200107 No TPH Vials Rec'd COC= 9 Rec'd =6 Logged in 2 vials for VOC 1 vial for TPH .
Sx Date differ WG-1620-FB03-20200109 COC= 1/8/20 Label =1/9/20.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Sample Receipt Checklist

Client Name: PBW
Work Order: HS20010407
Date/Time Received: **10-Jan-2020 09:35**
Received by: **NDR**

Checklist completed by: *Nilesh D. Ranchod* eSignature — 10-Jan-2020 Date
Reviewed by: *Corey Grandits* eSignature — 13-Jan-2020 Date

Matrices: **Water**
Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	C		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	01/10/2020 18:00		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☑	N/A ☐
pH adjusted?	Yes ☑	No ☐	N/A ☐
pH adjusted by:	Si Ma		

Login Notes:
SX # WG-1620-MW18C-20200108
Metal pH>(7) Preserved with 0.5mil HNO3
on 01/10/2020 @ 01:30pm
Lot #312090209 By Sima
After preserved pH (1)

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

COC ID: 206389

HS20010407

Golder Associates Inc.
Houston TX-Wood Preserving Works

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-07-Rev0 SR 92688
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address	

ALS Project Manager:

A 8260_LL_W (5632528 Volatile Organics Site Specific)
B 8260_LL_W (5632528 VOC Site Specific + V.C.)
C 8270_LOW_W (5632532 SemiVolatiles Site specific)
D ICP_TW (5636002 5652646 Metals - As)
E TPH TX 1005
F
G
H
I
J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TB0[illegible]20200109~~	—	—	~~Water~~		2		X									
2	WG-1620-MW19C-20200109	1-9-20	1045	W		6		X	X	X							
3	WG-1620-MW51A-20200109		1150	W		9	X		X	X	X						
4	WG-1620-MW51C-20200109		1240	W		9	X		X	X	X						
5	WG-1620-MW85C-20200109		1335	W		9	X		X	X	X						
6	WG-1620-MW77A-20200109		1425	W		9	X		X	X	X						
7	WG-1620-MW76C-20200109		1520	W		9	X		X	X	X						
8	WG-1620-MW81B-20200109		1620	W		9	X		X	X	X						
9	WG-1620-MW50A-20200109		1715	W		9	X		X	X	X						
10	WG-1620-MW49A-20200107	1-7-20	1310	W		9		X	X	X	X						

Sampler(s) Please Print & Sign: JOHN BRAYDON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 -hour ☐ Other

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
	1-10-20	0935	
Relinquished by:	Date:	Time:	Received by (Laboratory):
	1.10.20	09.35	NA
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
45673	0.3
45710	1.2
45492	1.0
45535	1.0
44303	0.8

QC Package: (Check One Box Below)
☐ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SW846/CLP
☐ Other
☒ TRRP Checklist
☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions
3. The Chain of Custody is a legal document. All information must be completed accurately.

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 2 of ____

COC ID: 206388

HS20010407

Golder Associates Inc.
Houston TX-Wood Preserving Works

Customer Information		Project Information		ALS Project Manager:
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	
Work Order		Project Number	1620-07-Rev0 SR 92688	
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	
Phone	(512) 671-3434	Phone		
Fax	(512) 671-3446	Fax		
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		

A 8260_LL_W (5632528 Volatile Organics Site Specific)
B 8260_LL_W (5632528 VOC Site Specific + V.C.)
C 8270_LOW_W (5632532 SemiVolatiles Site specific)
D ICP_TW (5636002 5652646 Metals - As)
E TPH TX1005
F
G
H
I
J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TB0__202001~~			~~Water~~	1	2		X									
2	WG-1620-MW80B-20200107	1-7-20	1600	W		9	X		X	X	X						
3	WG-1620-FB01-20200107	1-7-20	1630	W		6	X		X	X	~~X~~ JB						
4	WG-1620-FB02-20200108	1-8-20	0900	W		6	X		X	X	~~X~~ JB						
5	WG-1620-MW18C-20200108		1010	W		6		X	X	X							
6	WG-1620-MW18A-20200108		1110	W		6		X	X	X							
7	WG-1620-MW58A-20200108		1215	W		6		X	X	X							
8	WG-1620-MW57A-20200108		1455	W		6		X	X	X							
9	WG-1620-MW57B-20200108		1330	W		6	X		X	X							
10	WG-1620-FB03-20200109		0730	W		6		X	X	X							

Sampler(s) Please Print & Sign: JOHN BRAYTON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 -hour [ ] Other ____

Results Due Date:

Relinquished by: Date: 1-10-20 Time: 0935

Relinquished by: Date: 1.10.20 Time: 09.35

Received by:

Received by (Laboratory): N.A.

Checked by (Laboratory):

Logged by (Laboratory): Date: Time:

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)
[ ] Level II Std QC
[ ] Level III Std QC/Raw Data
[ ] Level IV SW846/CLP
[ ] Other
[X] TRRP Checklist
[ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

COC ID: 206386

HS20010407

Golder Associates Inc.
Houston TX-Wood Preserving Works

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-07-RevO SR 92688
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address	

ALS Project Manager:

A 8260_LL_W (5632528 Volatile Organics Site Specific)
B 8260_LL_W (5632528 VOC Site Specific + V.C.)
C 8270_LOW_W (5632532 SemiVolatiles Site specific)
D ICP_TW (5636002 5652646 Metals - As)
E TPH TX 1005
F
G
H
I
J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~MW-1620-TB0__202001~~																
2	~~WG-1620-MW49B-20200109~~	~~1-7-20~~	~~1430~~	Water	1	2		X									
3	WG-1620-MW72B-20200109	1-9-20	1430	W		9	X	X	X	X							WILL RESAMPLE WELL ONCE DNAPL CLEARS SAMPLE
4	WG-1620-MW23C-20200109		0835	W		6	X		X	X							
5	WG-1620-MW53C-20200109		0940	W		6	X		X	X							
6	WG-1620-MW54C-20200109		1115	W		6	X		X	X							
7	WG-1620-MW44A-20200109		1235	W		6	X		X	X							
8	WG-1620-MW36B-20200109		1330	W		6	X		X	X							
9	WG-1620-MW36A-20200109		1440	W		6		X	X	X							
10	WG-1620-TB01-20200109		1600	W		6		X	X	X							
				W		2		X	X	X							

Sampler(s) Please Print & Sign
JOHN BRADLEY

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results Due Date:

Notes: UPRR Houston MWPW

	Date:	Time:	
Relinquished by:	1-10-20	0935	Received by:
Relinquished by:	1.10.20	07.35	Received by (Laboratory): Nin
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)
[ ] Level II Std QC
[ ] Level III Std QC/Raw Data
[ ] Level IV SW846/CLP
[ ] Other
[X] TRRP Checklist
[ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

January 20, 2020

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS20010442**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 7 sample(s) on Jan 10, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DAYNA.FISHER
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20010442**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20010442**	

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 01/20/2020					
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20010442					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 149618, 149706, R354396, R354484					
#[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				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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 SW-846 Method 5035?			X		
		If required for the project, 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			1
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 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				
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			2
		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		
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				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 01/20/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20010442				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 149618, 149706, R354396, R354484				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group	LRC Date: 01/20/2020
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS20010442
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 149618, 149706, R354396, R354484

ER#[5]	Description
1	Semivolatiles by Method SW8270, Sample WG-1620-MW35B-20200110, WG-1620-MW83B-20200110: surrogate recoveries could not be determined due to dilution below the calibration range.
2	Batch R354396, Volatiles by Method SW8260, Sample HS20010411-10, MS and MSD were performed on an unrelated sample

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20010442

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20010442-02	WQ-1620-TB01-20200110	Water	CG-121719-74	10-Jan-2020 14:00	10-Jan-2020 15:11	☐
HS20010442-03	WG-1620-FD01-20200110	Water		10-Jan-2020 00:00	10-Jan-2020 15:11	☐
HS20010442-04	WG-1620-MW35B-20200110	Water		10-Jan-2020 12:45	10-Jan-2020 15:11	☐
HS20010442-05	WG-1620-MW35A-20200110	Water		10-Jan-2020 11:20	10-Jan-2020 15:11	☐
HS20010442-06	WG-1620-FB04-20200110	Water		10-Jan-2020 10:30	10-Jan-2020 15:11	☐
HS20010442-07	WG-1620-MW83B-20200110	Water		10-Jan-2020 10:00	10-Jan-2020 15:11	☐
HS20010442-08	WG-1620-MW83C-20200110	Water		10-Jan-2020 09:00	10-Jan-2020 15:11	☐

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010442
Sample ID: WQ-1620-TB01-20200110
Lab ID:HS20010442-02
Collection Date: 10-Jan-2020 14:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	14-Jan-2020 22:42
Benzene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 22:42
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 22:42
Ethylbenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2020 22:42
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jan-2020 22:42
Toluene		U	0.00020	0.0010	mg/L	1	14-Jan-2020 22:42
Vinyl chloride		U	0.00020	0.0010	mg/L	1	14-Jan-2020 22:42
Xylenes, Total		U	0.00030	0.0010	mg/L	1	14-Jan-2020 22:42
Surr: 1,2-Dichloroethane-d4	*97.4*			*70-126*	*%REC*	*1*	*14-Jan-2020 22:42*
Surr: 4-Bromofluorobenzene	*93.4*			*81-113*	*%REC*	*1*	*14-Jan-2020 22:42*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*14-Jan-2020 22:42*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*14-Jan-2020 22:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD01-20200110
Collection Date: 10-Jan-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20010442
Lab ID:HS20010442-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	15-Jan-2020 15:45
Benzene	**0.016**		**0.00020**	**0.0010**	**mg/L**	1	15-Jan-2020 15:45
Chlorobenzene	U		0.00030	0.0010	mg/L	1	15-Jan-2020 15:45
Ethylbenzene	**0.083**		**0.00030**	**0.0010**	**mg/L**	1	15-Jan-2020 15:45
Methylene chloride	U		0.0010	0.0020	mg/L	1	15-Jan-2020 15:45
Toluene	U		0.00020	0.0010	mg/L	1	15-Jan-2020 15:45
Vinyl chloride	U		0.00020	0.0010	mg/L	1	15-Jan-2020 15:45
Xylenes, Total	**0.041**		**0.00030**	**0.0010**	**mg/L**	1	15-Jan-2020 15:45
Surr: 1,2-Dichloroethane-d4	*121*			*70-126*	*%REC*	*1*	*15-Jan-2020 15:45*
Surr: 4-Bromofluorobenzene	*102*			*81-113*	*%REC*	*1*	*15-Jan-2020 15:45*
Surr: Dibromofluoromethane	*110*			*77-123*	*%REC*	*1*	*15-Jan-2020 15:45*
Surr: Toluene-d8	*99.1*			*82-127*	*%REC*	*1*	*15-Jan-2020 15:45*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD01-20200110
Collection Date: 10-Jan-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20010442
Lab ID:HS20010442-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	20-Jan-2020 09:44
2,4-Dimethylphenol	**0.00021**		**0.000040**	**0.00020**	**mg/L**	1	20-Jan-2020 09:44
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	20-Jan-2020 09:44
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	20-Jan-2020 09:44
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	20-Jan-2020 09:44
2-Methylnaphthalene	**0.062**		**0.00019**	**0.0010**	**mg/L**	10	20-Jan-2020 10:03
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	20-Jan-2020 09:44
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	20-Jan-2020 09:44
Acenaphthene	**0.033**		**0.00027**	**0.0010**	**mg/L**	10	20-Jan-2020 10:03
Acenaphthylene	**0.00027**		**0.000015**	**0.00010**	**mg/L**	1	20-Jan-2020 09:44
Anthracene	**0.0018**		**0.000014**	**0.00010**	**mg/L**	1	20-Jan-2020 09:44
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	20-Jan-2020 09:44
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	20-Jan-2020 09:44
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	20-Jan-2020 09:44
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	20-Jan-2020 09:44
Chrysene	U		0.000021	0.00010	mg/L	1	20-Jan-2020 09:44
Dibenzofuran	**0.031**		**0.00020**	**0.0010**	**mg/L**	10	20-Jan-2020 10:03
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	20-Jan-2020 09:44
Fluoranthene	**0.00093**		**0.000010**	**0.00010**	**mg/L**	1	20-Jan-2020 09:44
Fluorene	**0.015**		**0.00030**	**0.0010**	**mg/L**	10	20-Jan-2020 10:03
Naphthalene	**0.13**		**0.00040**	**0.0020**	**mg/L**	20	20-Jan-2020 11:20
Nitrobenzene	U		0.000024	0.00020	mg/L	1	20-Jan-2020 09:44
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	20-Jan-2020 09:44
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	20-Jan-2020 09:44
Phenanthrene	**0.013**		**0.00021**	**0.0010**	**mg/L**	10	20-Jan-2020 10:03
Phenol	U		0.000035	0.00020	mg/L	1	20-Jan-2020 09:44
Pyrene	**0.00045**		**0.000019**	**0.00010**	**mg/L**	1	20-Jan-2020 09:44
Surr: 2,4,6-Tribromophenol	*49.5*	*J*		*34-129*	*%REC*	*20*	*20-Jan-2020 11:20*
Surr: 2,4,6-Tribromophenol	*81.1*			*34-129*	*%REC*	*1*	*20-Jan-2020 09:44*
Surr: 2,4,6-Tribromophenol	*62.7*			*34-129*	*%REC*	*10*	*20-Jan-2020 10:03*
Surr: 2-Fluorobiphenyl	*80.1*			*40-125*	*%REC*	*1*	*20-Jan-2020 09:44*
Surr: 2-Fluorobiphenyl	*72.0*			*40-125*	*%REC*	*10*	*20-Jan-2020 10:03*
Surr: 2-Fluorobiphenyl	*72.9*	*J*		*40-125*	*%REC*	*20*	*20-Jan-2020 11:20*
Surr: 2-Fluorophenol	*78.7*	*J*		*20-120*	*%REC*	*20*	*20-Jan-2020 11:20*
Surr: 2-Fluorophenol	*85.0*			*20-120*	*%REC*	*1*	*20-Jan-2020 09:44*
Surr: 2-Fluorophenol	*71.8*			*20-120*	*%REC*	*10*	*20-Jan-2020 10:03*
Surr: 4-Terphenyl-d14	*94.6*			*40-135*	*%REC*	*1*	*20-Jan-2020 09:44*
Surr: 4-Terphenyl-d14	*78.2*			*40-135*	*%REC*	*10*	*20-Jan-2020 10:03*
Surr: 4-Terphenyl-d14	*79.1*	*J*		*40-135*	*%REC*	*20*	*20-Jan-2020 11:20*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD01-20200110
Collection Date: 10-Jan-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20010442
Lab ID:HS20010442-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: LG
Surr: Nitrobenzene-d5	*107*			*41-120*	*%REC*	*1*	*20-Jan-2020 09:44*
Surr: Nitrobenzene-d5	*83.7*			*41-120*	*%REC*	*10*	*20-Jan-2020 10:03*
Surr: Nitrobenzene-d5	*96.3*			*41-120*	*%REC*	*20*	*20-Jan-2020 11:20*
Surr: Phenol-d6	*72.7*	*J*		*20-120*	*%REC*	*20*	*20-Jan-2020 11:20*
Surr: Phenol-d6	*74.0*			*20-120*	*%REC*	*1*	*20-Jan-2020 09:44*
Surr: Phenol-d6	*73.6*			*20-120*	*%REC*	*10*	*20-Jan-2020 10:03*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 14-Jan-2020		Analyst: ALR
Arsenic	**0.0159**		**0.000400**	**0.00200**	**mg/L**	1	14-Jan-2020 22:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW35B-20200110
Collection Date: 10-Jan-2020 12:45

ANALYTICAL REPORT
WorkOrder:HS20010442
Lab ID:HS20010442-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	15-Jan-2020 16:10
Benzene	**0.025**		**0.00020**	**0.0010**	**mg/L**	1	15-Jan-2020 16:10
Chlorobenzene	U		0.00030	0.0010	mg/L	1	15-Jan-2020 16:10
Ethylbenzene	**0.096**		**0.00030**	**0.0010**	**mg/L**	1	15-Jan-2020 16:10
Methylene chloride	U		0.0010	0.0020	mg/L	1	15-Jan-2020 16:10
Toluene	U		0.00020	0.0010	mg/L	1	15-Jan-2020 16:10
Vinyl chloride	U		0.00020	0.0010	mg/L	1	15-Jan-2020 16:10
Xylenes, Total	**0.058**		**0.00030**	**0.0010**	**mg/L**	1	15-Jan-2020 16:10
Surr: 1,2-Dichloroethane-d4	*121*			*70-126*	*%REC*	*1*	*15-Jan-2020 16:10*
Surr: 4-Bromofluorobenzene	*103*			*81-113*	*%REC*	*1*	*15-Jan-2020 16:10*
Surr: Dibromofluoromethane	*110*			*77-123*	*%REC*	*1*	*15-Jan-2020 16:10*
Surr: Toluene-d8	*98.6*			*82-127*	*%REC*	*1*	*15-Jan-2020 16:10*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW35B-20200110
Collection Date: 10-Jan-2020 12:45

ANALYTICAL REPORT
WorkOrder:HS20010442
Lab ID:HS20010442-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jan-2020 18:05
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	17-Jan-2020 18:05
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jan-2020 18:05
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jan-2020 18:05
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jan-2020 18:05
2-Methylnaphthalene	**0.14**		**0.00095**	**0.0050**	**mg/L**	50	20-Jan-2020 11:40
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jan-2020 18:05
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jan-2020 18:05
Acenaphthene	**0.059**		**0.00027**	**0.0010**	**mg/L**	10	20-Jan-2020 10:23
Acenaphthylene	**0.00038**		**0.000015**	**0.00010**	**mg/L**	1	17-Jan-2020 18:05
Anthracene	**0.0029**		**0.000014**	**0.00010**	**mg/L**	1	17-Jan-2020 18:05
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	17-Jan-2020 18:05
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jan-2020 18:05
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jan-2020 18:05
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	17-Jan-2020 18:05
Chrysene	U		0.000021	0.00010	mg/L	1	17-Jan-2020 18:05
Dibenzofuran	**0.054**		**0.00020**	**0.0010**	**mg/L**	10	20-Jan-2020 10:23
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jan-2020 18:05
Fluoranthene	**0.0015**		**0.000010**	**0.00010**	**mg/L**	1	17-Jan-2020 18:05
Fluorene	**0.028**		**0.00030**	**0.0010**	**mg/L**	10	20-Jan-2020 10:23
Naphthalene	**2.0**		**0.0050**	**0.025**	**mg/L**	250	20-Jan-2020 12:18
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jan-2020 18:05
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jan-2020 18:05
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jan-2020 18:05
Phenanthrene	**0.024**		**0.00021**	**0.0010**	**mg/L**	10	20-Jan-2020 10:23
Phenol	U		0.000035	0.00020	mg/L	1	17-Jan-2020 18:05
Pyrene	**0.00070**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 18:05
Surr: 2,4,6-Tribromophenol	*78.3*			*34-129*	*%REC*	*1*	*17-Jan-2020 18:05*
Surr: 2,4,6-Tribromophenol	*86.2*			*34-129*	*%REC*	*10*	*20-Jan-2020 10:23*
Surr: 2,4,6-Tribromophenol	*71.2*	*J*		*34-129*	*%REC*	*50*	*20-Jan-2020 11:40*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*250*	*20-Jan-2020 12:18*
Surr: 2-Fluorobiphenyl	*87.2*	*J*		*40-125*	*%REC*	*50*	*20-Jan-2020 11:40*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*250*	*20-Jan-2020 12:18*
Surr: 2-Fluorobiphenyl	*73.4*			*40-125*	*%REC*	*10*	*20-Jan-2020 10:23*
Surr: 2-Fluorobiphenyl	*74.3*			*40-125*	*%REC*	*1*	*17-Jan-2020 18:05*
Surr: 2-Fluorophenol	*70.9*			*20-120*	*%REC*	*1*	*17-Jan-2020 18:05*
Surr: 2-Fluorophenol	*76.9*			*20-120*	*%REC*	*10*	*20-Jan-2020 10:23*
Surr: 2-Fluorophenol	*83.1*	*J*		*20-120*	*%REC*	*50*	*20-Jan-2020 11:40*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*250*	*20-Jan-2020 12:18*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW35B-20200110
Collection Date: 10-Jan-2020 12:45

ANALYTICAL REPORT
WorkOrder:HS20010442
Lab ID:HS20010442-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: GEY
Surr: 4-Terphenyl-d14	*88.9*	*J*		*40-135*	*%REC*	*50*	*20-Jan-2020 11:40*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*250*	*20-Jan-2020 12:18*
Surr: 4-Terphenyl-d14	*88.6*			*40-135*	*%REC*	*10*	*20-Jan-2020 10:23*
Surr: 4-Terphenyl-d14	*88.9*			*40-135*	*%REC*	*1*	*17-Jan-2020 18:05*
Surr: Nitrobenzene-d5	*95.7*			*41-120*	*%REC*	*10*	*20-Jan-2020 10:23*
Surr: Nitrobenzene-d5	*102*	*J*		*41-120*	*%REC*	*50*	*20-Jan-2020 11:40*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*250*	*20-Jan-2020 12:18*
Surr: Nitrobenzene-d5	*68.2*			*41-120*	*%REC*	*1*	*17-Jan-2020 18:05*
Surr: Phenol-d6	*69.0*			*20-120*	*%REC*	*1*	*17-Jan-2020 18:05*
Surr: Phenol-d6	*67.6*			*20-120*	*%REC*	*10*	*20-Jan-2020 10:23*
Surr: Phenol-d6	*80.1*	*J*		*20-120*	*%REC*	*50*	*20-Jan-2020 11:40*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*250*	*20-Jan-2020 12:18*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 14-Jan-2020		Analyst: ALR
Arsenic	**0.0120**		**0.000400**	**0.00200**	**mg/L**	1	14-Jan-2020 22:03

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW35A-20200110
Collection Date: 10-Jan-2020 11:20

ANALYTICAL REPORT
WorkOrder:HS20010442
Lab ID:HS20010442-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	15-Jan-2020 16:35
Benzene		U	0.00020	0.0010	mg/L	1	15-Jan-2020 16:35
Chlorobenzene		U	0.00030	0.0010	mg/L	1	15-Jan-2020 16:35
Ethylbenzene		U	0.00030	0.0010	mg/L	1	15-Jan-2020 16:35
Methylene chloride		U	0.0010	0.0020	mg/L	1	15-Jan-2020 16:35
Toluene		U	0.00020	0.0010	mg/L	1	15-Jan-2020 16:35
Vinyl chloride		U	0.00020	0.0010	mg/L	1	15-Jan-2020 16:35
Xylenes, Total		U	0.00030	0.0010	mg/L	1	15-Jan-2020 16:35
Surr: 1,2-Dichloroethane-d4	*117*			*70-126*	*%REC*	*1*	*15-Jan-2020 16:35*
Surr: 4-Bromofluorobenzene	*99.2*			*81-113*	*%REC*	*1*	*15-Jan-2020 16:35*
Surr: Dibromofluoromethane	*109*			*77-123*	*%REC*	*1*	*15-Jan-2020 16:35*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*15-Jan-2020 16:35*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW35A-20200110
Collection Date: 10-Jan-2020 11:20

ANALYTICAL REPORT
WorkOrder:HS20010442
Lab ID:HS20010442-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jan-2020 18:25
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	17-Jan-2020 18:25
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jan-2020 18:25
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jan-2020 18:25
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jan-2020 18:25
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	17-Jan-2020 18:25
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jan-2020 18:25
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jan-2020 18:25
Acenaphthene	U		0.000027	0.00010	mg/L	1	17-Jan-2020 18:25
Acenaphthylene	U		0.000015	0.00010	mg/L	1	17-Jan-2020 18:25
Anthracene	U		0.000014	0.00010	mg/L	1	17-Jan-2020 18:25
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	17-Jan-2020 18:25
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jan-2020 18:25
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jan-2020 18:25
Bis(2-ethylhexyl)phthalate	**0.000061**	J	**0.000037**	**0.00020**	**mg/L**	1	17-Jan-2020 18:25
Chrysene	U		0.000021	0.00010	mg/L	1	17-Jan-2020 18:25
Dibenzofuran	U		0.000020	0.00010	mg/L	1	17-Jan-2020 18:25
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jan-2020 18:25
Fluoranthene	U		0.000010	0.00010	mg/L	1	17-Jan-2020 18:25
Fluorene	**0.000065**	J	**0.000030**	**0.00010**	**mg/L**	1	17-Jan-2020 18:25
Naphthalene	**0.00020**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 18:25
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jan-2020 18:25
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jan-2020 18:25
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jan-2020 18:25
Phenanthrene	U		0.000021	0.00010	mg/L	1	17-Jan-2020 18:25
Phenol	U		0.000035	0.00020	mg/L	1	17-Jan-2020 18:25
Pyrene	U		0.000019	0.00010	mg/L	1	17-Jan-2020 18:25
Surr: 2,4,6-Tribromophenol	*81.3*			*34-129*	*%REC*	*1*	*17-Jan-2020 18:25*
Surr: 2-Fluorobiphenyl	*76.3*			*40-125*	*%REC*	*1*	*17-Jan-2020 18:25*
Surr: 2-Fluorophenol	*67.4*			*20-120*	*%REC*	*1*	*17-Jan-2020 18:25*
Surr: 4-Terphenyl-d14	*90.2*			*40-135*	*%REC*	*1*	*17-Jan-2020 18:25*
Surr: Nitrobenzene-d5	*72.9*			*41-120*	*%REC*	*1*	*17-Jan-2020 18:25*
Surr: Phenol-d6	*71.7*			*20-120*	*%REC*	*1*	*17-Jan-2020 18:25*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 14-Jan-2020		Analyst: ALR
Arsenic	**0.0219**		**0.000400**	**0.00200**	**mg/L**	1	14-Jan-2020 22:06

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB04-20200110
Collection Date: 10-Jan-2020 10:30

ANALYTICAL REPORT
WorkOrder:HS20010442
Lab ID:HS20010442-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	15-Jan-2020 12:51
Benzene		U	0.00020	0.0010	mg/L	1	15-Jan-2020 12:51
Chlorobenzene		U	0.00030	0.0010	mg/L	1	15-Jan-2020 12:51
Ethylbenzene		U	0.00030	0.0010	mg/L	1	15-Jan-2020 12:51
Methylene chloride		U	0.0010	0.0020	mg/L	1	15-Jan-2020 12:51
Toluene		U	0.00020	0.0010	mg/L	1	15-Jan-2020 12:51
Vinyl chloride		U	0.00020	0.0010	mg/L	1	15-Jan-2020 12:51
Xylenes, Total		U	0.00030	0.0010	mg/L	1	15-Jan-2020 12:51
Surr: 1,2-Dichloroethane-d4	*119*			*70-126*	*%REC*	*1*	*15-Jan-2020 12:51*
Surr: 4-Bromofluorobenzene	*99.3*			*81-113*	*%REC*	*1*	*15-Jan-2020 12:51*
Surr: Dibromofluoromethane	*109*			*77-123*	*%REC*	*1*	*15-Jan-2020 12:51*
Surr: Toluene-d8	*99.9*			*82-127*	*%REC*	*1*	*15-Jan-2020 12:51*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB04-20200110
Collection Date: 10-Jan-2020 10:30

ANALYTICAL REPORT
WorkOrder:HS20010442
Lab ID:HS20010442-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine		U	0.000021	0.00020	mg/L	1	20-Jan-2020 10:42
2,4-Dimethylphenol		U	0.000040	0.00020	mg/L	1	20-Jan-2020 10:42
2,4-Dinitrotoluene		U	0.000058	0.00020	mg/L	1	20-Jan-2020 10:42
2,6-Dinitrotoluene		U	0.000042	0.00020	mg/L	1	20-Jan-2020 10:42
2-Chloronaphthalene		U	0.000021	0.00020	mg/L	1	20-Jan-2020 10:42
2-Methylnaphthalene		U	0.000019	0.00010	mg/L	1	20-Jan-2020 10:42
4,6-Dinitro-2-methylphenol		U	0.000020	0.00020	mg/L	1	20-Jan-2020 10:42
4-Nitrophenol		U	0.000047	0.0010	mg/L	1	20-Jan-2020 10:42
Acenaphthene		U	0.000027	0.00010	mg/L	1	20-Jan-2020 10:42
Acenaphthylene		U	0.000015	0.00010	mg/L	1	20-Jan-2020 10:42
Anthracene		U	0.000014	0.00010	mg/L	1	20-Jan-2020 10:42
Benz(a)anthracene		U	0.000050	0.00010	mg/L	1	20-Jan-2020 10:42
Benzo(a)pyrene		U	0.000020	0.00010	mg/L	1	20-Jan-2020 10:42
Bis(2-chloroethoxy)methane		U	0.000030	0.00020	mg/L	1	20-Jan-2020 10:42
Bis(2-ethylhexyl)phthalate		U	0.000037	0.00020	mg/L	1	20-Jan-2020 10:42
Chrysene		U	0.000021	0.00010	mg/L	1	20-Jan-2020 10:42
Dibenzofuran		U	0.000020	0.00010	mg/L	1	20-Jan-2020 10:42
Di-n-butyl phthalate		U	0.000020	0.00020	mg/L	1	20-Jan-2020 10:42
Fluoranthene		U	0.000010	0.00010	mg/L	1	20-Jan-2020 10:42
Fluorene		U	0.000030	0.00010	mg/L	1	20-Jan-2020 10:42
Naphthalene	**0.00020**		**0.000020**	**0.00010**	**mg/L**	1	20-Jan-2020 10:42
Nitrobenzene		U	0.000024	0.00020	mg/L	1	20-Jan-2020 10:42
N-Nitrosodiphenylamine		U	0.000025	0.00020	mg/L	1	20-Jan-2020 10:42
Pentachlorophenol		U	0.000079	0.00020	mg/L	1	20-Jan-2020 10:42
Phenanthrene		U	0.000021	0.00010	mg/L	1	20-Jan-2020 10:42
Phenol		U	0.000035	0.00020	mg/L	1	20-Jan-2020 10:42
Pyrene		U	0.000019	0.00010	mg/L	1	20-Jan-2020 10:42
Surr: 2,4,6-Tribromophenol	*67.6*			*34-129*	*%REC*	*1*	*20-Jan-2020 10:42*
Surr: 2-Fluorobiphenyl	*93.0*			*40-125*	*%REC*	*1*	*20-Jan-2020 10:42*
Surr: 2-Fluorophenol	*73.7*			*20-120*	*%REC*	*1*	*20-Jan-2020 10:42*
Surr: 4-Terphenyl-d14	*93.4*			*40-135*	*%REC*	*1*	*20-Jan-2020 10:42*
Surr: Nitrobenzene-d5	*89.7*			*41-120*	*%REC*	*1*	*20-Jan-2020 10:42*
Surr: Phenol-d6	*79.9*			*20-120*	*%REC*	*1*	*20-Jan-2020 10:42*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 14-Jan-2020		Analyst: ALR
Arsenic		U	0.000400	0.00200	mg/L	1	14-Jan-2020 22:08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW83B-20200110
Collection Date: 10-Jan-2020 10:00

ANALYTICAL REPORT
WorkOrder:HS20010442
Lab ID:HS20010442-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	15-Jan-2020 16:59
Benzene	**0.021**		**0.00020**	**0.0010**	**mg/L**	1	15-Jan-2020 16:59
Chlorobenzene	U		0.00030	0.0010	mg/L	1	15-Jan-2020 16:59
Ethylbenzene	**0.078**		**0.00030**	**0.0010**	**mg/L**	1	15-Jan-2020 16:59
Methylene chloride	U		0.0010	0.0020	mg/L	1	15-Jan-2020 16:59
Toluene	**0.0052**		**0.00020**	**0.0010**	**mg/L**	1	15-Jan-2020 16:59
Vinyl chloride	U		0.00020	0.0010	mg/L	1	15-Jan-2020 16:59
Xylenes, Total	**0.098**		**0.00030**	**0.0010**	**mg/L**	1	15-Jan-2020 16:59
Surr: 1,2-Dichloroethane-d4	*124*			*70-126*	*%REC*	*1*	*15-Jan-2020 16:59*
Surr: 4-Bromofluorobenzene	*105*			*81-113*	*%REC*	*1*	*15-Jan-2020 16:59*
Surr: Dibromofluoromethane	*109*			*77-123*	*%REC*	*1*	*15-Jan-2020 16:59*
Surr: Toluene-d8	*99.1*			*82-127*	*%REC*	*1*	*15-Jan-2020 16:59*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW83B-20200110
Collection Date: 10-Jan-2020 10:00

ANALYTICAL REPORT
WorkOrder:HS20010442
Lab ID:HS20010442-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jan-2020 19:04
2,4-Dimethylphenol	**0.000072**	J	**0.000040**	**0.00020**	**mg/L**	1	17-Jan-2020 19:04
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jan-2020 19:04
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jan-2020 19:04
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jan-2020 19:04
2-Methylnaphthalene	**0.078**		**0.00019**	**0.0010**	**mg/L**	10	20-Jan-2020 11:01
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jan-2020 19:04
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jan-2020 19:04
Acenaphthene	**0.066**		**0.00027**	**0.0010**	**mg/L**	10	20-Jan-2020 11:01
Acenaphthylene	**0.00047**		**0.000015**	**0.00010**	**mg/L**	1	17-Jan-2020 19:04
Anthracene	**0.0039**		**0.000014**	**0.00010**	**mg/L**	1	17-Jan-2020 19:04
Benz(a)anthracene	**0.000070**	J	**0.000050**	**0.00010**	**mg/L**	1	17-Jan-2020 19:04
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jan-2020 19:04
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jan-2020 19:04
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	17-Jan-2020 19:04
Chrysene	**0.000065**	J	**0.000021**	**0.00010**	**mg/L**	1	17-Jan-2020 19:04
Dibenzofuran	**0.023**		**0.00020**	**0.0010**	**mg/L**	10	20-Jan-2020 11:01
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jan-2020 19:04
Fluoranthene	**0.0033**		**0.000010**	**0.00010**	**mg/L**	1	17-Jan-2020 19:04
Fluorene	**0.024**		**0.00030**	**0.0010**	**mg/L**	10	20-Jan-2020 11:01
Naphthalene	**1.2**		**0.0050**	**0.025**	**mg/L**	250	20-Jan-2020 11:59
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jan-2020 19:04
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jan-2020 19:04
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jan-2020 19:04
Phenanthrene	**0.021**		**0.00021**	**0.0010**	**mg/L**	10	20-Jan-2020 11:01
Phenol	U		0.000035	0.00020	mg/L	1	17-Jan-2020 19:04
Pyrene	**0.0022**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 19:04
Surr: 2,4,6-Tribromophenol	*72.8*			*34-129*	*%REC*	*1*	*17-Jan-2020 19:04*
Surr: 2,4,6-Tribromophenol	*59.3*			*34-129*	*%REC*	*10*	*20-Jan-2020 11:01*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*250*	*20-Jan-2020 11:59*
Surr: 2-Fluorobiphenyl	*60.1*			*40-125*	*%REC*	*10*	*20-Jan-2020 11:01*
Surr: 2-Fluorobiphenyl	*64.9*			*40-125*	*%REC*	*1*	*17-Jan-2020 19:04*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*250*	*20-Jan-2020 11:59*
Surr: 2-Fluorophenol	*63.7*			*20-120*	*%REC*	*10*	*20-Jan-2020 11:01*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*250*	*20-Jan-2020 11:59*
Surr: 2-Fluorophenol	*70.7*			*20-120*	*%REC*	*1*	*17-Jan-2020 19:04*
Surr: 4-Terphenyl-d14	*88.4*			*40-135*	*%REC*	*1*	*17-Jan-2020 19:04*
Surr: 4-Terphenyl-d14	*79.1*			*40-135*	*%REC*	*10*	*20-Jan-2020 11:01*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*250*	*20-Jan-2020 11:59*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW83B-20200110
Collection Date: 10-Jan-2020 10:00

ANALYTICAL REPORT
WorkOrder:HS20010442
Lab ID:HS20010442-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: GEY
Surr: Nitrobenzene-d5	*82.9*			*41-120*	*%REC*	*10*	*20-Jan-2020 11:01*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*250*	*20-Jan-2020 11:59*
Surr: Nitrobenzene-d5	*116*			*41-120*	*%REC*	*1*	*17-Jan-2020 19:04*
Surr: Phenol-d6	*62.3*			*20-120*	*%REC*	*1*	*17-Jan-2020 19:04*
Surr: Phenol-d6	*54.0*			*20-120*	*%REC*	*10*	*20-Jan-2020 11:01*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*250*	*20-Jan-2020 11:59*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 14-Jan-2020		Analyst: ALR
Arsenic	**0.0709**		**0.000400**	**0.00200**	**mg/L**	1	14-Jan-2020 22:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW83C-20200110
Collection Date: 10-Jan-2020 09:00

ANALYTICAL REPORT
WorkOrder:HS20010442
Lab ID:HS20010442-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	15-Jan-2020 17:24
Benzene		U	0.00020	0.0010	mg/L	1	15-Jan-2020 17:24
Chlorobenzene		U	0.00030	0.0010	mg/L	1	15-Jan-2020 17:24
Ethylbenzene		U	0.00030	0.0010	mg/L	1	15-Jan-2020 17:24
Methylene chloride		U	0.0010	0.0020	mg/L	1	15-Jan-2020 17:24
Toluene		U	0.00020	0.0010	mg/L	1	15-Jan-2020 17:24
Vinyl chloride		U	0.00020	0.0010	mg/L	1	15-Jan-2020 17:24
Xylenes, Total		U	0.00030	0.0010	mg/L	1	15-Jan-2020 17:24
Surr: 1,2-Dichloroethane-d4	*122*			*70-126*	*%REC*	*1*	*15-Jan-2020 17:24*
Surr: 4-Bromofluorobenzene	*98.8*			*81-113*	*%REC*	*1*	*15-Jan-2020 17:24*
Surr: Dibromofluoromethane	*110*			*77-123*	*%REC*	*1*	*15-Jan-2020 17:24*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*15-Jan-2020 17:24*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW83C-20200110
Collection Date: 10-Jan-2020 09:00

ANALYTICAL REPORT
WorkOrder:HS20010442
Lab ID:HS20010442-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jan-2020 19:24
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	17-Jan-2020 19:24
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jan-2020 19:24
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jan-2020 19:24
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jan-2020 19:24
2-Methylnaphthalene	**0.00021**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 19:24
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jan-2020 19:24
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jan-2020 19:24
Acenaphthene	**0.00018**		**0.000027**	**0.00010**	**mg/L**	1	17-Jan-2020 19:24
Acenaphthylene	U		0.000015	0.00010	mg/L	1	17-Jan-2020 19:24
Anthracene	U		0.000014	0.00010	mg/L	1	17-Jan-2020 19:24
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	17-Jan-2020 19:24
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jan-2020 19:24
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jan-2020 19:24
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	17-Jan-2020 19:24
Chrysene	U		0.000021	0.00010	mg/L	1	17-Jan-2020 19:24
Dibenzofuran	**0.00015**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 19:24
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jan-2020 19:24
Fluoranthene	U		0.000010	0.00010	mg/L	1	17-Jan-2020 19:24
Fluorene	**0.00012**		**0.000030**	**0.00010**	**mg/L**	1	17-Jan-2020 19:24
Naphthalene	**0.0018**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 19:24
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jan-2020 19:24
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jan-2020 19:24
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jan-2020 19:24
Phenanthrene	**0.00017**		**0.000021**	**0.00010**	**mg/L**	1	17-Jan-2020 19:24
Phenol	U		0.000035	0.00020	mg/L	1	17-Jan-2020 19:24
Pyrene	U		0.000019	0.00010	mg/L	1	17-Jan-2020 19:24
Surr: 2,4,6-Tribromophenol	*66.3*			*34-129*	*%REC*	*1*	*17-Jan-2020 19:24*
Surr: 2-Fluorobiphenyl	*59.9*			*40-125*	*%REC*	*1*	*17-Jan-2020 19:24*
Surr: 2-Fluorophenol	*62.5*			*20-120*	*%REC*	*1*	*17-Jan-2020 19:24*
Surr: 4-Terphenyl-d14	*80.2*			*40-135*	*%REC*	*1*	*17-Jan-2020 19:24*
Surr: Nitrobenzene-d5	*63.9*			*41-120*	*%REC*	*1*	*17-Jan-2020 19:24*
Surr: Phenol-d6	*61.8*			*20-120*	*%REC*	*1*	*17-Jan-2020 19:24*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 14-Jan-2020		Analyst: ALR
Arsenic	**0.00564**		**0.000400**	**0.00200**	**mg/L**	1	14-Jan-2020 22:12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010442

Batch ID: 149618 **Start Date:** 14 Jan 2020 08:30 **End Date:** 14 Jan 2020 16:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010442-03		10 (mL)	10 (mL)	1
HS20010442-04		10 (mL)	10 (mL)	1
HS20010442-05		10 (mL)	10 (mL)	1
HS20010442-06		10 (mL)	10 (mL)	1
HS20010442-07		10 (mL)	10 (mL)	1
HS20010442-08		10 (mL)	10 (mL)	1

Batch ID: 149706 **Start Date:** 16 Jan 2020 07:00 **End Date:** 16 Jan 2020 11:30
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010442-03	1	1000 (mL)	1 (mL)	0.001
HS20010442-04	1	1000 (mL)	1 (mL)	0.001
HS20010442-05	1	1000 (mL)	1 (mL)	0.001
HS20010442-06	1	1000 (mL)	1 (mL)	0.001
HS20010442-07	1	1000 (mL)	1 (mL)	0.001
HS20010442-08	1	1000 (mL)	1 (mL)	0.001

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010442

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 149618 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS20010442-03	WG-1620-FD01-20200110	10 Jan 2020 00:00		14 Jan 2020 16:00	14 Jan 2020 22:01	1
HS20010442-04	WG-1620-MW35B-20200110	10 Jan 2020 12:45		14 Jan 2020 16:00	14 Jan 2020 22:03	1
HS20010442-05	WG-1620-MW35A-20200110	10 Jan 2020 11:20		14 Jan 2020 16:00	14 Jan 2020 22:06	1
HS20010442-06	WG-1620-FB04-20200110	10 Jan 2020 10:30		14 Jan 2020 16:00	14 Jan 2020 22:08	1
HS20010442-07	WG-1620-MW83B-20200110	10 Jan 2020 10:00		14 Jan 2020 16:00	14 Jan 2020 22:10	1
HS20010442-08	WG-1620-MW83C-20200110	10 Jan 2020 09:00		14 Jan 2020 16:00	14 Jan 2020 22:12	1
Batch ID: 149706 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS20010442-03	WG-1620-FD01-20200110	10 Jan 2020 00:00		16 Jan 2020 10:59	20 Jan 2020 11:20	20
HS20010442-03	WG-1620-FD01-20200110	10 Jan 2020 00:00		16 Jan 2020 10:59	20 Jan 2020 10:03	10
HS20010442-03	WG-1620-FD01-20200110	10 Jan 2020 00:00		16 Jan 2020 10:59	20 Jan 2020 09:44	1
HS20010442-04	WG-1620-MW35B-20200110	10 Jan 2020 12:45		16 Jan 2020 10:59	20 Jan 2020 11:40	50
HS20010442-04	WG-1620-MW35B-20200110	10 Jan 2020 12:45		16 Jan 2020 10:59	20 Jan 2020 12:18	250
HS20010442-04	WG-1620-MW35B-20200110	10 Jan 2020 12:45		16 Jan 2020 10:59	20 Jan 2020 10:23	10
HS20010442-04	WG-1620-MW35B-20200110	10 Jan 2020 12:45		16 Jan 2020 10:59	17 Jan 2020 18:05	1
HS20010442-05	WG-1620-MW35A-20200110	10 Jan 2020 11:20		16 Jan 2020 10:59	17 Jan 2020 18:25	1
HS20010442-06	WG-1620-FB04-20200110	10 Jan 2020 10:30		16 Jan 2020 10:59	20 Jan 2020 10:42	1
HS20010442-07	WG-1620-MW83B-20200110	10 Jan 2020 10:00		16 Jan 2020 10:59	20 Jan 2020 11:59	250
HS20010442-07	WG-1620-MW83B-20200110	10 Jan 2020 10:00		16 Jan 2020 10:59	20 Jan 2020 11:01	10
HS20010442-07	WG-1620-MW83B-20200110	10 Jan 2020 10:00		16 Jan 2020 10:59	17 Jan 2020 19:04	1
HS20010442-08	WG-1620-MW83C-20200110	10 Jan 2020 09:00		16 Jan 2020 10:59	17 Jan 2020 19:24	1
Batch ID: R354396 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010442-02	WQ-1620-TB01-20200110	10 Jan 2020 14:00			14 Jan 2020 22:42	1
Batch ID: R354484 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010442-03	WG-1620-FD01-20200110	10 Jan 2020 00:00			15 Jan 2020 15:45	1
HS20010442-04	WG-1620-MW35B-20200110	10 Jan 2020 12:45			15 Jan 2020 16:10	1
HS20010442-05	WG-1620-MW35A-20200110	10 Jan 2020 11:20			15 Jan 2020 16:35	1
HS20010442-06	WG-1620-FB04-20200110	10 Jan 2020 10:30			15 Jan 2020 12:51	1
HS20010442-07	WG-1620-MW83B-20200110	10 Jan 2020 10:00			15 Jan 2020 16:59	1
HS20010442-08	WG-1620-MW83C-20200110	10 Jan 2020 09:00			15 Jan 2020 17:24	1

WorkOrder: HS20010442
InstrumentID: ICPMS04
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000456	0.000400	0.00200

WorkOrder: HS20010442
InstrumentID: SV-7
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.00013	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000081	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.00010	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.00010	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.00012	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000052	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000060	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000069	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000050	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000046	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000046	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000057	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000047	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.00012	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00014	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000049	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000050	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.00012	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000053	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000050	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000048	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00014	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00012	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000057	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000047	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.00012	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000051	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS20010442
InstrumentID: VOA2
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00062	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00059	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00071	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00063	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00075	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00069	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00044	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00059	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

WorkOrder: HS20010442
InstrumentID: VOA4
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00061	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00057	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00058	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00048	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00070	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00050	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00045	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00070	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010442

QC BATCH REPORT

Batch ID: 149618 (0) **Instrument: ICPMS04** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-149618** Units: **mg/L** Analysis Date: **14-Jan-2020 21:28**
Client ID: Run ID: **ICPMS04_354392** SeqNo: **5434990** PrepDate: **14-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-149618** Units: **mg/L** Analysis Date: **14-Jan-2020 21:30**
Client ID: Run ID: **ICPMS04_354392** SeqNo: **5434991** PrepDate: **14-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05218	0.00200	0.05	0	104	80 - 120				

MS Sample ID: **HS20010407-22MS** Units: **mg/L** Analysis Date: **14-Jan-2020 21:41**
Client ID: Run ID: **ICPMS04_354392** SeqNo: **5434996** PrepDate: **14-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05347	0.00200	0.05	0.000728	105	80 - 120				

MSD Sample ID: **HS20010407-22MSD** Units: **mg/L** Analysis Date: **14-Jan-2020 21:44**
Client ID: Run ID: **ICPMS04_354392** SeqNo: **5434997** PrepDate: **14-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05102	0.00200	0.05	0.000728	101	80 - 120	0.05347	4.68	20	

PDS Sample ID: **HS20010407-22PDS** Units: **mg/L** Analysis Date: **14-Jan-2020 21:46**
Client ID: Run ID: **ICPMS04_354392** SeqNo: **5434998** PrepDate: **14-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1134	0.00200	0.1	0.000728	113	75 - 125				

SD Sample ID: **HS20010407-22SD** Units: **mg/L** Analysis Date: **14-Jan-2020 21:39**
Client ID: Run ID: **ICPMS04_354392** SeqNo: **5434995** PrepDate: **14-Jan-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.000728	0	10	

The following samples were analyzed in this batch: HS20010442-03 HS20010442-04 HS20010442-05 HS20010442-06 HS20010442-07 HS20010442-08

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010442

QC BATCH REPORT

Batch ID: 149706 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-149706** Units: **ug/L** Analysis Date: **17-Jan-2020 11:10**
Client ID: Run ID: **SV-7_354580** SeqNo: **5438870** PrepDate: **16-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*3.801*	*0.20*	*5*	*0*	*76.0*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.834*	*0.20*	*5*	*0*	*96.7*	*40 - 125*				
Surr: 2-Fluorophenol	*5.028*	*0.20*	*5*	*0*	*101*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.043*	*0.20*	*5*	*0*	*101*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.556*	*0.20*	*5*	*0*	*91.1*	*41 - 120*				
Surr: Phenol-d6	*4.987*	*0.20*	*5*	*0*	*99.7*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010442

QC BATCH REPORT

Batch ID: 149706 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-149706** Units: **ug/L** Analysis Date: **17-Jan-2020 11:29**
Client ID: Run ID: **SV-7_354580** SeqNo: **5438871** PrepDate: **16-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	5.272	0.20	5	0	105	39 - 127				
2,4-Dimethylphenol	4.201	0.20	5	0	84.0	35 - 120				
2,4-Dinitrotoluene	4.666	0.20	5	0	93.3	50 - 122				
2,6-Dinitrotoluene	4.42	0.20	5	0	88.4	50 - 120				
2-Chloronaphthalene	4.636	0.20	5	0	92.7	50 - 120				
2-Methylnaphthalene	4.065	0.10	5	0	81.3	50 - 120				
4,6-Dinitro-2-methylphenol	5.471	0.20	5	0	109	25 - 121				
4-Nitrophenol	4.842	1.0	5	0	96.8	30 - 130				
Acenaphthene	4.398	0.10	5	0	88.0	45 - 120				
Acenaphthylene	4.139	0.10	5	0	82.8	47 - 120				
Anthracene	4.609	0.10	5	0	92.2	45 - 120				
Benz(a)anthracene	4.284	0.10	5	0	85.7	40 - 120				
Benzo(a)pyrene	4.099	0.10	5	0	82.0	45 - 120				
Bis(2-chloroethoxy)methane	4.466	0.20	5	0	89.3	45 - 120				
Bis(2-ethylhexyl)phthalate	4.202	0.20	5	0	84.0	40 - 139				
Chrysene	4.745	0.10	5	0	94.9	43 - 120				
Dibenzofuran	4.287	0.10	5	0	85.7	50 - 120				
Di-n-butyl phthalate	4.89	0.20	5	0	97.8	45 - 123				
Fluoranthene	4.866	0.10	5	0	97.3	45 - 125				
Fluorene	4.384	0.10	5	0	87.7	49 - 120				
Naphthalene	4.293	0.10	5	0	85.9	45 - 120				
Nitrobenzene	4.568	0.20	5	0	91.4	44 - 120				
N-Nitrosodiphenylamine	4.806	0.20	5	0	96.1	40 - 125				
Pentachlorophenol	3.923	0.20	5	0	78.5	19 - 121				
Phenanthrene	4.546	0.10	5	0	90.9	45 - 121				
Phenol	4.568	0.20	5	0	91.4	20 - 124				
Pyrene	4.445	0.10	5	0	88.9	40 - 130				
Surr: 2,4,6-Tribromophenol	*4.171*	*0.20*	*5*	*0*	*83.4*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.609*	*0.20*	*5*	*0*	*92.2*	*40 - 125*				
Surr: 2-Fluorophenol	*4.848*	*0.20*	*5*	*0*	*97.0*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.705*	*0.20*	*5*	*0*	*94.1*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.603*	*0.20*	*5*	*0*	*92.1*	*41 - 120*				
Surr: Phenol-d6	*4.591*	*0.20*	*5*	*0*	*91.8*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010442

QC BATCH REPORT

Batch ID: 149706 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-149706** Units: **ug/L** Analysis Date: **17-Jan-2020 11:49**
Client ID: Run ID: **SV-7_354580** SeqNo: **5438872** PrepDate: **16-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	5.285	0.20	5	0	106	39 - 127	5.272	0.234	20	
2,4-Dimethylphenol	4.2	0.20	5	0	84.0	35 - 120	4.201	0.0176	20	
2,4-Dinitrotoluene	4.635	0.20	5	0	92.7	50 - 122	4.666	0.65	20	
2,6-Dinitrotoluene	4.325	0.20	5	0	86.5	50 - 120	4.42	2.17	20	
2-Chloronaphthalene	4.49	0.20	5	0	89.8	50 - 120	4.636	3.19	20	
2-Methylnaphthalene	4.163	0.10	5	0	83.3	50 - 120	4.065	2.37	20	
4,6-Dinitro-2-methylphenol	5.588	0.20	5	0	112	25 - 121	5.471	2.13	30	
4-Nitrophenol	4.79	1.0	5	0	95.8	30 - 130	4.842	1.07	20	
Acenaphthene	3.978	0.10	5	0	79.6	45 - 120	4.398	10	20	
Acenaphthylene	4.124	0.10	5	0	82.5	47 - 120	4.139	0.368	20	
Anthracene	4.564	0.10	5	0	91.3	45 - 120	4.609	0.985	20	
Benz(a)anthracene	4.402	0.10	5	0	88.0	40 - 120	4.284	2.73	20	
Benzo(a)pyrene	4.633	0.10	5	0	92.7	45 - 120	4.099	12.2	20	
Bis(2-chloroethoxy)methane	4.431	0.20	5	0	88.6	45 - 120	4.466	0.783	20	
Bis(2-ethylhexyl)phthalate	4.39	0.20	5	0	87.8	40 - 139	4.202	4.38	20	
Chrysene	4.79	0.10	5	0	95.8	43 - 120	4.745	0.959	20	
Dibenzofuran	4.261	0.10	5	0	85.2	50 - 120	4.287	0.602	20	
Di-n-butyl phthalate	4.792	0.20	5	0	95.8	45 - 123	4.89	2.02	20	
Fluoranthene	4.792	0.10	5	0	95.8	45 - 125	4.866	1.52	20	
Fluorene	4.279	0.10	5	0	85.6	49 - 120	4.384	2.42	20	
Naphthalene	4.282	0.10	5	0	85.6	45 - 120	4.293	0.27	20	
Nitrobenzene	4.617	0.20	5	0	92.3	44 - 120	4.568	1.08	20	
N-Nitrosodiphenylamine	4.664	0.20	5	0	93.3	40 - 125	4.806	2.99	20	
Pentachlorophenol	4.065	0.20	5	0	81.3	19 - 121	3.923	3.53	20	
Phenanthrene	4.457	0.10	5	0	89.1	45 - 121	4.546	1.98	20	
Phenol	4.533	0.20	5	0	90.7	20 - 124	4.568	0.761	20	
Pyrene	4.594	0.10	5	0	91.9	40 - 130	4.445	3.3	20	
Surr: 2,4,6-Tribromophenol	*4.334*	*0.20*	*5*	*0*	*86.7*	*34 - 129*	*4.171*	*3.83*	*20*	
Surr: 2-Fluorobiphenyl	*4.596*	*0.20*	*5*	*0*	*91.9*	*40 - 125*	*4.609*	*0.292*	*20*	
Surr: 2-Fluorophenol	*4.641*	*0.20*	*5*	*0*	*92.8*	*20 - 120*	*4.848*	*4.37*	*20*	
Surr: 4-Terphenyl-d14	*4.77*	*0.20*	*5*	*0*	*95.4*	*40 - 135*	*4.705*	*1.38*	*20*	
Surr: Nitrobenzene-d5	*4.549*	*0.20*	*5*	*0*	*91.0*	*41 - 120*	*4.603*	*1.19*	*20*	
Surr: Phenol-d6	*4.75*	*0.20*	*5*	*0*	*95.0*	*20 - 120*	*4.591*	*3.41*	*20*	

The following samples were analyzed in this batch: HS20010442-03 HS20010442-04 HS20010442-05 HS20010442-06 HS20010442-07 HS20010442-08

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010442

QC BATCH REPORT

Batch ID: R354396 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200114** Units: **ug/L** Analysis Date: **14-Jan-2020 14:53**
Client ID: Run ID: **VOA2_354396** SeqNo: **5435103** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*48.5*	*1.0*	*50*	*0*	*97.0*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.21*	*1.0*	*50*	*0*	*94.4*	*82 - 115*				
Surr: Dibromofluoromethane	*49.74*	*1.0*	*50*	*0*	*99.5*	*73 - 126*				
Surr: Toluene-d8	*50.39*	*1.0*	*50*	*0*	*101*	*81 - 120*				

LCS Sample ID: **VLCSW-200214** Units: **ug/L** Analysis Date: **14-Jan-2020 14:04**
Client ID: Run ID: **VOA2_354396** SeqNo: **5435102** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18	1.0	20	0	90.0	70 - 124				
Benzene	17.81	1.0	20	0	89.1	74 - 120				
Chlorobenzene	18.74	1.0	20	0	93.7	76 - 113				
Ethylbenzene	18.45	1.0	20	0	92.3	77 - 117				
Methylene chloride	18.59	2.0	20	0	93.0	70 - 127				
Toluene	19.5	1.0	20	0	97.5	77 - 118				
Vinyl chloride	17.32	1.0	20	0	86.6	70 - 130				
Xylenes, Total	56.46	1.0	60	0	94.1	75 - 122				
Surr: 1,2-Dichloroethane-d4	*49.52*	*1.0*	*50*	*0*	*99.0*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*48.68*	*1.0*	*50*	*0*	*97.4*	*82 - 115*				
Surr: Dibromofluoromethane	*49.44*	*1.0*	*50*	*0*	*98.9*	*73 - 126*				
Surr: Toluene-d8	*48.75*	*1.0*	*50*	*0*	*97.5*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010442

QC BATCH REPORT

Batch ID: R354396 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010411-10MS** Units: **ug/L** Analysis Date: **14-Jan-2020 18:13**
Client ID: Run ID: **VOA2_354396** SeqNo: **5435111** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	16.57	1.0	20	0	82.9	70 - 127				
Benzene	18.27	1.0	20	0.9903	86.4	70 - 127				
Chlorobenzene	17.64	1.0	20	0	88.2	70 - 114				
Ethylbenzene	22.73	1.0	20	5.13	88.0	70 - 124				
Methylene chloride	16.6	2.0	20	0	83.0	70 - 128				
Toluene	19.16	1.0	20	0	95.8	70 - 123				
Vinyl chloride	16.93	1.0	20	0	84.6	70 - 130				
Xylenes, Total	344.6	1.0	60	319.7	41.5	70 - 130				SO
Surr: 1,2-Dichloroethane-d4	*48.09*	*1.0*	*50*	*0*	*96.2*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*52.3*	*1.0*	*50*	*0*	*105*	*81 - 113*				
Surr: Dibromofluoromethane	*48.53*	*1.0*	*50*	*0*	*97.1*	*77 - 123*				
Surr: Toluene-d8	*47.83*	*1.0*	*50*	*0*	*95.7*	*82 - 127*				

MSD Sample ID: **HS20010411-10MSD** Units: **ug/L** Analysis Date: **14-Jan-2020 18:37**
Client ID: Run ID: **VOA2_354396** SeqNo: **5435112** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	16.84	1.0	20	0	84.2	70 - 127	16.57	1.58	20	
Benzene	17.96	1.0	20	0.9903	84.9	70 - 127	18.27	1.68	20	
Chlorobenzene	17.63	1.0	20	0	88.1	70 - 114	17.64	0.0493	20	
Ethylbenzene	22.1	1.0	20	5.13	84.8	70 - 124	22.73	2.82	20	
Methylene chloride	16.24	2.0	20	0	81.2	70 - 128	16.6	2.19	20	
Toluene	18.83	1.0	20	0	94.2	70 - 123	19.16	1.72	20	
Vinyl chloride	16.95	1.0	20	0	84.8	70 - 130	16.93	0.151	20	
Xylenes, Total	335.7	1.0	60	319.7	26.5	70 - 130	344.6	2.64	20	SO
Surr: 1,2-Dichloroethane-d4	*47.45*	*1.0*	*50*	*0*	*94.9*	*70 - 126*	*48.09*	*1.33*	*20*	
Surr: 4-Bromofluorobenzene	*51.4*	*1.0*	*50*	*0*	*103*	*81 - 113*	*52.3*	*1.73*	*20*	
Surr: Dibromofluoromethane	*48*	*1.0*	*50*	*0*	*96.0*	*77 - 123*	*48.53*	*1.09*	*20*	
Surr: Toluene-d8	*48.3*	*1.0*	*50*	*0*	*96.6*	*82 - 127*	*47.83*	*0.978*	*20*	

The following samples were analyzed in this batch: HS20010442-02

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010442

QC BATCH REPORT

Batch ID: R354484 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200115** Units: **ug/L** Analysis Date: **15-Jan-2020 12:01**
Client ID: Run ID: **VOA4_354484** SeqNo: **5436851** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*59.67*	*1.0*	*50*	*0*	*119*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*48.73*	*1.0*	*50*	*0*	*97.5*	*82 - 115*				
Surr: Dibromofluoromethane	*54.2*	*1.0*	*50*	*0*	*108*	*73 - 126*				
Surr: Toluene-d8	*50.29*	*1.0*	*50*	*0*	*101*	*81 - 120*				

LCS Sample ID: **VLCSW-200115** Units: **ug/L** Analysis Date: **15-Jan-2020 11:12**
Client ID: Run ID: **VOA4_354484** SeqNo: **5436850** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	22.86	1.0	20	0	114	70 - 124				
Benzene	20.41	1.0	20	0	102	74 - 120				
Chlorobenzene	18.46	1.0	20	0	92.3	76 - 113				
Ethylbenzene	18.52	1.0	20	0	92.6	77 - 117				
Methylene chloride	22.58	2.0	20	0	113	70 - 127				
Toluene	20.42	1.0	20	0	102	77 - 118				
Vinyl chloride	22.6	1.0	20	0	113	70 - 130				
Xylenes, Total	58.07	1.0	60	0	96.8	75 - 122				
Surr: 1,2-Dichloroethane-d4	*58.94*	*1.0*	*50*	*0*	*118*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*49.6*	*1.0*	*50*	*0*	*99.2*	*82 - 115*				
Surr: Dibromofluoromethane	*54.97*	*1.0*	*50*	*0*	*110*	*73 - 126*				
Surr: Toluene-d8	*50.15*	*1.0*	*50*	*0*	*100*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010442

QC BATCH REPORT

Batch ID: R354484 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010445-02MS** Units: **ug/L** Analysis Date: **15-Jan-2020 14:30**
Client ID: Run ID: **VOA4_354484** SeqNo: **5436856** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	22.11	1.0	20	0	111	70 - 127				
Benzene	19.85	1.0	20	0	99.3	70 - 127				
Chlorobenzene	17.99	1.0	20	0	90.0	70 - 114				
Ethylbenzene	18.05	1.0	20	0	90.3	70 - 124				
Methylene chloride	19.71	2.0	20	0	98.5	70 - 128				
Toluene	20.34	1.0	20	0	102	70 - 123				
Vinyl chloride	24.78	1.0	20	0	124	70 - 130				
Xylenes, Total	59.57	1.0	60	0	99.3	70 - 130				
Surr: 1,2-Dichloroethane-d4	*61.92*	*1.0*	*50*	*0*	*124*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*48.65*	*1.0*	*50*	*0*	*97.3*	*81 - 113*				
Surr: Dibromofluoromethane	*57.28*	*1.0*	*50*	*0*	*115*	*77 - 123*				
Surr: Toluene-d8	*50.46*	*1.0*	*50*	*0*	*101*	*82 - 127*				

MSD Sample ID: **HS20010445-02MSD** Units: **ug/L** Analysis Date: **15-Jan-2020 14:55**
Client ID: Run ID: **VOA4_354484** SeqNo: **5436857** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	22.53	1.0	20	0	113	70 - 127	22.11	1.85	20	
Benzene	19.22	1.0	20	0	96.1	70 - 127	19.85	3.24	20	
Chlorobenzene	17.29	1.0	20	0	86.5	70 - 114	17.99	3.97	20	
Ethylbenzene	18.2	1.0	20	0	91.0	70 - 124	18.05	0.8	20	
Methylene chloride	18.57	2.0	20	0	92.9	70 - 128	19.71	5.91	20	
Toluene	19.32	1.0	20	0	96.6	70 - 123	20.34	5.14	20	
Vinyl chloride	23.69	1.0	20	0	118	70 - 130	24.78	4.49	20	
Xylenes, Total	57.75	1.0	60	0	96.3	70 - 130	59.57	3.11	20	
Surr: 1,2-Dichloroethane-d4	*60.02*	*1.0*	*50*	*0*	*120*	*70 - 126*	*61.92*	*3.12*	*20*	
Surr: 4-Bromofluorobenzene	*48.71*	*1.0*	*50*	*0*	*97.4*	*81 - 113*	*48.65*	*0.125*	*20*	
Surr: Dibromofluoromethane	*55.62*	*1.0*	*50*	*0*	*111*	*77 - 123*	*57.28*	*2.95*	*20*	
Surr: Toluene-d8	*49.72*	*1.0*	*50*	*0*	*99.4*	*82 - 127*	*50.46*	*1.46*	*20*	

The following samples were analyzed in this batch: HS20010442-03 HS20010442-04 HS20010442-05 HS20010442-06 HS20010442-07 HS20010442-08

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS20010442**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	T104704231-19-25	30-Apr-2020

Sample Receipt Checklist

Client Name: PBW
Work Order: HS20010442

Date/Time Received: **10-Jan-2020 15:11**
Received by: **PMG**

Checklist completed by: *Asad Chaudhry* eSignature — 11-Jan-2020 Date

Reviewed by: *Corey Grandits* eSignature — 13-Jan-2020 Date

Matrices: **Water**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:206384
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.7c, 1.1c U/C	IR 25
Cooler(s)/Kit(s):	24593, 25283	
Date/Time sample(s) sent to storage:	01/10/2020 19:00	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes: Sx WG-1620 FB 0420200110 time differs: COC= 10:30, Label= 10:00. Logged in per COC.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 206384

HS20010442

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-07-Rev0 SR 92688
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address	

A 8260_LL_W (5632528 Volatile Organics Site Specific)
B 8260_LL_W (5632528 VOC Site Specific + V.C.)
C 8270_LOW_W (5632532 SemiVolatiles Site specific)
D ICP_TW (5636002 5652646 Metals - As)
E
F
G
H
J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
~~1~~	~~WQ-1620-TB0-202001~~			Water	1	2		X									
2	WQ 1620 TBCG121719-7420200110	1-10-2020	14:00	X	1	2		X									
3	WQ 1620 TBCG121719-8920200110	1-10-2020	14:00	X	1	2		X									
4	WG 1620 FD01 20200110	1-10-2020	-	X	1	6	X	X	X	X							
5	WG 1620 MW353 20200110	1-10-2020	12:45	X	1	6	X	X	X	X							
6	WG-1620 MW35A 20200110	1-10-2020	11:20	X	1	6	X	X	X	X							
7	WG-1620 EB04 20200110	1-10-2020	10:30	X	1	6	X	X	X	X							
8	WG-1620 MW 83B 20200110	1-10-2020	10:00	X	1	6	X	X	X	X							
9	WG-1620 MW 83C 20200110	1-10-2020	9:00	X	1	6	X	X	X	X							
10																	

Sampler(s) Please Print & Sign: Tim McSpadden T. McSpadden

Shipment Method:

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 -hour [ ] Other

Results Due Date:

Relinquished by: T. McSpadden Date: 1-10-20 Time: 15:11

Received by:

Relinquished by: Date: Time:

Received by (Laboratory): 1/10/2020 15:11

Notes: UPRR Houston MWPW

Logged by (Laboratory): Date: Time:

Checked by (Laboratory):

Cooler ID	Cooler Temp.
24593	1.7°
25283	1.1°
	2°

QC Package: (Check One Box Below)
[ ] Level II Std QC
[ ] Level III Std QC/Raw Data
[ ] Level IV SW846/CLP
[X] TRRP Checklist
[ ] TRRP Level IV
[ ] Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

January 23, 2020

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS20010596**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 16 sample(s) on Jan 15, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20010596**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	**HS20010596**

TRRP Laboratory Data Package Cover Page

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: aaa					
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20010596					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 149706,149707,149749,R354616,R354637,R354652,R354723,R354799					
#[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				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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 SW-846 Method 5035?			X		
		If required for the project, 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			1
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 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				
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			2
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		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		
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				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: aaa				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20010596				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 149706,149707,149749,R354616,R354637,R354652,R354723,R354799				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group		LRC Date: aaa
Project Name: Houston TX-Wood Preserving Works		Laboratory Job Number: HS20010596
Reviewer Name: Dane Wacasey		Prep Batch Number(s): 149706,149707,149749,R354616,R354637,R354652,R354723,R354799
ER#[5]	**Description**	
1	Semivolatile Organics Method SW8270, samples WG-1620-MW40B-20200113, WG-1620-MW20A-20200114, the surrogate recoveries could not be determined due to dilution below the calibration range. Semivolatile Organics Method SW8270, samples WG-1620-TW41B-20200113, WG-1620-MW12A-20200113 surrogates: 2,4,6-Tribromophenol, 4-Terphenyl-d14 due to a dilution required for sample analysis.	
2	Batch 149706, Semivolatile Organics Method SW8270: LCS/LCSD were analyzed and reported in lieu of an MS/MSD for this batch. Batch 149707, Semivolatile Organics Method SW8270: LCS/LCSD were analyzed and reported in lieu of an MS/MSD for this batch	

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20010596

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20010596-01	WG-1620-MW40B-20200113	Water		13-Jan-2020 12:10	15-Jan-2020 11:50	☐
HS20010596-02	WG-1620-MW42B-20200113	Water		13-Jan-2020 13:10	15-Jan-2020 11:50	☐
HS20010596-03	WG-1620-TW41B-20200113	Water		13-Jan-2020 14:00	15-Jan-2020 11:50	☐
HS20010596-04	WG-1620-MW05-20200113	Water		13-Jan-2020 14:55	15-Jan-2020 11:50	☐
HS20010596-05	WG-1620-MW12C-20200113	Water		13-Jan-2020 15:55	15-Jan-2020 11:50	☐
HS20010596-06	WG-1620-MW12A-20200113	Water		13-Jan-2020 16:45	15-Jan-2020 11:50	☐
HS20010596-07	WG-1620-MW39B-20200113	Water		13-Jan-2020 17:35	15-Jan-2020 11:50	☐
HS20010596-08	WG-1620-FB05-20200113	Water		13-Jan-2020 17:50	15-Jan-2020 11:50	☐
HS20010596-09	WG-1620-MW13-20200114	Water		14-Jan-2020 08:10	15-Jan-2020 11:50	☐
HS20010596-10	WG-1620-MW09-20200114	Water		14-Jan-2020 09:00	15-Jan-2020 11:50	☐
HS20010596-11	WG-1620-MW21C-20200114	Water		14-Jan-2020 10:00	15-Jan-2020 11:50	☐
HS20010596-12	WG-1620-FD02-20200114	Water		14-Jan-2020 10:00	15-Jan-2020 11:50	☐
HS20010596-13	WG-1620-P11-20200114	Water		14-Jan-2020 10:55	15-Jan-2020 11:50	☐
HS20010596-14	WG-1620-MW88C-20200114	Water		14-Jan-2020 11:50	15-Jan-2020 11:50	☐
HS20010596-15	WG-1620-MW20A-20200114	Water		14-Jan-2020 12:55	15-Jan-2020 11:50	☐
HS20010596-16	WG-1620-TB03-20200114	Water		14-Jan-2020 00:00	15-Jan-2020 11:50	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW40B-20200113
Collection Date: 13-Jan-2020 12:10

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	17-Jan-2020 06:51
Benzene	**0.011**		**0.00020**	**0.0010**	**mg/L**	1	17-Jan-2020 06:51
Chlorobenzene	U		0.00030	0.0010	mg/L	1	17-Jan-2020 06:51
Ethylbenzene	**0.089**		**0.00030**	**0.0010**	**mg/L**	1	17-Jan-2020 06:51
Methylene chloride	U		0.0010	0.0020	mg/L	1	17-Jan-2020 06:51
Toluene	**0.022**		**0.00020**	**0.0010**	**mg/L**	1	17-Jan-2020 06:51
Xylenes, Total	**0.16**		**0.00030**	**0.0010**	**mg/L**	1	17-Jan-2020 06:51
Surr: 1,2-Dichloroethane-d4	*120*			*70-126*	*%REC*	*1*	*17-Jan-2020 06:51*
Surr: 4-Bromofluorobenzene	*112*			*81-113*	*%REC*	*1*	*17-Jan-2020 06:51*
Surr: Dibromofluoromethane	*111*			*77-123*	*%REC*	*1*	*17-Jan-2020 06:51*
Surr: Toluene-d8	*99.5*			*82-127*	*%REC*	*1*	*17-Jan-2020 06:51*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW40B-20200113
Collection Date: 13-Jan-2020 12:10

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jan-2020 19:44
2,4-Dimethylphenol	**0.0013**		**0.000040**	**0.00020**	**mg/L**	1	17-Jan-2020 19:44
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jan-2020 19:44
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jan-2020 19:44
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jan-2020 19:44
2-Methylnaphthalene	**0.34**		**0.0019**	**0.010**	**mg/L**	100	21-Jan-2020 18:41
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jan-2020 19:44
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jan-2020 19:44
Acenaphthene	**0.39**		**0.0027**	**0.010**	**mg/L**	100	21-Jan-2020 18:41
Acenaphthylene	**0.0021**		**0.000015**	**0.00010**	**mg/L**	1	17-Jan-2020 19:44
Anthracene	**0.040**		**0.0014**	**0.010**	**mg/L**	100	21-Jan-2020 18:41
Benz(a)anthracene	**0.000094**	J	**0.000050**	**0.00010**	**mg/L**	1	17-Jan-2020 19:44
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jan-2020 19:44
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jan-2020 19:44
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	17-Jan-2020 19:44
Chrysene	**0.000051**	J	**0.000021**	**0.00010**	**mg/L**	1	17-Jan-2020 19:44
Dibenzofuran	**0.29**		**0.0020**	**0.010**	**mg/L**	100	21-Jan-2020 18:41
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jan-2020 19:44
Fluoranthene	**0.017**		**0.0010**	**0.010**	**mg/L**	100	21-Jan-2020 18:41
Fluorene	**0.30**		**0.0030**	**0.010**	**mg/L**	100	21-Jan-2020 18:41
Naphthalene	**7.9**		**0.020**	**0.10**	**mg/L**	1000	21-Jan-2020 19:00
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jan-2020 19:44
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jan-2020 19:44
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jan-2020 19:44
Phenanthrene	**0.22**		**0.0021**	**0.010**	**mg/L**	100	21-Jan-2020 18:41
Phenol	U		0.000035	0.00020	mg/L	1	17-Jan-2020 19:44
Pyrene	**0.0037**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 19:44
Surr: 2,4,6-Tribromophenol	*72.4*			*34-129*	*%REC*	*1*	*17-Jan-2020 19:44*
Surr: 2,4,6-Tribromophenol	*69.8*	*J*		*34-129*	*%REC*	*100*	*21-Jan-2020 18:41*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*1000*	*21-Jan-2020 19:00*
Surr: 2-Fluorobiphenyl	*68.1*	*J*		*40-125*	*%REC*	*100*	*21-Jan-2020 18:41*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*1000*	*21-Jan-2020 19:00*
Surr: 2-Fluorobiphenyl	*67.2*			*40-125*	*%REC*	*1*	*17-Jan-2020 19:44*
Surr: 2-Fluorophenol	*96.2*			*20-120*	*%REC*	*1*	*17-Jan-2020 19:44*
Surr: 2-Fluorophenol	*54.9*	*J*		*20-120*	*%REC*	*100*	*21-Jan-2020 18:41*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*1000*	*21-Jan-2020 19:00*
Surr: 4-Terphenyl-d14	*115*	*J*		*40-135*	*%REC*	*100*	*21-Jan-2020 18:41*
Surr: 4-Terphenyl-d14	*88.9*			*40-135*	*%REC*	*1*	*17-Jan-2020 19:44*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*1000*	*21-Jan-2020 19:00*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW40B-20200113
Collection Date: 13-Jan-2020 12:10

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: GEY
Surr: Nitrobenzene-d5	*114*	*J*		*41-120*	*%REC*	*100*	*21-Jan-2020 18:41*
Surr: Nitrobenzene-d5	*91.7*			*41-120*	*%REC*	*1*	*17-Jan-2020 19:44*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*1000*	*21-Jan-2020 19:00*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*1000*	*21-Jan-2020 19:00*
Surr: Phenol-d6	*72.7*			*20-120*	*%REC*	*1*	*17-Jan-2020 19:44*
Surr: Phenol-d6	*117*	*J*		*20-120*	*%REC*	*100*	*21-Jan-2020 18:41*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Jan-2020		Analyst: JHD
Arsenic	**0.0523**		**0.000400**	**0.00200**	**mg/L**	1	20-Jan-2020 15:19

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010596
Sample ID: WG-1620-MW42B-20200113
Lab ID:HS20010596-02
Collection Date: 13-Jan-2020 13:10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	20-Jan-2020 16:46
Benzene		U	0.00020	0.0010	mg/L	1	20-Jan-2020 16:46
Chlorobenzene		U	0.00030	0.0010	mg/L	1	20-Jan-2020 16:46
Ethylbenzene		U	0.00030	0.0010	mg/L	1	20-Jan-2020 16:46
Methylene chloride		U	0.0010	0.0020	mg/L	1	20-Jan-2020 16:46
Toluene		U	0.00020	0.0010	mg/L	1	20-Jan-2020 16:46
Xylenes, Total		U	0.00030	0.0010	mg/L	1	20-Jan-2020 16:46
Surr: 1,2-Dichloroethane-d4	*95.7*			*70-126*	*%REC*	*1*	*20-Jan-2020 16:46*
Surr: 4-Bromofluorobenzene	*94.8*			*81-113*	*%REC*	*1*	*20-Jan-2020 16:46*
Surr: Dibromofluoromethane	*99.1*			*77-123*	*%REC*	*1*	*20-Jan-2020 16:46*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*20-Jan-2020 16:46*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW42B-20200113
Collection Date: 13-Jan-2020 13:10

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jan-2020 20:04
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	17-Jan-2020 20:04
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jan-2020 20:04
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jan-2020 20:04
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jan-2020 20:04
2-Methylnaphthalene	**0.000069**	J	**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 20:04
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jan-2020 20:04
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jan-2020 20:04
Acenaphthene	**0.00012**		**0.000027**	**0.00010**	**mg/L**	1	17-Jan-2020 20:04
Acenaphthylene	U		0.000015	0.00010	mg/L	1	17-Jan-2020 20:04
Anthracene	**0.000049**	J	**0.000014**	**0.00010**	**mg/L**	1	17-Jan-2020 20:04
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	17-Jan-2020 20:04
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jan-2020 20:04
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jan-2020 20:04
Bis(2-ethylhexyl)phthalate	**0.00013**	J	**0.000037**	**0.00020**	**mg/L**	1	17-Jan-2020 20:04
Chrysene	U		0.000021	0.00010	mg/L	1	17-Jan-2020 20:04
Dibenzofuran	**0.000065**	J	**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 20:04
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jan-2020 20:04
Fluoranthene	**0.00018**		**0.000010**	**0.00010**	**mg/L**	1	17-Jan-2020 20:04
Fluorene	**0.000067**	J	**0.000030**	**0.00010**	**mg/L**	1	17-Jan-2020 20:04
Naphthalene	**0.00076**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 20:04
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jan-2020 20:04
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jan-2020 20:04
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jan-2020 20:04
Phenanthrene	**0.00012**		**0.000021**	**0.00010**	**mg/L**	1	17-Jan-2020 20:04
Phenol	U		0.000035	0.00020	mg/L	1	17-Jan-2020 20:04
Pyrene	**0.00013**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 20:04
Surr: 2,4,6-Tribromophenol	*67.8*			*34-129*	*%REC*	*1*	*17-Jan-2020 20:04*
Surr: 2-Fluorobiphenyl	*65.5*			*40-125*	*%REC*	*1*	*17-Jan-2020 20:04*
Surr: 2-Fluorophenol	*60.6*			*20-120*	*%REC*	*1*	*17-Jan-2020 20:04*
Surr: 4-Terphenyl-d14	*92.4*			*40-135*	*%REC*	*1*	*17-Jan-2020 20:04*
Surr: Nitrobenzene-d5	*63.9*			*41-120*	*%REC*	*1*	*17-Jan-2020 20:04*
Surr: Phenol-d6	*65.2*			*20-120*	*%REC*	*1*	*17-Jan-2020 20:04*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Jan-2020		Analyst: JHD
Arsenic	**0.00133**	J	**0.000400**	**0.00200**	**mg/L**	1	20-Jan-2020 16:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-TW41B-20200113
Collection Date: 13-Jan-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	20-Jan-2020 14:15
Benzene	**0.00039**	J	**0.00020**	**0.0010**	**mg/L**	1	20-Jan-2020 14:15
Chlorobenzene	U		0.00030	0.0010	mg/L	1	20-Jan-2020 14:15
Ethylbenzene	U		0.00030	0.0010	mg/L	1	20-Jan-2020 14:15
Methylene chloride	U		0.0010	0.0020	mg/L	1	20-Jan-2020 14:15
Toluene	U		0.00020	0.0010	mg/L	1	20-Jan-2020 14:15
Xylenes, Total	**0.0021**		**0.00030**	**0.0010**	**mg/L**	1	20-Jan-2020 14:15
Surr: 1,2-Dichloroethane-d4	*96.7*			*70-126*	*%REC*	*1*	*20-Jan-2020 14:15*
Surr: 4-Bromofluorobenzene	*97.2*			*81-113*	*%REC*	*1*	*20-Jan-2020 14:15*
Surr: Dibromofluoromethane	*99.8*			*77-123*	*%REC*	*1*	*20-Jan-2020 14:15*
Surr: Toluene-d8	*99.6*			*82-127*	*%REC*	*1*	*20-Jan-2020 14:15*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-TW41B-20200113
Collection Date: 13-Jan-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jan-2020 20:24
2,4-Dimethylphenol	**0.00017**	J	**0.000040**	**0.00020**	**mg/L**	1	17-Jan-2020 20:24
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jan-2020 20:24
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jan-2020 20:24
2-Chloronaphthalene	**0.00012**	J	**0.000021**	**0.00020**	**mg/L**	1	17-Jan-2020 20:24
2-Methylnaphthalene	**0.0071**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 20:24
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jan-2020 20:24
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jan-2020 20:24
Acenaphthene	**0.12**		**0.00054**	**0.0020**	**mg/L**	20	21-Jan-2020 19:19
Acenaphthylene	**0.0011**		**0.000015**	**0.00010**	**mg/L**	1	17-Jan-2020 20:24
Anthracene	**0.0031**		**0.000014**	**0.00010**	**mg/L**	1	17-Jan-2020 20:24
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	17-Jan-2020 20:24
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jan-2020 20:24
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jan-2020 20:24
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	17-Jan-2020 20:24
Chrysene	U		0.000021	0.00010	mg/L	1	17-Jan-2020 20:24
Dibenzofuran	**0.055**		**0.00020**	**0.0010**	**mg/L**	10	21-Jan-2020 17:42
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jan-2020 20:24
Fluoranthene	**0.0021**		**0.000010**	**0.00010**	**mg/L**	1	17-Jan-2020 20:24
Fluorene	**0.078**		**0.00030**	**0.0010**	**mg/L**	10	21-Jan-2020 17:42
Naphthalene	**0.058**		**0.00020**	**0.0010**	**mg/L**	10	21-Jan-2020 17:42
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jan-2020 20:24
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jan-2020 20:24
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jan-2020 20:24
Phenanthrene	**0.0084**		**0.000021**	**0.00010**	**mg/L**	1	17-Jan-2020 20:24
Phenol	U		0.000035	0.00020	mg/L	1	17-Jan-2020 20:24
Pyrene	**0.00082**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 20:24
Surr: 2,4,6-Tribromophenol	*156*	*S*		*34-129*	*%REC*	*10*	*21-Jan-2020 17:42*
Surr: 2,4,6-Tribromophenol	*60.3*	*J*		*34-129*	*%REC*	*20*	*21-Jan-2020 19:19*
Surr: 2,4,6-Tribromophenol	*83.3*			*34-129*	*%REC*	*1*	*17-Jan-2020 20:24*
Surr: 2-Fluorobiphenyl	*68.0*			*40-125*	*%REC*	*1*	*17-Jan-2020 20:24*
Surr: 2-Fluorobiphenyl	*118*			*40-125*	*%REC*	*10*	*21-Jan-2020 17:42*
Surr: 2-Fluorobiphenyl	*118*			*40-125*	*%REC*	*20*	*21-Jan-2020 19:19*
Surr: 2-Fluorophenol	*92.0*			*20-120*	*%REC*	*10*	*21-Jan-2020 17:42*
Surr: 2-Fluorophenol	*85.3*			*20-120*	*%REC*	*20*	*21-Jan-2020 19:19*
Surr: 2-Fluorophenol	*66.9*			*20-120*	*%REC*	*1*	*17-Jan-2020 20:24*
Surr: 4-Terphenyl-d14	*92.6*			*40-135*	*%REC*	*1*	*17-Jan-2020 20:24*
Surr: 4-Terphenyl-d14	*155*	*S*		*40-135*	*%REC*	*10*	*21-Jan-2020 17:42*
Surr: 4-Terphenyl-d14	*101*			*40-135*	*%REC*	*20*	*21-Jan-2020 19:19*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-TW41B-20200113
Collection Date: 13-Jan-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: GEY
Surr: Nitrobenzene-d5	*82.3*			*41-120*	*%REC*	*10*	*21-Jan-2020 17:42*
Surr: Nitrobenzene-d5	*83.5*			*41-120*	*%REC*	*20*	*21-Jan-2020 19:19*
Surr: Nitrobenzene-d5	*81.4*			*41-120*	*%REC*	*1*	*17-Jan-2020 20:24*
Surr: Phenol-d6	*71.7*			*20-120*	*%REC*	*1*	*17-Jan-2020 20:24*
Surr: Phenol-d6	*83.3*			*20-120*	*%REC*	*10*	*21-Jan-2020 17:42*
Surr: Phenol-d6	*91.0*			*20-120*	*%REC*	*20*	*21-Jan-2020 19:19*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Jan-2020		Analyst: JHD
Arsenic	**0.0557**		**0.000400**	**0.00200**	**mg/L**	1	20-Jan-2020 16:20

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW05-20200113
Collection Date: 13-Jan-2020 14:55

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	17-Jan-2020 07:40
Benzene		U	0.00020	0.0010	mg/L	1	17-Jan-2020 07:40
Chlorobenzene		U	0.00030	0.0010	mg/L	1	17-Jan-2020 07:40
Ethylbenzene		U	0.00030	0.0010	mg/L	1	17-Jan-2020 07:40
Methylene chloride		U	0.0010	0.0020	mg/L	1	17-Jan-2020 07:40
Toluene		U	0.00020	0.0010	mg/L	1	17-Jan-2020 07:40
Xylenes, Total		U	0.00030	0.0010	mg/L	1	17-Jan-2020 07:40
Surr: 1,2-Dichloroethane-d4	*116*			*70-126*	*%REC*	*1*	*17-Jan-2020 07:40*
Surr: 4-Bromofluorobenzene	*98.7*			*81-113*	*%REC*	*1*	*17-Jan-2020 07:40*
Surr: Dibromofluoromethane	*111*			*77-123*	*%REC*	*1*	*17-Jan-2020 07:40*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*17-Jan-2020 07:40*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW05-20200113
Collection Date: 13-Jan-2020 14:55

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jan-2020 20:43
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	17-Jan-2020 20:43
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jan-2020 20:43
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jan-2020 20:43
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jan-2020 20:43
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	17-Jan-2020 20:43
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jan-2020 20:43
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jan-2020 20:43
Acenaphthene	U		0.000027	0.00010	mg/L	1	17-Jan-2020 20:43
Acenaphthylene	U		0.000015	0.00010	mg/L	1	17-Jan-2020 20:43
Anthracene	U		0.000014	0.00010	mg/L	1	17-Jan-2020 20:43
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	17-Jan-2020 20:43
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jan-2020 20:43
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jan-2020 20:43
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	17-Jan-2020 20:43
Chrysene	U		0.000021	0.00010	mg/L	1	17-Jan-2020 20:43
Dibenzofuran	U		0.000020	0.00010	mg/L	1	17-Jan-2020 20:43
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jan-2020 20:43
Fluoranthene	U		0.000010	0.00010	mg/L	1	17-Jan-2020 20:43
Fluorene	U		0.000030	0.00010	mg/L	1	17-Jan-2020 20:43
Naphthalene	**0.00012**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 20:43
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jan-2020 20:43
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jan-2020 20:43
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jan-2020 20:43
Phenanthrene	U		0.000021	0.00010	mg/L	1	17-Jan-2020 20:43
Phenol	U		0.000035	0.00020	mg/L	1	17-Jan-2020 20:43
Pyrene	U		0.000019	0.00010	mg/L	1	17-Jan-2020 20:43
Surr: 2,4,6-Tribromophenol	*77.4*			*34-129*	*%REC*	*1*	*17-Jan-2020 20:43*
Surr: 2-Fluorobiphenyl	*75.6*			*40-125*	*%REC*	*1*	*17-Jan-2020 20:43*
Surr: 2-Fluorophenol	*71.1*			*20-120*	*%REC*	*1*	*17-Jan-2020 20:43*
Surr: 4-Terphenyl-d14	*86.2*			*40-135*	*%REC*	*1*	*17-Jan-2020 20:43*
Surr: Nitrobenzene-d5	*72.7*			*41-120*	*%REC*	*1*	*17-Jan-2020 20:43*
Surr: Phenol-d6	*68.4*			*20-120*	*%REC*	*1*	*17-Jan-2020 20:43*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Jan-2020		Analyst: JHD
Arsenic	**0.00146**	J	**0.000400**	**0.00200**	**mg/L**	1	20-Jan-2020 16:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW12C-20200113
Collection Date: 13-Jan-2020 15:55

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	17-Jan-2020 08:04
Benzene		U	0.00020	0.0010	mg/L	1	17-Jan-2020 08:04
Chlorobenzene		U	0.00030	0.0010	mg/L	1	17-Jan-2020 08:04
Ethylbenzene		U	0.00030	0.0010	mg/L	1	17-Jan-2020 08:04
Methylene chloride		U	0.0010	0.0020	mg/L	1	17-Jan-2020 08:04
Toluene		U	0.00020	0.0010	mg/L	1	17-Jan-2020 08:04
Xylenes, Total		U	0.00030	0.0010	mg/L	1	17-Jan-2020 08:04
Surr: 1,2-Dichloroethane-d4	*126*			*70-126*	*%REC*	*1*	*17-Jan-2020 08:04*
Surr: 4-Bromofluorobenzene	*103*			*81-113*	*%REC*	*1*	*17-Jan-2020 08:04*
Surr: Dibromofluoromethane	*110*			*77-123*	*%REC*	*1*	*17-Jan-2020 08:04*
Surr: Toluene-d8	*100.0*			*82-127*	*%REC*	*1*	*17-Jan-2020 08:04*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW12C-20200113
Collection Date: 13-Jan-2020 15:55

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jan-2020 21:03
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	17-Jan-2020 21:03
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jan-2020 21:03
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jan-2020 21:03
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jan-2020 21:03
2-Methylnaphthalene	**0.00018**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 21:03
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jan-2020 21:03
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jan-2020 21:03
Acenaphthene	**0.00015**		**0.000027**	**0.00010**	**mg/L**	1	17-Jan-2020 21:03
Acenaphthylene	U		0.000015	0.00010	mg/L	1	17-Jan-2020 21:03
Anthracene	U		0.000014	0.00010	mg/L	1	17-Jan-2020 21:03
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	17-Jan-2020 21:03
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jan-2020 21:03
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jan-2020 21:03
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	17-Jan-2020 21:03
Chrysene	U		0.000021	0.00010	mg/L	1	17-Jan-2020 21:03
Dibenzofuran	**0.00012**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 21:03
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jan-2020 21:03
Fluoranthene	**0.000091**	J	**0.000010**	**0.00010**	**mg/L**	1	17-Jan-2020 21:03
Fluorene	**0.00019**		**0.000030**	**0.00010**	**mg/L**	1	17-Jan-2020 21:03
Naphthalene	**0.0017**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 21:03
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jan-2020 21:03
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jan-2020 21:03
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jan-2020 21:03
Phenanthrene	**0.00015**		**0.000021**	**0.00010**	**mg/L**	1	17-Jan-2020 21:03
Phenol	**0.00012**	J	**0.000035**	**0.00020**	**mg/L**	1	17-Jan-2020 21:03
Pyrene	**0.000068**	J	**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 21:03
Surr: 2,4,6-Tribromophenol	*75.4*			*34-129*	*%REC*	*1*	*17-Jan-2020 21:03*
Surr: 2-Fluorobiphenyl	*62.8*			*40-125*	*%REC*	*1*	*17-Jan-2020 21:03*
Surr: 2-Fluorophenol	*59.3*			*20-120*	*%REC*	*1*	*17-Jan-2020 21:03*
Surr: 4-Terphenyl-d14	*85.7*			*40-135*	*%REC*	*1*	*17-Jan-2020 21:03*
Surr: Nitrobenzene-d5	*61.5*			*41-120*	*%REC*	*1*	*17-Jan-2020 21:03*
Surr: Phenol-d6	*61.6*			*20-120*	*%REC*	*1*	*17-Jan-2020 21:03*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Jan-2020		Analyst: JHD
Arsenic	**0.00195**	J	**0.000400**	**0.00200**	**mg/L**	1	20-Jan-2020 16:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW12A-20200113
Collection Date: 13-Jan-2020 16:45

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	17-Jan-2020 08:29
Benzene		U	0.00020	0.0010	mg/L	1	17-Jan-2020 08:29
Chlorobenzene		U	0.00030	0.0010	mg/L	1	17-Jan-2020 08:29
Ethylbenzene		U	0.00030	0.0010	mg/L	1	17-Jan-2020 08:29
Methylene chloride		U	0.0010	0.0020	mg/L	1	17-Jan-2020 08:29
Toluene		U	0.00020	0.0010	mg/L	1	17-Jan-2020 08:29
Xylenes, Total		U	0.00030	0.0010	mg/L	1	17-Jan-2020 08:29
Surr: 1,2-Dichloroethane-d4	*119*			*70-126*	*%REC*	*1*	*17-Jan-2020 08:29*
Surr: 4-Bromofluorobenzene	*98.9*			*81-113*	*%REC*	*1*	*17-Jan-2020 08:29*
Surr: Dibromofluoromethane	*113*			*77-123*	*%REC*	*1*	*17-Jan-2020 08:29*
Surr: Toluene-d8	*99.2*			*82-127*	*%REC*	*1*	*17-Jan-2020 08:29*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW12A-20200113
Collection Date: 13-Jan-2020 16:45

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jan-2020 21:23
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	17-Jan-2020 21:23
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jan-2020 21:23
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jan-2020 21:23
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jan-2020 21:23
2-Methylnaphthalene	**0.0023**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 21:23
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jan-2020 21:23
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jan-2020 21:23
Acenaphthene	**0.28**		**0.0011**	**0.0040**	**mg/L**	40	21-Jan-2020 19:39
Acenaphthylene	**0.0012**		**0.000015**	**0.00010**	**mg/L**	1	17-Jan-2020 21:23
Anthracene	**0.0097**		**0.000014**	**0.00010**	**mg/L**	1	17-Jan-2020 21:23
Benz(a)anthracene	**0.00015**		**0.000050**	**0.00010**	**mg/L**	1	17-Jan-2020 21:23
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jan-2020 21:23
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jan-2020 21:23
Bis(2-ethylhexyl)phthalate	**0.00011**	J	**0.000037**	**0.00020**	**mg/L**	1	17-Jan-2020 21:23
Chrysene	**0.00015**		**0.000021**	**0.00010**	**mg/L**	1	17-Jan-2020 21:23
Dibenzofuran	**0.23**		**0.00080**	**0.0040**	**mg/L**	40	21-Jan-2020 19:39
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jan-2020 21:23
Fluoranthene	**0.0067**		**0.000010**	**0.00010**	**mg/L**	1	17-Jan-2020 21:23
Fluorene	**0.28**		**0.0012**	**0.0040**	**mg/L**	40	21-Jan-2020 19:39
Naphthalene	**0.00051**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 21:23
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jan-2020 21:23
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jan-2020 21:23
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jan-2020 21:23
Phenanthrene	**0.082**		**0.00042**	**0.0020**	**mg/L**	20	21-Jan-2020 18:02
Phenol	U		0.000035	0.00020	mg/L	1	17-Jan-2020 21:23
Pyrene	**0.0031**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 21:23
Surr: 2,4,6-Tribromophenol	*74.7*			*34-129*	*%REC*	*1*	*17-Jan-2020 21:23*
Surr: 2,4,6-Tribromophenol	*135*	*S*		*34-129*	*%REC*	*20*	*21-Jan-2020 18:02*
Surr: 2,4,6-Tribromophenol	*93.5*	*J*		*34-129*	*%REC*	*40*	*21-Jan-2020 19:39*
Surr: 2-Fluorobiphenyl	*122*			*40-125*	*%REC*	*20*	*21-Jan-2020 18:02*
Surr: 2-Fluorobiphenyl	*115*	*J*		*40-125*	*%REC*	*40*	*21-Jan-2020 19:39*
Surr: 2-Fluorobiphenyl	*62.6*			*40-125*	*%REC*	*1*	*17-Jan-2020 21:23*
Surr: 2-Fluorophenol	*60.8*			*20-120*	*%REC*	*1*	*17-Jan-2020 21:23*
Surr: 2-Fluorophenol	*88.7*			*20-120*	*%REC*	*20*	*21-Jan-2020 18:02*
Surr: 2-Fluorophenol	*99.4*	*J*		*20-120*	*%REC*	*40*	*21-Jan-2020 19:39*
Surr: 4-Terphenyl-d14	*165*	*S*		*40-135*	*%REC*	*20*	*21-Jan-2020 18:02*
Surr: 4-Terphenyl-d14	*106*	*J*		*40-135*	*%REC*	*40*	*21-Jan-2020 19:39*
Surr: 4-Terphenyl-d14	*89.3*			*40-135*	*%REC*	*1*	*17-Jan-2020 21:23*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW12A-20200113
Collection Date: 13-Jan-2020 16:45

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: GEY
Surr: Nitrobenzene-d5	*72.0*			*41-120*	*%REC*	*1*	*17-Jan-2020 21:23*
Surr: Nitrobenzene-d5	*91.6*			*41-120*	*%REC*	*20*	*21-Jan-2020 18:02*
Surr: Nitrobenzene-d5	*89.2*	*J*		*41-120*	*%REC*	*40*	*21-Jan-2020 19:39*
Surr: Phenol-d6	*95.1*			*20-120*	*%REC*	*20*	*21-Jan-2020 18:02*
Surr: Phenol-d6	*79.5*	*J*		*20-120*	*%REC*	*40*	*21-Jan-2020 19:39*
Surr: Phenol-d6	*62.0*			*20-120*	*%REC*	*1*	*17-Jan-2020 21:23*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Jan-2020		Analyst: JHD
Arsenic	**0.00134**	J	**0.000400**	**0.00200**	**mg/L**	1	20-Jan-2020 16:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW39B-20200113
Collection Date: 13-Jan-2020 17:35

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	21-Jan-2020 13:19
Benzene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 13:19
Chlorobenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 13:19
Ethylbenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 13:19
Methylene chloride		U	0.0010	0.0020	mg/L	1	21-Jan-2020 13:19
Toluene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 13:19
Xylenes, Total		U	0.00030	0.0010	mg/L	1	21-Jan-2020 13:19
Surr: 1,2-Dichloroethane-d4	*92.0*			*70-126*	*%REC*	*1*	*21-Jan-2020 13:19*
Surr: 4-Bromofluorobenzene	*95.0*			*81-113*	*%REC*	*1*	*21-Jan-2020 13:19*
Surr: Dibromofluoromethane	*98.4*			*77-123*	*%REC*	*1*	*21-Jan-2020 13:19*
Surr: Toluene-d8	*99.2*			*82-127*	*%REC*	*1*	*21-Jan-2020 13:19*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW39B-20200113
Collection Date: 13-Jan-2020 17:35

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	17-Jan-2020 21:43
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	17-Jan-2020 21:43
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	17-Jan-2020 21:43
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	17-Jan-2020 21:43
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	17-Jan-2020 21:43
2-Methylnaphthalene	**0.00021**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 21:43
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	17-Jan-2020 21:43
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	17-Jan-2020 21:43
Acenaphthene	**0.0012**		**0.000027**	**0.00010**	**mg/L**	1	17-Jan-2020 21:43
Acenaphthylene	U		0.000015	0.00010	mg/L	1	17-Jan-2020 21:43
Anthracene	**0.00016**		**0.000014**	**0.00010**	**mg/L**	1	17-Jan-2020 21:43
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	17-Jan-2020 21:43
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	17-Jan-2020 21:43
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	17-Jan-2020 21:43
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	17-Jan-2020 21:43
Chrysene	U		0.000021	0.00010	mg/L	1	17-Jan-2020 21:43
Dibenzofuran	**0.00019**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 21:43
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	17-Jan-2020 21:43
Fluoranthene	**0.00023**		**0.000010**	**0.00010**	**mg/L**	1	17-Jan-2020 21:43
Fluorene	**0.00032**		**0.000030**	**0.00010**	**mg/L**	1	17-Jan-2020 21:43
Naphthalene	**0.0023**		**0.000020**	**0.00010**	**mg/L**	1	17-Jan-2020 21:43
Nitrobenzene	U		0.000024	0.00020	mg/L	1	17-Jan-2020 21:43
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	17-Jan-2020 21:43
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	17-Jan-2020 21:43
Phenanthrene	**0.00019**		**0.000021**	**0.00010**	**mg/L**	1	17-Jan-2020 21:43
Phenol	U		0.000035	0.00020	mg/L	1	17-Jan-2020 21:43
Pyrene	**0.00022**		**0.000019**	**0.00010**	**mg/L**	1	17-Jan-2020 21:43
Surr: 2,4,6-Tribromophenol	*81.4*			*34-129*	*%REC*	*1*	*17-Jan-2020 21:43*
Surr: 2-Fluorobiphenyl	*81.7*			*40-125*	*%REC*	*1*	*17-Jan-2020 21:43*
Surr: 2-Fluorophenol	*76.3*			*20-120*	*%REC*	*1*	*17-Jan-2020 21:43*
Surr: 4-Terphenyl-d14	*89.4*			*40-135*	*%REC*	*1*	*17-Jan-2020 21:43*
Surr: Nitrobenzene-d5	*81.4*			*41-120*	*%REC*	*1*	*17-Jan-2020 21:43*
Surr: Phenol-d6	*75.2*			*20-120*	*%REC*	*1*	*17-Jan-2020 21:43*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Jan-2020		Analyst: JHD
Arsenic	**0.00248**		**0.000400**	**0.00200**	**mg/L**	1	20-Jan-2020 16:51

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB05-20200113
Collection Date: 13-Jan-2020 17:50

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	18-Jan-2020 11:25
Benzene		U	0.00020	0.0010	mg/L	1	18-Jan-2020 11:25
Chlorobenzene		U	0.00030	0.0010	mg/L	1	18-Jan-2020 11:25
Ethylbenzene		U	0.00030	0.0010	mg/L	1	18-Jan-2020 11:25
Methylene chloride		U	0.0010	0.0020	mg/L	1	18-Jan-2020 11:25
Toluene		U	0.00020	0.0010	mg/L	1	18-Jan-2020 11:25
Xylenes, Total		U	0.00030	0.0010	mg/L	1	18-Jan-2020 11:25
Surr: 1,2-Dichloroethane-d4	*97.2*			*70-126*	*%REC*	*1*	*18-Jan-2020 11:25*
Surr: 4-Bromofluorobenzene	*96.0*			*81-113*	*%REC*	*1*	*18-Jan-2020 11:25*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*18-Jan-2020 11:25*
Surr: Toluene-d8	*99.6*			*82-127*	*%REC*	*1*	*18-Jan-2020 11:25*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB05-20200113
Collection Date: 13-Jan-2020 17:50

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine		U	0.000021	0.00020	mg/L	1	21-Jan-2020 13:09
2,4-Dimethylphenol		U	0.000040	0.00020	mg/L	1	21-Jan-2020 13:09
2,4-Dinitrotoluene		U	0.000058	0.00020	mg/L	1	21-Jan-2020 13:09
2,6-Dinitrotoluene		U	0.000042	0.00020	mg/L	1	21-Jan-2020 13:09
2-Chloronaphthalene		U	0.000021	0.00020	mg/L	1	21-Jan-2020 13:09
2-Methylnaphthalene		U	0.000019	0.00010	mg/L	1	21-Jan-2020 13:09
4,6-Dinitro-2-methylphenol		U	0.000020	0.00020	mg/L	1	21-Jan-2020 13:09
4-Nitrophenol		U	0.000047	0.0010	mg/L	1	21-Jan-2020 13:09
Acenaphthene		U	0.000027	0.00010	mg/L	1	21-Jan-2020 13:09
Acenaphthylene		U	0.000015	0.00010	mg/L	1	21-Jan-2020 13:09
Anthracene		U	0.000014	0.00010	mg/L	1	21-Jan-2020 13:09
Benz(a)anthracene		U	0.000050	0.00010	mg/L	1	21-Jan-2020 13:09
Benzo(a)pyrene		U	0.000020	0.00010	mg/L	1	21-Jan-2020 13:09
Bis(2-chloroethoxy)methane		U	0.000030	0.00020	mg/L	1	21-Jan-2020 13:09
Bis(2-ethylhexyl)phthalate		U	0.000037	0.00020	mg/L	1	21-Jan-2020 13:09
Chrysene		U	0.000021	0.00010	mg/L	1	21-Jan-2020 13:09
Dibenzofuran		U	0.000020	0.00010	mg/L	1	21-Jan-2020 13:09
Di-n-butyl phthalate		U	0.000020	0.00020	mg/L	1	21-Jan-2020 13:09
Fluoranthene		U	0.000010	0.00010	mg/L	1	21-Jan-2020 13:09
Fluorene		U	0.000030	0.00010	mg/L	1	21-Jan-2020 13:09
Naphthalene	**0.00033**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 13:09
Nitrobenzene		U	0.000024	0.00020	mg/L	1	21-Jan-2020 13:09
N-Nitrosodiphenylamine		U	0.000025	0.00020	mg/L	1	21-Jan-2020 13:09
Pentachlorophenol		U	0.000079	0.00020	mg/L	1	21-Jan-2020 13:09
Phenanthrene		U	0.000021	0.00010	mg/L	1	21-Jan-2020 13:09
Phenol		U	0.000035	0.00020	mg/L	1	21-Jan-2020 13:09
Pyrene		U	0.000019	0.00010	mg/L	1	21-Jan-2020 13:09
Surr: 2,4,6-Tribromophenol	*79.2*			*34-129*	*%REC*	*1*	*21-Jan-2020 13:09*
Surr: 2-Fluorobiphenyl	*79.4*			*40-125*	*%REC*	*1*	*21-Jan-2020 13:09*
Surr: 2-Fluorophenol	*67.5*			*20-120*	*%REC*	*1*	*21-Jan-2020 13:09*
Surr: 4-Terphenyl-d14	*87.4*			*40-135*	*%REC*	*1*	*21-Jan-2020 13:09*
Surr: Nitrobenzene-d5	*83.5*			*41-120*	*%REC*	*1*	*21-Jan-2020 13:09*
Surr: Phenol-d6	*66.4*			*20-120*	*%REC*	*1*	*21-Jan-2020 13:09*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Jan-2020		Analyst: JHD
Arsenic		U	0.000400	0.00200	mg/L	1	20-Jan-2020 16:53

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW13-20200114
Collection Date: 14-Jan-2020 08:10

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	18-Jan-2020 11:49
Benzene		U	0.00020	0.0010	mg/L	1	18-Jan-2020 11:49
Chlorobenzene		U	0.00030	0.0010	mg/L	1	18-Jan-2020 11:49
Ethylbenzene		U	0.00030	0.0010	mg/L	1	18-Jan-2020 11:49
Methylene chloride		U	0.0010	0.0020	mg/L	1	18-Jan-2020 11:49
Toluene		U	0.00020	0.0010	mg/L	1	18-Jan-2020 11:49
Xylenes, Total		U	0.00030	0.0010	mg/L	1	18-Jan-2020 11:49
Surr: 1,2-Dichloroethane-d4	*96.7*			*70-126*	*%REC*	*1*	*18-Jan-2020 11:49*
Surr: 4-Bromofluorobenzene	*95.4*			*81-113*	*%REC*	*1*	*18-Jan-2020 11:49*
Surr: Dibromofluoromethane	*99.8*			*77-123*	*%REC*	*1*	*18-Jan-2020 11:49*
Surr: Toluene-d8	*98.9*			*82-127*	*%REC*	*1*	*18-Jan-2020 11:49*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW13-20200114
Collection Date: 14-Jan-2020 08:10

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	21-Jan-2020 13:29
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	21-Jan-2020 13:29
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2020 13:29
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	21-Jan-2020 13:29
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2020 13:29
2-Methylnaphthalene	**0.000054**	J	**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 13:29
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2020 13:29
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2020 13:29
Acenaphthene	**0.00022**		**0.000027**	**0.00010**	**mg/L**	1	21-Jan-2020 13:29
Acenaphthylene	U		0.000015	0.00010	mg/L	1	21-Jan-2020 13:29
Anthracene	U		0.000014	0.00010	mg/L	1	21-Jan-2020 13:29
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	21-Jan-2020 13:29
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 13:29
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2020 13:29
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	21-Jan-2020 13:29
Chrysene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 13:29
Dibenzofuran	**0.00016**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 13:29
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2020 13:29
Fluoranthene	U		0.000010	0.00010	mg/L	1	21-Jan-2020 13:29
Fluorene	**0.00016**		**0.000030**	**0.00010**	**mg/L**	1	21-Jan-2020 13:29
Naphthalene	**0.00026**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 13:29
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2020 13:29
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2020 13:29
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2020 13:29
Phenanthrene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 13:29
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 13:29
Pyrene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 13:29
Surr: 2,4,6-Tribromophenol	*99.9*			*34-129*	*%REC*	*1*	*21-Jan-2020 13:29*
Surr: 2-Fluorobiphenyl	*77.8*			*40-125*	*%REC*	*1*	*21-Jan-2020 13:29*
Surr: 2-Fluorophenol	*58.8*			*20-120*	*%REC*	*1*	*21-Jan-2020 13:29*
Surr: 4-Terphenyl-d14	*91.0*			*40-135*	*%REC*	*1*	*21-Jan-2020 13:29*
Surr: Nitrobenzene-d5	*86.5*			*41-120*	*%REC*	*1*	*21-Jan-2020 13:29*
Surr: Phenol-d6	*52.4*			*20-120*	*%REC*	*1*	*21-Jan-2020 13:29*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Jan-2020		Analyst: JHD
Arsenic	**0.0642**		**0.000400**	**0.00200**	**mg/L**	1	20-Jan-2020 16:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010596
Sample ID: WG-1620-MW09-20200114
Lab ID:HS20010596-10
Collection Date: 14-Jan-2020 09:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	18-Jan-2020 13:02
Benzene		U	0.00020	0.0010	mg/L	1	18-Jan-2020 13:02
Chlorobenzene		U	0.00030	0.0010	mg/L	1	18-Jan-2020 13:02
Ethylbenzene		U	0.00030	0.0010	mg/L	1	18-Jan-2020 13:02
Methylene chloride		U	0.0010	0.0020	mg/L	1	18-Jan-2020 13:02
Toluene		U	0.00020	0.0010	mg/L	1	18-Jan-2020 13:02
Xylenes, Total		U	0.00030	0.0010	mg/L	1	18-Jan-2020 13:02
Surr: 1,2-Dichloroethane-d4	*94.7*			*70-126*	*%REC*	*1*	*18-Jan-2020 13:02*
Surr: 4-Bromofluorobenzene	*95.2*			*81-113*	*%REC*	*1*	*18-Jan-2020 13:02*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*18-Jan-2020 13:02*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*18-Jan-2020 13:02*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW09-20200114
Collection Date: 14-Jan-2020 09:00

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine		U	0.000021	0.00020	mg/L	1	20-Jan-2020 09:25
2,4-Dimethylphenol		U	0.000040	0.00020	mg/L	1	20-Jan-2020 09:25
2,4-Dinitrotoluene		U	0.000058	0.00020	mg/L	1	20-Jan-2020 09:25
2,6-Dinitrotoluene		U	0.000042	0.00020	mg/L	1	20-Jan-2020 09:25
2-Chloronaphthalene		U	0.000021	0.00020	mg/L	1	20-Jan-2020 09:25
2-Methylnaphthalene		U	0.000019	0.00010	mg/L	1	20-Jan-2020 09:25
4,6-Dinitro-2-methylphenol		U	0.000020	0.00020	mg/L	1	20-Jan-2020 09:25
4-Nitrophenol		U	0.000047	0.0010	mg/L	1	20-Jan-2020 09:25
Acenaphthene		U	0.000027	0.00010	mg/L	1	20-Jan-2020 09:25
Acenaphthylene		U	0.000015	0.00010	mg/L	1	20-Jan-2020 09:25
Anthracene		U	0.000014	0.00010	mg/L	1	20-Jan-2020 09:25
Benz(a)anthracene		U	0.000050	0.00010	mg/L	1	20-Jan-2020 09:25
Benzo(a)pyrene		U	0.000020	0.00010	mg/L	1	20-Jan-2020 09:25
Bis(2-chloroethoxy)methane		U	0.000030	0.00020	mg/L	1	20-Jan-2020 09:25
Bis(2-ethylhexyl)phthalate		U	0.000037	0.00020	mg/L	1	20-Jan-2020 09:25
Chrysene		U	0.000021	0.00010	mg/L	1	20-Jan-2020 09:25
Dibenzofuran		U	0.000020	0.00010	mg/L	1	20-Jan-2020 09:25
Di-n-butyl phthalate		U	0.000020	0.00020	mg/L	1	20-Jan-2020 09:25
Fluoranthene		U	0.000010	0.00010	mg/L	1	20-Jan-2020 09:25
Fluorene		U	0.000030	0.00010	mg/L	1	20-Jan-2020 09:25
Naphthalene	**0.00011**		**0.000020**	**0.00010**	**mg/L**	1	20-Jan-2020 09:25
Nitrobenzene		U	0.000024	0.00020	mg/L	1	20-Jan-2020 09:25
N-Nitrosodiphenylamine		U	0.000025	0.00020	mg/L	1	20-Jan-2020 09:25
Pentachlorophenol		U	0.000079	0.00020	mg/L	1	20-Jan-2020 09:25
Phenanthrene		U	0.000021	0.00010	mg/L	1	20-Jan-2020 09:25
Phenol		U	0.000035	0.00020	mg/L	1	20-Jan-2020 09:25
Pyrene		U	0.000019	0.00010	mg/L	1	20-Jan-2020 09:25
Surr: 2,4,6-Tribromophenol	*82.8*			*34-129*	*%REC*	*1*	*20-Jan-2020 09:25*
Surr: 2-Fluorobiphenyl	*79.9*			*40-125*	*%REC*	*1*	*20-Jan-2020 09:25*
Surr: 2-Fluorophenol	*71.7*			*20-120*	*%REC*	*1*	*20-Jan-2020 09:25*
Surr: 4-Terphenyl-d14	*98.4*			*40-135*	*%REC*	*1*	*20-Jan-2020 09:25*
Surr: Nitrobenzene-d5	*76.8*			*41-120*	*%REC*	*1*	*20-Jan-2020 09:25*
Surr: Phenol-d6	*71.6*			*20-120*	*%REC*	*1*	*20-Jan-2020 09:25*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Jan-2020		Analyst: JHD
Arsenic	**0.00430**		**0.000400**	**0.00200**	**mg/L**	1	20-Jan-2020 16:58

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010596
Sample ID: WG-1620-MW21C-20200114
Lab ID:HS20010596-11
Collection Date: 14-Jan-2020 10:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	17-Jan-2020 02:20
Benzene		U	0.00020	0.0010	mg/L	1	17-Jan-2020 02:20
Chlorobenzene		U	0.00030	0.0010	mg/L	1	17-Jan-2020 02:20
Ethylbenzene		U	0.00030	0.0010	mg/L	1	17-Jan-2020 02:20
Methylene chloride		U	0.0010	0.0020	mg/L	1	17-Jan-2020 02:20
Toluene		U	0.00020	0.0010	mg/L	1	17-Jan-2020 02:20
Xylenes, Total		U	0.00030	0.0010	mg/L	1	17-Jan-2020 02:20
Surr: 1,2-Dichloroethane-d4	*95.7*			*70-126*	*%REC*	*1*	*17-Jan-2020 02:20*
Surr: 4-Bromofluorobenzene	*95.0*			*81-113*	*%REC*	*1*	*17-Jan-2020 02:20*
Surr: Dibromofluoromethane	*99.2*			*77-123*	*%REC*	*1*	*17-Jan-2020 02:20*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*17-Jan-2020 02:20*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW21C-20200114
Collection Date: 14-Jan-2020 10:00

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	21-Jan-2020 13:48
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	21-Jan-2020 13:48
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2020 13:48
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	21-Jan-2020 13:48
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2020 13:48
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 13:48
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2020 13:48
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2020 13:48
Acenaphthene	U		0.000027	0.00010	mg/L	1	21-Jan-2020 13:48
Acenaphthylene	U		0.000015	0.00010	mg/L	1	21-Jan-2020 13:48
Anthracene	U		0.000014	0.00010	mg/L	1	21-Jan-2020 13:48
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	21-Jan-2020 13:48
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 13:48
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2020 13:48
Bis(2-ethylhexyl)phthalate	**0.00035**		**0.000037**	**0.00020**	**mg/L**	1	21-Jan-2020 13:48
Chrysene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 13:48
Dibenzofuran	U		0.000020	0.00010	mg/L	1	21-Jan-2020 13:48
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2020 13:48
Fluoranthene	U		0.000010	0.00010	mg/L	1	21-Jan-2020 13:48
Fluorene	U		0.000030	0.00010	mg/L	1	21-Jan-2020 13:48
Naphthalene	**0.00011**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 13:48
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2020 13:48
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2020 13:48
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2020 13:48
Phenanthrene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 13:48
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 13:48
Pyrene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 13:48
Surr: 2,4,6-Tribromophenol	*92.5*			*34-129*	*%REC*	*1*	*21-Jan-2020 13:48*
Surr: 2-Fluorobiphenyl	*81.6*			*40-125*	*%REC*	*1*	*21-Jan-2020 13:48*
Surr: 2-Fluorophenol	*64.3*			*20-120*	*%REC*	*1*	*21-Jan-2020 13:48*
Surr: 4-Terphenyl-d14	*104*			*40-135*	*%REC*	*1*	*21-Jan-2020 13:48*
Surr: Nitrobenzene-d5	*87.3*			*41-120*	*%REC*	*1*	*21-Jan-2020 13:48*
Surr: Phenol-d6	*64.2*			*20-120*	*%REC*	*1*	*21-Jan-2020 13:48*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Jan-2020		Analyst: JHD
Arsenic	**0.00109**	J	**0.000400**	**0.00200**	**mg/L**	1	20-Jan-2020 17:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD02-20200114
Collection Date: 14-Jan-2020 10:00

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	17-Jan-2020 02:44
Benzene		U	0.00020	0.0010	mg/L	1	17-Jan-2020 02:44
Chlorobenzene		U	0.00030	0.0010	mg/L	1	17-Jan-2020 02:44
Ethylbenzene		U	0.00030	0.0010	mg/L	1	17-Jan-2020 02:44
Methylene chloride		U	0.0010	0.0020	mg/L	1	17-Jan-2020 02:44
Toluene		U	0.00020	0.0010	mg/L	1	17-Jan-2020 02:44
Xylenes, Total		U	0.00030	0.0010	mg/L	1	17-Jan-2020 02:44
Surr: 1,2-Dichloroethane-d4	*96.4*			*70-126*	*%REC*	*1*	*17-Jan-2020 02:44*
Surr: 4-Bromofluorobenzene	*94.1*			*81-113*	*%REC*	*1*	*17-Jan-2020 02:44*
Surr: Dibromofluoromethane	*99.4*			*77-123*	*%REC*	*1*	*17-Jan-2020 02:44*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*17-Jan-2020 02:44*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD02-20200114
Collection Date: 14-Jan-2020 10:00

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	21-Jan-2020 14:08
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	21-Jan-2020 14:08
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2020 14:08
2,6-Dinitrotoluene	**0.0030**		**0.000042**	**0.00020**	**mg/L**	1	21-Jan-2020 14:08
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2020 14:08
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 14:08
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2020 14:08
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2020 14:08
Acenaphthene	**0.00020**		**0.000027**	**0.00010**	**mg/L**	1	21-Jan-2020 14:08
Acenaphthylene	U		0.000015	0.00010	mg/L	1	21-Jan-2020 14:08
Anthracene	U		0.000014	0.00010	mg/L	1	21-Jan-2020 14:08
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	21-Jan-2020 14:08
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 14:08
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2020 14:08
Bis(2-ethylhexyl)phthalate	**0.000065**	J	**0.000037**	**0.00020**	**mg/L**	1	21-Jan-2020 14:08
Chrysene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 14:08
Dibenzofuran	**0.00017**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 14:08
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2020 14:08
Fluoranthene	U		0.000010	0.00010	mg/L	1	21-Jan-2020 14:08
Fluorene	**0.00018**		**0.000030**	**0.00010**	**mg/L**	1	21-Jan-2020 14:08
Naphthalene	**0.00013**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 14:08
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2020 14:08
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2020 14:08
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2020 14:08
Phenanthrene	**0.000061**	J	**0.000021**	**0.00010**	**mg/L**	1	21-Jan-2020 14:08
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 14:08
Pyrene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 14:08
Surr: 2,4,6-Tribromophenol	*83.7*			*34-129*	*%REC*	*1*	*21-Jan-2020 14:08*
Surr: 2-Fluorobiphenyl	*75.4*			*40-125*	*%REC*	*1*	*21-Jan-2020 14:08*
Surr: 2-Fluorophenol	*65.2*			*20-120*	*%REC*	*1*	*21-Jan-2020 14:08*
Surr: 4-Terphenyl-d14	*107*			*40-135*	*%REC*	*1*	*21-Jan-2020 14:08*
Surr: Nitrobenzene-d5	*76.8*			*41-120*	*%REC*	*1*	*21-Jan-2020 14:08*
Surr: Phenol-d6	*66.7*			*20-120*	*%REC*	*1*	*21-Jan-2020 14:08*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Jan-2020		Analyst: JHD
Arsenic	**0.00109**	J	**0.000400**	**0.00200**	**mg/L**	1	20-Jan-2020 17:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-P11-20200114
Collection Date: 14-Jan-2020 10:55

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-13
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	17-Jan-2020 03:09
Benzene		U	0.00020	0.0010	mg/L	1	17-Jan-2020 03:09
Chlorobenzene		U	0.00030	0.0010	mg/L	1	17-Jan-2020 03:09
Ethylbenzene		U	0.00030	0.0010	mg/L	1	17-Jan-2020 03:09
Methylene chloride		U	0.0010	0.0020	mg/L	1	17-Jan-2020 03:09
Toluene		U	0.00020	0.0010	mg/L	1	17-Jan-2020 03:09
Xylenes, Total		U	0.00030	0.0010	mg/L	1	17-Jan-2020 03:09
Surr: 1,2-Dichloroethane-d4	*96.2*			*70-126*	*%REC*	*1*	*17-Jan-2020 03:09*
Surr: 4-Bromofluorobenzene	*94.7*			*81-113*	*%REC*	*1*	*17-Jan-2020 03:09*
Surr: Dibromofluoromethane	*99.1*			*77-123*	*%REC*	*1*	*17-Jan-2020 03:09*
Surr: Toluene-d8	*99.9*			*82-127*	*%REC*	*1*	*17-Jan-2020 03:09*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-P11-20200114
Collection Date: 14-Jan-2020 10:55

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-13
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	21-Jan-2020 14:27
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	21-Jan-2020 14:27
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2020 14:27
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	21-Jan-2020 14:27
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2020 14:27
2-Methylnaphthalene	**0.000076**	J	**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 14:27
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2020 14:27
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2020 14:27
Acenaphthene	**0.0046**		**0.000027**	**0.00010**	**mg/L**	1	21-Jan-2020 14:27
Acenaphthylene	U		0.000015	0.00010	mg/L	1	21-Jan-2020 14:27
Anthracene	**0.000081**	J	**0.000014**	**0.00010**	**mg/L**	1	21-Jan-2020 14:27
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	21-Jan-2020 14:27
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 14:27
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2020 14:27
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	21-Jan-2020 14:27
Chrysene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 14:27
Dibenzofuran	**0.00016**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 14:27
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2020 14:27
Fluoranthene	U		0.000010	0.00010	mg/L	1	21-Jan-2020 14:27
Fluorene	**0.0013**		**0.000030**	**0.00010**	**mg/L**	1	21-Jan-2020 14:27
Naphthalene	**0.00048**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 14:27
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2020 14:27
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2020 14:27
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2020 14:27
Phenanthrene	**0.00035**		**0.000021**	**0.00010**	**mg/L**	1	21-Jan-2020 14:27
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 14:27
Pyrene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 14:27
Surr: 2,4,6-Tribromophenol	*116*			*34-129*	*%REC*	*1*	*21-Jan-2020 14:27*
Surr: 2-Fluorobiphenyl	*75.1*			*40-125*	*%REC*	*1*	*21-Jan-2020 14:27*
Surr: 2-Fluorophenol	*58.8*			*20-120*	*%REC*	*1*	*21-Jan-2020 14:27*
Surr: 4-Terphenyl-d14	*120*			*40-135*	*%REC*	*1*	*21-Jan-2020 14:27*
Surr: Nitrobenzene-d5	*82.4*			*41-120*	*%REC*	*1*	*21-Jan-2020 14:27*
Surr: Phenol-d6	*58.0*			*20-120*	*%REC*	*1*	*21-Jan-2020 14:27*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Jan-2020		Analyst: JHD
Arsenic	**0.0360**		**0.000400**	**0.00200**	**mg/L**	1	20-Jan-2020 17:19

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW88C-20200114
Collection Date: 14-Jan-2020 11:50

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-14
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	17-Jan-2020 03:33
Benzene		U	0.00020	0.0010	mg/L	1	17-Jan-2020 03:33
Chlorobenzene		U	0.00030	0.0010	mg/L	1	17-Jan-2020 03:33
Ethylbenzene		U	0.00030	0.0010	mg/L	1	17-Jan-2020 03:33
Methylene chloride		U	0.0010	0.0020	mg/L	1	17-Jan-2020 03:33
Toluene		U	0.00020	0.0010	mg/L	1	17-Jan-2020 03:33
Xylenes, Total		U	0.00030	0.0010	mg/L	1	17-Jan-2020 03:33
Surr: 1,2-Dichloroethane-d4	*96.9*			*70-126*	*%REC*	*1*	*17-Jan-2020 03:33*
Surr: 4-Bromofluorobenzene	*93.0*			*81-113*	*%REC*	*1*	*17-Jan-2020 03:33*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*17-Jan-2020 03:33*
Surr: Toluene-d8	*99.8*			*82-127*	*%REC*	*1*	*17-Jan-2020 03:33*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW88C-20200114
Collection Date: 14-Jan-2020 11:50

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-14
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	21-Jan-2020 14:46
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	21-Jan-2020 14:46
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2020 14:46
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	21-Jan-2020 14:46
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2020 14:46
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 14:46
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2020 14:46
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2020 14:46
Acenaphthene	U		0.000027	0.00010	mg/L	1	21-Jan-2020 14:46
Acenaphthylene	U		0.000015	0.00010	mg/L	1	21-Jan-2020 14:46
Anthracene	U		0.000014	0.00010	mg/L	1	21-Jan-2020 14:46
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	21-Jan-2020 14:46
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 14:46
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2020 14:46
Bis(2-ethylhexyl)phthalate	**0.000064**	J	**0.000037**	**0.00020**	**mg/L**	1	21-Jan-2020 14:46
Chrysene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 14:46
Dibenzofuran	U		0.000020	0.00010	mg/L	1	21-Jan-2020 14:46
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2020 14:46
Fluoranthene	U		0.000010	0.00010	mg/L	1	21-Jan-2020 14:46
Fluorene	U		0.000030	0.00010	mg/L	1	21-Jan-2020 14:46
Naphthalene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 14:46
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2020 14:46
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2020 14:46
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2020 14:46
Phenanthrene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 14:46
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 14:46
Pyrene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 14:46
Surr: 2,4,6-Tribromophenol	*110*			*34-129*	*%REC*	*1*	*21-Jan-2020 14:46*
Surr: 2-Fluorobiphenyl	*87.4*			*40-125*	*%REC*	*1*	*21-Jan-2020 14:46*
Surr: 2-Fluorophenol	*73.0*			*20-120*	*%REC*	*1*	*21-Jan-2020 14:46*
Surr: 4-Terphenyl-d14	*114*			*40-135*	*%REC*	*1*	*21-Jan-2020 14:46*
Surr: Nitrobenzene-d5	*81.2*			*41-120*	*%REC*	*1*	*21-Jan-2020 14:46*
Surr: Phenol-d6	*73.2*			*20-120*	*%REC*	*1*	*21-Jan-2020 14:46*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Jan-2020		Analyst: JHD
Arsenic	**0.000862**	J	**0.000400**	**0.00200**	**mg/L**	1	20-Jan-2020 17:22

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW20A-20200114
Collection Date: 14-Jan-2020 12:55

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-15
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	17-Jan-2020 03:58
Benzene	**0.020**		**0.00020**	**0.0010**	**mg/L**	1	17-Jan-2020 03:58
Chlorobenzene	U		0.00030	0.0010	mg/L	1	17-Jan-2020 03:58
Ethylbenzene	**0.025**		**0.00030**	**0.0010**	**mg/L**	1	17-Jan-2020 03:58
Methylene chloride	U		0.0010	0.0020	mg/L	1	17-Jan-2020 03:58
Toluene	U		0.00020	0.0010	mg/L	1	17-Jan-2020 03:58
Xylenes, Total	**0.024**		**0.00030**	**0.0010**	**mg/L**	1	17-Jan-2020 03:58
Surr: 1,2-Dichloroethane-d4	*97.1*			*70-126*	*%REC*	*1*	*17-Jan-2020 03:58*
Surr: 4-Bromofluorobenzene	*99.3*			*81-113*	*%REC*	*1*	*17-Jan-2020 03:58*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*17-Jan-2020 03:58*
Surr: Toluene-d8	*98.4*			*82-127*	*%REC*	*1*	*17-Jan-2020 03:58*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW20A-20200114
Collection Date: 14-Jan-2020 12:55

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-15
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	20-Jan-2020 18:24
2,4-Dimethylphenol	**0.0018**		**0.000040**	**0.00020**	**mg/L**	1	20-Jan-2020 18:24
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	20-Jan-2020 18:24
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	20-Jan-2020 18:24
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	20-Jan-2020 18:24
2-Methylnaphthalene	**0.075**		**0.00048**	**0.0025**	**mg/L**	25	21-Jan-2020 18:21
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	20-Jan-2020 18:24
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	20-Jan-2020 18:24
Acenaphthene	**0.11**		**0.00068**	**0.0025**	**mg/L**	25	21-Jan-2020 18:21
Acenaphthylene	**0.00092**		**0.000015**	**0.00010**	**mg/L**	1	20-Jan-2020 18:24
Anthracene	**0.0075**		**0.000014**	**0.00010**	**mg/L**	1	20-Jan-2020 18:24
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	20-Jan-2020 18:24
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	20-Jan-2020 18:24
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	20-Jan-2020 18:24
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	20-Jan-2020 18:24
Chrysene	U		0.000021	0.00010	mg/L	1	20-Jan-2020 18:24
Dibenzofuran	**0.079**		**0.00050**	**0.0025**	**mg/L**	25	21-Jan-2020 18:21
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	20-Jan-2020 18:24
Fluoranthene	**0.00067**		**0.000010**	**0.00010**	**mg/L**	1	20-Jan-2020 18:24
Fluorene	**0.080**		**0.00075**	**0.0025**	**mg/L**	25	21-Jan-2020 18:21
Naphthalene	**2.0**		**0.010**	**0.050**	**mg/L**	500	21-Jan-2020 19:58
Nitrobenzene	U		0.000024	0.00020	mg/L	1	20-Jan-2020 18:24
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	20-Jan-2020 18:24
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	20-Jan-2020 18:24
Phenanthrene	**0.028**		**0.00052**	**0.0025**	**mg/L**	25	21-Jan-2020 18:21
Phenol	U		0.000035	0.00020	mg/L	1	20-Jan-2020 18:24
Pyrene	**0.00030**		**0.000019**	**0.00010**	**mg/L**	1	20-Jan-2020 18:24
Surr: 2,4,6-Tribromophenol	*116*			*34-129*	*%REC*	*1*	*20-Jan-2020 18:24*
Surr: 2,4,6-Tribromophenol	*114*			*34-129*	*%REC*	*25*	*21-Jan-2020 18:21*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*500*	*21-Jan-2020 19:58*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*500*	*21-Jan-2020 19:58*
Surr: 2-Fluorobiphenyl	*116*			*40-125*	*%REC*	*25*	*21-Jan-2020 18:21*
Surr: 2-Fluorobiphenyl	*109*			*40-125*	*%REC*	*1*	*20-Jan-2020 18:24*
Surr: 2-Fluorophenol	*110*			*20-120*	*%REC*	*1*	*20-Jan-2020 18:24*
Surr: 2-Fluorophenol	*112*			*20-120*	*%REC*	*25*	*21-Jan-2020 18:21*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*500*	*21-Jan-2020 19:58*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*500*	*21-Jan-2020 19:58*
Surr: 4-Terphenyl-d14	*124*			*40-135*	*%REC*	*25*	*21-Jan-2020 18:21*
Surr: 4-Terphenyl-d14	*112*			*40-135*	*%REC*	*1*	*20-Jan-2020 18:24*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW20A-20200114
Collection Date: 14-Jan-2020 12:55

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-15
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Jan-2020		Analyst: LG
Surr: Nitrobenzene-d5	*113*			*41-120*	*%REC*	*1*	*20-Jan-2020 18:24*
Surr: Nitrobenzene-d5	*107*			*41-120*	*%REC*	*25*	*21-Jan-2020 18:21*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*500*	*21-Jan-2020 19:58*
Surr: Phenol-d6	*99.1*	*J*		*20-120*	*%REC*	*25*	*21-Jan-2020 18:21*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*500*	*21-Jan-2020 19:58*
Surr: Phenol-d6	*107*			*20-120*	*%REC*	*1*	*20-Jan-2020 18:24*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Jan-2020		Analyst: JHD
Arsenic	**0.00808**		**0.000400**	**0.00200**	**mg/L**	1	20-Jan-2020 17:24

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-TB03-20200114
Collection Date: 14-Jan-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20010596
Lab ID:HS20010596-16
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	16-Jan-2020 23:53
Benzene		U	0.00020	0.0010	mg/L	1	16-Jan-2020 23:53
Chlorobenzene		U	0.00030	0.0010	mg/L	1	16-Jan-2020 23:53
Ethylbenzene		U	0.00030	0.0010	mg/L	1	16-Jan-2020 23:53
Methylene chloride		U	0.0010	0.0020	mg/L	1	16-Jan-2020 23:53
Toluene		U	0.00020	0.0010	mg/L	1	16-Jan-2020 23:53
Xylenes, Total		U	0.00030	0.0010	mg/L	1	16-Jan-2020 23:53
Surr: 1,2-Dichloroethane-d4	*95.4*			*70-126*	*%REC*	*1*	*16-Jan-2020 23:53*
Surr: 4-Bromofluorobenzene	*94.2*			*81-113*	*%REC*	*1*	*16-Jan-2020 23:53*
Surr: Dibromofluoromethane	*100.0*			*77-123*	*%REC*	*1*	*16-Jan-2020 23:53*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*16-Jan-2020 23:53*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

Batch ID: 149706 **Start Date:** 16 Jan 2020 07:00 **End Date:** 16 Jan 2020 11:30
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010596-01	1	1000 (mL)	1 (mL)	0.001
HS20010596-02	1	1000 (mL)	1 (mL)	0.001
HS20010596-03	1	1000 (mL)	1 (mL)	0.001
HS20010596-04	1	1000 (mL)	1 (mL)	0.001
HS20010596-05	1	1000 (mL)	1 (mL)	0.001
HS20010596-06	1	1000 (mL)	1 (mL)	0.001
HS20010596-07	1	1000 (mL)	1 (mL)	0.001
HS20010596-08	1	1000 (mL)	1 (mL)	0.001
HS20010596-09	1	1000 (mL)	1 (mL)	0.001
HS20010596-10	1	1000 (mL)	1 (mL)	0.001
HS20010596-11	1	1000 (mL)	1 (mL)	0.001
HS20010596-12	1	1000 (mL)	1 (mL)	0.001
HS20010596-13	1	1000 (mL)	1 (mL)	0.001
HS20010596-14	1	1000 (mL)	1 (mL)	0.001

Batch ID: 149707 **Start Date:** 16 Jan 2020 11:00 **End Date:** 16 Jan 2020 13:30
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010596-15	1	1000 (mL)	1 (mL)	0.001

Batch ID: 149749 **Start Date:** 17 Jan 2020 08:00 **End Date:** 17 Jan 2020 12:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010596-01		10 (mL)	10 (mL)	1
HS20010596-02		10 (mL)	10 (mL)	1
HS20010596-03		10 (mL)	10 (mL)	1
HS20010596-04		10 (mL)	10 (mL)	1
HS20010596-05		10 (mL)	10 (mL)	1
HS20010596-06		10 (mL)	10 (mL)	1
HS20010596-07		10 (mL)	10 (mL)	1
HS20010596-08		10 (mL)	10 (mL)	1
HS20010596-09		10 (mL)	10 (mL)	1
HS20010596-10		10 (mL)	10 (mL)	1
HS20010596-11		10 (mL)	10 (mL)	1
HS20010596-12		10 (mL)	10 (mL)	1
HS20010596-13		10 (mL)	10 (mL)	1
HS20010596-14		10 (mL)	10 (mL)	1
HS20010596-15		10 (mL)	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 149706 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS20010596-01	WG-1620-MW40B-20200113	13 Jan 2020 12:10		16 Jan 2020 10:59	21 Jan 2020 19:00	1000
HS20010596-01	WG-1620-MW40B-20200113	13 Jan 2020 12:10		16 Jan 2020 10:59	21 Jan 2020 18:41	100
HS20010596-01	WG-1620-MW40B-20200113	13 Jan 2020 12:10		16 Jan 2020 10:59	17 Jan 2020 19:44	1
HS20010596-02	WG-1620-MW42B-20200113	13 Jan 2020 13:10		16 Jan 2020 10:59	17 Jan 2020 20:04	1
HS20010596-03	WG-1620-TW41B-20200113	13 Jan 2020 14:00		16 Jan 2020 10:59	21 Jan 2020 19:19	20
HS20010596-03	WG-1620-TW41B-20200113	13 Jan 2020 14:00		16 Jan 2020 10:59	21 Jan 2020 17:42	10
HS20010596-03	WG-1620-TW41B-20200113	13 Jan 2020 14:00		16 Jan 2020 10:59	17 Jan 2020 20:24	1
HS20010596-04	WG-1620-MW05-20200113	13 Jan 2020 14:55		16 Jan 2020 10:59	17 Jan 2020 20:43	1
HS20010596-05	WG-1620-MW12C-20200113	13 Jan 2020 15:55		16 Jan 2020 10:59	17 Jan 2020 21:03	1
HS20010596-06	WG-1620-MW12A-20200113	13 Jan 2020 16:45		16 Jan 2020 10:59	21 Jan 2020 19:39	40
HS20010596-06	WG-1620-MW12A-20200113	13 Jan 2020 16:45		16 Jan 2020 10:59	21 Jan 2020 18:02	20
HS20010596-06	WG-1620-MW12A-20200113	13 Jan 2020 16:45		16 Jan 2020 10:59	17 Jan 2020 21:23	1
HS20010596-07	WG-1620-MW39B-20200113	13 Jan 2020 17:35		16 Jan 2020 10:59	17 Jan 2020 21:43	1
HS20010596-08	WG-1620-FB05-20200113	13 Jan 2020 17:50		16 Jan 2020 10:59	21 Jan 2020 13:09	1
HS20010596-09	WG-1620-MW13-20200114	14 Jan 2020 08:10		16 Jan 2020 10:59	21 Jan 2020 13:29	1
HS20010596-10	WG-1620-MW09-20200114	14 Jan 2020 09:00		16 Jan 2020 10:59	20 Jan 2020 09:25	1
HS20010596-11	WG-1620-MW21C-20200114	14 Jan 2020 10:00		16 Jan 2020 10:59	21 Jan 2020 13:48	1
HS20010596-12	WG-1620-FD02-20200114	14 Jan 2020 10:00		16 Jan 2020 10:59	21 Jan 2020 14:08	1
HS20010596-13	WG-1620-P11-20200114	14 Jan 2020 10:55		16 Jan 2020 10:59	21 Jan 2020 14:27	1
HS20010596-14	WG-1620-MW88C-20200114	14 Jan 2020 11:50		16 Jan 2020 10:59	21 Jan 2020 14:46	1
Batch ID: 149707 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS20010596-15	WG-1620-MW20A-20200114	14 Jan 2020 12:55		16 Jan 2020 11:00	21 Jan 2020 19:58	500
HS20010596-15	WG-1620-MW20A-20200114	14 Jan 2020 12:55		16 Jan 2020 11:00	21 Jan 2020 18:21	25
HS20010596-15	WG-1620-MW20A-20200114	14 Jan 2020 12:55		16 Jan 2020 11:00	20 Jan 2020 18:24	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 149749 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS20010596-01	WG-1620-MW40B-20200113	13 Jan 2020 12:10		17 Jan 2020 12:00	20 Jan 2020 15:19	1
HS20010596-02	WG-1620-MW42B-20200113	13 Jan 2020 13:10		17 Jan 2020 12:00	20 Jan 2020 16:18	1
HS20010596-03	WG-1620-TW41B-20200113	13 Jan 2020 14:00		17 Jan 2020 12:00	20 Jan 2020 16:20	1
HS20010596-04	WG-1620-MW05-20200113	13 Jan 2020 14:55		17 Jan 2020 12:00	20 Jan 2020 16:46	1
HS20010596-05	WG-1620-MW12C-20200113	13 Jan 2020 15:55		17 Jan 2020 12:00	20 Jan 2020 16:39	1
HS20010596-06	WG-1620-MW12A-20200113	13 Jan 2020 16:45		17 Jan 2020 12:00	20 Jan 2020 16:49	1
HS20010596-07	WG-1620-MW39B-20200113	13 Jan 2020 17:35		17 Jan 2020 12:00	20 Jan 2020 16:51	1
HS20010596-08	WG-1620-FB05-20200113	13 Jan 2020 17:50		17 Jan 2020 12:00	20 Jan 2020 16:53	1
HS20010596-09	WG-1620-MW13-20200114	14 Jan 2020 08:10		17 Jan 2020 12:00	20 Jan 2020 16:55	1
HS20010596-10	WG-1620-MW09-20200114	14 Jan 2020 09:00		17 Jan 2020 12:00	20 Jan 2020 16:58	1
HS20010596-11	WG-1620-MW21C-20200114	14 Jan 2020 10:00		17 Jan 2020 12:00	20 Jan 2020 17:00	1
HS20010596-12	WG-1620-FD02-20200114	14 Jan 2020 10:00		17 Jan 2020 12:00	20 Jan 2020 17:02	1
HS20010596-13	WG-1620-P11-20200114	14 Jan 2020 10:55		17 Jan 2020 12:00	20 Jan 2020 17:19	1
HS20010596-14	WG-1620-MW88C-20200114	14 Jan 2020 11:50		17 Jan 2020 12:00	20 Jan 2020 17:22	1
HS20010596-15	WG-1620-MW20A-20200114	14 Jan 2020 12:55		17 Jan 2020 12:00	20 Jan 2020 17:24	1
Batch ID: R354616 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010596-11	WG-1620-MW21C-20200114	14 Jan 2020 10:00			17 Jan 2020 02:20	1
HS20010596-12	WG-1620-FD02-20200114	14 Jan 2020 10:00			17 Jan 2020 02:44	1
HS20010596-13	WG-1620-P11-20200114	14 Jan 2020 10:55			17 Jan 2020 03:09	1
HS20010596-14	WG-1620-MW88C-20200114	14 Jan 2020 11:50			17 Jan 2020 03:33	1
HS20010596-15	WG-1620-MW20A-20200114	14 Jan 2020 12:55			17 Jan 2020 03:58	1
HS20010596-16	WG-1620-TB03-20200114	14 Jan 2020 00:00			16 Jan 2020 23:53	1
Batch ID: R354637 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010596-01	WG-1620-MW40B-20200113	13 Jan 2020 12:10			17 Jan 2020 06:51	1
HS20010596-04	WG-1620-MW05-20200113	13 Jan 2020 14:55			17 Jan 2020 07:40	1
HS20010596-05	WG-1620-MW12C-20200113	13 Jan 2020 15:55			17 Jan 2020 08:04	1
HS20010596-06	WG-1620-MW12A-20200113	13 Jan 2020 16:45			17 Jan 2020 08:29	1
Batch ID: R354652 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010596-08	WG-1620-FB05-20200113	13 Jan 2020 17:50			18 Jan 2020 11:25	1
HS20010596-09	WG-1620-MW13-20200114	14 Jan 2020 08:10			18 Jan 2020 11:49	1
HS20010596-10	WG-1620-MW09-20200114	14 Jan 2020 09:00			18 Jan 2020 13:02	1
Batch ID: R354723 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010596-02	WG-1620-MW42B-20200113	13 Jan 2020 13:10			20 Jan 2020 16:46	1
HS20010596-03	WG-1620-TW41B-20200113	13 Jan 2020 14:00			20 Jan 2020 14:15	1
Batch ID: R354799 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010596-07	WG-1620-MW39B-20200113	13 Jan 2020 17:35			21 Jan 2020 13:19	1

WorkOrder: HS20010596
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000499	0.000400	0.00200

WorkOrder: HS20010596
InstrumentID: SV-7
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.00013	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000081	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.00010	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.00010	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.00012	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000052	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000060	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000069	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000050	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000046	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000046	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000057	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000047	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.00012	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00014	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000049	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000050	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.00012	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000053	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000050	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000048	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00014	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00012	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000057	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000047	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.00012	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000051	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS20010596
InstrumentID: VOA4
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00061	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00057	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00058	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00048	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00070	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00050	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00070	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

WorkOrder: HS20010596
InstrumentID: VOA2
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00062	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00059	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00071	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00063	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00075	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00069	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00059	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

QC BATCH REPORT

Batch ID: 149749 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-149749** Units: **mg/L** Analysis Date: **20-Jan-2020 15:14**
Client ID: Run ID: **ICPMS05_354648** SeqNo: **5441099** PrepDate: **17-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-149749** Units: **mg/L** Analysis Date: **20-Jan-2020 15:16**
Client ID: Run ID: **ICPMS05_354648** SeqNo: **5441100** PrepDate: **17-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04712	0.00200	0.05	0	94.2	80 - 120				

MS Sample ID: **HS20010596-01MS** Units: **mg/L** Analysis Date: **20-Jan-2020 15:23**
Client ID: **WG-1620-MW40B-20200113** Run ID: **ICPMS05_354648** SeqNo: **5441103** PrepDate: **17-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1024	0.00200	0.05	0.05228	100	80 - 120				

MSD Sample ID: **HS20010596-01MSD** Units: **mg/L** Analysis Date: **20-Jan-2020 15:25**
Client ID: **WG-1620-MW40B-20200113** Run ID: **ICPMS05_354648** SeqNo: **5441104** PrepDate: **17-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.09984	0.00200	0.05	0.05228	95.1	80 - 120	0.1024	2.56	20	

PDS Sample ID: **HS20010596-01PDS** Units: **mg/L** Analysis Date: **20-Jan-2020 15:27**
Client ID: **WG-1620-MW40B-20200113** Run ID: **ICPMS05_354648** SeqNo: **5441105** PrepDate: **17-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1486	0.00200	0.1	0.05228	96.4	75 - 125				

SD Sample ID: **HS20010596-01SD** Units: **mg/L** Analysis Date: **20-Jan-2020 15:21**
Client ID: **WG-1620-MW40B-20200113** Run ID: **ICPMS05_354648** SeqNo: **5441102** PrepDate: **17-Jan-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.05319	0.0100					0.05228	1.75	10	

The following samples were analyzed in this batch:

HS20010596-01	HS20010596-02	HS20010596-03	HS20010596-04
HS20010596-05	HS20010596-06	HS20010596-07	HS20010596-08
HS20010596-09	HS20010596-10	HS20010596-11	HS20010596-12
HS20010596-13	HS20010596-14	HS20010596-15	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

QC BATCH REPORT

Batch ID: 149706 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-149706** Units: **ug/L** Analysis Date: **17-Jan-2020 11:10**
Client ID: Run ID: **SV-7_354580** SeqNo: **5438870** PrepDate: **16-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*3.801*	*0.20*	*5*	*0*	*76.0*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.834*	*0.20*	*5*	*0*	*96.7*	*40 - 125*				
Surr: 2-Fluorophenol	*5.028*	*0.20*	*5*	*0*	*101*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.043*	*0.20*	*5*	*0*	*101*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.556*	*0.20*	*5*	*0*	*91.1*	*41 - 120*				
Surr: Phenol-d6	*4.987*	*0.20*	*5*	*0*	*99.7*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

QC BATCH REPORT

Batch ID: 149706 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-149706** Units: **ug/L** Analysis Date: **17-Jan-2020 11:29**
Client ID: Run ID: **SV-7_354580** SeqNo: **5438871** PrepDate: **16-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	5.272	0.20	5	0	105	39 - 127				
2,4-Dimethylphenol	4.201	0.20	5	0	84.0	35 - 120				
2,4-Dinitrotoluene	4.666	0.20	5	0	93.3	50 - 122				
2,6-Dinitrotoluene	4.42	0.20	5	0	88.4	50 - 120				
2-Chloronaphthalene	4.636	0.20	5	0	92.7	50 - 120				
2-Methylnaphthalene	4.065	0.10	5	0	81.3	50 - 120				
4,6-Dinitro-2-methylphenol	5.471	0.20	5	0	109	25 - 121				
4-Nitrophenol	4.842	1.0	5	0	96.8	30 - 130				
Acenaphthene	4.398	0.10	5	0	88.0	45 - 120				
Acenaphthylene	4.139	0.10	5	0	82.8	47 - 120				
Anthracene	4.609	0.10	5	0	92.2	45 - 120				
Benz(a)anthracene	4.284	0.10	5	0	85.7	40 - 120				
Benzo(a)pyrene	4.099	0.10	5	0	82.0	45 - 120				
Bis(2-chloroethoxy)methane	4.466	0.20	5	0	89.3	45 - 120				
Bis(2-ethylhexyl)phthalate	4.202	0.20	5	0	84.0	40 - 139				
Chrysene	4.745	0.10	5	0	94.9	43 - 120				
Dibenzofuran	4.287	0.10	5	0	85.7	50 - 120				
Di-n-butyl phthalate	4.89	0.20	5	0	97.8	45 - 123				
Fluoranthene	4.866	0.10	5	0	97.3	45 - 125				
Fluorene	4.384	0.10	5	0	87.7	49 - 120				
Naphthalene	4.293	0.10	5	0	85.9	45 - 120				
Nitrobenzene	4.568	0.20	5	0	91.4	44 - 120				
N-Nitrosodiphenylamine	4.806	0.20	5	0	96.1	40 - 125				
Pentachlorophenol	3.923	0.20	5	0	78.5	19 - 121				
Phenanthrene	4.546	0.10	5	0	90.9	45 - 121				
Phenol	4.568	0.20	5	0	91.4	20 - 124				
Pyrene	4.445	0.10	5	0	88.9	40 - 130				
Surr: 2,4,6-Tribromophenol	*4.171*	*0.20*	*5*	*0*	*83.4*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.609*	*0.20*	*5*	*0*	*92.2*	*40 - 125*				
Surr: 2-Fluorophenol	*4.848*	*0.20*	*5*	*0*	*97.0*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.705*	*0.20*	*5*	*0*	*94.1*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.603*	*0.20*	*5*	*0*	*92.1*	*41 - 120*				
Surr: Phenol-d6	*4.591*	*0.20*	*5*	*0*	*91.8*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

QC BATCH REPORT

Batch ID: 149706 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-149706** Units: **ug/L** Analysis Date: **17-Jan-2020 11:49**
Client ID: Run ID: **SV-7_354580** SeqNo: **5438872** PrepDate: **16-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	5.285	0.20	5	0	106	39 - 127	5.272	0.234	20	
2,4-Dimethylphenol	4.2	0.20	5	0	84.0	35 - 120	4.201	0.0176	20	
2,4-Dinitrotoluene	4.635	0.20	5	0	92.7	50 - 122	4.666	0.65	20	
2,6-Dinitrotoluene	4.325	0.20	5	0	86.5	50 - 120	4.42	2.17	20	
2-Chloronaphthalene	4.49	0.20	5	0	89.8	50 - 120	4.636	3.19	20	
2-Methylnaphthalene	4.163	0.10	5	0	83.3	50 - 120	4.065	2.37	20	
4,6-Dinitro-2-methylphenol	5.588	0.20	5	0	112	25 - 121	5.471	2.13	30	
4-Nitrophenol	4.79	1.0	5	0	95.8	30 - 130	4.842	1.07	20	
Acenaphthene	3.978	0.10	5	0	79.6	45 - 120	4.398	10	20	
Acenaphthylene	4.124	0.10	5	0	82.5	47 - 120	4.139	0.368	20	
Anthracene	4.564	0.10	5	0	91.3	45 - 120	4.609	0.985	20	
Benz(a)anthracene	4.402	0.10	5	0	88.0	40 - 120	4.284	2.73	20	
Benzo(a)pyrene	4.633	0.10	5	0	92.7	45 - 120	4.099	12.2	20	
Bis(2-chloroethoxy)methane	4.431	0.20	5	0	88.6	45 - 120	4.466	0.783	20	
Bis(2-ethylhexyl)phthalate	4.39	0.20	5	0	87.8	40 - 139	4.202	4.38	20	
Chrysene	4.79	0.10	5	0	95.8	43 - 120	4.745	0.959	20	
Dibenzofuran	4.261	0.10	5	0	85.2	50 - 120	4.287	0.602	20	
Di-n-butyl phthalate	4.792	0.20	5	0	95.8	45 - 123	4.89	2.02	20	
Fluoranthene	4.792	0.10	5	0	95.8	45 - 125	4.866	1.52	20	
Fluorene	4.279	0.10	5	0	85.6	49 - 120	4.384	2.42	20	
Naphthalene	4.282	0.10	5	0	85.6	45 - 120	4.293	0.27	20	
Nitrobenzene	4.617	0.20	5	0	92.3	44 - 120	4.568	1.08	20	
N-Nitrosodiphenylamine	4.664	0.20	5	0	93.3	40 - 125	4.806	2.99	20	
Pentachlorophenol	4.065	0.20	5	0	81.3	19 - 121	3.923	3.53	20	
Phenanthrene	4.457	0.10	5	0	89.1	45 - 121	4.546	1.98	20	
Phenol	4.533	0.20	5	0	90.7	20 - 124	4.568	0.761	20	
Pyrene	4.594	0.10	5	0	91.9	40 - 130	4.445	3.3	20	
Surr: 2,4,6-Tribromophenol	*4.334*	*0.20*	*5*	*0*	*86.7*	*34 - 129*	*4.171*	*3.83*	*20*	
Surr: 2-Fluorobiphenyl	*4.596*	*0.20*	*5*	*0*	*91.9*	*40 - 125*	*4.609*	*0.292*	*20*	
Surr: 2-Fluorophenol	*4.641*	*0.20*	*5*	*0*	*92.8*	*20 - 120*	*4.848*	*4.37*	*20*	
Surr: 4-Terphenyl-d14	*4.77*	*0.20*	*5*	*0*	*95.4*	*40 - 135*	*4.705*	*1.38*	*20*	
Surr: Nitrobenzene-d5	*4.549*	*0.20*	*5*	*0*	*91.0*	*41 - 120*	*4.603*	*1.19*	*20*	
Surr: Phenol-d6	*4.75*	*0.20*	*5*	*0*	*95.0*	*20 - 120*	*4.591*	*3.41*	*20*	

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	HS20010596

QC BATCH REPORT

Batch ID: 149706 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

The following samples were analyzed in this batch:

HS20010596-01	HS20010596-02	HS20010596-03	HS20010596-04
HS20010596-05	HS20010596-06	HS20010596-07	HS20010596-08
HS20010596-09	HS20010596-10	HS20010596-11	HS20010596-12
HS20010596-13	HS20010596-14		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

QC BATCH REPORT

Batch ID: 149707 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-149707** Units: **ug/L** Analysis Date: **20-Jan-2020 08:28**
Client ID: Run ID: **SV-7_354654** SeqNo: **5440530** PrepDate: **16-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*4.747*	*0.20*	*5*	*0*	*94.9*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*5.366*	*0.20*	*5*	*0*	*107*	*40 - 125*				
Surr: 2-Fluorophenol	*5.041*	*0.20*	*5*	*0*	*101*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.519*	*0.20*	*5*	*0*	*110*	*40 - 135*				
Surr: Nitrobenzene-d5	*5.119*	*0.20*	*5*	*0*	*102*	*41 - 120*				
Surr: Phenol-d6	*5*	*0.20*	*5*	*0*	*100*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

QC BATCH REPORT

Batch ID: 149707 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-149707** Units: **ug/L** Analysis Date: **20-Jan-2020 08:47**
Client ID: Run ID: **SV-7_354654** SeqNo: **5440531** PrepDate: **16-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	5.534	0.20	5	0	111	39 - 127				
2,4-Dimethylphenol	4.512	0.20	5	0	90.2	35 - 120				
2,4-Dinitrotoluene	4.88	0.20	5	0	97.6	50 - 122				
2,6-Dinitrotoluene	4.738	0.20	5	0	94.8	50 - 120				
2-Chloronaphthalene	4.954	0.20	5	0	99.1	50 - 120				
2-Methylnaphthalene	4.718	0.10	5	0	94.4	50 - 120				
4,6-Dinitro-2-methylphenol	5.655	0.20	5	0	113	25 - 121				
4-Nitrophenol	5.049	1.0	5	0	101	30 - 130				
Acenaphthene	4.562	0.10	5	0	91.2	45 - 120				
Acenaphthylene	4.507	0.10	5	0	90.1	47 - 120				
Anthracene	4.822	0.10	5	0	96.4	45 - 120				
Benz(a)anthracene	4.637	0.10	5	0	92.7	40 - 120				
Benzo(a)pyrene	5.218	0.10	5	0	104	45 - 120				
Bis(2-chloroethoxy)methane	5.043	0.20	5	0	101	45 - 120				
Bis(2-ethylhexyl)phthalate	4.719	0.20	5	0	94.4	40 - 139				
Chrysene	5.07	0.10	5	0	101	43 - 120				
Dibenzofuran	4.702	0.10	5	0	94.0	50 - 120				
Di-n-butyl phthalate	5.079	0.20	5	0	102	45 - 123				
Fluoranthene	5.109	0.10	5	0	102	45 - 125				
Fluorene	4.754	0.10	5	0	95.1	49 - 120				
Naphthalene	4.92	0.10	5	0	98.4	45 - 120				
Nitrobenzene	5.121	0.20	5	0	102	44 - 120				
N-Nitrosodiphenylamine	4.699	0.20	5	0	94.0	40 - 125				
Pentachlorophenol	4.518	0.20	5	0	90.4	19 - 121				
Phenanthrene	4.712	0.10	5	0	94.2	45 - 121				
Phenol	4.916	0.20	5	0	98.3	20 - 124				
Pyrene	4.925	0.10	5	0	98.5	40 - 130				
Surr: 2,4,6-Tribromophenol	*4.598*	*0.20*	*5*	*0*	*92.0*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*5.126*	*0.20*	*5*	*0*	*103*	*40 - 125*				
Surr: 2-Fluorophenol	*5.058*	*0.20*	*5*	*0*	*101*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.147*	*0.20*	*5*	*0*	*103*	*40 - 135*				
Surr: Nitrobenzene-d5	*5.089*	*0.20*	*5*	*0*	*102*	*41 - 120*				
Surr: Phenol-d6	*5.146*	*0.20*	*5*	*0*	*103*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

QC BATCH REPORT

Batch ID: 149707 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-149707** Units: **ug/L** Analysis Date: **20-Jan-2020 09:06**
Client ID: Run ID: **SV-7_354654** SeqNo: **5440532** PrepDate: **16-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	5.629	0.20	5	0	113	39 - 127	5.534	1.7	20	
2,4-Dimethylphenol	4.912	0.20	5	0	98.2	35 - 120	4.512	8.47	20	
2,4-Dinitrotoluene	5.416	0.20	5	0	108	50 - 122	4.88	10.4	20	
2,6-Dinitrotoluene	5.437	0.20	5	0	109	50 - 120	4.738	13.7	20	
2-Chloronaphthalene	5.688	0.20	5	0	114	50 - 120	4.954	13.8	20	
2-Methylnaphthalene	5.246	0.10	5	0	105	50 - 120	4.718	10.6	20	
4,6-Dinitro-2-methylphenol	5.603	0.20	5	0	112	25 - 121	5.655	0.93	30	
4-Nitrophenol	5.664	1.0	5	0	113	30 - 130	5.049	11.5	20	
Acenaphthene	4.935	0.10	5	0	98.7	45 - 120	4.562	7.85	20	
Acenaphthylene	5.162	0.10	5	0	103	47 - 120	4.507	13.6	20	
Anthracene	5.621	0.10	5	0	112	45 - 120	4.822	15.3	20	
Benz(a)anthracene	5.332	0.10	5	0	107	40 - 120	4.637	13.9	20	
Benzo(a)pyrene	5.606	0.10	5	0	112	45 - 120	5.218	7.16	20	
Bis(2-chloroethoxy)methane	5.487	0.20	5	0	110	45 - 120	5.043	8.43	20	
Bis(2-ethylhexyl)phthalate	5.4	0.20	5	0	108	40 - 139	4.719	13.5	20	
Chrysene	5.245	0.10	5	0	105	43 - 120	5.07	3.39	20	
Dibenzofuran	5.301	0.10	5	0	106	50 - 120	4.702	12	20	
Di-n-butyl phthalate	5.877	0.20	5	0	118	45 - 123	5.079	14.6	20	
Fluoranthene	5.965	0.10	5	0	119	45 - 125	5.109	15.4	20	
Fluorene	5.457	0.10	5	0	109	49 - 120	4.754	13.8	20	
Naphthalene	5.483	0.10	5	0	110	45 - 120	4.92	10.8	20	
Nitrobenzene	5.637	0.20	5	0	113	44 - 120	5.121	9.6	20	
N-Nitrosodiphenylamine	5.74	0.20	5	0	115	40 - 125	4.699	19.9	20	
Pentachlorophenol	4.914	0.20	5	0	98.3	19 - 121	4.518	8.4	20	
Phenanthrene	5.503	0.10	5	0	110	45 - 121	4.712	15.5	20	
Phenol	5.438	0.20	5	0	109	20 - 124	4.916	10.1	20	
Pyrene	5.793	0.10	5	0	116	40 - 130	4.925	16.2	20	
Surr: 2,4,6-Tribromophenol	*5.247*	*0.20*	*5*	*0*	*105*	*34 - 129*	*4.598*	*13.2*	*20*	
Surr: 2-Fluorobiphenyl	*5.627*	*0.20*	*5*	*0*	*113*	*40 - 125*	*5.126*	*9.31*	*20*	
Surr: 2-Fluorophenol	*5.548*	*0.20*	*5*	*0*	*111*	*20 - 120*	*5.058*	*9.25*	*20*	
Surr: 4-Terphenyl-d14	*5.667*	*0.20*	*5*	*0*	*113*	*40 - 135*	*5.147*	*9.62*	*20*	
Surr: Nitrobenzene-d5	*5.474*	*0.20*	*5*	*0*	*109*	*41 - 120*	*5.089*	*7.3*	*20*	
Surr: Phenol-d6	*5.535*	*0.20*	*5*	*0*	*111*	*20 - 120*	*5.146*	*7.28*	*20*	

The following samples were analyzed in this batch: HS20010596-15

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

QC BATCH REPORT

Batch ID: R354616 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200116** Units: **ug/L** Analysis Date: **16-Jan-2020 23:29**
Client ID: Run ID: **VOA2_354616** SeqNo: **5439503** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*48.3*	*1.0*	*50*	*0*	*96.6*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*48.06*	*1.0*	*50*	*0*	*96.1*	*82 - 115*				
Surr: Dibromofluoromethane	*50.7*	*1.0*	*50*	*0*	*101*	*73 - 126*				
Surr: Toluene-d8	*50.27*	*1.0*	*50*	*0*	*101*	*81 - 120*				

LCS Sample ID: **VLCSW-200116** Units: **ug/L** Analysis Date: **16-Jan-2020 22:40**
Client ID: Run ID: **VOA2_354616** SeqNo: **5439502** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.44	1.0	20	0	87.2	70 - 124				
Benzene	17.15	1.0	20	0	85.8	74 - 120				
Chlorobenzene	17.99	1.0	20	0	89.9	76 - 113				
Ethylbenzene	17.67	1.0	20	0	88.3	77 - 117				
Methylene chloride	16.86	2.0	20	0	84.3	70 - 127				
Toluene	18.73	1.0	20	0	93.6	77 - 118				
Xylenes, Total	53.91	1.0	60	0	89.8	75 - 122				
Surr: 1,2-Dichloroethane-d4	*47.73*	*1.0*	*50*	*0*	*95.5*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*48.52*	*1.0*	*50*	*0*	*97.0*	*82 - 115*				
Surr: Dibromofluoromethane	*49.26*	*1.0*	*50*	*0*	*98.5*	*73 - 126*				
Surr: Toluene-d8	*48.43*	*1.0*	*50*	*0*	*96.9*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

QC BATCH REPORT

Batch ID: R354616 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010635-14MS** Units: **ug/L** Analysis Date: **17-Jan-2020 00:42**
Client ID: Run ID: **VOA2_354616** SeqNo: **5439506** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.11	1.0	20	0	85.6	70 - 127				
Benzene	19.13	1.0	20	2.986	80.7	70 - 127				
Chlorobenzene	17.69	1.0	20	0	88.4	70 - 114				
Ethylbenzene	20.6	1.0	20	3.085	87.6	70 - 124				
Methylene chloride	16.17	2.0	20	0	80.8	70 - 128				
Toluene	18.76	1.0	20	0	93.8	70 - 123				
Xylenes, Total	53.49	1.0	60	0	89.2	70 - 130				
Surr: 1,2-Dichloroethane-d4	*48.95*	*1.0*	*50*	*0*	*97.9*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*53.28*	*1.0*	*50*	*0*	*107*	*81 - 113*				
Surr: Dibromofluoromethane	*48.18*	*1.0*	*50*	*0*	*96.4*	*77 - 123*				
Surr: Toluene-d8	*47.62*	*1.0*	*50*	*0*	*95.2*	*82 - 127*				

MSD Sample ID: **HS20010635-14MSD** Units: **ug/L** Analysis Date: **17-Jan-2020 01:06**
Client ID: Run ID: **VOA2_354616** SeqNo: **5439507** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.92	1.0	20	0	84.6	70 - 127	17.11	1.15	20	
Benzene	18.68	1.0	20	2.986	78.5	70 - 127	19.13	2.35	20	
Chlorobenzene	17.71	1.0	20	0	88.5	70 - 114	17.69	0.0902	20	
Ethylbenzene	20.29	1.0	20	3.085	86.0	70 - 124	20.6	1.51	20	
Methylene chloride	16.17	2.0	20	0	80.9	70 - 128	16.17	0.0223	20	
Toluene	18.59	1.0	20	0	92.9	70 - 123	18.76	0.918	20	
Xylenes, Total	52.95	1.0	60	0	88.2	70 - 130	53.49	1.02	20	
Surr: 1,2-Dichloroethane-d4	*47.83*	*1.0*	*50*	*0*	*95.7*	*70 - 126*	*48.95*	*2.31*	*20*	
Surr: 4-Bromofluorobenzene	*53.3*	*1.0*	*50*	*0*	*107*	*81 - 113*	*53.28*	*0.0339*	*20*	
Surr: Dibromofluoromethane	*47.53*	*1.0*	*50*	*0*	*95.1*	*77 - 123*	*48.18*	*1.36*	*20*	
Surr: Toluene-d8	*48.37*	*1.0*	*50*	*0*	*96.7*	*82 - 127*	*47.62*	*1.57*	*20*	

The following samples were analyzed in this batch: HS20010596-11 HS20010596-12 HS20010596-13 HS20010596-14 HS20010596-15 HS20010596-16

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

QC BATCH REPORT

Batch ID: R354637 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200116** Units: **ug/L** Analysis Date: **16-Jan-2020 23:37**
Client ID: Run ID: **VOA4_354637** SeqNo: **5440160** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*60.85*	*1.0*	*50*	*0*	*122*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*49.27*	*1.0*	*50*	*0*	*98.5*	*82 - 115*				
Surr: Dibromofluoromethane	*55.4*	*1.0*	*50*	*0*	*111*	*73 - 126*				
Surr: Toluene-d8	*49.67*	*1.0*	*50*	*0*	*99.3*	*81 - 120*				

LCS Sample ID: **VLCSW-200116** Units: **ug/L** Analysis Date: **16-Jan-2020 22:48**
Client ID: Run ID: **VOA4_354637** SeqNo: **5440159** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	23.82	1.0	20	0	119	70 - 124				
Benzene	19.98	1.0	20	0	99.9	74 - 120				
Chlorobenzene	17.86	1.0	20	0	89.3	76 - 113				
Ethylbenzene	18.9	1.0	20	0	94.5	77 - 117				
Methylene chloride	21.28	2.0	20	0	106	70 - 127				
Toluene	19.92	1.0	20	0	99.6	77 - 118				
Xylenes, Total	59.83	1.0	60	0	99.7	75 - 122				
Surr: 1,2-Dichloroethane-d4	*59.5*	*1.0*	*50*	*0*	*119*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*52.1*	*1.0*	*50*	*0*	*104*	*82 - 115*				
Surr: Dibromofluoromethane	*58.76*	*1.0*	*50*	*0*	*118*	*73 - 126*				
Surr: Toluene-d8	*49.69*	*1.0*	*50*	*0*	*99.4*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

QC BATCH REPORT

Batch ID: R354637 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010637-09MS** Units: **ug/L** Analysis Date: **17-Jan-2020 01:15**
Client ID: Run ID: **VOA4_354637** SeqNo: **5440164** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	20.59	1.0	20	0	103	70 - 127				
Benzene	18.49	1.0	20	0	92.4	70 - 127				
Chlorobenzene	16.6	1.0	20	0	83.0	70 - 114				
Ethylbenzene	17.67	1.0	20	0	88.3	70 - 124				
Methylene chloride	18.28	2.0	20	0	91.4	70 - 128				
Toluene	18.89	1.0	20	0	94.5	70 - 123				
Xylenes, Total	56.99	1.0	60	0	95.0	70 - 130				
Surr: 1,2-Dichloroethane-d4	*58.31*	*1.0*	*50*	*0*	*117*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*54.73*	*1.0*	*50*	*0*	*109*	*81 - 113*				
Surr: Dibromofluoromethane	*56.34*	*1.0*	*50*	*0*	*113*	*77 - 123*				
Surr: Toluene-d8	*48.7*	*1.0*	*50*	*0*	*97.4*	*82 - 127*				

MSD Sample ID: **HS20010637-09MSD** Units: **ug/L** Analysis Date: **17-Jan-2020 01:40**
Client ID: Run ID: **VOA4_354637** SeqNo: **5440165** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	20.81	1.0	20	0	104	70 - 127	20.59	1.1	20	
Benzene	17.85	1.0	20	0	89.2	70 - 127	18.49	3.52	20	
Chlorobenzene	16.04	1.0	20	0	80.2	70 - 114	16.6	3.42	20	
Ethylbenzene	16.79	1.0	20	0	83.9	70 - 124	17.67	5.11	20	
Methylene chloride	17.07	2.0	20	0	85.3	70 - 128	18.28	6.86	20	
Toluene	18.48	1.0	20	0	92.4	70 - 123	18.89	2.22	20	
Xylenes, Total	53.81	1.0	60	0	89.7	70 - 130	56.99	5.73	20	
Surr: 1,2-Dichloroethane-d4	*60.51*	*1.0*	*50*	*0*	*121*	*70 - 126*	*58.31*	*3.71*	*20*	
Surr: 4-Bromofluorobenzene	*50.05*	*1.0*	*50*	*0*	*100*	*81 - 113*	*54.73*	*8.93*	*20*	
Surr: Dibromofluoromethane	*58.14*	*1.0*	*50*	*0*	*116*	*77 - 123*	*56.34*	*3.13*	*20*	
Surr: Toluene-d8	*50.27*	*1.0*	*50*	*0*	*101*	*82 - 127*	*48.7*	*3.17*	*20*	

The following samples were analyzed in this batch: HS20010596-01 HS20010596-04 HS20010596-05 HS20010596-06

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

QC BATCH REPORT

Batch ID: R354652 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200118** Units: **ug/L** Analysis Date: **18-Jan-2020 11:00**
Client ID: Run ID: **VOA2_354652** SeqNo: **5440487** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*47.8*	*1.0*	*50*	*0*	*95.6*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.76*	*1.0*	*50*	*0*	*95.5*	*82 - 115*				
Surr: Dibromofluoromethane	*50.12*	*1.0*	*50*	*0*	*100*	*73 - 126*				
Surr: Toluene-d8	*50.21*	*1.0*	*50*	*0*	*100*	*81 - 120*				

LCS Sample ID: **VLCSW-200218** Units: **ug/L** Analysis Date: **18-Jan-2020 10:11**
Client ID: Run ID: **VOA2_354652** SeqNo: **5440486** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.58	1.0	20	0	92.9	70 - 124				
Benzene	18.58	1.0	20	0	92.9	74 - 120				
Chlorobenzene	19.59	1.0	20	0	98.0	76 - 113				
Ethylbenzene	19.02	1.0	20	0	95.1	77 - 117				
Methylene chloride	18.17	2.0	20	0	90.9	70 - 127				
Toluene	20.48	1.0	20	0	102	77 - 118				
Xylenes, Total	58.37	1.0	60	0	97.3	75 - 122				
Surr: 1,2-Dichloroethane-d4	*48.57*	*1.0*	*50*	*0*	*97.1*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*48.85*	*1.0*	*50*	*0*	*97.7*	*82 - 115*				
Surr: Dibromofluoromethane	*48.64*	*1.0*	*50*	*0*	*97.3*	*73 - 126*				
Surr: Toluene-d8	*48.94*	*1.0*	*50*	*0*	*97.9*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

QC BATCH REPORT

Batch ID: R354652 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010596-09MS** Units: **ug/L** Analysis Date: **18-Jan-2020 12:14**
Client ID: **WG-1620-MW13-20200114** Run ID: **VOA2_354652** SeqNo: **5440490** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.12	1.0	20	0	85.6	70 - 127				
Benzene	17.46	1.0	20	0	87.3	70 - 127				
Chlorobenzene	18.21	1.0	20	0	91.0	70 - 114				
Ethylbenzene	18.38	1.0	20	0	91.9	70 - 124				
Methylene chloride	16.38	2.0	20	0	81.9	70 - 128				
Toluene	19.35	1.0	20	0	96.7	70 - 123				
Xylenes, Total	54.94	1.0	60	0	91.6	70 - 130				
Surr: 1,2-Dichloroethane-d4	*49.23*	*1.0*	*50*	*0*	*98.5*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*48.62*	*1.0*	*50*	*0*	*97.2*	*81 - 113*				
Surr: Dibromofluoromethane	*49.52*	*1.0*	*50*	*0*	*99.0*	*77 - 123*				
Surr: Toluene-d8	*49.04*	*1.0*	*50*	*0*	*98.1*	*82 - 127*				

MSD Sample ID: **HS20010596-09MSD** Units: **ug/L** Analysis Date: **18-Jan-2020 12:38**
Client ID: **WG-1620-MW13-20200114** Run ID: **VOA2_354652** SeqNo: **5440491** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.21	1.0	20	0	81.0	70 - 127	17.12	5.49	20	
Benzene	16.36	1.0	20	0	81.8	70 - 127	17.46	6.51	20	
Chlorobenzene	17.12	1.0	20	0	85.6	70 - 114	18.21	6.16	20	
Ethylbenzene	16.92	1.0	20	0	84.6	70 - 124	18.38	8.25	20	
Methylene chloride	15.64	2.0	20	0	78.2	70 - 128	16.38	4.6	20	
Toluene	17.97	1.0	20	0	89.8	70 - 123	19.35	7.39	20	
Xylenes, Total	51.5	1.0	60	0	85.8	70 - 130	54.94	6.46	20	
Surr: 1,2-Dichloroethane-d4	*48.39*	*1.0*	*50*	*0*	*96.8*	*70 - 126*	*49.23*	*1.71*	*20*	
Surr: 4-Bromofluorobenzene	*48.19*	*1.0*	*50*	*0*	*96.4*	*81 - 113*	*48.62*	*0.878*	*20*	
Surr: Dibromofluoromethane	*48.92*	*1.0*	*50*	*0*	*97.8*	*77 - 123*	*49.52*	*1.23*	*20*	
Surr: Toluene-d8	*48.72*	*1.0*	*50*	*0*	*97.4*	*82 - 127*	*49.04*	*0.665*	*20*	

The following samples were analyzed in this batch: HS20010596-08 HS20010596-09 HS20010596-10

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

QC BATCH REPORT

Batch ID: R354723 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200120** Units: **ug/L** Analysis Date: **20-Jan-2020 11:48**
Client ID: Run ID: **VOA2_354723** SeqNo: **5441718** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*46.88*	*1.0*	*50*	*0*	*93.8*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.29*	*1.0*	*50*	*0*	*94.6*	*82 - 115*				
Surr: Dibromofluoromethane	*49.09*	*1.0*	*50*	*0*	*98.2*	*73 - 126*				
Surr: Toluene-d8	*50.28*	*1.0*	*50*	*0*	*101*	*81 - 120*				

LCS Sample ID: **VLCSW-200220** Units: **ug/L** Analysis Date: **20-Jan-2020 10:59**
Client ID: Run ID: **VOA2_354723** SeqNo: **5441717** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.96	1.0	20	0	94.8	70 - 124				
Benzene	18.33	1.0	20	0	91.6	74 - 120				
Chlorobenzene	19.14	1.0	20	0	95.7	76 - 113				
Ethylbenzene	19.07	1.0	20	0	95.3	77 - 117				
Methylene chloride	17.72	2.0	20	0	88.6	70 - 127				
Toluene	20.46	1.0	20	0	102	77 - 118				
Xylenes, Total	57.84	1.0	60	0	96.4	75 - 122				
Surr: 1,2-Dichloroethane-d4	*48.54*	*1.0*	*50*	*0*	*97.1*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*48.55*	*1.0*	*50*	*0*	*97.1*	*82 - 115*				
Surr: Dibromofluoromethane	*48.3*	*1.0*	*50*	*0*	*96.6*	*73 - 126*				
Surr: Toluene-d8	*49.04*	*1.0*	*50*	*0*	*98.1*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

QC BATCH REPORT

Batch ID: R354723 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010752-03MS** Units: **ug/L** Analysis Date: **20-Jan-2020 15:04**
Client ID: Run ID: **VOA2_354723** SeqNo: **5441726** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.27	1.0	20	0	81.4	70 - 127				
Benzene	16.74	1.0	20	0	83.7	70 - 127				
Chlorobenzene	17.35	1.0	20	0	86.8	70 - 114				
Ethylbenzene	17.58	1.0	20	0	87.9	70 - 124				
Methylene chloride	18.31	2.0	20	0	91.6	70 - 128				
Toluene	18.62	1.0	20	0	93.1	70 - 123				
Xylenes, Total	52.79	1.0	60	0	88.0	70 - 130				
Surr: 1,2-Dichloroethane-d4	*47.72*	*1.0*	*50*	*0*	*95.4*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*48.21*	*1.0*	*50*	*0*	*96.4*	*81 - 113*				
Surr: Dibromofluoromethane	*48.74*	*1.0*	*50*	*0*	*97.5*	*77 - 123*				
Surr: Toluene-d8	*48.92*	*1.0*	*50*	*0*	*97.8*	*82 - 127*				

MSD Sample ID: **HS20010752-03MSD** Units: **ug/L** Analysis Date: **20-Jan-2020 15:28**
Client ID: Run ID: **VOA2_354723** SeqNo: **5441727** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.28	1.0	20	0	81.4	70 - 127	16.27	0.0341	20	
Benzene	16.22	1.0	20	0	81.1	70 - 127	16.74	3.16	20	
Chlorobenzene	16.88	1.0	20	0	84.4	70 - 114	17.35	2.76	20	
Ethylbenzene	17	1.0	20	0	85.0	70 - 124	17.58	3.35	20	
Methylene chloride	17.83	2.0	20	0	89.1	70 - 128	18.31	2.68	20	
Toluene	17.86	1.0	20	0	89.3	70 - 123	18.62	4.19	20	
Xylenes, Total	51.27	1.0	60	0	85.4	70 - 130	52.79	2.92	20	
Surr: 1,2-Dichloroethane-d4	*47.12*	*1.0*	*50*	*0*	*94.2*	*70 - 126*	*47.72*	*1.28*	*20*	
Surr: 4-Bromofluorobenzene	*48.62*	*1.0*	*50*	*0*	*97.2*	*81 - 113*	*48.21*	*0.842*	*20*	
Surr: Dibromofluoromethane	*48.87*	*1.0*	*50*	*0*	*97.7*	*77 - 123*	*48.74*	*0.256*	*20*	
Surr: Toluene-d8	*48.42*	*1.0*	*50*	*0*	*96.8*	*82 - 127*	*48.92*	*1.01*	*20*	

The following samples were analyzed in this batch: HS20010596-02 HS20010596-03

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

QC BATCH REPORT

Batch ID: R354799 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200121** Units: **ug/L** Analysis Date: **21-Jan-2020 12:55**
Client ID: Run ID: **VOA2_354799** SeqNo: **5443190** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*45.22*	*1.0*	*50*	*0*	*90.4*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*46.91*	*1.0*	*50*	*0*	*93.8*	*82 - 115*				
Surr: Dibromofluoromethane	*48.57*	*1.0*	*50*	*0*	*97.1*	*73 - 126*				
Surr: Toluene-d8	*50.32*	*1.0*	*50*	*0*	*101*	*81 - 120*				

LCS Sample ID: **VLCSW-200221** Units: **ug/L** Analysis Date: **21-Jan-2020 12:06**
Client ID: Run ID: **VOA2_354799** SeqNo: **5443189** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.66	1.0	20	0	88.3	70 - 124				
Benzene	17.2	1.0	20	0	86.0	74 - 120				
Chlorobenzene	18.44	1.0	20	0	92.2	76 - 113				
Ethylbenzene	17.94	1.0	20	0	89.7	77 - 117				
Methylene chloride	17.49	2.0	20	0	87.4	70 - 127				
Toluene	19.3	1.0	20	0	96.5	77 - 118				
Xylenes, Total	54.82	1.0	60	0	91.4	75 - 122				
Surr: 1,2-Dichloroethane-d4	*46.76*	*1.0*	*50*	*0*	*93.5*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*48.36*	*1.0*	*50*	*0*	*96.7*	*82 - 115*				
Surr: Dibromofluoromethane	*48.03*	*1.0*	*50*	*0*	*96.1*	*73 - 126*				
Surr: Toluene-d8	*49.46*	*1.0*	*50*	*0*	*98.9*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010596

QC BATCH REPORT

Batch ID: R354799 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010767-05MS** Units: **ug/L** Analysis Date: **21-Jan-2020 17:48**
Client ID: Run ID: **VOA2_354799** SeqNo: **5443202** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.36	1.0	20	0	81.8	70 - 127				
Benzene	24.4	1.0	20	6.383	90.1	70 - 127				
Chlorobenzene	17.96	1.0	20	0	89.8	70 - 114				
Ethylbenzene	28.72	1.0	20	9.361	96.8	70 - 124				
Methylene chloride	15.89	2.0	20	0	79.4	70 - 128				
Toluene	20.5	1.0	20	0	102	70 - 123				
Xylenes, Total	57.71	1.0	60	3.181	90.9	70 - 130				
Surr: 1,2-Dichloroethane-d4	*46.04*	*1.0*	*50*	*0*	*92.1*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*48.8*	*1.0*	*50*	*0*	*97.6*	*81 - 113*				
Surr: Dibromofluoromethane	*47.49*	*1.0*	*50*	*0*	*95.0*	*77 - 123*				
Surr: Toluene-d8	*49.2*	*1.0*	*50*	*0*	*98.4*	*82 - 127*				

MSD Sample ID: **HS20010767-05MSD** Units: **ug/L** Analysis Date: **21-Jan-2020 18:12**
Client ID: Run ID: **VOA2_354799** SeqNo: **5443203** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.51	1.0	20	0	82.6	70 - 127	16.36	0.908	20	
Benzene	24.24	1.0	20	6.383	89.3	70 - 127	24.4	0.678	20	
Chlorobenzene	17.68	1.0	20	0	88.4	70 - 114	17.96	1.54	20	
Ethylbenzene	28.32	1.0	20	9.361	94.8	70 - 124	28.72	1.41	20	
Methylene chloride	15.24	2.0	20	0	76.2	70 - 128	15.89	4.15	20	
Toluene	20.18	1.0	20	0	101	70 - 123	20.5	1.56	20	
Xylenes, Total	56.81	1.0	60	3.181	89.4	70 - 130	57.71	1.57	20	
Surr: 1,2-Dichloroethane-d4	*46.11*	*1.0*	*50*	*0*	*92.2*	*70 - 126*	*46.04*	*0.147*	*20*	
Surr: 4-Bromofluorobenzene	*49.23*	*1.0*	*50*	*0*	*98.5*	*81 - 113*	*48.8*	*0.867*	*20*	
Surr: Dibromofluoromethane	*47.4*	*1.0*	*50*	*0*	*94.8*	*77 - 123*	*47.49*	*0.191*	*20*	
Surr: Toluene-d8	*49.04*	*1.0*	*50*	*0*	*98.1*	*82 - 127*	*49.2*	*0.339*	*20*	

The following samples were analyzed in this batch: HS20010596-07

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS20010596**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	T104704231-19-25	30-Apr-2020

Sample Receipt Checklist

Client Name: PBW
Work Order: HS20010596

Date/Time Received: **15-Jan-2020 11:50**
Received by: **AC**

Checklist completed by: *Paris Frazier* 15-Jan-2020
eSignature | Date

Reviewed by: *Dane J. Wacasey* 21-Jan-2020
eSignature | Date

Matrices: **WATER**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:206396/206383
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.3C/1.3C ,3.1C/3.1C 1.8C/1.8C. 2.5C/2.5C UC/C	IR25	
Cooler(s)/Kit(s):	45442/45146/44319/45562		
Date/Time sample(s) sent to storage:	01.15.2020 11:50		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 2

COC ID: 206396

HS20010596

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 Volatile Organics Site Specific)
Work Order		Project Number	1620-07-Rev0 SR 92688	B	8260_LL_W (5632528 VOC Site Specific + V.C.)
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 5652646 Metals - As)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TB6-202001~~			~~Water~~	*	*		*									
2	WG-1620-MW40B-20200113	1-13-20	1210	W		6	X		X	X							
3	WG-1620-MW42B-20200113		1310	W		6	X		X	X							
4	WG-1620-TW41B-20200113		1400	W		6	X		X	X							
5	WG-1620-MW05-20200113		1455	W		6	X		X	X							
6	WG-1620-MW12C-20200113		1555	W		6	X		X	X							
7	WG-1620-MW12A-20200113		1645	W		6	X		X	X							
8	WG-1620-MW39B-20200113		1735	W		6	X		X	X							
9	WG-1620-FB05-20200113		1750	W		6	X		X	X							
10	WG-1620-MW13-20200114	1-14-20	0810	W		6	X		X	X							

Sampler(s) Please Print & Sign: JOHN BRAYTON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) ☐ Other ____ ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by: Date: 1-15-20 Time: 1150 Received by:

Relinquished by: Date: 1-15-2020 Time: 11:50 Received by (Laboratory): AC

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
455442	1.3
451446	3.1
443199	1.8
455562	2.5

QC Package: (Check One Box Below)

☐ Level II Std QC ☐ Level III Std QC/Raw Data ☐ Level IV SW846/CLP ☐ Other ____ ☒ TRRP Checklist ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 2 of 2

COC ID: 206383

HS20010596

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-07-Rev0 SR 92688
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address	

A: 8260_LL_W (5632528 Volatile Organics Site Specific)
B: 8260_LL_W (5632528 VOC Site Specific + V.C.)
C: 8270_LOW_W (5632532 SemiVolatiles Site specific)
D: ICP_TW (5636002 5652646 Metals - As)
E:
F:
G:
H:
I:
J:

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TB0__-202001~~			~~Water~~	*	*		*									
2	WG-1620-MW09-20200114	1-14-20	0900	W		6	X		X	X							
3	WG-1620-MW21C-20200114		1000	W		6	X		X	X							
4	WG-1620-FD02-20200114		1000	W		6	X		X	X							
5	WG-1620-P11-20200114		1055	W		6	X		X	X							
6	WG-1620-MW88C-20200114		1150	W		6	X		X	X							
7	WG-1620-MW20A-20200114		1255	W		6	X		X	X							
8	WG-1620-TB03-20200114		—	W		2	X										
9																	
10																	

Sampler(s) Please Print & Sign: JOHN BRAUDIS

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 -hour [ ] Other

Results Due Date:

Relinquished by: John Braudis — Date: 1-15-20 — Time: 1150 — Received by:

Relinquished by: John Braudis — Date: 1-15-2020 — Time: 11:50 — Received by (Laboratory): AC

Logged by (Laboratory): — Date: — Time: — Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)
[ ] Level II Std QC
[ ] Level III Std QC/Raw Data
[ ] Level IV SW846/CLP
[ ] Other
[X] TRRP Checklist
[ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

January 29, 2020

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS20010713**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 15 sample(s) on Jan 16, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DAYNA.FISHER
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20010713**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	**HS20010713**

TRRP Laboratory Data Package Cover Page

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 01/29/2020					
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20010713					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 149790, 149807, 149808, R354726, R354799, R355099, R355193					
#[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				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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 SW-846 Method 5035?			X		
		If required for the project, 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			1
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 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				
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				
		Were MS/MSD RPDs within laboratory QC limits?		X			2
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		
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				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 01/29/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20010713				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 149790, 149807, 149808, R354726, R354799, R355099, R355193				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group		LRC Date: 01/29/2020
Project Name: Houston TX-Wood Preserving Works		Laboratory Job Number: HS20010713
Reviewer Name: Dane Wacasey		Prep Batch Number(s): 149790, 149807, 149808, R354726, R354799, R355099, R355193
ER#[5]	**Description**	
1	Semivolatiles by Method SW8270, Sample WG-1620-MW15A-20200114, Surrogate 4-Terphenyl-d14 recovered above upper control limits due to possible matrix effect. Semivolatiles by Method SW8270, Samples WG-1620-MW46C-20200115, WG-1620-MW25C-20200115, surrogate recoveries could not be determined due to dilution below the calibration range.	
2	Batch 149790, Semivolatiles by Method SW8270, Sample WG-1620-MW67B-20200115, MS/MSD RPD recovered above limits for 4,6-Dinitro-2-methylphenol due to possible matrix effect.	

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20010713

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20010713-01	WG-1620-MW15A-20200114	Water		14-Jan-2020 13:45	16-Jan-2020 12:40	☐
HS20010713-02	WG-1620-MW15B-20200114	Water		14-Jan-2020 14:30	16-Jan-2020 12:40	☐
HS20010713-03	WG-1620-MW15C-20200114	Water		14-Jan-2020 15:20	16-Jan-2020 12:40	☐
HS20010713-04	WG-1620-MW14-20200114	Water		14-Jan-2020 16:15	16-Jan-2020 12:40	☐
HS20010713-05	WG-1620-MW17-20200114	Water		14-Jan-2020 17:10	16-Jan-2020 12:40	☐
HS20010713-06	WG-1620-FB06-20200114	Water		14-Jan-2020 17:25	16-Jan-2020 12:40	☐
HS20010713-07	WG-1620-MW17C-20200115	Water		15-Jan-2020 08:15	16-Jan-2020 12:40	☐
HS20010713-08	WG-1620-MW67B-20200115	Water		15-Jan-2020 09:30	16-Jan-2020 12:40	☐
HS20010713-09	WG-1620-MW46C-20200115	Water		15-Jan-2020 10:25	16-Jan-2020 12:40	☐
HS20010713-10	WG-1620-MW25A-20200115	Water		15-Jan-2020 11:20	16-Jan-2020 12:40	☐
HS20010713-11	WG-1620-MW44C-20200115	Water		15-Jan-2020 13:15	16-Jan-2020 12:40	☐
HS20010713-12	WG-1620-MW71B-20200115	Water		15-Jan-2020 14:00	16-Jan-2020 12:40	☐
HS20010713-13	WG-1620-MW33BR-20200115	Water		15-Jan-2020 15:00	16-Jan-2020 12:40	☐
HS20010713-14	WG-1620-MW25C-20200115	Water		15-Jan-2020 15:50	16-Jan-2020 12:40	☐
HS20010713-15	WQ-1620-TB04-20200115	Water		15-Jan-2020 00:00	16-Jan-2020 12:40	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW15A-20200114
Collection Date: 14-Jan-2020 13:45

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	21-Jan-2020 15:46
Benzene	**0.00034**	J	**0.00020**	**0.0010**	**mg/L**	1	21-Jan-2020 15:46
Chlorobenzene	U		0.00030	0.0010	mg/L	1	21-Jan-2020 15:46
Ethylbenzene	U		0.00030	0.0010	mg/L	1	21-Jan-2020 15:46
Methylene chloride	U		0.0010	0.0020	mg/L	1	21-Jan-2020 15:46
Toluene	U		0.00020	0.0010	mg/L	1	21-Jan-2020 15:46
Xylenes, Total	**0.00093**	J	**0.00030**	**0.0010**	**mg/L**	1	21-Jan-2020 15:46
Surr: 1,2-Dichloroethane-d4	*93.1*			*70-126*	*%REC*	*1*	*21-Jan-2020 15:46*
Surr: 4-Bromofluorobenzene	*95.3*			*81-113*	*%REC*	*1*	*21-Jan-2020 15:46*
Surr: Dibromofluoromethane	*99.8*			*77-123*	*%REC*	*1*	*21-Jan-2020 15:46*
Surr: Toluene-d8	*99.6*			*82-127*	*%REC*	*1*	*21-Jan-2020 15:46*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW15A-20200114
Collection Date: 14-Jan-2020 13:45

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	**0.00036**		**0.000021**	**0.00020**	**mg/L**	1	21-Jan-2020 20:32
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	21-Jan-2020 20:32
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2020 20:32
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	21-Jan-2020 20:32
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2020 20:32
2-Methylnaphthalene	**0.018**		**0.00038**	**0.0020**	**mg/L**	20	22-Jan-2020 13:19
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2020 20:32
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2020 20:32
Acenaphthene	**0.14**		**0.00054**	**0.0020**	**mg/L**	20	22-Jan-2020 13:19
Acenaphthylene	**0.00066**		**0.000015**	**0.00010**	**mg/L**	1	21-Jan-2020 20:32
Anthracene	**0.0048**		**0.000014**	**0.00010**	**mg/L**	1	21-Jan-2020 20:32
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	21-Jan-2020 20:32
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 20:32
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2020 20:32
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	21-Jan-2020 20:32
Chrysene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 20:32
Dibenzofuran	**0.036**		**0.00040**	**0.0020**	**mg/L**	20	22-Jan-2020 13:19
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2020 20:32
Fluoranthene	**0.0031**		**0.000010**	**0.00010**	**mg/L**	1	21-Jan-2020 20:32
Fluorene	**0.065**		**0.00060**	**0.0020**	**mg/L**	20	22-Jan-2020 13:19
Naphthalene	**0.00022**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 20:32
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2020 20:32
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2020 20:32
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2020 20:32
Phenanthrene	**0.025**		**0.00042**	**0.0020**	**mg/L**	20	22-Jan-2020 13:19
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 20:32
Pyrene	**0.0013**		**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 20:32
Surr: 2,4,6-Tribromophenol	*113*			*34-129*	*%REC*	*20*	*22-Jan-2020 13:19*
Surr: 2,4,6-Tribromophenol	*107*			*34-129*	*%REC*	*1*	*21-Jan-2020 20:32*
Surr: 2-Fluorobiphenyl	*72.9*			*40-125*	*%REC*	*1*	*21-Jan-2020 20:32*
Surr: 2-Fluorobiphenyl	*93.8*			*40-125*	*%REC*	*20*	*22-Jan-2020 13:19*
Surr: 2-Fluorophenol	*70.7*	*J*		*20-120*	*%REC*	*20*	*22-Jan-2020 13:19*
Surr: 2-Fluorophenol	*51.9*			*20-120*	*%REC*	*1*	*21-Jan-2020 20:32*
Surr: 4-Terphenyl-d14	*128*			*40-135*	*%REC*	*1*	*21-Jan-2020 20:32*
Surr: 4-Terphenyl-d14	*163*	*S*		*40-135*	*%REC*	*20*	*22-Jan-2020 13:19*
Surr: Nitrobenzene-d5	*58.0*			*41-120*	*%REC*	*1*	*21-Jan-2020 20:32*
Surr: Nitrobenzene-d5	*69.9*	*J*		*41-120*	*%REC*	*20*	*22-Jan-2020 13:19*
Surr: Phenol-d6	*71.8*	*J*		*20-120*	*%REC*	*20*	*22-Jan-2020 13:19*
Surr: Phenol-d6	*63.1*			*20-120*	*%REC*	*1*	*21-Jan-2020 20:32*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW15A-20200114
Collection Date: 14-Jan-2020 13:45

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 20-Jan-2020		Analyst: JC
Arsenic	**0.0441**		**0.000400**	**0.00200**	**mg/L**	1	22-Jan-2020 16:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW15B-20200114
Collection Date: 14-Jan-2020 14:30

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	21-Jan-2020 02:09
Benzene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 02:09
Chlorobenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 02:09
Ethylbenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 02:09
Methylene chloride		U	0.0010	0.0020	mg/L	1	21-Jan-2020 02:09
Toluene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 02:09
Xylenes, Total		U	0.00030	0.0010	mg/L	1	21-Jan-2020 02:09
Surr: 1,2-Dichloroethane-d4	*91.9*			*70-126*	*%REC*	*1*	*21-Jan-2020 02:09*
Surr: 4-Bromofluorobenzene	*94.7*			*81-113*	*%REC*	*1*	*21-Jan-2020 02:09*
Surr: Dibromofluoromethane	*98.8*			*77-123*	*%REC*	*1*	*21-Jan-2020 02:09*
Surr: Toluene-d8	*99.8*			*82-127*	*%REC*	*1*	*21-Jan-2020 02:09*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW15B-20200114
Collection Date: 14-Jan-2020 14:30

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	21-Jan-2020 20:51
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	21-Jan-2020 20:51
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2020 20:51
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	21-Jan-2020 20:51
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2020 20:51
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 20:51
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2020 20:51
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2020 20:51
Acenaphthene	**0.000073**	J	**0.000027**	**0.00010**	**mg/L**	1	21-Jan-2020 20:51
Acenaphthylene	U		0.000015	0.00010	mg/L	1	21-Jan-2020 20:51
Anthracene	**0.00011**		**0.000014**	**0.00010**	**mg/L**	1	21-Jan-2020 20:51
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	21-Jan-2020 20:51
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 20:51
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2020 20:51
Bis(2-ethylhexyl)phthalate	**0.000055**	J	**0.000037**	**0.00020**	**mg/L**	1	21-Jan-2020 20:51
Chrysene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 20:51
Dibenzofuran	U		0.000020	0.00010	mg/L	1	21-Jan-2020 20:51
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2020 20:51
Fluoranthene	**0.00011**		**0.000010**	**0.00010**	**mg/L**	1	21-Jan-2020 20:51
Fluorene	**0.000062**	J	**0.000030**	**0.00010**	**mg/L**	1	21-Jan-2020 20:51
Naphthalene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 20:51
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2020 20:51
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2020 20:51
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2020 20:51
Phenanthrene	**0.000050**	J	**0.000021**	**0.00010**	**mg/L**	1	21-Jan-2020 20:51
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 20:51
Pyrene	**0.000060**	J	**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 20:51
Surr: 2,4,6-Tribromophenol	*95.7*			*34-129*	*%REC*	*1*	*21-Jan-2020 20:51*
Surr: 2-Fluorobiphenyl	*84.2*			*40-125*	*%REC*	*1*	*21-Jan-2020 20:51*
Surr: 2-Fluorophenol	*52.8*			*20-120*	*%REC*	*1*	*21-Jan-2020 20:51*
Surr: 4-Terphenyl-d14	*110*			*40-135*	*%REC*	*1*	*21-Jan-2020 20:51*
Surr: Nitrobenzene-d5	*58.2*			*41-120*	*%REC*	*1*	*21-Jan-2020 20:51*
Surr: Phenol-d6	*66.1*			*20-120*	*%REC*	*1*	*21-Jan-2020 20:51*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 20-Jan-2020		Analyst: JC
Arsenic	**0.00343**		**0.000400**	**0.00200**	**mg/L**	1	22-Jan-2020 16:12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW15C-20200114
Collection Date: 14-Jan-2020 15:20

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	21-Jan-2020 02:33
Benzene	**0.00059**	J	**0.00020**	**0.0010**	**mg/L**	1	21-Jan-2020 02:33
Chlorobenzene	U		0.00030	0.0010	mg/L	1	21-Jan-2020 02:33
Ethylbenzene	U		0.00030	0.0010	mg/L	1	21-Jan-2020 02:33
Methylene chloride	U		0.0010	0.0020	mg/L	1	21-Jan-2020 02:33
Toluene	U		0.00020	0.0010	mg/L	1	21-Jan-2020 02:33
Xylenes, Total	U		0.00030	0.0010	mg/L	1	21-Jan-2020 02:33
Surr: 1,2-Dichloroethane-d4	*94.8*			*70-126*	*%REC*	*1*	*21-Jan-2020 02:33*
Surr: 4-Bromofluorobenzene	*96.7*			*81-113*	*%REC*	*1*	*21-Jan-2020 02:33*
Surr: Dibromofluoromethane	*99.9*			*77-123*	*%REC*	*1*	*21-Jan-2020 02:33*
Surr: Toluene-d8	*99.9*			*82-127*	*%REC*	*1*	*21-Jan-2020 02:33*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW15C-20200114
Collection Date: 14-Jan-2020 15:20

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	21-Jan-2020 21:10
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	21-Jan-2020 21:10
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2020 21:10
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	21-Jan-2020 21:10
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2020 21:10
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 21:10
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2020 21:10
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2020 21:10
Acenaphthene	**0.016**		**0.00011**	**0.00040**	**mg/L**	4	22-Jan-2020 13:38
Acenaphthylene	**0.00089**		**0.000015**	**0.00010**	**mg/L**	1	21-Jan-2020 21:10
Anthracene	**0.00057**		**0.000014**	**0.00010**	**mg/L**	1	21-Jan-2020 21:10
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	21-Jan-2020 21:10
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 21:10
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2020 21:10
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	21-Jan-2020 21:10
Chrysene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 21:10
Dibenzofuran	**0.0045**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 21:10
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2020 21:10
Fluoranthene	**0.00066**		**0.000010**	**0.00010**	**mg/L**	1	21-Jan-2020 21:10
Fluorene	**0.00051**		**0.000030**	**0.00010**	**mg/L**	1	21-Jan-2020 21:10
Naphthalene	**0.00024**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 21:10
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2020 21:10
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2020 21:10
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2020 21:10
Phenanthrene	**0.000080**	J	**0.000021**	**0.00010**	**mg/L**	1	21-Jan-2020 21:10
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 21:10
Pyrene	**0.00038**		**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 21:10
Surr: 2,4,6-Tribromophenol	*69.8*			*34-129*	*%REC*	*4*	*22-Jan-2020 13:38*
Surr: 2,4,6-Tribromophenol	*55.2*			*34-129*	*%REC*	*1*	*21-Jan-2020 21:10*
Surr: 2-Fluorobiphenyl	*53.0*			*40-125*	*%REC*	*1*	*21-Jan-2020 21:10*
Surr: 2-Fluorobiphenyl	*64.5*			*40-125*	*%REC*	*4*	*22-Jan-2020 13:38*
Surr: 2-Fluorophenol	*66.0*			*20-120*	*%REC*	*4*	*22-Jan-2020 13:38*
Surr: 2-Fluorophenol	*47.6*			*20-120*	*%REC*	*1*	*21-Jan-2020 21:10*
Surr: 4-Terphenyl-d14	*90.3*			*40-135*	*%REC*	*4*	*22-Jan-2020 13:38*
Surr: 4-Terphenyl-d14	*78.0*			*40-135*	*%REC*	*1*	*21-Jan-2020 21:10*
Surr: Nitrobenzene-d5	*51.0*			*41-120*	*%REC*	*1*	*21-Jan-2020 21:10*
Surr: Nitrobenzene-d5	*62.1*			*41-120*	*%REC*	*4*	*22-Jan-2020 13:38*
Surr: Phenol-d6	*62.6*			*20-120*	*%REC*	*4*	*22-Jan-2020 13:38*
Surr: Phenol-d6	*47.4*			*20-120*	*%REC*	*1*	*21-Jan-2020 21:10*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW15C-20200114
Collection Date: 14-Jan-2020 15:20

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 20-Jan-2020		Analyst: JC
Arsenic	**0.000773**	J	**0.000400**	**0.00200**	**mg/L**	1	21-Jan-2020 15:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW14-20200114
Collection Date: 14-Jan-2020 16:15

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	21-Jan-2020 02:58
Benzene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 02:58
Chlorobenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 02:58
Ethylbenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 02:58
Methylene chloride		U	0.0010	0.0020	mg/L	1	21-Jan-2020 02:58
Toluene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 02:58
Xylenes, Total		U	0.00030	0.0010	mg/L	1	21-Jan-2020 02:58
Surr: 1,2-Dichloroethane-d4	*93.3*			*70-126*	*%REC*	*1*	*21-Jan-2020 02:58*
Surr: 4-Bromofluorobenzene	*94.3*			*81-113*	*%REC*	*1*	*21-Jan-2020 02:58*
Surr: Dibromofluoromethane	*98.7*			*77-123*	*%REC*	*1*	*21-Jan-2020 02:58*
Surr: Toluene-d8	*99.8*			*82-127*	*%REC*	*1*	*21-Jan-2020 02:58*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW14-20200114
Collection Date: 14-Jan-2020 16:15

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	21-Jan-2020 21:29
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	21-Jan-2020 21:29
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2020 21:29
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	21-Jan-2020 21:29
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2020 21:29
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 21:29
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2020 21:29
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2020 21:29
Acenaphthene	**0.000091**	J	**0.000027**	**0.00010**	**mg/L**	1	21-Jan-2020 21:29
Acenaphthylene	U		0.000015	0.00010	mg/L	1	21-Jan-2020 21:29
Anthracene	U		0.000014	0.00010	mg/L	1	21-Jan-2020 21:29
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	21-Jan-2020 21:29
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 21:29
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2020 21:29
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	21-Jan-2020 21:29
Chrysene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 21:29
Dibenzofuran	U		0.000020	0.00010	mg/L	1	21-Jan-2020 21:29
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2020 21:29
Fluoranthene	**0.000064**	J	**0.000010**	**0.00010**	**mg/L**	1	21-Jan-2020 21:29
Fluorene	**0.000057**	J	**0.000030**	**0.00010**	**mg/L**	1	21-Jan-2020 21:29
Naphthalene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 21:29
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2020 21:29
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2020 21:29
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2020 21:29
Phenanthrene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 21:29
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 21:29
Pyrene	**0.000060**	J	**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 21:29
Surr: 2,4,6-Tribromophenol	*63.5*			*34-129*	*%REC*	*1*	*21-Jan-2020 21:29*
Surr: 2-Fluorobiphenyl	*86.0*			*40-125*	*%REC*	*1*	*21-Jan-2020 21:29*
Surr: 2-Fluorophenol	*71.4*			*20-120*	*%REC*	*1*	*21-Jan-2020 21:29*
Surr: 4-Terphenyl-d14	*88.9*			*40-135*	*%REC*	*1*	*21-Jan-2020 21:29*
Surr: Nitrobenzene-d5	*81.4*			*41-120*	*%REC*	*1*	*21-Jan-2020 21:29*
Surr: Phenol-d6	*74.5*			*20-120*	*%REC*	*1*	*21-Jan-2020 21:29*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 20-Jan-2020		Analyst: JC
Arsenic	**0.00185**	J	**0.000400**	**0.00200**	**mg/L**	1	21-Jan-2020 15:37

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW17-20200114
Collection Date: 14-Jan-2020 17:10

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	21-Jan-2020 08:16
Benzene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 08:16
Chlorobenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 08:16
Ethylbenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 08:16
Methylene chloride		U	0.0010	0.0020	mg/L	1	21-Jan-2020 08:16
Toluene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 08:16
Xylenes, Total		U	0.00030	0.0010	mg/L	1	21-Jan-2020 08:16
Surr: 1,2-Dichloroethane-d4	*91.7*			*70-126*	*%REC*	*1*	*21-Jan-2020 08:16*
Surr: 4-Bromofluorobenzene	*94.2*			*81-113*	*%REC*	*1*	*21-Jan-2020 08:16*
Surr: Dibromofluoromethane	*97.7*			*77-123*	*%REC*	*1*	*21-Jan-2020 08:16*
Surr: Toluene-d8	*99.6*			*82-127*	*%REC*	*1*	*21-Jan-2020 08:16*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW17-20200114
Collection Date: 14-Jan-2020 17:10

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	21-Jan-2020 21:48
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	21-Jan-2020 21:48
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2020 21:48
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	21-Jan-2020 21:48
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2020 21:48
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 21:48
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2020 21:48
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2020 21:48
Acenaphthene	U		0.000027	0.00010	mg/L	1	21-Jan-2020 21:48
Acenaphthylene	U		0.000015	0.00010	mg/L	1	21-Jan-2020 21:48
Anthracene	U		0.000014	0.00010	mg/L	1	21-Jan-2020 21:48
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	21-Jan-2020 21:48
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 21:48
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2020 21:48
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	21-Jan-2020 21:48
Chrysene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 21:48
Dibenzofuran	U		0.000020	0.00010	mg/L	1	21-Jan-2020 21:48
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2020 21:48
Fluoranthene	**0.00011**		**0.000010**	**0.00010**	**mg/L**	1	21-Jan-2020 21:48
Fluorene	U		0.000030	0.00010	mg/L	1	21-Jan-2020 21:48
Naphthalene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 21:48
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2020 21:48
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2020 21:48
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2020 21:48
Phenanthrene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 21:48
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 21:48
Pyrene	**0.000066**	J	**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 21:48
Surr: 2,4,6-Tribromophenol	*67.6*			*34-129*	*%REC*	*1*	*21-Jan-2020 21:48*
Surr: 2-Fluorobiphenyl	*96.0*			*40-125*	*%REC*	*1*	*21-Jan-2020 21:48*
Surr: 2-Fluorophenol	*79.7*			*20-120*	*%REC*	*1*	*21-Jan-2020 21:48*
Surr: 4-Terphenyl-d14	*92.6*			*40-135*	*%REC*	*1*	*21-Jan-2020 21:48*
Surr: Nitrobenzene-d5	*83.2*			*41-120*	*%REC*	*1*	*21-Jan-2020 21:48*
Surr: Phenol-d6	*79.0*			*20-120*	*%REC*	*1*	*21-Jan-2020 21:48*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 20-Jan-2020		Analyst: JC
Arsenic	**0.00154**	J	**0.000400**	**0.00200**	**mg/L**	1	21-Jan-2020 15:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB06-20200114
Collection Date: 14-Jan-2020 17:25

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	27-Jan-2020 12:30
Benzene		U	0.00020	0.0010	mg/L	1	27-Jan-2020 12:30
Chlorobenzene		U	0.00030	0.0010	mg/L	1	27-Jan-2020 12:30
Ethylbenzene		U	0.00030	0.0010	mg/L	1	27-Jan-2020 12:30
Methylene chloride		U	0.0010	0.0020	mg/L	1	27-Jan-2020 12:30
Toluene		U	0.00020	0.0010	mg/L	1	27-Jan-2020 12:30
Vinyl chloride		U	0.00020	0.0010	mg/L	1	27-Jan-2020 12:30
Xylenes, Total		U	0.00030	0.0010	mg/L	1	27-Jan-2020 12:30
Surr: 1,2-Dichloroethane-d4	*106*			*70-126*	*%REC*	*1*	*27-Jan-2020 12:30*
Surr: 4-Bromofluorobenzene	*96.0*			*81-113*	*%REC*	*1*	*27-Jan-2020 12:30*
Surr: Dibromofluoromethane	*104*			*77-123*	*%REC*	*1*	*27-Jan-2020 12:30*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*27-Jan-2020 12:30*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB06-20200114
Collection Date: 14-Jan-2020 17:25

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine		U	0.000021	0.00020	mg/L	1	21-Jan-2020 22:07
2,4-Dimethylphenol		U	0.000040	0.00020	mg/L	1	21-Jan-2020 22:07
2,4-Dinitrotoluene		U	0.000058	0.00020	mg/L	1	21-Jan-2020 22:07
2,6-Dinitrotoluene		U	0.000042	0.00020	mg/L	1	21-Jan-2020 22:07
2-Chloronaphthalene		U	0.000021	0.00020	mg/L	1	21-Jan-2020 22:07
2-Methylnaphthalene		U	0.000019	0.00010	mg/L	1	21-Jan-2020 22:07
4,6-Dinitro-2-methylphenol		U	0.000020	0.00020	mg/L	1	21-Jan-2020 22:07
4-Nitrophenol		U	0.000047	0.0010	mg/L	1	21-Jan-2020 22:07
Acenaphthene		U	0.000027	0.00010	mg/L	1	21-Jan-2020 22:07
Acenaphthylene		U	0.000015	0.00010	mg/L	1	21-Jan-2020 22:07
Anthracene		U	0.000014	0.00010	mg/L	1	21-Jan-2020 22:07
Benz(a)anthracene		U	0.000050	0.00010	mg/L	1	21-Jan-2020 22:07
Benzo(a)pyrene		U	0.000020	0.00010	mg/L	1	21-Jan-2020 22:07
Bis(2-chloroethoxy)methane		U	0.000030	0.00020	mg/L	1	21-Jan-2020 22:07
Bis(2-ethylhexyl)phthalate		U	0.000037	0.00020	mg/L	1	21-Jan-2020 22:07
Chrysene		U	0.000021	0.00010	mg/L	1	21-Jan-2020 22:07
Dibenzofuran		U	0.000020	0.00010	mg/L	1	21-Jan-2020 22:07
Di-n-butyl phthalate		U	0.000020	0.00020	mg/L	1	21-Jan-2020 22:07
Fluoranthene		U	0.000010	0.00010	mg/L	1	21-Jan-2020 22:07
Fluorene		U	0.000030	0.00010	mg/L	1	21-Jan-2020 22:07
Naphthalene		U	0.000020	0.00010	mg/L	1	21-Jan-2020 22:07
Nitrobenzene		U	0.000024	0.00020	mg/L	1	21-Jan-2020 22:07
N-Nitrosodiphenylamine		U	0.000025	0.00020	mg/L	1	21-Jan-2020 22:07
Pentachlorophenol		U	0.000079	0.00020	mg/L	1	21-Jan-2020 22:07
Phenanthrene		U	0.000021	0.00010	mg/L	1	21-Jan-2020 22:07
Phenol		U	0.000035	0.00020	mg/L	1	21-Jan-2020 22:07
Pyrene		U	0.000019	0.00010	mg/L	1	21-Jan-2020 22:07
Surr: 2,4,6-Tribromophenol	*64.6*			*34-129*	*%REC*	*1*	*21-Jan-2020 22:07*
Surr: 2-Fluorobiphenyl	*97.3*			*40-125*	*%REC*	*1*	*21-Jan-2020 22:07*
Surr: 2-Fluorophenol	*74.6*			*20-120*	*%REC*	*1*	*21-Jan-2020 22:07*
Surr: 4-Terphenyl-d14	*95.7*			*40-135*	*%REC*	*1*	*21-Jan-2020 22:07*
Surr: Nitrobenzene-d5	*85.3*			*41-120*	*%REC*	*1*	*21-Jan-2020 22:07*
Surr: Phenol-d6	*77.5*			*20-120*	*%REC*	*1*	*21-Jan-2020 22:07*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 20-Jan-2020		Analyst: JC
Arsenic		U	0.000400	0.00200	mg/L	1	21-Jan-2020 15:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW17C-20200115
Collection Date: 15-Jan-2020 08:15

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	21-Jan-2020 03:22
Benzene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 03:22
Chlorobenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 03:22
Ethylbenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 03:22
Methylene chloride		U	0.0010	0.0020	mg/L	1	21-Jan-2020 03:22
Toluene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 03:22
Xylenes, Total		U	0.00030	0.0010	mg/L	1	21-Jan-2020 03:22
Surr: 1,2-Dichloroethane-d4	*93.4*			*70-126*	*%REC*	*1*	*21-Jan-2020 03:22*
Surr: 4-Bromofluorobenzene	*95.0*			*81-113*	*%REC*	*1*	*21-Jan-2020 03:22*
Surr: Dibromofluoromethane	*97.3*			*77-123*	*%REC*	*1*	*21-Jan-2020 03:22*
Surr: Toluene-d8	*98.9*			*82-127*	*%REC*	*1*	*21-Jan-2020 03:22*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW17C-20200115
Collection Date: 15-Jan-2020 08:15

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	21-Jan-2020 22:26
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	21-Jan-2020 22:26
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2020 22:26
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	21-Jan-2020 22:26
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2020 22:26
2-Methylnaphthalene	**0.000073**	J	**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 22:26
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2020 22:26
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2020 22:26
Acenaphthene	**0.00023**		**0.000027**	**0.00010**	**mg/L**	1	21-Jan-2020 22:26
Acenaphthylene	U		0.000015	0.00010	mg/L	1	21-Jan-2020 22:26
Anthracene	U		0.000014	0.00010	mg/L	1	21-Jan-2020 22:26
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	21-Jan-2020 22:26
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 22:26
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2020 22:26
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	21-Jan-2020 22:26
Chrysene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 22:26
Dibenzofuran	**0.000065**	J	**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 22:26
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2020 22:26
Fluoranthene	**0.00034**		**0.000010**	**0.00010**	**mg/L**	1	21-Jan-2020 22:26
Fluorene	**0.000061**	J	**0.000030**	**0.00010**	**mg/L**	1	21-Jan-2020 22:26
Naphthalene	**0.00016**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 22:26
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2020 22:26
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2020 22:26
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2020 22:26
Phenanthrene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 22:26
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 22:26
Pyrene	**0.00021**		**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 22:26
Surr: 2,4,6-Tribromophenol	*68.4*			*34-129*	*%REC*	*1*	*21-Jan-2020 22:26*
Surr: 2-Fluorobiphenyl	*101*			*40-125*	*%REC*	*1*	*21-Jan-2020 22:26*
Surr: 2-Fluorophenol	*79.2*			*20-120*	*%REC*	*1*	*21-Jan-2020 22:26*
Surr: 4-Terphenyl-d14	*101*			*40-135*	*%REC*	*1*	*21-Jan-2020 22:26*
Surr: Nitrobenzene-d5	*87.4*			*41-120*	*%REC*	*1*	*21-Jan-2020 22:26*
Surr: Phenol-d6	*82.4*			*20-120*	*%REC*	*1*	*21-Jan-2020 22:26*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 20-Jan-2020		Analyst: JC
Arsenic	**0.00184**	J	**0.000400**	**0.00200**	**mg/L**	1	21-Jan-2020 15:44

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW67B-20200115
Collection Date: 15-Jan-2020 09:30

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	21-Jan-2020 00:55
Benzene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 00:55
Chlorobenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 00:55
Ethylbenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 00:55
Methylene chloride		U	0.0010	0.0020	mg/L	1	21-Jan-2020 00:55
Toluene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 00:55
Xylenes, Total		U	0.00030	0.0010	mg/L	1	21-Jan-2020 00:55
Surr: 1,2-Dichloroethane-d4	*94.4*			*70-126*	*%REC*	*1*	*21-Jan-2020 00:55*
Surr: 4-Bromofluorobenzene	*96.4*			*81-113*	*%REC*	*1*	*21-Jan-2020 00:55*
Surr: Dibromofluoromethane	*99.5*			*77-123*	*%REC*	*1*	*21-Jan-2020 00:55*
Surr: Toluene-d8	*98.6*			*82-127*	*%REC*	*1*	*21-Jan-2020 00:55*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW67B-20200115
Collection Date: 15-Jan-2020 09:30

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	21-Jan-2020 14:49
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	21-Jan-2020 14:49
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2020 14:49
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	21-Jan-2020 14:49
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2020 14:49
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 14:49
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2020 14:49
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2020 14:49
Acenaphthene	U		0.000027	0.00010	mg/L	1	21-Jan-2020 14:49
Acenaphthylene	U		0.000015	0.00010	mg/L	1	21-Jan-2020 14:49
Anthracene	U		0.000014	0.00010	mg/L	1	21-Jan-2020 14:49
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	21-Jan-2020 14:49
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 14:49
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2020 14:49
Bis(2-ethylhexyl)phthalate	**0.000090**	J	**0.000037**	**0.00020**	**mg/L**	1	21-Jan-2020 14:49
Chrysene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 14:49
Dibenzofuran	U		0.000020	0.00010	mg/L	1	21-Jan-2020 14:49
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2020 14:49
Fluoranthene	U		0.000010	0.00010	mg/L	1	21-Jan-2020 14:49
Fluorene	U		0.000030	0.00010	mg/L	1	21-Jan-2020 14:49
Naphthalene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 14:49
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2020 14:49
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2020 14:49
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2020 14:49
Phenanthrene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 14:49
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 14:49
Pyrene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 14:49
Surr: 2,4,6-Tribromophenol	*66.9*			*34-129*	*%REC*	*1*	*21-Jan-2020 14:49*
Surr: 2-Fluorobiphenyl	*78.9*			*40-125*	*%REC*	*1*	*21-Jan-2020 14:49*
Surr: 2-Fluorophenol	*59.7*			*20-120*	*%REC*	*1*	*21-Jan-2020 14:49*
Surr: 4-Terphenyl-d14	*100*			*40-135*	*%REC*	*1*	*21-Jan-2020 14:49*
Surr: Nitrobenzene-d5	*71.9*			*41-120*	*%REC*	*1*	*21-Jan-2020 14:49*
Surr: Phenol-d6	*70.9*			*20-120*	*%REC*	*1*	*21-Jan-2020 14:49*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 20-Jan-2020		Analyst: JC
Arsenic	**0.000467**	J	**0.000400**	**0.00200**	**mg/L**	1	21-Jan-2020 15:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW46C-20200115
Collection Date: 15-Jan-2020 10:25

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	21-Jan-2020 07:27
Benzene	**0.028**		**0.00020**	**0.0010**	**mg/L**	1	21-Jan-2020 07:27
Chlorobenzene	U		0.00030	0.0010	mg/L	1	21-Jan-2020 07:27
Ethylbenzene	**0.051**		**0.00030**	**0.0010**	**mg/L**	1	21-Jan-2020 07:27
Methylene chloride	U		0.0010	0.0020	mg/L	1	21-Jan-2020 07:27
Toluene	**0.0047**		**0.00020**	**0.0010**	**mg/L**	1	21-Jan-2020 07:27
Xylenes, Total	**0.11**		**0.00030**	**0.0010**	**mg/L**	1	21-Jan-2020 07:27
Surr: 1,2-Dichloroethane-d4	*92.2*			*70-126*	*%REC*	*1*	*21-Jan-2020 07:27*
Surr: 4-Bromofluorobenzene	*98.8*			*81-113*	*%REC*	*1*	*21-Jan-2020 07:27*
Surr: Dibromofluoromethane	*98.1*			*77-123*	*%REC*	*1*	*21-Jan-2020 07:27*
Surr: Toluene-d8	*98.3*			*82-127*	*%REC*	*1*	*21-Jan-2020 07:27*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW46C-20200115
Collection Date: 15-Jan-2020 10:25

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	21-Jan-2020 22:45
2,4-Dimethylphenol	**0.00016**	J	**0.000040**	**0.00020**	**mg/L**	1	21-Jan-2020 22:45
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2020 22:45
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	21-Jan-2020 22:45
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2020 22:45
2-Methylnaphthalene	**0.20**		**0.0038**	**0.020**	**mg/L**	200	22-Jan-2020 15:37
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2020 22:45
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2020 22:45
Acenaphthene	**0.16**		**0.00054**	**0.0020**	**mg/L**	20	22-Jan-2020 13:57
Acenaphthylene	**0.0016**		**0.000015**	**0.00010**	**mg/L**	1	21-Jan-2020 22:45
Anthracene	**0.073**		**0.00028**	**0.0020**	**mg/L**	20	22-Jan-2020 13:57
Benz(a)anthracene	**0.0071**		**0.000050**	**0.00010**	**mg/L**	1	21-Jan-2020 22:45
Benzo(a)pyrene	**0.0021**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 22:45
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2020 22:45
Bis(2-ethylhexyl)phthalate	**0.0011**		**0.000037**	**0.00020**	**mg/L**	1	21-Jan-2020 22:45
Chrysene	**0.0068**		**0.000021**	**0.00010**	**mg/L**	1	21-Jan-2020 22:45
Dibenzofuran	**0.16**		**0.00040**	**0.0020**	**mg/L**	20	22-Jan-2020 13:57
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2020 22:45
Fluoranthene	**0.084**		**0.00020**	**0.0020**	**mg/L**	20	22-Jan-2020 13:57
Fluorene	**0.12**		**0.00060**	**0.0020**	**mg/L**	20	22-Jan-2020 13:57
Naphthalene	**1.8**		**0.0040**	**0.020**	**mg/L**	200	22-Jan-2020 15:37
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2020 22:45
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2020 22:45
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2020 22:45
Phenanthrene	**0.24**		**0.0042**	**0.020**	**mg/L**	200	22-Jan-2020 15:37
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 22:45
Pyrene	**0.053**		**0.00038**	**0.0020**	**mg/L**	20	22-Jan-2020 13:57
Surr: 2,4,6-Tribromophenol	*104*			*34-129*	*%REC*	*20*	*22-Jan-2020 13:57*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*200*	*22-Jan-2020 15:37*
Surr: 2,4,6-Tribromophenol	*68.3*			*34-129*	*%REC*	*1*	*21-Jan-2020 22:45*
Surr: 2-Fluorobiphenyl	*53.9*			*40-125*	*%REC*	*1*	*21-Jan-2020 22:45*
Surr: 2-Fluorobiphenyl	*95.2*			*40-125*	*%REC*	*20*	*22-Jan-2020 13:57*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*200*	*22-Jan-2020 15:37*
Surr: 2-Fluorophenol	*98.2*			*20-120*	*%REC*	*20*	*22-Jan-2020 13:57*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*200*	*22-Jan-2020 15:37*
Surr: 2-Fluorophenol	*58.6*			*20-120*	*%REC*	*1*	*21-Jan-2020 22:45*
Surr: 4-Terphenyl-d14	*94.7*			*40-135*	*%REC*	*1*	*21-Jan-2020 22:45*
Surr: 4-Terphenyl-d14	*122*			*40-135*	*%REC*	*20*	*22-Jan-2020 13:57*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*200*	*22-Jan-2020 15:37*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW46C-20200115
Collection Date: 15-Jan-2020 10:25

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jan-2020		Analyst: LG
Surr: Nitrobenzene-d5	*87.1*			*41-120*	*%REC*	*20*	*22-Jan-2020 13:57*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*200*	*22-Jan-2020 15:37*
Surr: Nitrobenzene-d5	*46.7*			*41-120*	*%REC*	*1*	*21-Jan-2020 22:45*
Surr: Phenol-d6	*56.3*			*20-120*	*%REC*	*1*	*21-Jan-2020 22:45*
Surr: Phenol-d6	*83.5*			*20-120*	*%REC*	*20*	*22-Jan-2020 13:57*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*200*	*22-Jan-2020 15:37*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 20-Jan-2020		Analyst: JC
Arsenic	**0.00272**		**0.000400**	**0.00200**	**mg/L**	1	21-Jan-2020 15:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW25A-20200115
Collection Date: 15-Jan-2020 11:20

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	21-Jan-2020 16:10
Benzene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 16:10
Chlorobenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 16:10
Ethylbenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 16:10
Methylene chloride		U	0.0010	0.0020	mg/L	1	21-Jan-2020 16:10
Toluene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 16:10
Vinyl chloride		U	0.00020	0.0010	mg/L	1	21-Jan-2020 16:10
Xylenes, Total		U	0.00030	0.0010	mg/L	1	21-Jan-2020 16:10
Surr: 1,2-Dichloroethane-d4	*93.0*			*70-126*	*%REC*	*1*	*21-Jan-2020 16:10*
Surr: 4-Bromofluorobenzene	*93.2*			*81-113*	*%REC*	*1*	*21-Jan-2020 16:10*
Surr: Dibromofluoromethane	*98.8*			*77-123*	*%REC*	*1*	*21-Jan-2020 16:10*
Surr: Toluene-d8	*99.1*			*82-127*	*%REC*	*1*	*21-Jan-2020 16:10*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW25A-20200115
Collection Date: 15-Jan-2020 11:20

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	21-Jan-2020 23:04
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	21-Jan-2020 23:04
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2020 23:04
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	21-Jan-2020 23:04
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2020 23:04
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 23:04
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2020 23:04
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2020 23:04
Acenaphthene	U		0.000027	0.00010	mg/L	1	21-Jan-2020 23:04
Acenaphthylene	U		0.000015	0.00010	mg/L	1	21-Jan-2020 23:04
Anthracene	**0.000089**	J	**0.000014**	**0.00010**	**mg/L**	1	21-Jan-2020 23:04
Benz(a)anthracene	**0.00012**		**0.000050**	**0.00010**	**mg/L**	1	21-Jan-2020 23:04
Benzo(a)pyrene	**0.000038**	J	**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 23:04
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2020 23:04
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	21-Jan-2020 23:04
Chrysene	**0.000097**	J	**0.000021**	**0.00010**	**mg/L**	1	21-Jan-2020 23:04
Dibenzofuran	U		0.000020	0.00010	mg/L	1	21-Jan-2020 23:04
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2020 23:04
Fluoranthene	**0.00045**		**0.000010**	**0.00010**	**mg/L**	1	21-Jan-2020 23:04
Fluorene	U		0.000030	0.00010	mg/L	1	21-Jan-2020 23:04
Naphthalene	**0.00010**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 23:04
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2020 23:04
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2020 23:04
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2020 23:04
Phenanthrene	**0.00017**		**0.000021**	**0.00010**	**mg/L**	1	21-Jan-2020 23:04
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 23:04
Pyrene	**0.00035**		**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 23:04
Surr: 2,4,6-Tribromophenol	*46.9*			*34-129*	*%REC*	*1*	*21-Jan-2020 23:04*
Surr: 2-Fluorobiphenyl	*68.3*			*40-125*	*%REC*	*1*	*21-Jan-2020 23:04*
Surr: 2-Fluorophenol	*48.4*			*20-120*	*%REC*	*1*	*21-Jan-2020 23:04*
Surr: 4-Terphenyl-d14	*97.4*			*40-135*	*%REC*	*1*	*21-Jan-2020 23:04*
Surr: Nitrobenzene-d5	*60.2*			*41-120*	*%REC*	*1*	*21-Jan-2020 23:04*
Surr: Phenol-d6	*61.0*			*20-120*	*%REC*	*1*	*21-Jan-2020 23:04*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 20-Jan-2020		Analyst: JC
Arsenic	**0.00216**		**0.000400**	**0.00200**	**mg/L**	1	21-Jan-2020 15:48

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW44C-20200115
Collection Date: 15-Jan-2020 13:15

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	21-Jan-2020 07:51
Benzene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 07:51
Chlorobenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 07:51
Ethylbenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 07:51
Methylene chloride		U	0.0010	0.0020	mg/L	1	21-Jan-2020 07:51
Toluene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 07:51
Xylenes, Total		U	0.00030	0.0010	mg/L	1	21-Jan-2020 07:51
Surr: 1,2-Dichloroethane-d4	*89.6*			*70-126*	*%REC*	*1*	*21-Jan-2020 07:51*
Surr: 4-Bromofluorobenzene	*94.3*			*81-113*	*%REC*	*1*	*21-Jan-2020 07:51*
Surr: Dibromofluoromethane	*96.0*			*77-123*	*%REC*	*1*	*21-Jan-2020 07:51*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*21-Jan-2020 07:51*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW44C-20200115
Collection Date: 15-Jan-2020 13:15

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	21-Jan-2020 23:23
2,4-Dimethylphenol	**0.00011**	J	**0.000040**	**0.00020**	**mg/L**	1	21-Jan-2020 23:23
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2020 23:23
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	21-Jan-2020 23:23
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2020 23:23
2-Methylnaphthalene	**0.00012**		**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 23:23
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2020 23:23
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2020 23:23
Acenaphthene	**0.00045**		**0.000027**	**0.00010**	**mg/L**	1	21-Jan-2020 23:23
Acenaphthylene	**0.00065**		**0.000015**	**0.00010**	**mg/L**	1	21-Jan-2020 23:23
Anthracene	**0.0086**		**0.000014**	**0.00010**	**mg/L**	1	21-Jan-2020 23:23
Benz(a)anthracene	**0.0018**		**0.000050**	**0.00010**	**mg/L**	1	21-Jan-2020 23:23
Benzo(a)pyrene	**0.00065**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 23:23
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2020 23:23
Bis(2-ethylhexyl)phthalate	**0.0012**		**0.000037**	**0.00020**	**mg/L**	1	21-Jan-2020 23:23
Chrysene	**0.0022**		**0.000021**	**0.00010**	**mg/L**	1	21-Jan-2020 23:23
Dibenzofuran	**0.00034**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 23:23
Di-n-butyl phthalate	**0.0016**		**0.000020**	**0.00020**	**mg/L**	1	21-Jan-2020 23:23
Fluoranthene	**0.0095**		**0.000010**	**0.00010**	**mg/L**	1	21-Jan-2020 23:23
Fluorene	**0.00067**		**0.000030**	**0.00010**	**mg/L**	1	21-Jan-2020 23:23
Naphthalene	**0.000097**	J	**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 23:23
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2020 23:23
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2020 23:23
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2020 23:23
Phenanthrene	**0.0077**		**0.000021**	**0.00010**	**mg/L**	1	21-Jan-2020 23:23
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 23:23
Pyrene	**0.0060**		**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 23:23
Surr: 2,4,6-Tribromophenol	*77.6*			*34-129*	*%REC*	*1*	*21-Jan-2020 23:23*
Surr: 2-Fluorobiphenyl	*72.4*			*40-125*	*%REC*	*1*	*21-Jan-2020 23:23*
Surr: 2-Fluorophenol	*59.3*			*20-120*	*%REC*	*1*	*21-Jan-2020 23:23*
Surr: 4-Terphenyl-d14	*90.5*			*40-135*	*%REC*	*1*	*21-Jan-2020 23:23*
Surr: Nitrobenzene-d5	*61.5*			*41-120*	*%REC*	*1*	*21-Jan-2020 23:23*
Surr: Phenol-d6	*61.1*			*20-120*	*%REC*	*1*	*21-Jan-2020 23:23*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 20-Jan-2020		Analyst: JC
Arsenic	**0.00314**		**0.000400**	**0.00200**	**mg/L**	1	21-Jan-2020 15:50

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW71B-20200115
Collection Date: 15-Jan-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	21-Jan-2020 04:11
Benzene	**0.0021**		**0.00020**	**0.0010**	**mg/L**	1	21-Jan-2020 04:11
Chlorobenzene	U		0.00030	0.0010	mg/L	1	21-Jan-2020 04:11
Ethylbenzene	**0.0013**		**0.00030**	**0.0010**	**mg/L**	1	21-Jan-2020 04:11
Methylene chloride	U		0.0010	0.0020	mg/L	1	21-Jan-2020 04:11
Toluene	U		0.00020	0.0010	mg/L	1	21-Jan-2020 04:11
Xylenes, Total	**0.0030**		**0.00030**	**0.0010**	**mg/L**	1	21-Jan-2020 04:11
Surr: 1,2-Dichloroethane-d4	*94.1*			*70-126*	*%REC*	*1*	*21-Jan-2020 04:11*
Surr: 4-Bromofluorobenzene	*95.8*			*81-113*	*%REC*	*1*	*21-Jan-2020 04:11*
Surr: Dibromofluoromethane	*98.7*			*77-123*	*%REC*	*1*	*21-Jan-2020 04:11*
Surr: Toluene-d8	*98.2*			*82-127*	*%REC*	*1*	*21-Jan-2020 04:11*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW71B-20200115
Collection Date: 15-Jan-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	21-Jan-2020 23:42
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	21-Jan-2020 23:42
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2020 23:42
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	21-Jan-2020 23:42
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2020 23:42
2-Methylnaphthalene	**0.0060**		**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 23:42
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2020 23:42
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2020 23:42
Acenaphthene	**0.0053**		**0.000027**	**0.00010**	**mg/L**	1	21-Jan-2020 23:42
Acenaphthylene	**0.00015**		**0.000015**	**0.00010**	**mg/L**	1	21-Jan-2020 23:42
Anthracene	**0.0039**		**0.000014**	**0.00010**	**mg/L**	1	21-Jan-2020 23:42
Benz(a)anthracene	**0.0011**		**0.000050**	**0.00010**	**mg/L**	1	21-Jan-2020 23:42
Benzo(a)pyrene	**0.00052**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 23:42
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2020 23:42
Bis(2-ethylhexyl)phthalate	**0.00063**		**0.000037**	**0.00020**	**mg/L**	1	21-Jan-2020 23:42
Chrysene	**0.0011**		**0.000021**	**0.00010**	**mg/L**	1	21-Jan-2020 23:42
Dibenzofuran	**0.0049**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 23:42
Di-n-butyl phthalate	**0.00098**		**0.000020**	**0.00020**	**mg/L**	1	21-Jan-2020 23:42
Fluoranthene	**0.0057**		**0.000010**	**0.00010**	**mg/L**	1	21-Jan-2020 23:42
Fluorene	**0.0038**		**0.000030**	**0.00010**	**mg/L**	1	21-Jan-2020 23:42
Naphthalene	**0.0064**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 23:42
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2020 23:42
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2020 23:42
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2020 23:42
Phenanthrene	**0.017**		**0.000084**	**0.00040**	**mg/L**	4	22-Jan-2020 14:16
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 23:42
Pyrene	**0.0042**		**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 23:42
Surr: 2,4,6-Tribromophenol	*88.6*			*34-129*	*%REC*	*4*	*22-Jan-2020 14:16*
Surr: 2,4,6-Tribromophenol	*71.8*			*34-129*	*%REC*	*1*	*21-Jan-2020 23:42*
Surr: 2-Fluorobiphenyl	*81.4*			*40-125*	*%REC*	*1*	*21-Jan-2020 23:42*
Surr: 2-Fluorobiphenyl	*93.3*			*40-125*	*%REC*	*4*	*22-Jan-2020 14:16*
Surr: 2-Fluorophenol	*71.3*			*20-120*	*%REC*	*4*	*22-Jan-2020 14:16*
Surr: 2-Fluorophenol	*62.8*			*20-120*	*%REC*	*1*	*21-Jan-2020 23:42*
Surr: 4-Terphenyl-d14	*93.9*			*40-135*	*%REC*	*1*	*21-Jan-2020 23:42*
Surr: 4-Terphenyl-d14	*108*			*40-135*	*%REC*	*4*	*22-Jan-2020 14:16*
Surr: Nitrobenzene-d5	*80.2*			*41-120*	*%REC*	*4*	*22-Jan-2020 14:16*
Surr: Nitrobenzene-d5	*67.2*			*41-120*	*%REC*	*1*	*21-Jan-2020 23:42*
Surr: Phenol-d6	*66.1*			*20-120*	*%REC*	*1*	*21-Jan-2020 23:42*
Surr: Phenol-d6	*74.8*			*20-120*	*%REC*	*4*	*22-Jan-2020 14:16*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW71B-20200115
Collection Date: 15-Jan-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 20-Jan-2020		Analyst: JC
Arsenic	**0.00279**		**0.000400**	**0.00200**	**mg/L**	1	21-Jan-2020 15:53

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW33BR-20200115
Collection Date: 15-Jan-2020 15:00

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-13
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	21-Jan-2020 16:34
Benzene	**0.12**		**0.00020**	**0.0010**	**mg/L**	1	21-Jan-2020 16:34
Chlorobenzene	U		0.00030	0.0010	mg/L	1	21-Jan-2020 16:34
Ethylbenzene	**0.043**		**0.00030**	**0.0010**	**mg/L**	1	21-Jan-2020 16:34
Methylene chloride	U		0.0010	0.0020	mg/L	1	21-Jan-2020 16:34
Toluene	U		0.00020	0.0010	mg/L	1	21-Jan-2020 16:34
Vinyl chloride	U		0.00020	0.0010	mg/L	1	21-Jan-2020 16:34
Xylenes, Total	**0.011**		**0.00030**	**0.0010**	**mg/L**	1	21-Jan-2020 16:34
Surr: 1,2-Dichloroethane-d4	*92.8*			*70-126*	*%REC*	*1*	*21-Jan-2020 16:34*
Surr: 4-Bromofluorobenzene	*95.6*			*81-113*	*%REC*	*1*	*21-Jan-2020 16:34*
Surr: Dibromofluoromethane	*99.6*			*77-123*	*%REC*	*1*	*21-Jan-2020 16:34*
Surr: Toluene-d8	*99.2*			*82-127*	*%REC*	*1*	*21-Jan-2020 16:34*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW33BR-20200115
Collection Date: 15-Jan-2020 15:00

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-13
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jan-2020 00:01
2,4-Dimethylphenol	**0.00018**	J	**0.000040**	**0.00020**	**mg/L**	1	22-Jan-2020 00:01
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jan-2020 00:01
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jan-2020 00:01
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jan-2020 00:01
2-Methylnaphthalene	**0.00025**		**0.000019**	**0.00010**	**mg/L**	1	22-Jan-2020 00:01
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jan-2020 00:01
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jan-2020 00:01
Acenaphthene	**0.0051**		**0.000027**	**0.00010**	**mg/L**	1	22-Jan-2020 00:01
Acenaphthylene	**0.00015**		**0.000015**	**0.00010**	**mg/L**	1	22-Jan-2020 00:01
Anthracene	**0.00046**		**0.000014**	**0.00010**	**mg/L**	1	22-Jan-2020 00:01
Benz(a)anthracene	**0.00010**		**0.000050**	**0.00010**	**mg/L**	1	22-Jan-2020 00:01
Benzo(a)pyrene	**0.000039**	J	**0.000020**	**0.00010**	**mg/L**	1	22-Jan-2020 00:01
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jan-2020 00:01
Bis(2-ethylhexyl)phthalate	**0.00067**		**0.000037**	**0.00020**	**mg/L**	1	22-Jan-2020 00:01
Chrysene	**0.00011**		**0.000021**	**0.00010**	**mg/L**	1	22-Jan-2020 00:01
Dibenzofuran	**0.0039**		**0.000020**	**0.00010**	**mg/L**	1	22-Jan-2020 00:01
Di-n-butyl phthalate	**0.00099**		**0.000020**	**0.00020**	**mg/L**	1	22-Jan-2020 00:01
Fluoranthene	**0.00082**		**0.000010**	**0.00010**	**mg/L**	1	22-Jan-2020 00:01
Fluorene	**0.0018**		**0.000030**	**0.00010**	**mg/L**	1	22-Jan-2020 00:01
Naphthalene	**0.0051**		**0.000020**	**0.00010**	**mg/L**	1	22-Jan-2020 00:01
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jan-2020 00:01
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jan-2020 00:01
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jan-2020 00:01
Phenanthrene	**0.0013**		**0.000021**	**0.00010**	**mg/L**	1	22-Jan-2020 00:01
Phenol	**0.00018**	J	**0.000035**	**0.00020**	**mg/L**	1	22-Jan-2020 00:01
Pyrene	**0.00057**		**0.000019**	**0.00010**	**mg/L**	1	22-Jan-2020 00:01
Surr: 2,4,6-Tribromophenol	*74.6*			*34-129*	*%REC*	*1*	*22-Jan-2020 00:01*
Surr: 2-Fluorobiphenyl	*78.9*			*40-125*	*%REC*	*1*	*22-Jan-2020 00:01*
Surr: 2-Fluorophenol	*64.1*			*20-120*	*%REC*	*1*	*22-Jan-2020 00:01*
Surr: 4-Terphenyl-d14	*93.1*			*40-135*	*%REC*	*1*	*22-Jan-2020 00:01*
Surr: Nitrobenzene-d5	*75.8*			*41-120*	*%REC*	*1*	*22-Jan-2020 00:01*
Surr: Phenol-d6	*68.5*			*20-120*	*%REC*	*1*	*22-Jan-2020 00:01*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 20-Jan-2020		Analyst: JC
Arsenic	**0.000877**	J	**0.000400**	**0.00200**	**mg/L**	1	21-Jan-2020 15:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW25C-20200115
Collection Date: 15-Jan-2020 15:50

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-14
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	21-Jan-2020 16:59
Benzene	**0.0017**		**0.00020**	**0.0010**	**mg/L**	1	21-Jan-2020 16:59
Chlorobenzene	U		0.00030	0.0010	mg/L	1	21-Jan-2020 16:59
Ethylbenzene	**0.033**		**0.00030**	**0.0010**	**mg/L**	1	21-Jan-2020 16:59
Methylene chloride	U		0.0010	0.0020	mg/L	1	21-Jan-2020 16:59
Toluene	**0.010**		**0.00020**	**0.0010**	**mg/L**	1	21-Jan-2020 16:59
Vinyl chloride	U		0.00020	0.0010	mg/L	1	21-Jan-2020 16:59
Xylenes, Total	**0.22**		**0.00030**	**0.0010**	**mg/L**	1	21-Jan-2020 16:59
Surr: 1,2-Dichloroethane-d4	*91.5*			*70-126*	*%REC*	*1*	*21-Jan-2020 16:59*
Surr: 4-Bromofluorobenzene	*102*			*81-113*	*%REC*	*1*	*21-Jan-2020 16:59*
Surr: Dibromofluoromethane	*98.6*			*77-123*	*%REC*	*1*	*21-Jan-2020 16:59*
Surr: Toluene-d8	*99.0*			*82-127*	*%REC*	*1*	*21-Jan-2020 16:59*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW25C-20200115
Collection Date: 15-Jan-2020 15:50

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-14
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jan-2020 00:20
2,4-Dimethylphenol	**0.0062**		**0.000040**	**0.00020**	**mg/L**	1	22-Jan-2020 00:20
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jan-2020 00:20
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jan-2020 00:20
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jan-2020 00:20
2-Methylnaphthalene	**0.96**		**0.0038**	**0.020**	**mg/L**	200	22-Jan-2020 15:56
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jan-2020 00:20
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jan-2020 00:20
Acenaphthene	**0.36**		**0.0054**	**0.020**	**mg/L**	200	22-Jan-2020 15:56
Acenaphthylene	**0.0025**		**0.000015**	**0.00010**	**mg/L**	1	22-Jan-2020 00:20
Anthracene	**0.027**		**0.00028**	**0.0020**	**mg/L**	20	22-Jan-2020 14:35
Benz(a)anthracene	**0.00057**		**0.000050**	**0.00010**	**mg/L**	1	22-Jan-2020 00:20
Benzo(a)pyrene	**0.00019**		**0.000020**	**0.00010**	**mg/L**	1	22-Jan-2020 00:20
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jan-2020 00:20
Bis(2-ethylhexyl)phthalate	**0.00066**		**0.000037**	**0.00020**	**mg/L**	1	22-Jan-2020 00:20
Chrysene	**0.00056**		**0.000021**	**0.00010**	**mg/L**	1	22-Jan-2020 00:20
Dibenzofuran	**0.34**		**0.0040**	**0.020**	**mg/L**	200	22-Jan-2020 15:56
Di-n-butyl phthalate	**0.00068**		**0.000020**	**0.00020**	**mg/L**	1	22-Jan-2020 00:20
Fluoranthene	**0.0058**		**0.000010**	**0.00010**	**mg/L**	1	22-Jan-2020 00:20
Fluorene	**0.15**		**0.00060**	**0.0020**	**mg/L**	20	22-Jan-2020 14:35
Naphthalene	**7.5**		**0.040**	**0.20**	**mg/L**	2000	22-Jan-2020 16:15
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jan-2020 00:20
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jan-2020 00:20
Pentachlorophenol	**0.17**		**0.0016**	**0.0040**	**mg/L**	20	22-Jan-2020 14:35
Phenanthrene	**0.18**		**0.00042**	**0.0020**	**mg/L**	20	22-Jan-2020 14:35
Phenol	U		0.000035	0.00020	mg/L	1	22-Jan-2020 00:20
Pyrene	**0.0049**		**0.000019**	**0.00010**	**mg/L**	1	22-Jan-2020 00:20
Surr: 2,4,6-Tribromophenol	*56.9*			*34-129*	*%REC*	*1*	*22-Jan-2020 00:20*
Surr: 2,4,6-Tribromophenol	*104*			*34-129*	*%REC*	*20*	*22-Jan-2020 14:35*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*200*	*22-Jan-2020 15:56*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*2000*	*22-Jan-2020 16:15*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*2000*	*22-Jan-2020 16:15*
Surr: 2-Fluorobiphenyl	*84.3*			*40-125*	*%REC*	*20*	*22-Jan-2020 14:35*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*200*	*22-Jan-2020 15:56*
Surr: 2-Fluorobiphenyl	*60.9*			*40-125*	*%REC*	*1*	*22-Jan-2020 00:20*
Surr: 2-Fluorophenol	*65.0*			*20-120*	*%REC*	*1*	*22-Jan-2020 00:20*
Surr: 2-Fluorophenol	*98.3*			*20-120*	*%REC*	*20*	*22-Jan-2020 14:35*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*200*	*22-Jan-2020 15:56*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*2000*	*22-Jan-2020 16:15*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW25C-20200115
Collection Date: 15-Jan-2020 15:50

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-14
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jan-2020		Analyst: LG
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*2000*	*22-Jan-2020 16:15*
Surr: 4-Terphenyl-d14	*87.3*			*40-135*	*%REC*	*1*	*22-Jan-2020 00:20*
Surr: 4-Terphenyl-d14	*111*			*40-135*	*%REC*	*20*	*22-Jan-2020 14:35*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*200*	*22-Jan-2020 15:56*
Surr: Nitrobenzene-d5	*99.3*			*41-120*	*%REC*	*20*	*22-Jan-2020 14:35*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*200*	*22-Jan-2020 15:56*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*2000*	*22-Jan-2020 16:15*
Surr: Nitrobenzene-d5	*49.3*			*41-120*	*%REC*	*1*	*22-Jan-2020 00:20*
Surr: Phenol-d6	*65.7*			*20-120*	*%REC*	*1*	*22-Jan-2020 00:20*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*200*	*22-Jan-2020 15:56*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*2000*	*22-Jan-2020 16:15*
Surr: Phenol-d6	*110*			*20-120*	*%REC*	*20*	*22-Jan-2020 14:35*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 20-Jan-2020		Analyst: JC
Arsenic	**0.00391**		**0.000400**	**0.00200**	**mg/L**	1	21-Jan-2020 16:16

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WQ-1620-TB04-20200115
Collection Date: 15-Jan-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20010713
Lab ID:HS20010713-15
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	21-Jan-2020 00:06
Benzene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 00:06
Chlorobenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 00:06
Ethylbenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 00:06
Methylene chloride		U	0.0010	0.0020	mg/L	1	21-Jan-2020 00:06
Toluene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 00:06
Vinyl chloride		U	0.00020	0.0010	mg/L	1	28-Jan-2020 15:35
Xylenes, Total		U	0.00030	0.0010	mg/L	1	21-Jan-2020 00:06
Surr: 1,2-Dichloroethane-d4	*92.6*			*70-126*	*%REC*	*1*	*21-Jan-2020 00:06*
Surr: 1,2-Dichloroethane-d4	*100*			*70-126*	*%REC*	*1*	*28-Jan-2020 15:35*
Surr: 4-Bromofluorobenzene	*95.9*			*81-113*	*%REC*	*1*	*21-Jan-2020 00:06*
Surr: 4-Bromofluorobenzene	*98.1*			*81-113*	*%REC*	*1*	*28-Jan-2020 15:35*
Surr: Dibromofluoromethane	*98.5*			*77-123*	*%REC*	*1*	*21-Jan-2020 00:06*
Surr: Dibromofluoromethane	*99.9*			*77-123*	*%REC*	*1*	*28-Jan-2020 15:35*
Surr: Toluene-d8	*99.2*			*82-127*	*%REC*	*1*	*21-Jan-2020 00:06*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*28-Jan-2020 15:35*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010713

Batch ID: 149790 **Start Date:** 19 Jan 2020 09:00 **End Date:** 19 Jan 2020 16:00
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010713-01	1	1000 (mL)	1 (mL)	0.001
HS20010713-02	1	1000 (mL)	1 (mL)	0.001
HS20010713-03	1	1000 (mL)	1 (mL)	0.001
HS20010713-04	1	1000 (mL)	1 (mL)	0.001
HS20010713-05	1	1000 (mL)	1 (mL)	0.001
HS20010713-06	1	1000 (mL)	1 (mL)	0.001
HS20010713-07	1	1000 (mL)	1 (mL)	0.001
HS20010713-08	1	1000 (mL)	1 (mL)	0.001
HS20010713-09	1	1000 (mL)	1 (mL)	0.001
HS20010713-10	1	1000 (mL)	1 (mL)	0.001
HS20010713-11	1	1000 (mL)	1 (mL)	0.001
HS20010713-12	1	1000 (mL)	1 (mL)	0.001
HS20010713-13	1	1000 (mL)	1 (mL)	0.001
HS20010713-14	1	1000 (mL)	1 (mL)	0.001

Batch ID: 149807 **Start Date:** 20 Jan 2020 10:00 **End Date:** 20 Jan 2020 14:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010713-01		10 (mL)	10 (mL)	1
HS20010713-02		10 (mL)	10 (mL)	1

Batch ID: 149808 **Start Date:** 20 Jan 2020 10:00 **End Date:** 20 Jan 2020 14:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010713-03		10 (mL)	10 (mL)	1
HS20010713-04		10 (mL)	10 (mL)	1
HS20010713-05		10 (mL)	10 (mL)	1
HS20010713-06		10 (mL)	10 (mL)	1
HS20010713-07		10 (mL)	10 (mL)	1
HS20010713-08		10 (mL)	10 (mL)	1
HS20010713-09		10 (mL)	10 (mL)	1
HS20010713-10		10 (mL)	10 (mL)	1
HS20010713-11		10 (mL)	10 (mL)	1
HS20010713-12		10 (mL)	10 (mL)	1
HS20010713-13		10 (mL)	10 (mL)	1
HS20010713-14		10 (mL)	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010713

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 149790 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS20010713-01	WG-1620-MW15A-20200114	14 Jan 2020 13:45		19 Jan 2020 15:03	22 Jan 2020 13:19	20
HS20010713-01	WG-1620-MW15A-20200114	14 Jan 2020 13:45		19 Jan 2020 15:03	21 Jan 2020 20:32	1
HS20010713-02	WG-1620-MW15B-20200114	14 Jan 2020 14:30		19 Jan 2020 15:03	21 Jan 2020 20:51	1
HS20010713-03	WG-1620-MW15C-20200114	14 Jan 2020 15:20		19 Jan 2020 15:03	22 Jan 2020 13:38	4
HS20010713-03	WG-1620-MW15C-20200114	14 Jan 2020 15:20		19 Jan 2020 15:03	21 Jan 2020 21:10	1
HS20010713-04	WG-1620-MW14-20200114	14 Jan 2020 16:15		19 Jan 2020 15:03	21 Jan 2020 21:29	1
HS20010713-05	WG-1620-MW17-20200114	14 Jan 2020 17:10		19 Jan 2020 15:03	21 Jan 2020 21:48	1
HS20010713-06	WG-1620-FB06-20200114	14 Jan 2020 17:25		19 Jan 2020 15:03	21 Jan 2020 22:07	1
HS20010713-07	WG-1620-MW17C-20200115	15 Jan 2020 08:15		19 Jan 2020 15:03	21 Jan 2020 22:26	1
HS20010713-08	WG-1620-MW67B-20200115	15 Jan 2020 09:30		19 Jan 2020 15:03	21 Jan 2020 14:49	1
HS20010713-09	WG-1620-MW46C-20200115	15 Jan 2020 10:25		19 Jan 2020 15:03	22 Jan 2020 15:37	200
HS20010713-09	WG-1620-MW46C-20200115	15 Jan 2020 10:25		19 Jan 2020 15:03	22 Jan 2020 13:57	20
HS20010713-09	WG-1620-MW46C-20200115	15 Jan 2020 10:25		19 Jan 2020 15:03	21 Jan 2020 22:45	1
HS20010713-10	WG-1620-MW25A-20200115	15 Jan 2020 11:20		19 Jan 2020 15:03	21 Jan 2020 23:04	1
HS20010713-11	WG-1620-MW44C-20200115	15 Jan 2020 13:15		19 Jan 2020 15:03	21 Jan 2020 23:23	1
HS20010713-12	WG-1620-MW71B-20200115	15 Jan 2020 14:00		19 Jan 2020 15:03	22 Jan 2020 14:16	4
HS20010713-12	WG-1620-MW71B-20200115	15 Jan 2020 14:00		19 Jan 2020 15:03	21 Jan 2020 23:42	1
HS20010713-13	WG-1620-MW33BR-20200115	15 Jan 2020 15:00		19 Jan 2020 15:03	22 Jan 2020 00:01	1
HS20010713-14	WG-1620-MW25C-20200115	15 Jan 2020 15:50		19 Jan 2020 15:03	22 Jan 2020 16:15	2000
HS20010713-14	WG-1620-MW25C-20200115	15 Jan 2020 15:50		19 Jan 2020 15:03	22 Jan 2020 15:56	200
HS20010713-14	WG-1620-MW25C-20200115	15 Jan 2020 15:50		19 Jan 2020 15:03	22 Jan 2020 14:35	20
HS20010713-14	WG-1620-MW25C-20200115	15 Jan 2020 15:50		19 Jan 2020 15:03	22 Jan 2020 00:20	1
Batch ID: 149807 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS20010713-01	WG-1620-MW15A-20200114	14 Jan 2020 13:45		20 Jan 2020 14:00	22 Jan 2020 16:10	1
HS20010713-02	WG-1620-MW15B-20200114	14 Jan 2020 14:30		20 Jan 2020 14:00	22 Jan 2020 16:12	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010713

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 149808 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS20010713-03	WG-1620-MW15C-20200114	14 Jan 2020 15:20		20 Jan 2020 14:00	21 Jan 2020 15:27	1
HS20010713-04	WG-1620-MW14-20200114	14 Jan 2020 16:15		20 Jan 2020 14:00	21 Jan 2020 15:37	1
HS20010713-05	WG-1620-MW17-20200114	14 Jan 2020 17:10		20 Jan 2020 14:00	21 Jan 2020 15:39	1
HS20010713-06	WG-1620-FB06-20200114	14 Jan 2020 17:25		20 Jan 2020 14:00	21 Jan 2020 15:41	1
HS20010713-07	WG-1620-MW17C-20200115	15 Jan 2020 08:15		20 Jan 2020 14:00	21 Jan 2020 15:44	1
HS20010713-08	WG-1620-MW67B-20200115	15 Jan 2020 09:30		20 Jan 2020 14:00	21 Jan 2020 15:16	1
HS20010713-09	WG-1620-MW46C-20200115	15 Jan 2020 10:25		20 Jan 2020 14:00	21 Jan 2020 15:46	1
HS20010713-10	WG-1620-MW25A-20200115	15 Jan 2020 11:20		20 Jan 2020 14:00	21 Jan 2020 15:48	1
HS20010713-11	WG-1620-MW44C-20200115	15 Jan 2020 13:15		20 Jan 2020 14:00	21 Jan 2020 15:50	1
HS20010713-12	WG-1620-MW71B-20200115	15 Jan 2020 14:00		20 Jan 2020 14:00	21 Jan 2020 15:53	1
HS20010713-13	WG-1620-MW33BR-20200115	15 Jan 2020 15:00		20 Jan 2020 14:00	21 Jan 2020 15:55	1
HS20010713-14	WG-1620-MW25C-20200115	15 Jan 2020 15:50		20 Jan 2020 14:00	21 Jan 2020 16:16	1
Batch ID: R354726 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010713-02	WG-1620-MW15B-20200114	14 Jan 2020 14:30			21 Jan 2020 02:09	1
HS20010713-03	WG-1620-MW15C-20200114	14 Jan 2020 15:20			21 Jan 2020 02:33	1
HS20010713-04	WG-1620-MW14-20200114	14 Jan 2020 16:15			21 Jan 2020 02:58	1
HS20010713-05	WG-1620-MW17-20200114	14 Jan 2020 17:10			21 Jan 2020 08:16	1
HS20010713-07	WG-1620-MW17C-20200115	15 Jan 2020 08:15			21 Jan 2020 03:22	1
HS20010713-08	WG-1620-MW67B-20200115	15 Jan 2020 09:30			21 Jan 2020 00:55	1
HS20010713-09	WG-1620-MW46C-20200115	15 Jan 2020 10:25			21 Jan 2020 07:27	1
HS20010713-11	WG-1620-MW44C-20200115	15 Jan 2020 13:15			21 Jan 2020 07:51	1
HS20010713-12	WG-1620-MW71B-20200115	15 Jan 2020 14:00			21 Jan 2020 04:11	1
HS20010713-15	WQ-1620-TB04-20200115	15 Jan 2020 00:00			21 Jan 2020 00:06	1
Batch ID: R354799 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010713-01	WG-1620-MW15A-20200114	14 Jan 2020 13:45			21 Jan 2020 15:46	1
HS20010713-10	WG-1620-MW25A-20200115	15 Jan 2020 11:20			21 Jan 2020 16:10	1
HS20010713-13	WG-1620-MW33BR-20200115	15 Jan 2020 15:00			21 Jan 2020 16:34	1
HS20010713-14	WG-1620-MW25C-20200115	15 Jan 2020 15:50			21 Jan 2020 16:59	1
Batch ID: R355099 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010713-06	WG-1620-FB06-20200114	14 Jan 2020 17:25			27 Jan 2020 12:30	1
Batch ID: R355193 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010713-15	WQ-1620-TB04-20200115	15 Jan 2020 00:00			28 Jan 2020 15:35	1

WorkOrder: HS20010713
InstrumentID: ICPMS04
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000456	0.000400	0.00200

WorkOrder: HS20010713
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000499	0.000400	0.00200

WorkOrder: HS20010713
InstrumentID: SV-6
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.000098	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000051	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000094	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000083	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.000093	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000060	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000031	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000037	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000059	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000050	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000047	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000059	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000050	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000081	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00012	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000060	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000050	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.00011	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000049	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000053	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000049	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00012	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00011	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.0000094	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000049	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000096	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000047	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS20010713
InstrumentID: VOA2
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00062	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00059	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00071	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00063	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00075	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00069	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00044	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00059	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

WorkOrder: HS20010713
InstrumentID: VOA4
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00061	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00057	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00058	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00048	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00070	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00050	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00045	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00070	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010713

QC BATCH REPORT

Batch ID: 149807 (0) **Instrument: ICPMS04** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-149807** Units: **mg/L** Analysis Date: **22-Jan-2020 14:20**
Client ID: Run ID: **ICPMS04_354801** SeqNo: **5443749** PrepDate: **20-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-149807** Units: **mg/L** Analysis Date: **22-Jan-2020 14:22**
Client ID: Run ID: **ICPMS04_354801** SeqNo: **5443750** PrepDate: **20-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0482	0.00200	0.05	0	96.4	80 - 120				

MS Sample ID: **HS20010683-01MS** Units: **mg/L** Analysis Date: **22-Jan-2020 14:31**
Client ID: Run ID: **ICPMS04_354801** SeqNo: **5443754** PrepDate: **20-Jan-2020** DF: **10**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05208	0.0200	0.05	0.00263	98.9	80 - 120				

MSD Sample ID: **HS20010683-01MSD** Units: **mg/L** Analysis Date: **22-Jan-2020 16:28**
Client ID: Run ID: **ICPMS04_354801** SeqNo: **5444073** PrepDate: **20-Jan-2020** DF: **10**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05405	0.0200	0.05	0	108	80 - 120	0.05208	3.72	20	

PDS Sample ID: **HS20010683-01PDS** Units: **mg/L** Analysis Date: **22-Jan-2020 14:36**
Client ID: Run ID: **ICPMS04_354801** SeqNo: **5443756** PrepDate: **20-Jan-2020** DF: **10**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	1.031	0.0200	1	0	103	75 - 125				

SD Sample ID: **HS20010683-01SD** Units: **mg/L** Analysis Date: **22-Jan-2020 14:29**
Client ID: Run ID: **ICPMS04_354801** SeqNo: **5443753** PrepDate: **20-Jan-2020** DF: **50**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.100					0.00263	0	10	

The following samples were analyzed in this batch: HS20010713-01 HS20010713-02

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010713

QC BATCH REPORT

Batch ID: 149808 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-149808** Units: **mg/L** Analysis Date: **21-Jan-2020 15:12**
Client ID: Run ID: **ICPMS05_354727** SeqNo: **5442639** PrepDate: **20-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-149808** Units: **mg/L** Analysis Date: **21-Jan-2020 15:14**
Client ID: Run ID: **ICPMS05_354727** SeqNo: **5442640** PrepDate: **20-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04553	0.00200	0.05	0	91.1	80 - 120				

MS Sample ID: **HS20010713-08MS** Units: **mg/L** Analysis Date: **21-Jan-2020 15:20**
Client ID: **WG-1620-MW67B-20200115** Run ID: **ICPMS05_354727** SeqNo: **5442643** PrepDate: **20-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04636	0.00200	0.05	0.000467	91.8	80 - 120				

MSD Sample ID: **HS20010713-08MSD** Units: **mg/L** Analysis Date: **21-Jan-2020 15:23**
Client ID: **WG-1620-MW67B-20200115** Run ID: **ICPMS05_354727** SeqNo: **5442644** PrepDate: **20-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04707	0.00200	0.05	0.000467	93.2	80 - 120	0.04636	1.51	20	

PDS Sample ID: **HS20010713-08PDS** Units: **mg/L** Analysis Date: **21-Jan-2020 15:25**
Client ID: **WG-1620-MW67B-20200115** Run ID: **ICPMS05_354727** SeqNo: **5442645** PrepDate: **20-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.09734	0.00200	0.1	0.000467	96.9	75 - 125				

SD Sample ID: **HS20010713-08SD** Units: **mg/L** Analysis Date: **21-Jan-2020 15:18**
Client ID: **WG-1620-MW67B-20200115** Run ID: **ICPMS05_354727** SeqNo: **5442642** PrepDate: **20-Jan-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.000467	0	10	

The following samples were analyzed in this batch:

HS20010713-03	HS20010713-04	HS20010713-05	HS20010713-06
HS20010713-07	HS20010713-08	HS20010713-09	HS20010713-10
HS20010713-11	HS20010713-12	HS20010713-13	HS20010713-14

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010713

QC BATCH REPORT

Batch ID: 149790 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-149790** Units: **ug/L** Analysis Date: **21-Jan-2020 14:11**
Client ID: Run ID: **SV-6_354783** SeqNo: **5442894** PrepDate: **19-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*3.802*	*0.20*	*5*	*0*	*76.0*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.693*	*0.20*	*5*	*0*	*93.9*	*40 - 125*				
Surr: 2-Fluorophenol	*4.333*	*0.20*	*5*	*0*	*86.7*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.586*	*0.20*	*5*	*0*	*91.7*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.975*	*0.20*	*5*	*0*	*79.5*	*41 - 120*				
Surr: Phenol-d6	*4.137*	*0.20*	*5*	*0*	*82.7*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010713

QC BATCH REPORT

Batch ID: 149790 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-149790** Units: **ug/L** Analysis Date: **21-Jan-2020 14:30**
Client ID: Run ID: **SV-6_354783** SeqNo: **5442895** PrepDate: **19-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.591	0.20	5	0	91.8	39 - 127				
2,4-Dimethylphenol	4.25	0.20	5	0	85.0	35 - 120				
2,4-Dinitrotoluene	5.089	0.20	5	0	102	50 - 122				
2,6-Dinitrotoluene	5.095	0.20	5	0	102	50 - 120				
2-Chloronaphthalene	4.451	0.20	5	0	89.0	50 - 120				
2-Methylnaphthalene	4.393	0.10	5	0	87.9	50 - 120				
4,6-Dinitro-2-methylphenol	5.82	0.20	5	0	116	25 - 121				
4-Nitrophenol	4.859	1.0	5	0	97.2	30 - 130				
Acenaphthene	4.701	0.10	5	0	94.0	45 - 120				
Acenaphthylene	4.377	0.10	5	0	87.5	47 - 120				
Anthracene	5.109	0.10	5	0	102	45 - 120				
Benz(a)anthracene	4.959	0.10	5	0	99.2	40 - 120				
Benzo(a)pyrene	4.774	0.10	5	0	95.5	45 - 120				
Bis(2-chloroethoxy)methane	4.305	0.20	5	0	86.1	45 - 120				
Bis(2-ethylhexyl)phthalate	6.051	0.20	5	0	121	40 - 139				
Chrysene	4.991	0.10	5	0	99.8	43 - 120				
Dibenzofuran	4.274	0.10	5	0	85.5	50 - 120				
Di-n-butyl phthalate	5.708	0.20	5	0	114	45 - 123				
Fluoranthene	4.84	0.10	5	0	96.8	45 - 125				
Fluorene	4.308	0.10	5	0	86.2	49 - 120				
Naphthalene	4.351	0.10	5	0	87.0	45 - 120				
Nitrobenzene	4.173	0.20	5	0	83.5	44 - 120				
N-Nitrosodiphenylamine	4.822	0.20	5	0	96.4	40 - 125				
Pentachlorophenol	4.568	0.20	5	0	91.4	19 - 121				
Phenanthrene	4.864	0.10	5	0	97.3	45 - 121				
Phenol	4.143	0.20	5	0	82.9	20 - 124				
Pyrene	5.11	0.10	5	0	102	40 - 130				
Surr: 2,4,6-Tribromophenol	*3.644*	*0.20*	*5*	*0*	*72.9*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.364*	*0.20*	*5*	*0*	*87.3*	*40 - 125*				
Surr: 2-Fluorophenol	*3.709*	*0.20*	*5*	*0*	*74.2*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.728*	*0.20*	*5*	*0*	*94.6*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.07*	*0.20*	*5*	*0*	*81.4*	*41 - 120*				
Surr: Phenol-d6	*3.948*	*0.20*	*5*	*0*	*79.0*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010713

QC BATCH REPORT

Batch ID: 149790 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MS Sample ID: **HS20010713-08MS** Units: **ug/L** Analysis Date: **21-Jan-2020 15:08**
Client ID: **WG-1620-MW67B-20200115** Run ID: **SV-6_354783** SeqNo: **5442897** PrepDate: **19-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.019	0.20	5	0	80.4	39 - 127				
2,4-Dimethylphenol	2.936	0.20	5	0	58.7	35 - 120				
2,4-Dinitrotoluene	4.832	0.20	5	0	96.6	50 - 122				
2,6-Dinitrotoluene	4.816	0.20	5	0	96.3	50 - 120				
2-Chloronaphthalene	3.838	0.20	5	0	76.8	50 - 120				
2-Methylnaphthalene	3.517	0.10	5	0	70.3	50 - 120				
4,6-Dinitro-2-methylphenol	5.71	0.20	5	0	114	25 - 121				
4-Nitrophenol	4.92	1.0	5	0	98.4	30 - 130				
Acenaphthene	4.264	0.10	5	0	85.3	45 - 120				
Acenaphthylene	3.808	0.10	5	0	76.2	47 - 120				
Anthracene	4.668	0.10	5	0	93.4	45 - 120				
Benz(a)anthracene	4.683	0.10	5	0	93.7	40 - 120				
Benzo(a)pyrene	4.504	0.10	5	0	90.1	45 - 120				
Bis(2-chloroethoxy)methane	3.413	0.20	5	0	68.3	45 - 120				
Bis(2-ethylhexyl)phthalate	5.894	0.20	5	0.08957	116	40 - 139				
Chrysene	4.496	0.10	5	0	89.9	43 - 120				
Dibenzofuran	3.835	0.10	5	0	76.7	50 - 120				
Di-n-butyl phthalate	5.43	0.20	5	0	109	45 - 123				
Fluoranthene	4.612	0.10	5	0	92.2	45 - 125				
Fluorene	4.02	0.10	5	0	80.4	49 - 120				
Naphthalene	3.538	0.10	5	0	70.8	45 - 120				
Nitrobenzene	3.265	0.20	5	0	65.3	44 - 120				
N-Nitrosodiphenylamine	4.782	0.20	5	0	95.6	40 - 125				
Pentachlorophenol	4.303	0.20	5	0	86.1	19 - 121				
Phenanthrene	4.398	0.10	5	0	88.0	45 - 121				
Phenol	3.368	0.20	5	0	67.4	20 - 124				
Pyrene	4.822	0.10	5	0	96.4	40 - 130				
Surr: 2,4,6-Tribromophenol	*3.785*	*0.20*	*5*	*0*	*75.7*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*3.928*	*0.20*	*5*	*0*	*78.6*	*40 - 125*				
Surr: 2-Fluorophenol	*3.33*	*0.20*	*5*	*0*	*66.6*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.641*	*0.20*	*5*	*0*	*92.8*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.323*	*0.20*	*5*	*0*	*66.5*	*41 - 120*				
Surr: Phenol-d6	*3.289*	*0.20*	*5*	*0*	*65.8*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010713

QC BATCH REPORT

Batch ID: 149790 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MSD Sample ID: **HS20010713-08MSD** Units: **ug/L** Analysis Date: **21-Jan-2020 15:27**
Client ID: **WG-1620-MW67B-20200115** Run ID: **SV-6_354783** SeqNo: **5442898** PrepDate: **19-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.253	0.20	5	0	85.1	39 - 127	4.019	5.65	20	
2,4-Dimethylphenol	2.99	0.20	5	0	59.8	35 - 120	2.936	1.82	20	
2,4-Dinitrotoluene	5.313	0.20	5	0	106	50 - 122	4.832	9.49	20	
2,6-Dinitrotoluene	4.866	0.20	5	0	97.3	50 - 120	4.816	1.02	20	
2-Chloronaphthalene	3.489	0.20	5	0	69.8	50 - 120	3.838	9.55	20	
2-Methylnaphthalene	3.303	0.10	5	0	66.1	50 - 120	3.517	6.29	20	
4,6-Dinitro-2-methylphenol	3.819	0.20	5	0	76.4	25 - 121	5.71	39.7	30	R
4-Nitrophenol	5.384	1.0	5	0	108	30 - 130	4.92	9.01	20	
Acenaphthene	3.975	0.10	5	0	79.5	45 - 120	4.264	7.01	20	
Acenaphthylene	3.616	0.10	5	0	72.3	47 - 120	3.808	5.17	20	
Anthracene	5.25	0.10	5	0	105	45 - 120	4.668	11.7	20	
Benz(a)anthracene	5.359	0.10	5	0	107	40 - 120	4.683	13.4	20	
Benzo(a)pyrene	5.276	0.10	5	0	106	45 - 120	4.504	15.8	20	
Bis(2-chloroethoxy)methane	3.093	0.20	5	0	61.9	45 - 120	3.413	9.83	20	
Bis(2-ethylhexyl)phthalate	6.076	0.20	5	0.08957	120	40 - 139	5.894	3.04	20	
Chrysene	5.125	0.10	5	0	102	43 - 120	4.496	13.1	20	
Dibenzofuran	3.691	0.10	5	0	73.8	50 - 120	3.835	3.84	20	
Di-n-butyl phthalate	6.04	0.20	5	0	121	45 - 123	5.43	10.6	20	
Fluoranthene	5.332	0.10	5	0	107	45 - 125	4.612	14.5	20	
Fluorene	4.082	0.10	5	0	81.6	49 - 120	4.02	1.53	20	
Naphthalene	3.323	0.10	5	0	66.5	45 - 120	3.538	6.29	20	
Nitrobenzene	3.067	0.20	5	0	61.3	44 - 120	3.265	6.27	20	
N-Nitrosodiphenylamine	5.371	0.20	5	0	107	40 - 125	4.782	11.6	20	
Pentachlorophenol	5.167	0.20	5	0	103	19 - 121	4.303	18.3	20	
Phenanthrene	4.947	0.10	5	0	98.9	45 - 121	4.398	11.7	20	
Phenol	3.164	0.20	5	0	63.3	20 - 124	3.368	6.23	20	
Pyrene	5.367	0.10	5	0	107	40 - 130	4.822	10.7	20	
Surr: 2,4,6-Tribromophenol	*4.064*	*0.20*	*5*	*0*	*81.3*	*34 - 129*	*3.785*	*7.11*	*20*	
Surr: 2-Fluorobiphenyl	*3.411*	*0.20*	*5*	*0*	*68.2*	*40 - 125*	*3.928*	*14.1*	*20*	
Surr: 2-Fluorophenol	*2.871*	*0.20*	*5*	*0*	*57.4*	*20 - 120*	*3.33*	*14.8*	*20*	
Surr: 4-Terphenyl-d14	*5.181*	*0.20*	*5*	*0*	*104*	*40 - 135*	*4.641*	*11*	*20*	
Surr: Nitrobenzene-d5	*3.015*	*0.20*	*5*	*0*	*60.3*	*41 - 120*	*3.323*	*9.7*	*20*	
Surr: Phenol-d6	*3.041*	*0.20*	*5*	*0*	*60.8*	*20 - 120*	*3.289*	*7.86*	*20*	

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	HS20010713

QC BATCH REPORT

Batch ID: 149790 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

The following samples were analyzed in this batch:

HS20010713-01	HS20010713-02	HS20010713-03	HS20010713-04
HS20010713-05	HS20010713-06	HS20010713-07	HS20010713-08
HS20010713-09	HS20010713-10	HS20010713-11	HS20010713-12
HS20010713-13	HS20010713-14		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010713

QC BATCH REPORT

Batch ID: R354726 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200120** Units: **ug/L** Analysis Date: **20-Jan-2020 23:42**
Client ID: Run ID: **VOA2_354726** SeqNo: **5441781** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*45.99*	*1.0*	*50*	*0*	*92.0*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*46.95*	*1.0*	*50*	*0*	*93.9*	*82 - 115*				
Surr: Dibromofluoromethane	*49.23*	*1.0*	*50*	*0*	*98.5*	*73 - 126*				
Surr: Toluene-d8	*50.95*	*1.0*	*50*	*0*	*102*	*81 - 120*				

LCS Sample ID: **VLCSW-200120** Units: **ug/L** Analysis Date: **20-Jan-2020 22:53**
Client ID: Run ID: **VOA2_354726** SeqNo: **5441780** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.43	1.0	20	0	87.1	70 - 124				
Benzene	17.19	1.0	20	0	86.0	74 - 120				
Chlorobenzene	18.11	1.0	20	0	90.5	76 - 113				
Ethylbenzene	17.79	1.0	20	0	89.0	77 - 117				
Methylene chloride	17.05	2.0	20	0	85.3	70 - 127				
Toluene	18.88	1.0	20	0	94.4	77 - 118				
Xylenes, Total	54.29	1.0	60	0	90.5	75 - 122				
Surr: 1,2-Dichloroethane-d4	*47.02*	*1.0*	*50*	*0*	*94.0*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*48.41*	*1.0*	*50*	*0*	*96.8*	*82 - 115*				
Surr: Dibromofluoromethane	*48.05*	*1.0*	*50*	*0*	*96.1*	*73 - 126*				
Surr: Toluene-d8	*49.15*	*1.0*	*50*	*0*	*98.3*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010713

QC BATCH REPORT

Batch ID: R354726 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010713-08MS** Units: **ug/L** Analysis Date: **21-Jan-2020 01:20**
Client ID: **WG-1620-MW67B-20200115** Run ID: **VOA2_354726** SeqNo: **5441843** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.86	1.0	20	0	84.3	70 - 127				
Benzene	17.23	1.0	20	0	86.2	70 - 127				
Chlorobenzene	17.78	1.0	20	0	88.9	70 - 114				
Ethylbenzene	17.83	1.0	20	0	89.1	70 - 124				
Methylene chloride	16.49	2.0	20	0	82.5	70 - 128				
Toluene	18.93	1.0	20	0	94.7	70 - 123				
Xylenes, Total	53.55	1.0	60	0	89.2	70 - 130				
Surr: 1,2-Dichloroethane-d4	*47.67*	*1.0*	*50*	*0*	*95.3*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*49.02*	*1.0*	*50*	*0*	*98.0*	*81 - 113*				
Surr: Dibromofluoromethane	*49.19*	*1.0*	*50*	*0*	*98.4*	*77 - 123*				
Surr: Toluene-d8	*48.27*	*1.0*	*50*	*0*	*96.5*	*82 - 127*				

MSD Sample ID: **HS20010713-08MSD** Units: **ug/L** Analysis Date: **21-Jan-2020 01:44**
Client ID: **WG-1620-MW67B-20200115** Run ID: **VOA2_354726** SeqNo: **5441844** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.39	1.0	20	0	82.0	70 - 127	16.86	2.79	20	
Benzene	16.52	1.0	20	0	82.6	70 - 127	17.23	4.21	20	
Chlorobenzene	17.4	1.0	20	0	87.0	70 - 114	17.78	2.16	20	
Ethylbenzene	17.35	1.0	20	0	86.8	70 - 124	17.83	2.72	20	
Methylene chloride	15.73	2.0	20	0	78.7	70 - 128	16.49	4.72	20	
Toluene	18.13	1.0	20	0	90.6	70 - 123	18.93	4.35	20	
Xylenes, Total	52.34	1.0	60	0	87.2	70 - 130	53.55	2.27	20	
Surr: 1,2-Dichloroethane-d4	*47.39*	*1.0*	*50*	*0*	*94.8*	*70 - 126*	*47.67*	*0.57*	*20*	
Surr: 4-Bromofluorobenzene	*48.39*	*1.0*	*50*	*0*	*96.8*	*81 - 113*	*49.02*	*1.3*	*20*	
Surr: Dibromofluoromethane	*48.16*	*1.0*	*50*	*0*	*96.3*	*77 - 123*	*49.19*	*2.12*	*20*	
Surr: Toluene-d8	*49.01*	*1.0*	*50*	*0*	*98.0*	*82 - 127*	*48.27*	*1.52*	*20*	

The following samples were analyzed in this batch:

HS20010713-02	HS20010713-03	HS20010713-04	HS20010713-05
HS20010713-07	HS20010713-08	HS20010713-09	HS20010713-11
HS20010713-12	HS20010713-15		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010713

QC BATCH REPORT

Batch ID: R354799 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200121** Units: **ug/L** Analysis Date: **21-Jan-2020 12:55**
Client ID: Run ID: **VOA2_354799** SeqNo: **5443190** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*45.22*	*1.0*	*50*	*0*	*90.4*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*46.91*	*1.0*	*50*	*0*	*93.8*	*82 - 115*				
Surr: Dibromofluoromethane	*48.57*	*1.0*	*50*	*0*	*97.1*	*73 - 126*				
Surr: Toluene-d8	*50.32*	*1.0*	*50*	*0*	*101*	*81 - 120*				

LCS Sample ID: **VLCSW-200221** Units: **ug/L** Analysis Date: **21-Jan-2020 12:06**
Client ID: Run ID: **VOA2_354799** SeqNo: **5443189** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.66	1.0	20	0	88.3	70 - 124				
Benzene	17.2	1.0	20	0	86.0	74 - 120				
Chlorobenzene	18.44	1.0	20	0	92.2	76 - 113				
Ethylbenzene	17.94	1.0	20	0	89.7	77 - 117				
Methylene chloride	17.49	2.0	20	0	87.4	70 - 127				
Toluene	19.3	1.0	20	0	96.5	77 - 118				
Vinyl chloride	15.17	1.0	20	0	75.8	70 - 130				
Xylenes, Total	54.82	1.0	60	0	91.4	75 - 122				
Surr: 1,2-Dichloroethane-d4	*46.76*	*1.0*	*50*	*0*	*93.5*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*48.36*	*1.0*	*50*	*0*	*96.7*	*82 - 115*				
Surr: Dibromofluoromethane	*48.03*	*1.0*	*50*	*0*	*96.1*	*73 - 126*				
Surr: Toluene-d8	*49.46*	*1.0*	*50*	*0*	*98.9*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010713

QC BATCH REPORT

Batch ID: R354799 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010767-05MS** Units: **ug/L** Analysis Date: **21-Jan-2020 17:48**
Client ID: Run ID: **VOA2_354799** SeqNo: **5443202** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.36	1.0	20	0	81.8	70 - 127				
Benzene	24.4	1.0	20	6.383	90.1	70 - 127				
Chlorobenzene	17.96	1.0	20	0	89.8	70 - 114				
Ethylbenzene	28.72	1.0	20	9.361	96.8	70 - 124				
Methylene chloride	15.89	2.0	20	0	79.4	70 - 128				
Toluene	20.5	1.0	20	0	102	70 - 123				
Vinyl chloride	17.82	1.0	20	0	89.1	70 - 130				
Xylenes, Total	57.71	1.0	60	3.181	90.9	70 - 130				
Surr: 1,2-Dichloroethane-d4	*46.04*	*1.0*	*50*	*0*	*92.1*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*48.8*	*1.0*	*50*	*0*	*97.6*	*81 - 113*				
Surr: Dibromofluoromethane	*47.49*	*1.0*	*50*	*0*	*95.0*	*77 - 123*				
Surr: Toluene-d8	*49.2*	*1.0*	*50*	*0*	*98.4*	*82 - 127*				

MSD Sample ID: **HS20010767-05MSD** Units: **ug/L** Analysis Date: **21-Jan-2020 18:12**
Client ID: Run ID: **VOA2_354799** SeqNo: **5443203** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.51	1.0	20	0	82.6	70 - 127	16.36	0.908	20	
Benzene	24.24	1.0	20	6.383	89.3	70 - 127	24.4	0.678	20	
Chlorobenzene	17.68	1.0	20	0	88.4	70 - 114	17.96	1.54	20	
Ethylbenzene	28.32	1.0	20	9.361	94.8	70 - 124	28.72	1.41	20	
Methylene chloride	15.24	2.0	20	0	76.2	70 - 128	15.89	4.15	20	
Toluene	20.18	1.0	20	0	101	70 - 123	20.5	1.56	20	
Vinyl chloride	16.8	1.0	20	0	84.0	70 - 130	17.82	5.89	20	
Xylenes, Total	56.81	1.0	60	3.181	89.4	70 - 130	57.71	1.57	20	
Surr: 1,2-Dichloroethane-d4	*46.11*	*1.0*	*50*	*0*	*92.2*	*70 - 126*	*46.04*	*0.147*	*20*	
Surr: 4-Bromofluorobenzene	*49.23*	*1.0*	*50*	*0*	*98.5*	*81 - 113*	*48.8*	*0.867*	*20*	
Surr: Dibromofluoromethane	*47.4*	*1.0*	*50*	*0*	*94.8*	*77 - 123*	*47.49*	*0.191*	*20*	
Surr: Toluene-d8	*49.04*	*1.0*	*50*	*0*	*98.1*	*82 - 127*	*49.2*	*0.339*	*20*	

The following samples were analyzed in this batch: HS20010713-01 HS20010713-10 HS20010713-13 HS20010713-14

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010713

QC BATCH REPORT

Batch ID: R355099 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200127** Units: **ug/L** Analysis Date: **27-Jan-2020 11:41**
Client ID: Run ID: **VOA4_355099** SeqNo: **5448362** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*52.5*	*1.0*	*50*	*0*	*105*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*48.24*	*1.0*	*50*	*0*	*96.5*	*82 - 115*				
Surr: Dibromofluoromethane	*52.83*	*1.0*	*50*	*0*	*106*	*73 - 126*				
Surr: Toluene-d8	*50.98*	*1.0*	*50*	*0*	*102*	*81 - 120*				

LCS Sample ID: **VLCSW-200127** Units: **ug/L** Analysis Date: **27-Jan-2020 10:51**
Client ID: Run ID: **VOA4_355099** SeqNo: **5448361** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.52	1.0	20	0	92.6	70 - 124				
Benzene	19.58	1.0	20	0	97.9	74 - 120				
Chlorobenzene	19.39	1.0	20	0	97.0	76 - 113				
Ethylbenzene	19.72	1.0	20	0	98.6	77 - 117				
Methylene chloride	20.33	2.0	20	0	102	70 - 127				
Toluene	19.39	1.0	20	0	97.0	77 - 118				
Vinyl chloride	18.36	1.0	20	0	91.8	70 - 130				
Xylenes, Total	59.29	1.0	60	0	98.8	75 - 122				
Surr: 1,2-Dichloroethane-d4	*50.77*	*1.0*	*50*	*0*	*102*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*51.28*	*1.0*	*50*	*0*	*103*	*82 - 115*				
Surr: Dibromofluoromethane	*50.71*	*1.0*	*50*	*0*	*101*	*73 - 126*				
Surr: Toluene-d8	*49.35*	*1.0*	*50*	*0*	*98.7*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010713

QC BATCH REPORT

Batch ID: R355099 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010947-02MS** Units: **ug/L** Analysis Date: **27-Jan-2020 14:11**
Client ID: Run ID: **VOA4_355099** SeqNo: **5448368** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.79	1.0	20	0	84.0	70 - 127				
Benzene	18.52	1.0	20	0	92.6	70 - 127				
Chlorobenzene	18.12	1.0	20	0	90.6	70 - 114				
Ethylbenzene	18.26	1.0	20	0	91.3	70 - 124				
Methylene chloride	19.39	2.0	20	0	97.0	70 - 128				
Toluene	19.1	1.0	20	0	95.5	70 - 123				
Vinyl chloride	18.48	1.0	20	0	92.4	70 - 130				
Xylenes, Total	55.63	1.0	60	0	92.7	70 - 130				
Surr: 1,2-Dichloroethane-d4	*50.93*	*1.0*	*50*	*0*	*102*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*50.89*	*1.0*	*50*	*0*	*102*	*81 - 113*				
Surr: Dibromofluoromethane	*52.13*	*1.0*	*50*	*0*	*104*	*77 - 123*				
Surr: Toluene-d8	*50.6*	*1.0*	*50*	*0*	*101*	*82 - 127*				

MSD Sample ID: **HS20010947-02MSD** Units: **ug/L** Analysis Date: **27-Jan-2020 14:36**
Client ID: Run ID: **VOA4_355099** SeqNo: **5448394** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.27	1.0	20	0	81.4	70 - 127	16.79	3.15	20	
Benzene	18.05	1.0	20	0	90.3	70 - 127	18.52	2.54	20	
Chlorobenzene	18	1.0	20	0	90.0	70 - 114	18.12	0.656	20	
Ethylbenzene	18.17	1.0	20	0	90.9	70 - 124	18.26	0.491	20	
Methylene chloride	18.89	2.0	20	0	94.4	70 - 128	19.39	2.63	20	
Toluene	18.46	1.0	20	0	92.3	70 - 123	19.1	3.39	20	
Vinyl chloride	17.75	1.0	20	0	88.7	70 - 130	18.48	4.06	20	
Xylenes, Total	54.43	1.0	60	0	90.7	70 - 130	55.63	2.19	20	
Surr: 1,2-Dichloroethane-d4	*51.2*	*1.0*	*50*	*0*	*102*	*70 - 126*	*50.93*	*0.53*	*20*	
Surr: 4-Bromofluorobenzene	*50.95*	*1.0*	*50*	*0*	*102*	*81 - 113*	*50.89*	*0.119*	*20*	
Surr: Dibromofluoromethane	*51.77*	*1.0*	*50*	*0*	*104*	*77 - 123*	*52.13*	*0.708*	*20*	
Surr: Toluene-d8	*49.97*	*1.0*	*50*	*0*	*99.9*	*82 - 127*	*50.6*	*1.23*	*20*	

The following samples were analyzed in this batch: HS20010713-06

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010713

QC BATCH REPORT

Batch ID: R355193 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200128** Units: **ug/L** Analysis Date: **28-Jan-2020 13:04**
Client ID: Run ID: **VOA4_355193** SeqNo: **5450213** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Vinyl chloride	U	1.0								
Surr: 1,2-Dichloroethane-d4	*50.07*	*1.0*	*50*	*0*	*100*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*48.31*	*1.0*	*50*	*0*	*96.6*	*82 - 115*				
Surr: Dibromofluoromethane	*48.67*	*1.0*	*50*	*0*	*97.3*	*73 - 126*				
Surr: Toluene-d8	*50.19*	*1.0*	*50*	*0*	*100*	*81 - 120*				

LCS Sample ID: **VLCSW-200128** Units: **ug/L** Analysis Date: **28-Jan-2020 12:15**
Client ID: Run ID: **VOA4_355193** SeqNo: **5450212** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Vinyl chloride	18.75	1.0	20	0	93.7	70 - 130				
Surr: 1,2-Dichloroethane-d4	*49.15*	*1.0*	*50*	*0*	*98.3*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*50*	*1.0*	*50*	*0*	*100.0*	*82 - 115*				
Surr: Dibromofluoromethane	*49.33*	*1.0*	*50*	*0*	*98.7*	*73 - 126*				
Surr: Toluene-d8	*49.88*	*1.0*	*50*	*0*	*99.8*	*81 - 120*				

MS Sample ID: **HS20011178-01MS** Units: **ug/L** Analysis Date: **28-Jan-2020 14:18**
Client ID: Run ID: **VOA4_355193** SeqNo: **5450501** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Vinyl chloride	17.86	1.0	20	0	89.3	70 - 130				
Surr: 1,2-Dichloroethane-d4	*49.02*	*1.0*	*50*	*0*	*98.0*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*50.12*	*1.0*	*50*	*0*	*100*	*81 - 113*				
Surr: Dibromofluoromethane	*49.15*	*1.0*	*50*	*0*	*98.3*	*77 - 123*				
Surr: Toluene-d8	*48.65*	*1.0*	*50*	*0*	*97.3*	*82 - 127*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010713

QC BATCH REPORT

Batch ID: R355193 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MSD Sample ID: **HS20011178-01MSD** Units: **ug/L** Analysis Date: **28-Jan-2020 14:43**
Client ID: Run ID: **VOA4_355193** SeqNo: **5450502** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Vinyl chloride	16.89	1.0	20	0	84.4	70 - 130	17.86	5.6	20	
Surr: 1,2-Dichloroethane-d4	*49*	*1.0*	*50*	*0*	*98.0*	*70 - 126*	*49.02*	*0.0445*	*20*	
Surr: 4-Bromofluorobenzene	*50.74*	*1.0*	*50*	*0*	*101*	*81 - 113*	*50.12*	*1.24*	*20*	
Surr: Dibromofluoromethane	*49.79*	*1.0*	*50*	*0*	*99.6*	*77 - 123*	*49.15*	*1.29*	*20*	
Surr: Toluene-d8	*49.76*	*1.0*	*50*	*0*	*99.5*	*82 - 127*	*48.65*	*2.25*	*20*	

The following samples were analyzed in this batch: HS20010713-15

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS20010713**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	T104704231-19-25	30-Apr-2020

Sample Receipt Checklist

Client Name: PBW
Work Order: HS20010713
Date/Time Received: **16-Jan-2020 12:40**
Received by: **NDD**

Checklist completed by: *Nelson D. Dusara* eSignature 17-Jan-2020 Date
Reviewed by: *Dane J. Wacasey* eSignature 21-Jan-2020 Date

Matrices: **Water**
Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	0.5,0.7,0.8,1.2 c UC/c	IR 11
Cooler(s)/Kit(s):	45645,25638,45624,45665	
Date/Time sample(s) sent to storage:	Jan/17/2020 08:45	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes: WG-1620-MW25C-20200115 time differs: COC =15:50 Label=12:15; logged per COC.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 2

COC ID: 206377

HS20010713

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 Volatile Organics Site Specific)
Work Order		Project Number	1620-07-Rev0 SR 92688	B	8260_LL_W (5632528 VOC Site Specific + V.C.)
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 5652646 Metals - As)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TB0__202001~~			~~Water~~	1	2	~~X~~	~~X~~	~~X~~								
2	WG-1620-MW15A-20200114	1-14-20	1345	W		6	X		X	X							
3	WG-1620-MW15B-20200114		1430	W		6	X		X	X							
4	WG-1620-MW15C-20200114		1520	W		6	X		X	X							
5	WG-1620-MW14-20200114		1615	W		6	X		X	X							
6	WG-1620-MW17-20200114		1710	W		6	X		X	X							
7	WG-1620-FB06-20200114		1725	W		6	X		X	X							
8	WG-1620-MW17C-20200115	1-15-20	0815	W		6	X		X	X							
9	WG-1620-MW67B-20200115		0930	W		6	X		X	X							
10	WG-1620-MW67BMS-20200115		0930	W		6	X		X	X							

Sampler(s) Please Print & Sign: JOHN BRAYTON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results Due Date:

Relinquished by:	Date: 1-16-20	Time:	Received by:	
Relinquished by:	Date: 1/16/20	Time: 12:40	Received by (Laboratory):	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
	4.1C
45645	0.5
25638	0.7
45624	0.8
45665	1.2

QC Package: (Check One Box Below)

- [ ] Level II Std QC
- [ ] Level III Std QC/Raw Data
- [ ] Level IV SW846/CLP
- [ ] Other
- [X] TRRP Checklist
- [ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 2 of 2

COC ID: 206378

HS20010713

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-07-Rev0 SR 92688
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	eric.matzner@ptwllc.com	e-Mail Address	

A	8260_LL_W (5632528 Volatile Organics Site Specific)
B	8260_LL_W (5632528 VOC Site Specific + V.C.)
C	8270_LOW_W (5632532 SemiVolatiles Site specific)
D	ICP_TW (5636002 5652646 Metals - As)
E	
F	
G	
H	
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TB0__-202001___~~			~~Water~~	~~6~~	~~12~~		~~X~~									
2	WG-1620-MW67BMSD-20200115	1-15-20	0930	W		6	X		X	X							
3	WG-1620-MW46C-20200115		1025	W		6	X		X	X							
4	WG-1620-MW25A-20200115		1120	W		6		X	X	X							
5	WG-1620-MW44C-20200115		1315	W		6	X		X	X							
6	WG-1620-MW71B-20200115		1400	W		6	X		X	X							
7	WG-1620-MW33BR-20200115		1500	W		6		X	X	X							
8	WG-1620-MW25C-20200115		1550	W		6		X	X	X							
9	WG-1620-TB04-20200115		—	W		2	X										
10																	

Sampler(s) Please Print & Sign: JOHN BRAYTON — John Bray

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) ☐ Other ____ ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 -hour

Results Due Date:

Relinquished by: John Bray — Date: 1-16-20 — Time: — Received by:

Relinquished by: — Date: Jan/16/20 — Time: 12:40 — Received by (Laboratory): Nelson

Logged by (Laboratory): — Date: — Time: — Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)

☐ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SW846/CLP
☐ Other ____
☒ TRRP Checklist
☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

January 28, 2020

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS20010767**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 29 sample(s) on Jan 17, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DANE.WACASEY
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20010767**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20010767**	

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 01/28/2020					
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20010767					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 149797,149831,149832,149881,149912,149913,149936,R354794,R354799,R354902,R354859,R355066					
#[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					
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X					
		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 SW-846 Method 5035?			X			
		If required for the project, 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			1	
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 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					
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			2	
		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			
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					
		Were all necessary corrective actions performed for the reported data?	X					
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X					

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 01/28/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20010767				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 149797,149831,149832,149881,149912,149913,149936,R354794,R354799,R354902,R354859,R355066				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group	LRC Date: 01/28/2020
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS20010767
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 149797,149831,149832,149881,149912,149913,149936,R354794,R354799,R354902,R354859,R355066

ER#[5]	Description
1	Semivolatile Organics Method SW8270, samples WG-1620-MW75B-20200117, WG-1620-MW79A-20200117, WG-1620-MW74B-20200117, WG-1620-MW78A-20200117, the surrogate recoveries could not be determined due to dilution below the calibration range. Semivolatile Organics Method SW8270, sample WG-1620-MW75B-20200117, surrogate Phenol-d6 recovered above the upper control limit. This was due to a dilution required for sample analysis.
2	Batch 149881, Metals Method SW6020, sample HS20010752-08, MS was performed on unrelated sample. Batch 149912, Semivolatile Organics Method SW8270, sample WG-1620-MW28C-20200116, MS recovered above the control limits for 4,6-Dinitro-2-methylphenol and Di-n-butyl phthalate due to suspect matrix effect.

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20010767

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20010767-01	WG-1620-MW28A-20200116	Water		16-Jan-2020 09:10	17-Jan-2020 13:11	☐
HS20010767-02	WG-1620-MW28C-20200116	Water		16-Jan-2020 10:15	17-Jan-2020 13:11	☐
HS20010767-03	WG-1620-FB08-20200116	Water		16-Jan-2020 12:00	17-Jan-2020 13:11	☐
HS20010767-04	WG-1620-MW89B-20200116	Water		16-Jan-2020 12:45	17-Jan-2020 13:11	☐
HS20010767-05	WG-1620-MW84B-20200116	Water		16-Jan-2020 13:45	17-Jan-2020 13:11	☐
HS20010767-06	WG-1620-MW63B-20200116	Water		16-Jan-2020 14:45	17-Jan-2020 13:11	☐
HS20010767-07	WG-1620-MW26A-20200116	Water		16-Jan-2020 16:00	17-Jan-2020 13:11	☐
HS20010767-08	WG-1620-MW68C-20200117	Water		17-Jan-2020 09:10	17-Jan-2020 13:11	☐
HS20010767-09	WG-1620-MW68A-20200117	Water		17-Jan-2020 10:15	17-Jan-2020 13:11	☐
HS20010767-10	WG-1620-FB09-20200117	Water		17-Jan-2020 10:00	17-Jan-2020 13:11	☐
HS20010767-11	WG-1620-MW27A-20200115	Water		15-Jan-2020 16:40	17-Jan-2020 13:11	☐
HS20010767-12	WG-1620-MW27C-20200115	Water		15-Jan-2020 17:20	17-Jan-2020 13:11	☐
HS20010767-13	WG-1620-MW59A-20200116	Water		16-Jan-2020 08:05	17-Jan-2020 13:11	☐
HS20010767-14	WG-1620-MW59B-20200116	Water		16-Jan-2020 09:00	17-Jan-2020 13:11	☐
HS20010767-15	WG-1620-MW59D-20200116	Water		16-Jan-2020 13:50	17-Jan-2020 13:11	☐
HS20010767-16	WG-1620-FD03-20200116	Water		16-Jan-2020 13:50	17-Jan-2020 13:11	☐
HS20010767-17	WG-1620-MW66D-20200116	Water		16-Jan-2020 15:00	17-Jan-2020 13:11	☐
HS20010767-18	WG-1620-MW65D-20200116	Water		16-Jan-2020 16:20	17-Jan-2020 13:11	☐
HS20010767-19	WG-1620-MW36D-20200116	Water		16-Jan-2020 17:25	17-Jan-2020 13:11	☐
HS20010767-20	WG-1620-MW86C-20200117	Water		17-Jan-2020 07:25	17-Jan-2020 13:11	☐
HS20010767-21	WG-1620-FD04-20200117	Water		17-Jan-2020 07:25	17-Jan-2020 13:11	☐
HS20010767-22	WG-1620-MW75B-20200117	Water		17-Jan-2020 08:15	17-Jan-2020 13:11	☐
HS20010767-23	WG-1620-MW79A-20200117	Water		17-Jan-2020 09:20	17-Jan-2020 13:11	☐
HS20010767-24	WG-1620-MW74B-20200117	Water		17-Jan-2020 10:20	17-Jan-2020 13:11	☐
HS20010767-25	WG-1620-MW78A-20200117	Water		17-Jan-2020 11:25	17-Jan-2020 13:11	☐
HS20010767-26	WQ-1620-TB05-2020117	Water		17-Jan-2020 00:00	17-Jan-2020 13:11	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20010767

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20010767-27	WG-1620-MW48C-20200116	Water		16-Jan-2020 10:20	17-Jan-2020 13:11	☐
HS20010767-28	WG-1620-MW47C-20200116	Water		16-Jan-2020 11:05	17-Jan-2020 13:11	☐
HS20010767-29	WG-1620-MW61A-20200116	Water		16-Jan-2020 12:00	17-Jan-2020 13:11	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW28A-20200116
Collection Date: 16-Jan-2020 09:10

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	22-Jan-2020 00:55
Benzene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 00:55
Chlorobenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 00:55
Ethylbenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 00:55
Methylene chloride		U	0.0010	0.0020	mg/L	1	22-Jan-2020 00:55
Toluene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 00:55
Xylenes, Total		U	0.00030	0.0010	mg/L	1	22-Jan-2020 00:55
Surr: 1,2-Dichloroethane-d4	*101*			*70-126*	*%REC*	*1*	*22-Jan-2020 00:55*
Surr: 4-Bromofluorobenzene	*95.6*			*81-113*	*%REC*	*1*	*22-Jan-2020 00:55*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*22-Jan-2020 00:55*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*22-Jan-2020 00:55*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW28A-20200116
Collection Date: 16-Jan-2020 09:10

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	**0.000034**	J	**0.000021**	**0.00020**	**mg/L**	1	25-Jan-2020 18:43
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	25-Jan-2020 18:43
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	25-Jan-2020 18:43
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	25-Jan-2020 18:43
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	25-Jan-2020 18:43
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	25-Jan-2020 18:43
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	25-Jan-2020 18:43
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	25-Jan-2020 18:43
Acenaphthene	**0.00014**		**0.000027**	**0.00010**	**mg/L**	1	25-Jan-2020 18:43
Acenaphthylene	U		0.000015	0.00010	mg/L	1	25-Jan-2020 18:43
Anthracene	**0.00013**		**0.000014**	**0.00010**	**mg/L**	1	25-Jan-2020 18:43
Benz(a)anthracene	**0.000073**	J	**0.000050**	**0.00010**	**mg/L**	1	25-Jan-2020 18:43
Benzo(a)pyrene	**0.000057**	J	**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 18:43
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	25-Jan-2020 18:43
Bis(2-ethylhexyl)phthalate	**0.000090**	J	**0.000037**	**0.00020**	**mg/L**	1	25-Jan-2020 18:43
Chrysene	**0.000065**	J	**0.000021**	**0.00010**	**mg/L**	1	25-Jan-2020 18:43
Dibenzofuran	**0.00010**		**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 18:43
Di-n-butyl phthalate	**0.000032**	J	**0.000020**	**0.00020**	**mg/L**	1	25-Jan-2020 18:43
Fluoranthene	**0.00030**		**0.000010**	**0.00010**	**mg/L**	1	25-Jan-2020 18:43
Fluorene	**0.00014**		**0.000030**	**0.00010**	**mg/L**	1	25-Jan-2020 18:43
Naphthalene	**0.00060**		**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 18:43
Nitrobenzene	U		0.000024	0.00020	mg/L	1	25-Jan-2020 18:43
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	25-Jan-2020 18:43
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	25-Jan-2020 18:43
Phenanthrene	**0.00048**		**0.000021**	**0.00010**	**mg/L**	1	25-Jan-2020 18:43
Phenol	U		0.000035	0.00020	mg/L	1	25-Jan-2020 18:43
Pyrene	**0.00021**		**0.000019**	**0.00010**	**mg/L**	1	25-Jan-2020 18:43
Surr: 2,4,6-Tribromophenol	*69.8*			*34-129*	*%REC*	*1*	*25-Jan-2020 18:43*
Surr: 2-Fluorobiphenyl	*78.4*			*40-125*	*%REC*	*1*	*25-Jan-2020 18:43*
Surr: 2-Fluorophenol	*61.6*			*20-120*	*%REC*	*1*	*25-Jan-2020 18:43*
Surr: 4-Terphenyl-d14	*87.8*			*40-135*	*%REC*	*1*	*25-Jan-2020 18:43*
Surr: Nitrobenzene-d5	*72.2*			*41-120*	*%REC*	*1*	*25-Jan-2020 18:43*
Surr: Phenol-d6	*66.5*			*20-120*	*%REC*	*1*	*25-Jan-2020 18:43*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 21-Jan-2020		Analyst: JC
Arsenic	**0.00664**		**0.000400**	**0.00200**	**mg/L**	1	22-Jan-2020 23:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW28C-20200116
Collection Date: 16-Jan-2020 10:15

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	21-Jan-2020 23:41
Benzene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 23:41
Chlorobenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 23:41
Ethylbenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 23:41
Methylene chloride		U	0.0010	0.0020	mg/L	1	21-Jan-2020 23:41
Toluene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 23:41
Xylenes, Total		U	0.00030	0.0010	mg/L	1	21-Jan-2020 23:41
Surr: 1,2-Dichloroethane-d4	*101*			*70-126*	*%REC*	*1*	*21-Jan-2020 23:41*
Surr: 4-Bromofluorobenzene	*99.6*			*81-113*	*%REC*	*1*	*21-Jan-2020 23:41*
Surr: Dibromofluoromethane	*98.8*			*77-123*	*%REC*	*1*	*21-Jan-2020 23:41*
Surr: Toluene-d8	*97.8*			*82-127*	*%REC*	*1*	*21-Jan-2020 23:41*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW28C-20200116
Collection Date: 16-Jan-2020 10:15

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	25-Jan-2020 12:03
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	25-Jan-2020 12:03
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	25-Jan-2020 12:03
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	25-Jan-2020 12:03
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	25-Jan-2020 12:03
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	25-Jan-2020 12:03
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	25-Jan-2020 12:03
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	25-Jan-2020 12:03
Acenaphthene	U		0.000027	0.00010	mg/L	1	25-Jan-2020 12:03
Acenaphthylene	U		0.000015	0.00010	mg/L	1	25-Jan-2020 12:03
Anthracene	U		0.000014	0.00010	mg/L	1	25-Jan-2020 12:03
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	25-Jan-2020 12:03
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	25-Jan-2020 12:03
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	25-Jan-2020 12:03
Bis(2-ethylhexyl)phthalate	**0.000072**	J	**0.000037**	**0.00020**	**mg/L**	1	25-Jan-2020 12:03
Chrysene	U		0.000021	0.00010	mg/L	1	25-Jan-2020 12:03
Dibenzofuran	U		0.000020	0.00010	mg/L	1	25-Jan-2020 12:03
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	25-Jan-2020 12:03
Fluoranthene	U		0.000010	0.00010	mg/L	1	25-Jan-2020 12:03
Fluorene	U		0.000030	0.00010	mg/L	1	25-Jan-2020 12:03
Naphthalene	**0.00016**		**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 12:03
Nitrobenzene	U		0.000024	0.00020	mg/L	1	25-Jan-2020 12:03
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	25-Jan-2020 12:03
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	25-Jan-2020 12:03
Phenanthrene	U		0.000021	0.00010	mg/L	1	25-Jan-2020 12:03
Phenol	**0.000086**	J	**0.000035**	**0.00020**	**mg/L**	1	25-Jan-2020 12:03
Pyrene	U		0.000019	0.00010	mg/L	1	25-Jan-2020 12:03
Surr: 2,4,6-Tribromophenol	*74.4*			*34-129*	*%REC*	*1*	*25-Jan-2020 12:03*
Surr: 2-Fluorobiphenyl	*71.4*			*40-125*	*%REC*	*1*	*25-Jan-2020 12:03*
Surr: 2-Fluorophenol	*67.3*			*20-120*	*%REC*	*1*	*25-Jan-2020 12:03*
Surr: 4-Terphenyl-d14	*96.7*			*40-135*	*%REC*	*1*	*25-Jan-2020 12:03*
Surr: Nitrobenzene-d5	*63.5*			*41-120*	*%REC*	*1*	*25-Jan-2020 12:03*
Surr: Phenol-d6	*71.2*			*20-120*	*%REC*	*1*	*25-Jan-2020 12:03*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 21-Jan-2020		Analyst: JC
Arsenic	**0.000937**	J	**0.000400**	**0.00200**	**mg/L**	1	22-Jan-2020 23:32

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010767
Sample ID: WG-1620-FB08-20200116
Lab ID:HS20010767-03
Collection Date: 16-Jan-2020 12:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	22-Jan-2020 02:58
Benzene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 02:58
Chlorobenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 02:58
Ethylbenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 02:58
Methylene chloride		U	0.0010	0.0020	mg/L	1	22-Jan-2020 02:58
Toluene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 02:58
Vinyl chloride		U	0.00020	0.0010	mg/L	1	22-Jan-2020 02:58
Xylenes, Total		U	0.00030	0.0010	mg/L	1	22-Jan-2020 02:58
Surr: 1,2-Dichloroethane-d4	*101*			*70-126*	*%REC*	*1*	*22-Jan-2020 02:58*
Surr: 4-Bromofluorobenzene	*94.5*			*81-113*	*%REC*	*1*	*22-Jan-2020 02:58*
Surr: Dibromofluoromethane	*98.2*			*77-123*	*%REC*	*1*	*22-Jan-2020 02:58*
Surr: Toluene-d8	*99.9*			*82-127*	*%REC*	*1*	*22-Jan-2020 02:58*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB08-20200116
Collection Date: 16-Jan-2020 12:00

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	25-Jan-2020 19:02
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	25-Jan-2020 19:02
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	25-Jan-2020 19:02
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	25-Jan-2020 19:02
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	25-Jan-2020 19:02
2-Methylnaphthalene	**0.000052**	J	**0.000019**	**0.00010**	**mg/L**	1	25-Jan-2020 19:02
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	25-Jan-2020 19:02
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	25-Jan-2020 19:02
Acenaphthene	**0.000077**	J	**0.000027**	**0.00010**	**mg/L**	1	25-Jan-2020 19:02
Acenaphthylene	U		0.000015	0.00010	mg/L	1	25-Jan-2020 19:02
Anthracene	**0.000027**	J	**0.000014**	**0.00010**	**mg/L**	1	25-Jan-2020 19:02
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	25-Jan-2020 19:02
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	25-Jan-2020 19:02
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	25-Jan-2020 19:02
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	25-Jan-2020 19:02
Chrysene	U		0.000021	0.00010	mg/L	1	25-Jan-2020 19:02
Dibenzofuran	**0.000066**	J	**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 19:02
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	25-Jan-2020 19:02
Fluoranthene	**0.000033**	J	**0.000010**	**0.00010**	**mg/L**	1	25-Jan-2020 19:02
Fluorene	**0.000058**	J	**0.000030**	**0.00010**	**mg/L**	1	25-Jan-2020 19:02
Naphthalene	**0.00054**		**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 19:02
Nitrobenzene	U		0.000024	0.00020	mg/L	1	25-Jan-2020 19:02
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	25-Jan-2020 19:02
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	25-Jan-2020 19:02
Phenanthrene	**0.000067**	J	**0.000021**	**0.00010**	**mg/L**	1	25-Jan-2020 19:02
Phenol	U		0.000035	0.00020	mg/L	1	25-Jan-2020 19:02
Pyrene	**0.000022**	J	**0.000019**	**0.00010**	**mg/L**	1	25-Jan-2020 19:02
Surr: 2,4,6-Tribromophenol	*61.1*			*34-129*	*%REC*	*1*	*25-Jan-2020 19:02*
Surr: 2-Fluorobiphenyl	*92.5*			*40-125*	*%REC*	*1*	*25-Jan-2020 19:02*
Surr: 2-Fluorophenol	*71.4*			*20-120*	*%REC*	*1*	*25-Jan-2020 19:02*
Surr: 4-Terphenyl-d14	*93.8*			*40-135*	*%REC*	*1*	*25-Jan-2020 19:02*
Surr: Nitrobenzene-d5	*91.0*			*41-120*	*%REC*	*1*	*25-Jan-2020 19:02*
Surr: Phenol-d6	*79.1*			*20-120*	*%REC*	*1*	*25-Jan-2020 19:02*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 22-Jan-2020		Analyst: JC
Arsenic	U		0.000400	0.00200	mg/L	1	24-Jan-2020 16:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW89B-20200116
Collection Date: 16-Jan-2020 12:45

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	21-Jan-2020 18:37
Benzene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 18:37
Chlorobenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 18:37
Ethylbenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 18:37
Methylene chloride		U	0.0010	0.0020	mg/L	1	21-Jan-2020 18:37
Toluene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 18:37
Xylenes, Total		U	0.00030	0.0010	mg/L	1	21-Jan-2020 18:37
Surr: 1,2-Dichloroethane-d4	*89.2*			*70-126*	*%REC*	*1*	*21-Jan-2020 18:37*
Surr: 4-Bromofluorobenzene	*94.6*			*81-113*	*%REC*	*1*	*21-Jan-2020 18:37*
Surr: Dibromofluoromethane	*96.3*			*77-123*	*%REC*	*1*	*21-Jan-2020 18:37*
Surr: Toluene-d8	*99.4*			*82-127*	*%REC*	*1*	*21-Jan-2020 18:37*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW89B-20200116
Collection Date: 16-Jan-2020 12:45

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	25-Jan-2020 19:22
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	25-Jan-2020 19:22
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	25-Jan-2020 19:22
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	25-Jan-2020 19:22
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	25-Jan-2020 19:22
2-Methylnaphthalene	**0.000032**	J	**0.000019**	**0.00010**	**mg/L**	1	25-Jan-2020 19:22
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	25-Jan-2020 19:22
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	25-Jan-2020 19:22
Acenaphthene	**0.000083**	J	**0.000027**	**0.00010**	**mg/L**	1	25-Jan-2020 19:22
Acenaphthylene	**0.000045**	J	**0.000015**	**0.00010**	**mg/L**	1	25-Jan-2020 19:22
Anthracene	**0.00020**		**0.000014**	**0.00010**	**mg/L**	1	25-Jan-2020 19:22
Benz(a)anthracene	**0.00017**		**0.000050**	**0.00010**	**mg/L**	1	25-Jan-2020 19:22
Benzo(a)pyrene	**0.000079**	J	**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 19:22
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	25-Jan-2020 19:22
Bis(2-ethylhexyl)phthalate	**0.000099**	J	**0.000037**	**0.00020**	**mg/L**	1	25-Jan-2020 19:22
Chrysene	**0.00024**		**0.000021**	**0.00010**	**mg/L**	1	25-Jan-2020 19:22
Dibenzofuran	**0.00011**		**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 19:22
Di-n-butyl phthalate	**0.000034**	J	**0.000020**	**0.00020**	**mg/L**	1	25-Jan-2020 19:22
Fluoranthene	**0.0012**		**0.000010**	**0.00010**	**mg/L**	1	25-Jan-2020 19:22
Fluorene	**0.00018**		**0.000030**	**0.00010**	**mg/L**	1	25-Jan-2020 19:22
Naphthalene	**0.00029**		**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 19:22
Nitrobenzene	U		0.000024	0.00020	mg/L	1	25-Jan-2020 19:22
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	25-Jan-2020 19:22
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	25-Jan-2020 19:22
Phenanthrene	**0.00083**		**0.000021**	**0.00010**	**mg/L**	1	25-Jan-2020 19:22
Phenol	U		0.000035	0.00020	mg/L	1	25-Jan-2020 19:22
Pyrene	**0.00081**		**0.000019**	**0.00010**	**mg/L**	1	25-Jan-2020 19:22
Surr: 2,4,6-Tribromophenol	*73.7*			*34-129*	*%REC*	*1*	*25-Jan-2020 19:22*
Surr: 2-Fluorobiphenyl	*74.9*			*40-125*	*%REC*	*1*	*25-Jan-2020 19:22*
Surr: 2-Fluorophenol	*61.8*			*20-120*	*%REC*	*1*	*25-Jan-2020 19:22*
Surr: 4-Terphenyl-d14	*90.7*			*40-135*	*%REC*	*1*	*25-Jan-2020 19:22*
Surr: Nitrobenzene-d5	*75.3*			*41-120*	*%REC*	*1*	*25-Jan-2020 19:22*
Surr: Phenol-d6	*72.4*			*20-120*	*%REC*	*1*	*25-Jan-2020 19:22*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 21-Jan-2020		Analyst: JC
Arsenic	**0.000463**	J	**0.000400**	**0.00200**	**mg/L**	1	22-Jan-2020 23:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW84B-20200116
Collection Date: 16-Jan-2020 13:45

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	21-Jan-2020 17:23
Benzene	**0.0064**		**0.00020**	**0.0010**	**mg/L**	1	21-Jan-2020 17:23
Chlorobenzene	U		0.00030	0.0010	mg/L	1	21-Jan-2020 17:23
Ethylbenzene	**0.0094**		**0.00030**	**0.0010**	**mg/L**	1	21-Jan-2020 17:23
Methylene chloride	U		0.0010	0.0020	mg/L	1	21-Jan-2020 17:23
Toluene	U		0.00020	0.0010	mg/L	1	21-Jan-2020 17:23
Xylenes, Total	**0.0032**		**0.00030**	**0.0010**	**mg/L**	1	21-Jan-2020 17:23
Surr: 1,2-Dichloroethane-d4	*88.3*			*70-126*	*%REC*	*1*	*21-Jan-2020 17:23*
Surr: 4-Bromofluorobenzene	*95.9*			*81-113*	*%REC*	*1*	*21-Jan-2020 17:23*
Surr: Dibromofluoromethane	*95.4*			*77-123*	*%REC*	*1*	*21-Jan-2020 17:23*
Surr: Toluene-d8	*99.6*			*82-127*	*%REC*	*1*	*21-Jan-2020 17:23*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW84B-20200116
Collection Date: 16-Jan-2020 13:45

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	25-Jan-2020 19:41
2,4-Dimethylphenol	**0.00048**		**0.000040**	**0.00020**	**mg/L**	1	25-Jan-2020 19:41
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	25-Jan-2020 19:41
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	25-Jan-2020 19:41
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	25-Jan-2020 19:41
2-Methylnaphthalene	**0.0065**		**0.000019**	**0.00010**	**mg/L**	1	25-Jan-2020 19:41
4,6-Dinitro-2-methylphenol	**0.00035**		**0.000020**	**0.00020**	**mg/L**	1	25-Jan-2020 19:41
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	25-Jan-2020 19:41
Acenaphthene	**0.025**		**0.00054**	**0.0020**	**mg/L**	20	27-Jan-2020 16:43
Acenaphthylene	**0.00031**		**0.000015**	**0.00010**	**mg/L**	1	25-Jan-2020 19:41
Anthracene	**0.00095**		**0.000014**	**0.00010**	**mg/L**	1	25-Jan-2020 19:41
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	25-Jan-2020 19:41
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	25-Jan-2020 19:41
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	25-Jan-2020 19:41
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	25-Jan-2020 19:41
Chrysene	U		0.000021	0.00010	mg/L	1	25-Jan-2020 19:41
Dibenzofuran	**0.015**		**0.00040**	**0.0020**	**mg/L**	20	27-Jan-2020 16:43
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	25-Jan-2020 19:41
Fluoranthene	**0.00037**		**0.000010**	**0.00010**	**mg/L**	1	25-Jan-2020 19:41
Fluorene	**0.0063**		**0.000030**	**0.00010**	**mg/L**	1	25-Jan-2020 19:41
Naphthalene	**0.13**		**0.00040**	**0.0020**	**mg/L**	20	27-Jan-2020 16:43
Nitrobenzene	U		0.000024	0.00020	mg/L	1	25-Jan-2020 19:41
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	25-Jan-2020 19:41
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	25-Jan-2020 19:41
Phenanthrene	**0.0065**		**0.000021**	**0.00010**	**mg/L**	1	25-Jan-2020 19:41
Phenol	U		0.000035	0.00020	mg/L	1	25-Jan-2020 19:41
Pyrene	**0.00025**		**0.000019**	**0.00010**	**mg/L**	1	25-Jan-2020 19:41
Surr: 2,4,6-Tribromophenol	*98.0*			*34-129*	*%REC*	*20*	*27-Jan-2020 16:43*
Surr: 2,4,6-Tribromophenol	*73.3*			*34-129*	*%REC*	*1*	*25-Jan-2020 19:41*
Surr: 2-Fluorobiphenyl	*62.7*			*40-125*	*%REC*	*1*	*25-Jan-2020 19:41*
Surr: 2-Fluorobiphenyl	*69.4*	*J*		*40-125*	*%REC*	*20*	*27-Jan-2020 16:43*
Surr: 2-Fluorophenol	*85.3*			*20-120*	*%REC*	*20*	*27-Jan-2020 16:43*
Surr: 2-Fluorophenol	*55.1*			*20-120*	*%REC*	*1*	*25-Jan-2020 19:41*
Surr: 4-Terphenyl-d14	*98.7*			*40-135*	*%REC*	*1*	*25-Jan-2020 19:41*
Surr: 4-Terphenyl-d14	*104*			*40-135*	*%REC*	*20*	*27-Jan-2020 16:43*
Surr: Nitrobenzene-d5	*62.9*	*J*		*41-120*	*%REC*	*20*	*27-Jan-2020 16:43*
Surr: Nitrobenzene-d5	*62.3*			*41-120*	*%REC*	*1*	*25-Jan-2020 19:41*
Surr: Phenol-d6	*62.2*			*20-120*	*%REC*	*1*	*25-Jan-2020 19:41*
Surr: Phenol-d6	*40.8*	*J*		*20-120*	*%REC*	*20*	*27-Jan-2020 16:43*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW84B-20200116
Collection Date: 16-Jan-2020 13:45

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 22-Jan-2020		Analyst: JC
Arsenic	**0.00363**		**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 16:13

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW63B-20200116
Collection Date: 16-Jan-2020 14:45

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	21-Jan-2020 19:01
Benzene	**0.018**		**0.00020**	**0.0010**	**mg/L**	1	21-Jan-2020 19:01
Chlorobenzene	U		0.00030	0.0010	mg/L	1	21-Jan-2020 19:01
Ethylbenzene	**0.051**		**0.00030**	**0.0010**	**mg/L**	1	21-Jan-2020 19:01
Methylene chloride	U		0.0010	0.0020	mg/L	1	21-Jan-2020 19:01
Toluene	U		0.00020	0.0010	mg/L	1	21-Jan-2020 19:01
Xylenes, Total	**0.013**		**0.00030**	**0.0010**	**mg/L**	1	21-Jan-2020 19:01
Surr: 1,2-Dichloroethane-d4	*90.7*			*70-126*	*%REC*	*1*	*21-Jan-2020 19:01*
Surr: 4-Bromofluorobenzene	*97.0*			*81-113*	*%REC*	*1*	*21-Jan-2020 19:01*
Surr: Dibromofluoromethane	*97.8*			*77-123*	*%REC*	*1*	*21-Jan-2020 19:01*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*21-Jan-2020 19:01*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW63B-20200116
Collection Date: 16-Jan-2020 14:45

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	25-Jan-2020 20:00
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	25-Jan-2020 20:00
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	25-Jan-2020 20:00
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	25-Jan-2020 20:00
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	25-Jan-2020 20:00
2-Methylnaphthalene	**0.000056**	J	**0.000019**	**0.00010**	**mg/L**	1	25-Jan-2020 20:00
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	25-Jan-2020 20:00
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	25-Jan-2020 20:00
Acenaphthene	**0.000059**	J	**0.000027**	**0.00010**	**mg/L**	1	25-Jan-2020 20:00
Acenaphthylene	**0.000032**	J	**0.000015**	**0.00010**	**mg/L**	1	25-Jan-2020 20:00
Anthracene	**0.000081**	J	**0.000014**	**0.00010**	**mg/L**	1	25-Jan-2020 20:00
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	25-Jan-2020 20:00
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	25-Jan-2020 20:00
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	25-Jan-2020 20:00
Bis(2-ethylhexyl)phthalate	**0.000065**	J	**0.000037**	**0.00020**	**mg/L**	1	25-Jan-2020 20:00
Chrysene	U		0.000021	0.00010	mg/L	1	25-Jan-2020 20:00
Dibenzofuran	**0.000063**	J	**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 20:00
Di-n-butyl phthalate	**0.000034**	J	**0.000020**	**0.00020**	**mg/L**	1	25-Jan-2020 20:00
Fluoranthene	**0.000023**	J	**0.000010**	**0.00010**	**mg/L**	1	25-Jan-2020 20:00
Fluorene	**0.00012**		**0.000030**	**0.00010**	**mg/L**	1	25-Jan-2020 20:00
Naphthalene	**0.00035**		**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 20:00
Nitrobenzene	U		0.000024	0.00020	mg/L	1	25-Jan-2020 20:00
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	25-Jan-2020 20:00
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	25-Jan-2020 20:00
Phenanthrene	**0.000072**	J	**0.000021**	**0.00010**	**mg/L**	1	25-Jan-2020 20:00
Phenol	U		0.000035	0.00020	mg/L	1	25-Jan-2020 20:00
Pyrene	**0.000021**	J	**0.000019**	**0.00010**	**mg/L**	1	25-Jan-2020 20:00
Surr: 2,4,6-Tribromophenol	*63.5*			*34-129*	*%REC*	*1*	*25-Jan-2020 20:00*
Surr: 2-Fluorobiphenyl	*57.6*			*40-125*	*%REC*	*1*	*25-Jan-2020 20:00*
Surr: 2-Fluorophenol	*51.8*			*20-120*	*%REC*	*1*	*25-Jan-2020 20:00*
Surr: 4-Terphenyl-d14	*87.3*			*40-135*	*%REC*	*1*	*25-Jan-2020 20:00*
Surr: Nitrobenzene-d5	*57.4*			*41-120*	*%REC*	*1*	*25-Jan-2020 20:00*
Surr: Phenol-d6	*58.3*			*20-120*	*%REC*	*1*	*25-Jan-2020 20:00*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 22-Jan-2020		Analyst: JC
Arsenic	**0.00204**		**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 16:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010767
Sample ID: WG-1620-MW26A-20200116
Lab ID:HS20010767-07
Collection Date: 16-Jan-2020 16:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	22-Jan-2020 09:17
Benzene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 09:17
Chlorobenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 09:17
Ethylbenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 09:17
Methylene chloride		U	0.0010	0.0020	mg/L	1	22-Jan-2020 09:17
Toluene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 09:17
Xylenes, Total		U	0.00030	0.0010	mg/L	1	22-Jan-2020 09:17
Surr: 1,2-Dichloroethane-d4	*91.2*			*70-126*	*%REC*	*1*	*22-Jan-2020 09:17*
Surr: 4-Bromofluorobenzene	*94.9*			*81-113*	*%REC*	*1*	*22-Jan-2020 09:17*
Surr: Dibromofluoromethane	*97.2*			*77-123*	*%REC*	*1*	*22-Jan-2020 09:17*
Surr: Toluene-d8	*99.4*			*82-127*	*%REC*	*1*	*22-Jan-2020 09:17*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW26A-20200116
Collection Date: 16-Jan-2020 16:00

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	25-Jan-2020 20:19
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	25-Jan-2020 20:19
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	25-Jan-2020 20:19
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	25-Jan-2020 20:19
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	25-Jan-2020 20:19
2-Methylnaphthalene	**0.000042**	J	**0.000019**	**0.00010**	**mg/L**	1	25-Jan-2020 20:19
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	25-Jan-2020 20:19
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	25-Jan-2020 20:19
Acenaphthene	**0.00017**		**0.000027**	**0.00010**	**mg/L**	1	25-Jan-2020 20:19
Acenaphthylene	U		0.000015	0.00010	mg/L	1	25-Jan-2020 20:19
Anthracene	**0.000087**	J	**0.000014**	**0.00010**	**mg/L**	1	25-Jan-2020 20:19
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	25-Jan-2020 20:19
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	25-Jan-2020 20:19
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	25-Jan-2020 20:19
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	25-Jan-2020 20:19
Chrysene	U		0.000021	0.00010	mg/L	1	25-Jan-2020 20:19
Dibenzofuran	**0.000044**	J	**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 20:19
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	25-Jan-2020 20:19
Fluoranthene	**0.00073**		**0.000010**	**0.00010**	**mg/L**	1	25-Jan-2020 20:19
Fluorene	**0.00029**		**0.000030**	**0.00010**	**mg/L**	1	25-Jan-2020 20:19
Naphthalene	**0.00017**		**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 20:19
Nitrobenzene	U		0.000024	0.00020	mg/L	1	25-Jan-2020 20:19
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	25-Jan-2020 20:19
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	25-Jan-2020 20:19
Phenanthrene	**0.000030**	J	**0.000021**	**0.00010**	**mg/L**	1	25-Jan-2020 20:19
Phenol	U		0.000035	0.00020	mg/L	1	25-Jan-2020 20:19
Pyrene	**0.00035**		**0.000019**	**0.00010**	**mg/L**	1	25-Jan-2020 20:19
Surr: 2,4,6-Tribromophenol	*77.9*			*34-129*	*%REC*	*1*	*25-Jan-2020 20:19*
Surr: 2-Fluorobiphenyl	*85.4*			*40-125*	*%REC*	*1*	*25-Jan-2020 20:19*
Surr: 2-Fluorophenol	*72.2*			*20-120*	*%REC*	*1*	*25-Jan-2020 20:19*
Surr: 4-Terphenyl-d14	*88.9*			*40-135*	*%REC*	*1*	*25-Jan-2020 20:19*
Surr: Nitrobenzene-d5	*78.4*			*41-120*	*%REC*	*1*	*25-Jan-2020 20:19*
Surr: Phenol-d6	*72.2*			*20-120*	*%REC*	*1*	*25-Jan-2020 20:19*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 22-Jan-2020		Analyst: JC
Arsenic	**0.0217**		**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 16:17

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW68C-20200117
Collection Date: 17-Jan-2020 09:10

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	21-Jan-2020 19:26
Benzene	**0.00056**	J	**0.00020**	**0.0010**	**mg/L**	1	21-Jan-2020 19:26
Chlorobenzene	U		0.00030	0.0010	mg/L	1	21-Jan-2020 19:26
Ethylbenzene	**0.00047**	J	**0.00030**	**0.0010**	**mg/L**	1	21-Jan-2020 19:26
Methylene chloride	U		0.0010	0.0020	mg/L	1	21-Jan-2020 19:26
Toluene	U		0.00020	0.0010	mg/L	1	21-Jan-2020 19:26
Xylenes, Total	**0.00062**	J	**0.00030**	**0.0010**	**mg/L**	1	21-Jan-2020 19:26
Surr: 1,2-Dichloroethane-d4	*91.4*			*70-126*	*%REC*	*1*	*21-Jan-2020 19:26*
Surr: 4-Bromofluorobenzene	*94.8*			*81-113*	*%REC*	*1*	*21-Jan-2020 19:26*
Surr: Dibromofluoromethane	*97.6*			*77-123*	*%REC*	*1*	*21-Jan-2020 19:26*
Surr: Toluene-d8	*99.0*			*82-127*	*%REC*	*1*	*21-Jan-2020 19:26*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW68C-20200117
Collection Date: 17-Jan-2020 09:10

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	25-Jan-2020 20:38
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	25-Jan-2020 20:38
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	25-Jan-2020 20:38
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	25-Jan-2020 20:38
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	25-Jan-2020 20:38
2-Methylnaphthalene	**0.00033**		**0.000019**	**0.00010**	**mg/L**	1	25-Jan-2020 20:38
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	25-Jan-2020 20:38
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	25-Jan-2020 20:38
Acenaphthene	**0.000036**	J	**0.000027**	**0.00010**	**mg/L**	1	25-Jan-2020 20:38
Acenaphthylene	**0.000023**	J	**0.000015**	**0.00010**	**mg/L**	1	25-Jan-2020 20:38
Anthracene	**0.000036**	J	**0.000014**	**0.00010**	**mg/L**	1	25-Jan-2020 20:38
Benz(a)anthracene	**0.000055**	J	**0.000050**	**0.00010**	**mg/L**	1	25-Jan-2020 20:38
Benzo(a)pyrene	**0.000063**	J	**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 20:38
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	25-Jan-2020 20:38
Bis(2-ethylhexyl)phthalate	**0.00029**		**0.000037**	**0.00020**	**mg/L**	1	25-Jan-2020 20:38
Chrysene	**0.000054**	J	**0.000021**	**0.00010**	**mg/L**	1	25-Jan-2020 20:38
Dibenzofuran	**0.000030**	J	**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 20:38
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	25-Jan-2020 20:38
Fluoranthene	**0.000074**	J	**0.000010**	**0.00010**	**mg/L**	1	25-Jan-2020 20:38
Fluorene	**0.000036**	J	**0.000030**	**0.00010**	**mg/L**	1	25-Jan-2020 20:38
Naphthalene	**0.00052**		**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 20:38
Nitrobenzene	U		0.000024	0.00020	mg/L	1	25-Jan-2020 20:38
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	25-Jan-2020 20:38
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	25-Jan-2020 20:38
Phenanthrene	**0.000042**	J	**0.000021**	**0.00010**	**mg/L**	1	25-Jan-2020 20:38
Phenol	U		0.000035	0.00020	mg/L	1	25-Jan-2020 20:38
Pyrene	**0.000092**	J	**0.000019**	**0.00010**	**mg/L**	1	25-Jan-2020 20:38
Surr: 2,4,6-Tribromophenol	*69.6*			*34-129*	*%REC*	*1*	*25-Jan-2020 20:38*
Surr: 2-Fluorobiphenyl	*71.4*			*40-125*	*%REC*	*1*	*25-Jan-2020 20:38*
Surr: 2-Fluorophenol	*61.9*			*20-120*	*%REC*	*1*	*25-Jan-2020 20:38*
Surr: 4-Terphenyl-d14	*96.7*			*40-135*	*%REC*	*1*	*25-Jan-2020 20:38*
Surr: Nitrobenzene-d5	*73.4*			*41-120*	*%REC*	*1*	*25-Jan-2020 20:38*
Surr: Phenol-d6	*65.8*			*20-120*	*%REC*	*1*	*25-Jan-2020 20:38*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 22-Jan-2020		Analyst: JC
Arsenic	U		0.000400	0.00200	mg/L	1	24-Jan-2020 16:21

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010767
Sample ID: WG-1620-MW68A-20200117
Lab ID:HS20010767-09
Collection Date: 17-Jan-2020 10:15
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	21-Jan-2020 19:50
Benzene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 19:50
Chlorobenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 19:50
Ethylbenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 19:50
Methylene chloride		U	0.0010	0.0020	mg/L	1	21-Jan-2020 19:50
Toluene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 19:50
Xylenes, Total		U	0.00030	0.0010	mg/L	1	21-Jan-2020 19:50
Surr: 1,2-Dichloroethane-d4	*90.9*			*70-126*	*%REC*	*1*	*21-Jan-2020 19:50*
Surr: 4-Bromofluorobenzene	*95.3*			*81-113*	*%REC*	*1*	*21-Jan-2020 19:50*
Surr: Dibromofluoromethane	*97.8*			*77-123*	*%REC*	*1*	*21-Jan-2020 19:50*
Surr: Toluene-d8	*98.5*			*82-127*	*%REC*	*1*	*21-Jan-2020 19:50*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW68A-20200117
Collection Date: 17-Jan-2020 10:15

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	25-Jan-2020 20:57
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	25-Jan-2020 20:57
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	25-Jan-2020 20:57
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	25-Jan-2020 20:57
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	25-Jan-2020 20:57
2-Methylnaphthalene	**0.000048**	J	**0.000019**	**0.00010**	**mg/L**	1	25-Jan-2020 20:57
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	25-Jan-2020 20:57
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	25-Jan-2020 20:57
Acenaphthene	**0.00030**		**0.000027**	**0.00010**	**mg/L**	1	25-Jan-2020 20:57
Acenaphthylene	**0.000054**	J	**0.000015**	**0.00010**	**mg/L**	1	25-Jan-2020 20:57
Anthracene	**0.000059**	J	**0.000014**	**0.00010**	**mg/L**	1	25-Jan-2020 20:57
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	25-Jan-2020 20:57
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	25-Jan-2020 20:57
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	25-Jan-2020 20:57
Bis(2-ethylhexyl)phthalate	**0.000061**	J	**0.000037**	**0.00020**	**mg/L**	1	25-Jan-2020 20:57
Chrysene	U		0.000021	0.00010	mg/L	1	25-Jan-2020 20:57
Dibenzofuran	U		0.000020	0.00010	mg/L	1	25-Jan-2020 20:57
Di-n-butyl phthalate	**0.000034**	J	**0.000020**	**0.00020**	**mg/L**	1	25-Jan-2020 20:57
Fluoranthene	**0.00013**		**0.000010**	**0.00010**	**mg/L**	1	25-Jan-2020 20:57
Fluorene	**0.000069**	J	**0.000030**	**0.00010**	**mg/L**	1	25-Jan-2020 20:57
Naphthalene	**0.00022**		**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 20:57
Nitrobenzene	U		0.000024	0.00020	mg/L	1	25-Jan-2020 20:57
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	25-Jan-2020 20:57
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	25-Jan-2020 20:57
Phenanthrene	**0.00016**		**0.000021**	**0.00010**	**mg/L**	1	25-Jan-2020 20:57
Phenol	U		0.000035	0.00020	mg/L	1	25-Jan-2020 20:57
Pyrene	**0.000068**	J	**0.000019**	**0.00010**	**mg/L**	1	25-Jan-2020 20:57
Surr: 2,4,6-Tribromophenol	*80.6*			*34-129*	*%REC*	*1*	*25-Jan-2020 20:57*
Surr: 2-Fluorobiphenyl	*97.3*			*40-125*	*%REC*	*1*	*25-Jan-2020 20:57*
Surr: 2-Fluorophenol	*78.4*			*20-120*	*%REC*	*1*	*25-Jan-2020 20:57*
Surr: 4-Terphenyl-d14	*100*			*40-135*	*%REC*	*1*	*25-Jan-2020 20:57*
Surr: Nitrobenzene-d5	*95.8*			*41-120*	*%REC*	*1*	*25-Jan-2020 20:57*
Surr: Phenol-d6	*86.3*			*20-120*	*%REC*	*1*	*25-Jan-2020 20:57*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.0423**		**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 03:07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB09-20200117
Collection Date: 17-Jan-2020 10:00

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	22-Jan-2020 01:08
Benzene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 01:08
Chlorobenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 01:08
Ethylbenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 01:08
Methylene chloride		U	0.0010	0.0020	mg/L	1	22-Jan-2020 01:08
Toluene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 01:08
Vinyl chloride		U	0.00020	0.0010	mg/L	1	22-Jan-2020 13:50
Xylenes, Total		U	0.00030	0.0010	mg/L	1	22-Jan-2020 01:08
Surr: 1,2-Dichloroethane-d4	*91.4*			*70-126*	*%REC*	*1*	*22-Jan-2020 01:08*
Surr: 1,2-Dichloroethane-d4	*103*			*70-126*	*%REC*	*1*	*22-Jan-2020 13:50*
Surr: 4-Bromofluorobenzene	*95.8*			*81-113*	*%REC*	*1*	*22-Jan-2020 01:08*
Surr: 4-Bromofluorobenzene	*97.3*			*81-113*	*%REC*	*1*	*22-Jan-2020 13:50*
Surr: Dibromofluoromethane	*98.2*			*77-123*	*%REC*	*1*	*22-Jan-2020 01:08*
Surr: Dibromofluoromethane	*98.4*			*77-123*	*%REC*	*1*	*22-Jan-2020 13:50*
Surr: Toluene-d8	*99.8*			*82-127*	*%REC*	*1*	*22-Jan-2020 01:08*
Surr: Toluene-d8	*97.1*			*82-127*	*%REC*	*1*	*22-Jan-2020 13:50*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB09-20200117
Collection Date: 17-Jan-2020 10:00

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	25-Jan-2020 21:16
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	25-Jan-2020 21:16
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	25-Jan-2020 21:16
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	25-Jan-2020 21:16
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	25-Jan-2020 21:16
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	25-Jan-2020 21:16
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	25-Jan-2020 21:16
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	25-Jan-2020 21:16
Acenaphthene	U		0.000027	0.00010	mg/L	1	25-Jan-2020 21:16
Acenaphthylene	U		0.000015	0.00010	mg/L	1	25-Jan-2020 21:16
Anthracene	U		0.000014	0.00010	mg/L	1	25-Jan-2020 21:16
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	25-Jan-2020 21:16
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	25-Jan-2020 21:16
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	25-Jan-2020 21:16
Bis(2-ethylhexyl)phthalate	**0.000050**	J	**0.000037**	**0.00020**	**mg/L**	1	25-Jan-2020 21:16
Chrysene	U		0.000021	0.00010	mg/L	1	25-Jan-2020 21:16
Dibenzofuran	U		0.000020	0.00010	mg/L	1	25-Jan-2020 21:16
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	25-Jan-2020 21:16
Fluoranthene	U		0.000010	0.00010	mg/L	1	25-Jan-2020 21:16
Fluorene	U		0.000030	0.00010	mg/L	1	25-Jan-2020 21:16
Naphthalene	**0.00017**		**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 21:16
Nitrobenzene	U		0.000024	0.00020	mg/L	1	25-Jan-2020 21:16
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	25-Jan-2020 21:16
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	25-Jan-2020 21:16
Phenanthrene	U		0.000021	0.00010	mg/L	1	25-Jan-2020 21:16
Phenol	U		0.000035	0.00020	mg/L	1	25-Jan-2020 21:16
Pyrene	U		0.000019	0.00010	mg/L	1	25-Jan-2020 21:16
Surr: 2,4,6-Tribromophenol	*65.7*			*34-129*	*%REC*	*1*	*25-Jan-2020 21:16*
Surr: 2-Fluorobiphenyl	*93.5*			*40-125*	*%REC*	*1*	*25-Jan-2020 21:16*
Surr: 2-Fluorophenol	*79.4*			*20-120*	*%REC*	*1*	*25-Jan-2020 21:16*
Surr: 4-Terphenyl-d14	*98.5*			*40-135*	*%REC*	*1*	*25-Jan-2020 21:16*
Surr: Nitrobenzene-d5	*93.5*			*41-120*	*%REC*	*1*	*25-Jan-2020 21:16*
Surr: Phenol-d6	*86.0*			*20-120*	*%REC*	*1*	*25-Jan-2020 21:16*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	U		0.000400	0.00200	mg/L	1	24-Jan-2020 03:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW27A-20200115
Collection Date: 15-Jan-2020 16:40

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	21-Jan-2020 20:14
Benzene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 20:14
Chlorobenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 20:14
Ethylbenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 20:14
Methylene chloride		U	0.0010	0.0020	mg/L	1	21-Jan-2020 20:14
Toluene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 20:14
Xylenes, Total		U	0.00030	0.0010	mg/L	1	21-Jan-2020 20:14
Surr: 1,2-Dichloroethane-d4	*90.5*			*70-126*	*%REC*	*1*	*21-Jan-2020 20:14*
Surr: 4-Bromofluorobenzene	*95.9*			*81-113*	*%REC*	*1*	*21-Jan-2020 20:14*
Surr: Dibromofluoromethane	*98.7*			*77-123*	*%REC*	*1*	*21-Jan-2020 20:14*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*21-Jan-2020 20:14*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW27A-20200115
Collection Date: 15-Jan-2020 16:40

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	25-Jan-2020 21:35
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	25-Jan-2020 21:35
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	25-Jan-2020 21:35
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	25-Jan-2020 21:35
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	25-Jan-2020 21:35
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	25-Jan-2020 21:35
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	25-Jan-2020 21:35
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	25-Jan-2020 21:35
Acenaphthene	U		0.000027	0.00010	mg/L	1	25-Jan-2020 21:35
Acenaphthylene	U		0.000015	0.00010	mg/L	1	25-Jan-2020 21:35
Anthracene	U		0.000014	0.00010	mg/L	1	25-Jan-2020 21:35
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	25-Jan-2020 21:35
Benzo(a)pyrene	**0.000052**	J	**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 21:35
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	25-Jan-2020 21:35
Bis(2-ethylhexyl)phthalate	**0.000062**	J	**0.000037**	**0.00020**	**mg/L**	1	25-Jan-2020 21:35
Chrysene	U		0.000021	0.00010	mg/L	1	25-Jan-2020 21:35
Dibenzofuran	U		0.000020	0.00010	mg/L	1	25-Jan-2020 21:35
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	25-Jan-2020 21:35
Fluoranthene	U		0.000010	0.00010	mg/L	1	25-Jan-2020 21:35
Fluorene	U		0.000030	0.00010	mg/L	1	25-Jan-2020 21:35
Naphthalene	**0.000053**	J	**0.000020**	**0.00010**	**mg/L**	1	25-Jan-2020 21:35
Nitrobenzene	U		0.000024	0.00020	mg/L	1	25-Jan-2020 21:35
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	25-Jan-2020 21:35
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	25-Jan-2020 21:35
Phenanthrene	U		0.000021	0.00010	mg/L	1	25-Jan-2020 21:35
Phenol	U		0.000035	0.00020	mg/L	1	25-Jan-2020 21:35
Pyrene	U		0.000019	0.00010	mg/L	1	25-Jan-2020 21:35
Surr: 2,4,6-Tribromophenol	*53.3*			*34-129*	*%REC*	*1*	*25-Jan-2020 21:35*
Surr: 2-Fluorobiphenyl	*68.5*			*40-125*	*%REC*	*1*	*25-Jan-2020 21:35*
Surr: 2-Fluorophenol	*57.2*			*20-120*	*%REC*	*1*	*25-Jan-2020 21:35*
Surr: 4-Terphenyl-d14	*99.1*			*40-135*	*%REC*	*1*	*25-Jan-2020 21:35*
Surr: Nitrobenzene-d5	*68.2*			*41-120*	*%REC*	*1*	*25-Jan-2020 21:35*
Surr: Phenol-d6	*65.0*			*20-120*	*%REC*	*1*	*25-Jan-2020 21:35*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.000859**	J	**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 03:11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010767
Sample ID: WG-1620-MW27C-20200115
Lab ID:HS20010767-12
Collection Date: 15-Jan-2020 17:20
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	21-Jan-2020 20:39
Benzene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 20:39
Chlorobenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 20:39
Ethylbenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 20:39
Methylene chloride		U	0.0010	0.0020	mg/L	1	21-Jan-2020 20:39
Toluene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 20:39
Xylenes, Total		U	0.00030	0.0010	mg/L	1	21-Jan-2020 20:39
Surr: 1,2-Dichloroethane-d4	*91.9*			*70-126*	*%REC*	*1*	*21-Jan-2020 20:39*
Surr: 4-Bromofluorobenzene	*94.7*			*81-113*	*%REC*	*1*	*21-Jan-2020 20:39*
Surr: Dibromofluoromethane	*97.4*			*77-123*	*%REC*	*1*	*21-Jan-2020 20:39*
Surr: Toluene-d8	*99.5*			*82-127*	*%REC*	*1*	*21-Jan-2020 20:39*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW27C-20200115
Collection Date: 15-Jan-2020 17:20

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-12
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	26-Jan-2020 13:17
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	26-Jan-2020 13:17
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	26-Jan-2020 13:17
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	26-Jan-2020 13:17
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	26-Jan-2020 13:17
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	26-Jan-2020 13:17
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	26-Jan-2020 13:17
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	26-Jan-2020 13:17
Acenaphthene	U		0.000027	0.00010	mg/L	1	26-Jan-2020 13:17
Acenaphthylene	U		0.000015	0.00010	mg/L	1	26-Jan-2020 13:17
Anthracene	U		0.000014	0.00010	mg/L	1	26-Jan-2020 13:17
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	26-Jan-2020 13:17
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	26-Jan-2020 13:17
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	26-Jan-2020 13:17
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	26-Jan-2020 13:17
Chrysene	U		0.000021	0.00010	mg/L	1	26-Jan-2020 13:17
Dibenzofuran	U		0.000020	0.00010	mg/L	1	26-Jan-2020 13:17
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	26-Jan-2020 13:17
Fluoranthene	U		0.000010	0.00010	mg/L	1	26-Jan-2020 13:17
Fluorene	U		0.000030	0.00010	mg/L	1	26-Jan-2020 13:17
Naphthalene	**0.000055**	J	**0.000020**	**0.00010**	**mg/L**	1	26-Jan-2020 13:17
Nitrobenzene	U		0.000024	0.00020	mg/L	1	26-Jan-2020 13:17
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	26-Jan-2020 13:17
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	26-Jan-2020 13:17
Phenanthrene	U		0.000021	0.00010	mg/L	1	26-Jan-2020 13:17
Phenol	U		0.000035	0.00020	mg/L	1	26-Jan-2020 13:17
Pyrene	U		0.000019	0.00010	mg/L	1	26-Jan-2020 13:17
Surr: 2,4,6-Tribromophenol	*67.5*			*34-129*	*%REC*	*1*	*26-Jan-2020 13:17*
Surr: 2-Fluorobiphenyl	*85.4*			*40-125*	*%REC*	*1*	*26-Jan-2020 13:17*
Surr: 2-Fluorophenol	*66.4*			*20-120*	*%REC*	*1*	*26-Jan-2020 13:17*
Surr: 4-Terphenyl-d14	*94.8*			*40-135*	*%REC*	*1*	*26-Jan-2020 13:17*
Surr: Nitrobenzene-d5	*74.1*			*41-120*	*%REC*	*1*	*26-Jan-2020 13:17*
Surr: Phenol-d6	*71.6*			*20-120*	*%REC*	*1*	*26-Jan-2020 13:17*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.000623**	J	**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 03:13

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010767
Sample ID: WG-1620-MW59A-20200116
Lab ID:HS20010767-13
Collection Date: 16-Jan-2020 08:05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	21-Jan-2020 21:03
Benzene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 21:03
Chlorobenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 21:03
Ethylbenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 21:03
Methylene chloride		U	0.0010	0.0020	mg/L	1	21-Jan-2020 21:03
Toluene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 21:03
Vinyl chloride		U	0.00020	0.0010	mg/L	1	21-Jan-2020 21:03
Xylenes, Total		U	0.00030	0.0010	mg/L	1	21-Jan-2020 21:03
Surr: 1,2-Dichloroethane-d4	*90.7*			*70-126*	*%REC*	*1*	*21-Jan-2020 21:03*
Surr: 4-Bromofluorobenzene	*94.6*			*81-113*	*%REC*	*1*	*21-Jan-2020 21:03*
Surr: Dibromofluoromethane	*98.4*			*77-123*	*%REC*	*1*	*21-Jan-2020 21:03*
Surr: Toluene-d8	*99.3*			*82-127*	*%REC*	*1*	*21-Jan-2020 21:03*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW59A-20200116
Collection Date: 16-Jan-2020 08:05

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-13
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	26-Jan-2020 13:36
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	26-Jan-2020 13:36
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	26-Jan-2020 13:36
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	26-Jan-2020 13:36
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	26-Jan-2020 13:36
2-Methylnaphthalene	**0.00016**		**0.000019**	**0.00010**	**mg/L**	1	26-Jan-2020 13:36
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	26-Jan-2020 13:36
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	26-Jan-2020 13:36
Acenaphthene	**0.00029**		**0.000027**	**0.00010**	**mg/L**	1	26-Jan-2020 13:36
Acenaphthylene	U		0.000015	0.00010	mg/L	1	26-Jan-2020 13:36
Anthracene	**0.000027**	J	**0.000014**	**0.00010**	**mg/L**	1	26-Jan-2020 13:36
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	26-Jan-2020 13:36
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	26-Jan-2020 13:36
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	26-Jan-2020 13:36
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	26-Jan-2020 13:36
Chrysene	U		0.000021	0.00010	mg/L	1	26-Jan-2020 13:36
Dibenzofuran	**0.00016**		**0.000020**	**0.00010**	**mg/L**	1	26-Jan-2020 13:36
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	26-Jan-2020 13:36
Fluoranthene	**0.000032**	J	**0.000010**	**0.00010**	**mg/L**	1	26-Jan-2020 13:36
Fluorene	**0.00011**		**0.000030**	**0.00010**	**mg/L**	1	26-Jan-2020 13:36
Naphthalene	**0.0012**		**0.000020**	**0.00010**	**mg/L**	1	26-Jan-2020 13:36
Nitrobenzene	U		0.000024	0.00020	mg/L	1	26-Jan-2020 13:36
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	26-Jan-2020 13:36
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	26-Jan-2020 13:36
Phenanthrene	**0.00012**		**0.000021**	**0.00010**	**mg/L**	1	26-Jan-2020 13:36
Phenol	U		0.000035	0.00020	mg/L	1	26-Jan-2020 13:36
Pyrene	**0.000023**	J	**0.000019**	**0.00010**	**mg/L**	1	26-Jan-2020 13:36
Surr: 2,4,6-Tribromophenol	*59.7*			*34-129*	*%REC*	*1*	*26-Jan-2020 13:36*
Surr: 2-Fluorobiphenyl	*63.2*			*40-125*	*%REC*	*1*	*26-Jan-2020 13:36*
Surr: 2-Fluorophenol	*55.1*			*20-120*	*%REC*	*1*	*26-Jan-2020 13:36*
Surr: 4-Terphenyl-d14	*85.8*			*40-135*	*%REC*	*1*	*26-Jan-2020 13:36*
Surr: Nitrobenzene-d5	*57.0*			*41-120*	*%REC*	*1*	*26-Jan-2020 13:36*
Surr: Phenol-d6	*56.8*			*20-120*	*%REC*	*1*	*26-Jan-2020 13:36*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.00368**		**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 03:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW59B-20200116
Collection Date: 16-Jan-2020 09:00

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-14
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	21-Jan-2020 21:28
Benzene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 21:28
Chlorobenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 21:28
Ethylbenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 21:28
Methylene chloride		U	0.0010	0.0020	mg/L	1	21-Jan-2020 21:28
Toluene	**0.18**		**0.00020**	**0.0010**	**mg/L**	1	21-Jan-2020 21:28
Vinyl chloride		U	0.00020	0.0010	mg/L	1	21-Jan-2020 21:28
Xylenes, Total		U	0.00030	0.0010	mg/L	1	21-Jan-2020 21:28
Surr: 1,2-Dichloroethane-d4	*91.2*			*70-126*	*%REC*	*1*	*21-Jan-2020 21:28*
Surr: 4-Bromofluorobenzene	*94.7*			*81-113*	*%REC*	*1*	*21-Jan-2020 21:28*
Surr: Dibromofluoromethane	*99.0*			*77-123*	*%REC*	*1*	*21-Jan-2020 21:28*
Surr: Toluene-d8	*99.0*			*82-127*	*%REC*	*1*	*21-Jan-2020 21:28*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW59B-20200116
Collection Date: 16-Jan-2020 09:00

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-14
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	27-Jan-2020 08:31
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	27-Jan-2020 08:31
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	27-Jan-2020 08:31
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	27-Jan-2020 08:31
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	27-Jan-2020 08:31
2-Methylnaphthalene	**0.000038**	J	**0.000019**	**0.00010**	**mg/L**	1	27-Jan-2020 08:31
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	27-Jan-2020 08:31
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	27-Jan-2020 08:31
Acenaphthene	**0.000051**	J	**0.000027**	**0.00010**	**mg/L**	1	27-Jan-2020 08:31
Acenaphthylene	U		0.000015	0.00010	mg/L	1	27-Jan-2020 08:31
Anthracene	**0.000031**	J	**0.000014**	**0.00010**	**mg/L**	1	27-Jan-2020 08:31
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	27-Jan-2020 08:31
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	27-Jan-2020 08:31
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	27-Jan-2020 08:31
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	27-Jan-2020 08:31
Chrysene	U		0.000021	0.00010	mg/L	1	27-Jan-2020 08:31
Dibenzofuran	**0.000050**	J	**0.000020**	**0.00010**	**mg/L**	1	27-Jan-2020 08:31
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	27-Jan-2020 08:31
Fluoranthene	**0.000025**	J	**0.000010**	**0.00010**	**mg/L**	1	27-Jan-2020 08:31
Fluorene	**0.000042**	J	**0.000030**	**0.00010**	**mg/L**	1	27-Jan-2020 08:31
Naphthalene	**0.00024**		**0.000020**	**0.00010**	**mg/L**	1	27-Jan-2020 08:31
Nitrobenzene	U		0.000024	0.00020	mg/L	1	27-Jan-2020 08:31
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	27-Jan-2020 08:31
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	27-Jan-2020 08:31
Phenanthrene	**0.000099**	J	**0.000021**	**0.00010**	**mg/L**	1	27-Jan-2020 08:31
Phenol	U		0.000035	0.00020	mg/L	1	27-Jan-2020 08:31
Pyrene	**0.000021**	J	**0.000019**	**0.00010**	**mg/L**	1	27-Jan-2020 08:31
Surr: 2,4,6-Tribromophenol	*71.4*			*34-129*	*%REC*	*1*	*27-Jan-2020 08:31*
Surr: 2-Fluorobiphenyl	*74.1*			*40-125*	*%REC*	*1*	*27-Jan-2020 08:31*
Surr: 2-Fluorophenol	*65.1*			*20-120*	*%REC*	*1*	*27-Jan-2020 08:31*
Surr: 4-Terphenyl-d14	*92.4*			*40-135*	*%REC*	*1*	*27-Jan-2020 08:31*
Surr: Nitrobenzene-d5	*68.0*			*41-120*	*%REC*	*1*	*27-Jan-2020 08:31*
Surr: Phenol-d6	*68.0*			*20-120*	*%REC*	*1*	*27-Jan-2020 08:31*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.000486**	J	**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 03:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010767
Sample ID: WG-1620-MW59D-20200116
Lab ID:HS20010767-15
Collection Date: 16-Jan-2020 13:50
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	21-Jan-2020 21:52
Benzene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 21:52
Chlorobenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 21:52
Ethylbenzene		U	0.00030	0.0010	mg/L	1	21-Jan-2020 21:52
Methylene chloride		U	0.0010	0.0020	mg/L	1	21-Jan-2020 21:52
Toluene		U	0.00020	0.0010	mg/L	1	21-Jan-2020 21:52
Xylenes, Total		U	0.00030	0.0010	mg/L	1	21-Jan-2020 21:52
Surr: 1,2-Dichloroethane-d4	*91.1*			*70-126*	*%REC*	*1*	*21-Jan-2020 21:52*
Surr: 4-Bromofluorobenzene	*95.0*			*81-113*	*%REC*	*1*	*21-Jan-2020 21:52*
Surr: Dibromofluoromethane	*97.8*			*77-123*	*%REC*	*1*	*21-Jan-2020 21:52*
Surr: Toluene-d8	*99.4*			*82-127*	*%REC*	*1*	*21-Jan-2020 21:52*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW59D-20200116
Collection Date: 16-Jan-2020 13:50

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-15
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	26-Jan-2020 14:14
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	26-Jan-2020 14:14
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	26-Jan-2020 14:14
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	26-Jan-2020 14:14
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	26-Jan-2020 14:14
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	26-Jan-2020 14:14
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	26-Jan-2020 14:14
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	26-Jan-2020 14:14
Acenaphthene	**0.000036**	J	**0.000027**	**0.00010**	**mg/L**	1	26-Jan-2020 14:14
Acenaphthylene	U		0.000015	0.00010	mg/L	1	26-Jan-2020 14:14
Anthracene	U		0.000014	0.00010	mg/L	1	26-Jan-2020 14:14
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	26-Jan-2020 14:14
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	26-Jan-2020 14:14
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	26-Jan-2020 14:14
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	26-Jan-2020 14:14
Chrysene	U		0.000021	0.00010	mg/L	1	26-Jan-2020 14:14
Dibenzofuran	**0.000028**	J	**0.000020**	**0.00010**	**mg/L**	1	26-Jan-2020 14:14
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	26-Jan-2020 14:14
Fluoranthene	U		0.000010	0.00010	mg/L	1	26-Jan-2020 14:14
Fluorene	**0.000031**	J	**0.000030**	**0.00010**	**mg/L**	1	26-Jan-2020 14:14
Naphthalene	**0.00013**		**0.000020**	**0.00010**	**mg/L**	1	26-Jan-2020 14:14
Nitrobenzene	U		0.000024	0.00020	mg/L	1	26-Jan-2020 14:14
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	26-Jan-2020 14:14
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	26-Jan-2020 14:14
Phenanthrene	**0.000043**	J	**0.000021**	**0.00010**	**mg/L**	1	26-Jan-2020 14:14
Phenol	U		0.000035	0.00020	mg/L	1	26-Jan-2020 14:14
Pyrene	U		0.000019	0.00010	mg/L	1	26-Jan-2020 14:14
Surr: 2,4,6-Tribromophenol	*60.5*			*34-129*	*%REC*	*1*	*26-Jan-2020 14:14*
Surr: 2-Fluorobiphenyl	*67.3*			*40-125*	*%REC*	*1*	*26-Jan-2020 14:14*
Surr: 2-Fluorophenol	*49.4*			*20-120*	*%REC*	*1*	*26-Jan-2020 14:14*
Surr: 4-Terphenyl-d14	*82.6*			*40-135*	*%REC*	*1*	*26-Jan-2020 14:14*
Surr: Nitrobenzene-d5	*59.4*			*41-120*	*%REC*	*1*	*26-Jan-2020 14:14*
Surr: Phenol-d6	*52.5*			*20-120*	*%REC*	*1*	*26-Jan-2020 14:14*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.000508**	J	**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 03:20

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD03-20200116
Collection Date: 16-Jan-2020 13:50

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-16
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	22-Jan-2020 03:10
Benzene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 03:10
Chlorobenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 03:10
Ethylbenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 03:10
Methylene chloride		U	0.0010	0.0020	mg/L	1	22-Jan-2020 03:10
Toluene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 03:10
Xylenes, Total		U	0.00030	0.0010	mg/L	1	22-Jan-2020 03:10
Surr: 1,2-Dichloroethane-d4	*90.9*			*70-126*	*%REC*	*1*	*22-Jan-2020 03:10*
Surr: 4-Bromofluorobenzene	*95.3*			*81-113*	*%REC*	*1*	*22-Jan-2020 03:10*
Surr: Dibromofluoromethane	*97.1*			*77-123*	*%REC*	*1*	*22-Jan-2020 03:10*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*22-Jan-2020 03:10*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD03-20200116
Collection Date: 16-Jan-2020 13:50

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-16
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine		U	0.000021	0.00020	mg/L	1	26-Jan-2020 14:34
2,4-Dimethylphenol		U	0.000040	0.00020	mg/L	1	26-Jan-2020 14:34
2,4-Dinitrotoluene		U	0.000058	0.00020	mg/L	1	26-Jan-2020 14:34
2,6-Dinitrotoluene		U	0.000042	0.00020	mg/L	1	26-Jan-2020 14:34
2-Chloronaphthalene		U	0.000021	0.00020	mg/L	1	26-Jan-2020 14:34
2-Methylnaphthalene		U	0.000019	0.00010	mg/L	1	26-Jan-2020 14:34
4,6-Dinitro-2-methylphenol		U	0.000020	0.00020	mg/L	1	26-Jan-2020 14:34
4-Nitrophenol		U	0.000047	0.0010	mg/L	1	26-Jan-2020 14:34
Acenaphthene		U	0.000027	0.00010	mg/L	1	26-Jan-2020 14:34
Acenaphthylene		U	0.000015	0.00010	mg/L	1	26-Jan-2020 14:34
Anthracene		U	0.000014	0.00010	mg/L	1	26-Jan-2020 14:34
Benz(a)anthracene		U	0.000050	0.00010	mg/L	1	26-Jan-2020 14:34
Benzo(a)pyrene		U	0.000020	0.00010	mg/L	1	26-Jan-2020 14:34
Bis(2-chloroethoxy)methane		U	0.000030	0.00020	mg/L	1	26-Jan-2020 14:34
Bis(2-ethylhexyl)phthalate		U	0.000037	0.00020	mg/L	1	26-Jan-2020 14:34
Chrysene		U	0.000021	0.00010	mg/L	1	26-Jan-2020 14:34
Dibenzofuran		U	0.000020	0.00010	mg/L	1	26-Jan-2020 14:34
Di-n-butyl phthalate		U	0.000020	0.00020	mg/L	1	26-Jan-2020 14:34
Fluoranthene		U	0.000010	0.00010	mg/L	1	26-Jan-2020 14:34
Fluorene		U	0.000030	0.00010	mg/L	1	26-Jan-2020 14:34
Naphthalene		U	0.000020	0.00010	mg/L	1	26-Jan-2020 14:34
Nitrobenzene		U	0.000024	0.00020	mg/L	1	26-Jan-2020 14:34
N-Nitrosodiphenylamine		U	0.000025	0.00020	mg/L	1	26-Jan-2020 14:34
Pentachlorophenol		U	0.000079	0.00020	mg/L	1	26-Jan-2020 14:34
Phenanthrene		U	0.000021	0.00010	mg/L	1	26-Jan-2020 14:34
Phenol		U	0.000035	0.00020	mg/L	1	26-Jan-2020 14:34
Pyrene		U	0.000019	0.00010	mg/L	1	26-Jan-2020 14:34
Surr: 2,4,6-Tribromophenol	*43.8*			*34-129*	*%REC*	*1*	*26-Jan-2020 14:34*
Surr: 2-Fluorobiphenyl	*69.2*			*40-125*	*%REC*	*1*	*26-Jan-2020 14:34*
Surr: 2-Fluorophenol	*46.4*			*20-120*	*%REC*	*1*	*26-Jan-2020 14:34*
Surr: 4-Terphenyl-d14	*93.1*			*40-135*	*%REC*	*1*	*26-Jan-2020 14:34*
Surr: Nitrobenzene-d5	*62.8*			*41-120*	*%REC*	*1*	*26-Jan-2020 14:34*
Surr: Phenol-d6	*54.7*			*20-120*	*%REC*	*1*	*26-Jan-2020 14:34*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.000478**	J	**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 03:22

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010767
Sample ID: WG-1620-MW66D-20200116
Lab ID:HS20010767-17
Collection Date: 16-Jan-2020 15:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	22-Jan-2020 03:35
Benzene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 03:35
Chlorobenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 03:35
Ethylbenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 03:35
Methylene chloride		U	0.0010	0.0020	mg/L	1	22-Jan-2020 03:35
Toluene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 03:35
Xylenes, Total		U	0.00030	0.0010	mg/L	1	22-Jan-2020 03:35
Surr: 1,2-Dichloroethane-d4	*91.9*			*70-126*	*%REC*	*1*	*22-Jan-2020 03:35*
Surr: 4-Bromofluorobenzene	*94.7*			*81-113*	*%REC*	*1*	*22-Jan-2020 03:35*
Surr: Dibromofluoromethane	*97.7*			*77-123*	*%REC*	*1*	*22-Jan-2020 03:35*
Surr: Toluene-d8	*98.3*			*82-127*	*%REC*	*1*	*22-Jan-2020 03:35*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW66D-20200116
Collection Date: 16-Jan-2020 15:00

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-17
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	27-Jan-2020 08:50
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	27-Jan-2020 08:50
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	27-Jan-2020 08:50
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	27-Jan-2020 08:50
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	27-Jan-2020 08:50
2-Methylnaphthalene	**0.000095**	J	**0.000019**	**0.00010**	**mg/L**	1	27-Jan-2020 08:50
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	27-Jan-2020 08:50
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	27-Jan-2020 08:50
Acenaphthene	U		0.000027	0.00010	mg/L	1	27-Jan-2020 08:50
Acenaphthylene	U		0.000015	0.00010	mg/L	1	27-Jan-2020 08:50
Anthracene	U		0.000014	0.00010	mg/L	1	27-Jan-2020 08:50
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	27-Jan-2020 08:50
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	27-Jan-2020 08:50
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	27-Jan-2020 08:50
Bis(2-ethylhexyl)phthalate	**0.000046**	J	**0.000037**	**0.00020**	**mg/L**	1	27-Jan-2020 08:50
Chrysene	U		0.000021	0.00010	mg/L	1	27-Jan-2020 08:50
Dibenzofuran	U		0.000020	0.00010	mg/L	1	27-Jan-2020 08:50
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	27-Jan-2020 08:50
Fluoranthene	U		0.000010	0.00010	mg/L	1	27-Jan-2020 08:50
Fluorene	U		0.000030	0.00010	mg/L	1	27-Jan-2020 08:50
Naphthalene	**0.00013**		**0.000020**	**0.00010**	**mg/L**	1	27-Jan-2020 08:50
Nitrobenzene	U		0.000024	0.00020	mg/L	1	27-Jan-2020 08:50
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	27-Jan-2020 08:50
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	27-Jan-2020 08:50
Phenanthrene	U		0.000021	0.00010	mg/L	1	27-Jan-2020 08:50
Phenol	U		0.000035	0.00020	mg/L	1	27-Jan-2020 08:50
Pyrene	U		0.000019	0.00010	mg/L	1	27-Jan-2020 08:50
Surr: 2,4,6-Tribromophenol	*66.3*			*34-129*	*%REC*	*1*	*27-Jan-2020 08:50*
Surr: 2-Fluorobiphenyl	*85.4*			*40-125*	*%REC*	*1*	*27-Jan-2020 08:50*
Surr: 2-Fluorophenol	*73.2*			*20-120*	*%REC*	*1*	*27-Jan-2020 08:50*
Surr: 4-Terphenyl-d14	*86.5*			*40-135*	*%REC*	*1*	*27-Jan-2020 08:50*
Surr: Nitrobenzene-d5	*79.4*			*41-120*	*%REC*	*1*	*27-Jan-2020 08:50*
Surr: Phenol-d6	*74.4*			*20-120*	*%REC*	*1*	*27-Jan-2020 08:50*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.00138**	J	**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 03:24

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010767
Sample ID: WG-1620-MW65D-20200116
Lab ID:HS20010767-18
Collection Date: 16-Jan-2020 16:20
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	22-Jan-2020 01:57
Benzene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 01:57
Chlorobenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 01:57
Ethylbenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 01:57
Methylene chloride		U	0.0010	0.0020	mg/L	1	22-Jan-2020 01:57
Toluene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 01:57
Xylenes, Total		U	0.00030	0.0010	mg/L	1	22-Jan-2020 01:57
Surr: 1,2-Dichloroethane-d4	*90.4*			*70-126*	*%REC*	*1*	*22-Jan-2020 01:57*
Surr: 4-Bromofluorobenzene	*93.4*			*81-113*	*%REC*	*1*	*22-Jan-2020 01:57*
Surr: Dibromofluoromethane	*96.5*			*77-123*	*%REC*	*1*	*22-Jan-2020 01:57*
Surr: Toluene-d8	*99.4*			*82-127*	*%REC*	*1*	*22-Jan-2020 01:57*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW65D-20200116
Collection Date: 16-Jan-2020 16:20

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-18
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jan-2020 09:40
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jan-2020 09:40
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jan-2020 09:40
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jan-2020 09:40
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jan-2020 09:40
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	23-Jan-2020 09:40
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jan-2020 09:40
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jan-2020 09:40
Acenaphthene	U		0.000027	0.00010	mg/L	1	23-Jan-2020 09:40
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jan-2020 09:40
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jan-2020 09:40
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jan-2020 09:40
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jan-2020 09:40
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jan-2020 09:40
Bis(2-ethylhexyl)phthalate	**0.00026**		**0.000037**	**0.00020**	**mg/L**	1	23-Jan-2020 09:40
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jan-2020 09:40
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jan-2020 09:40
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jan-2020 09:40
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jan-2020 09:40
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jan-2020 09:40
Naphthalene	U		0.000020	0.00010	mg/L	1	23-Jan-2020 09:40
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jan-2020 09:40
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jan-2020 09:40
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jan-2020 09:40
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jan-2020 09:40
Phenol	U		0.000035	0.00020	mg/L	1	23-Jan-2020 09:40
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jan-2020 09:40
Surr: 2,4,6-Tribromophenol	*111*			*34-129*	*%REC*	*1*	*23-Jan-2020 09:40*
Surr: 2-Fluorobiphenyl	*110*			*40-125*	*%REC*	*1*	*23-Jan-2020 09:40*
Surr: 2-Fluorophenol	*80.7*			*20-120*	*%REC*	*1*	*23-Jan-2020 09:40*
Surr: 4-Terphenyl-d14	*123*			*40-135*	*%REC*	*1*	*23-Jan-2020 09:40*
Surr: Nitrobenzene-d5	*89.8*			*41-120*	*%REC*	*1*	*23-Jan-2020 09:40*
Surr: Phenol-d6	*87.2*			*20-120*	*%REC*	*1*	*23-Jan-2020 09:40*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 21-Jan-2020		Analyst: JC
Arsenic	**0.000507**	J	**0.000400**	**0.00200**	**mg/L**	1	23-Jan-2020 00:56

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010767
Sample ID: WG-1620-MW36D-20200116
Lab ID:HS20010767-19
Collection Date: 16-Jan-2020 17:25
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	22-Jan-2020 03:59
Benzene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 03:59
Chlorobenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 03:59
Ethylbenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 03:59
Methylene chloride		U	0.0010	0.0020	mg/L	1	22-Jan-2020 03:59
Toluene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 03:59
Xylenes, Total		U	0.00030	0.0010	mg/L	1	22-Jan-2020 03:59
Surr: 1,2-Dichloroethane-d4	*91.0*			*70-126*	*%REC*	*1*	*22-Jan-2020 03:59*
Surr: 4-Bromofluorobenzene	*93.4*			*81-113*	*%REC*	*1*	*22-Jan-2020 03:59*
Surr: Dibromofluoromethane	*97.7*			*77-123*	*%REC*	*1*	*22-Jan-2020 03:59*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*22-Jan-2020 03:59*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW36D-20200116
Collection Date: 16-Jan-2020 17:25

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-19
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	26-Jan-2020 15:12
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	26-Jan-2020 15:12
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	26-Jan-2020 15:12
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	26-Jan-2020 15:12
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	26-Jan-2020 15:12
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	26-Jan-2020 15:12
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	26-Jan-2020 15:12
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	26-Jan-2020 15:12
Acenaphthene	U		0.000027	0.00010	mg/L	1	26-Jan-2020 15:12
Acenaphthylene	U		0.000015	0.00010	mg/L	1	26-Jan-2020 15:12
Anthracene	**0.000033**	J	**0.000014**	**0.00010**	**mg/L**	1	26-Jan-2020 15:12
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	26-Jan-2020 15:12
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	26-Jan-2020 15:12
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	26-Jan-2020 15:12
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	26-Jan-2020 15:12
Chrysene	U		0.000021	0.00010	mg/L	1	26-Jan-2020 15:12
Dibenzofuran	U		0.000020	0.00010	mg/L	1	26-Jan-2020 15:12
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	26-Jan-2020 15:12
Fluoranthene	U		0.000010	0.00010	mg/L	1	26-Jan-2020 15:12
Fluorene	U		0.000030	0.00010	mg/L	1	26-Jan-2020 15:12
Naphthalene	**0.000033**	J	**0.000020**	**0.00010**	**mg/L**	1	26-Jan-2020 15:12
Nitrobenzene	U		0.000024	0.00020	mg/L	1	26-Jan-2020 15:12
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	26-Jan-2020 15:12
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	26-Jan-2020 15:12
Phenanthrene	**0.000047**	J	**0.000021**	**0.00010**	**mg/L**	1	26-Jan-2020 15:12
Phenol	U		0.000035	0.00020	mg/L	1	26-Jan-2020 15:12
Pyrene	U		0.000019	0.00010	mg/L	1	26-Jan-2020 15:12
Surr: 2,4,6-Tribromophenol	*60.1*			*34-129*	*%REC*	*1*	*26-Jan-2020 15:12*
Surr: 2-Fluorobiphenyl	*80.9*			*40-125*	*%REC*	*1*	*26-Jan-2020 15:12*
Surr: 2-Fluorophenol	*71.7*			*20-120*	*%REC*	*1*	*26-Jan-2020 15:12*
Surr: 4-Terphenyl-d14	*88.3*			*40-135*	*%REC*	*1*	*26-Jan-2020 15:12*
Surr: Nitrobenzene-d5	*76.5*			*41-120*	*%REC*	*1*	*26-Jan-2020 15:12*
Surr: Phenol-d6	*68.3*			*20-120*	*%REC*	*1*	*26-Jan-2020 15:12*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.000533**	J	**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 03:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010767
Sample ID: WG-1620-MW86C-20200117
Lab ID:HS20010767-20
Collection Date: 17-Jan-2020 07:25
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	22-Jan-2020 04:24
Benzene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 04:24
Chlorobenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 04:24
Ethylbenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 04:24
Methylene chloride		U	0.0010	0.0020	mg/L	1	22-Jan-2020 04:24
Toluene	**0.0039**		**0.00020**	**0.0010**	**mg/L**	1	22-Jan-2020 04:24
Xylenes, Total		U	0.00030	0.0010	mg/L	1	22-Jan-2020 04:24
Surr: 1,2-Dichloroethane-d4	*91.1*			*70-126*	*%REC*	*1*	*22-Jan-2020 04:24*
Surr: 4-Bromofluorobenzene	*94.6*			*81-113*	*%REC*	*1*	*22-Jan-2020 04:24*
Surr: Dibromofluoromethane	*96.7*			*77-123*	*%REC*	*1*	*22-Jan-2020 04:24*
Surr: Toluene-d8	*99.4*			*82-127*	*%REC*	*1*	*22-Jan-2020 04:24*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW86C-20200117
Collection Date: 17-Jan-2020 07:25

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-20
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jan-2020 18:00
2,4-Dimethylphenol	**0.00018**	J	**0.000040**	**0.00020**	**mg/L**	1	23-Jan-2020 18:00
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jan-2020 18:00
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jan-2020 18:00
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jan-2020 18:00
2-Methylnaphthalene	**0.000061**	J	**0.000019**	**0.00010**	**mg/L**	1	23-Jan-2020 18:00
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jan-2020 18:00
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jan-2020 18:00
Acenaphthene	U		0.000027	0.00010	mg/L	1	23-Jan-2020 18:00
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jan-2020 18:00
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jan-2020 18:00
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jan-2020 18:00
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jan-2020 18:00
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jan-2020 18:00
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	23-Jan-2020 18:00
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jan-2020 18:00
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jan-2020 18:00
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jan-2020 18:00
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jan-2020 18:00
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jan-2020 18:00
Naphthalene	**0.00075**		**0.000020**	**0.00010**	**mg/L**	1	23-Jan-2020 18:00
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jan-2020 18:00
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jan-2020 18:00
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jan-2020 18:00
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jan-2020 18:00
Phenol	U		0.000035	0.00020	mg/L	1	23-Jan-2020 18:00
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jan-2020 18:00
Surr: 2,4,6-Tribromophenol	*86.0*			*34-129*	*%REC*	*1*	*23-Jan-2020 18:00*
Surr: 2-Fluorobiphenyl	*79.0*			*40-125*	*%REC*	*1*	*23-Jan-2020 18:00*
Surr: 2-Fluorophenol	*53.8*			*20-120*	*%REC*	*1*	*23-Jan-2020 18:00*
Surr: 4-Terphenyl-d14	*107*			*40-135*	*%REC*	*1*	*23-Jan-2020 18:00*
Surr: Nitrobenzene-d5	*64.8*			*41-120*	*%REC*	*1*	*23-Jan-2020 18:00*
Surr: Phenol-d6	*59.8*			*20-120*	*%REC*	*1*	*23-Jan-2020 18:00*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW86C-20200117
Collection Date: 17-Jan-2020 07:25

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-20
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 20-Jan-2020		Analyst: MBG
nC6 to nC12		U	0.19	0.48	mg/L	1	21-Jan-2020 05:19
>nC12 to nC28		U	0.19	0.48	mg/L	1	21-Jan-2020 05:19
>nC28 to nC35		U	0.19	0.48	mg/L	1	21-Jan-2020 05:19
Total Petroleum Hydrocarbon		U	0.19	0.48	mg/L	1	21-Jan-2020 05:19
Surr: 2-Fluorobiphenyl	*109*			*70-130*	*%REC*	*1*	*21-Jan-2020 05:19*
Surr: Trifluoromethyl benzene	*114*			*70-130*	*%REC*	*1*	*21-Jan-2020 05:19*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.000645**	J	**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 03:33

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD04-20200117
Collection Date: 17-Jan-2020 07:25

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-21
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	22-Jan-2020 04:48
Benzene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 04:48
Chlorobenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 04:48
Ethylbenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 04:48
Methylene chloride		U	0.0010	0.0020	mg/L	1	22-Jan-2020 04:48
Toluene	**0.0045**		**0.00020**	**0.0010**	**mg/L**	1	22-Jan-2020 04:48
Xylenes, Total		U	0.00030	0.0010	mg/L	1	22-Jan-2020 04:48
Surr: 1,2-Dichloroethane-d4	*90.8*			*70-126*	*%REC*	*1*	*22-Jan-2020 04:48*
Surr: 4-Bromofluorobenzene	*93.9*			*81-113*	*%REC*	*1*	*22-Jan-2020 04:48*
Surr: Dibromofluoromethane	*98.7*			*77-123*	*%REC*	*1*	*22-Jan-2020 04:48*
Surr: Toluene-d8	*99.0*			*82-127*	*%REC*	*1*	*22-Jan-2020 04:48*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD04-20200117
Collection Date: 17-Jan-2020 07:25

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-21
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jan-2020 18:19
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jan-2020 18:19
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jan-2020 18:19
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jan-2020 18:19
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jan-2020 18:19
2-Methylnaphthalene	**0.000066**	J	**0.000019**	**0.00010**	**mg/L**	1	23-Jan-2020 18:19
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jan-2020 18:19
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jan-2020 18:19
Acenaphthene	U		0.000027	0.00010	mg/L	1	23-Jan-2020 18:19
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jan-2020 18:19
Anthracene	**0.00012**		**0.000014**	**0.00010**	**mg/L**	1	23-Jan-2020 18:19
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jan-2020 18:19
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jan-2020 18:19
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jan-2020 18:19
Bis(2-ethylhexyl)phthalate	**0.000053**	J	**0.000037**	**0.00020**	**mg/L**	1	23-Jan-2020 18:19
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jan-2020 18:19
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jan-2020 18:19
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jan-2020 18:19
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jan-2020 18:19
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jan-2020 18:19
Naphthalene	**0.00022**		**0.000020**	**0.00010**	**mg/L**	1	23-Jan-2020 18:19
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jan-2020 18:19
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jan-2020 18:19
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jan-2020 18:19
Phenanthrene	**0.00036**		**0.000021**	**0.00010**	**mg/L**	1	23-Jan-2020 18:19
Phenol	U		0.000035	0.00020	mg/L	1	23-Jan-2020 18:19
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jan-2020 18:19
Surr: 2,4,6-Tribromophenol	*78.2*			*34-129*	*%REC*	*1*	*23-Jan-2020 18:19*
Surr: 2-Fluorobiphenyl	*79.5*			*40-125*	*%REC*	*1*	*23-Jan-2020 18:19*
Surr: 2-Fluorophenol	*61.1*			*20-120*	*%REC*	*1*	*23-Jan-2020 18:19*
Surr: 4-Terphenyl-d14	*101*			*40-135*	*%REC*	*1*	*23-Jan-2020 18:19*
Surr: Nitrobenzene-d5	*63.6*			*41-120*	*%REC*	*1*	*23-Jan-2020 18:19*
Surr: Phenol-d6	*58.5*			*20-120*	*%REC*	*1*	*23-Jan-2020 18:19*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD04-20200117
Collection Date: 17-Jan-2020 07:25

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-21
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 20-Jan-2020		Analyst: MBG
nC6 to nC12	U		0.19	0.48	mg/L	1	21-Jan-2020 05:48
>nC12 to nC28	U		0.19	0.48	mg/L	1	21-Jan-2020 05:48
>nC28 to nC35	U		0.19	0.48	mg/L	1	21-Jan-2020 05:48
Total Petroleum Hydrocarbon	U		0.19	0.48	mg/L	1	21-Jan-2020 05:48
Surr: 2-Fluorobiphenyl	*106*			*70-130*	*%REC*	*1*	*21-Jan-2020 05:48*
Surr: Trifluoromethyl benzene	*113*			*70-130*	*%REC*	*1*	*21-Jan-2020 05:48*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.000699**	J	**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 03:35

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW75B-20200117
Collection Date: 17-Jan-2020 08:15

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-22
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	22-Jan-2020 05:13
Benzene	**0.12**		**0.00020**	**0.0010**	**mg/L**	1	22-Jan-2020 05:13
Chlorobenzene	U		0.00030	0.0010	mg/L	1	22-Jan-2020 05:13
Ethylbenzene	**0.037**		**0.00030**	**0.0010**	**mg/L**	1	22-Jan-2020 05:13
Methylene chloride	U		0.0010	0.0020	mg/L	1	22-Jan-2020 05:13
Toluene	**0.13**		**0.00020**	**0.0010**	**mg/L**	1	22-Jan-2020 05:13
Xylenes, Total	**0.11**		**0.00030**	**0.0010**	**mg/L**	1	22-Jan-2020 05:13
Surr: 1,2-Dichloroethane-d4	*90.2*			*70-126*	*%REC*	*1*	*22-Jan-2020 05:13*
Surr: 4-Bromofluorobenzene	*100*			*81-113*	*%REC*	*1*	*22-Jan-2020 05:13*
Surr: Dibromofluoromethane	*98.4*			*77-123*	*%REC*	*1*	*22-Jan-2020 05:13*
Surr: Toluene-d8	*97.5*			*82-127*	*%REC*	*1*	*22-Jan-2020 05:13*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW75B-20200117
Collection Date: 17-Jan-2020 08:15

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-22
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jan-2020 18:38
2,4-Dimethylphenol	**0.86**		**0.0080**	**0.040**	**mg/L**	200	27-Jan-2020 09:47
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jan-2020 18:38
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jan-2020 18:38
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jan-2020 18:38
2-Methylnaphthalene	**0.81**		**0.0038**	**0.020**	**mg/L**	200	27-Jan-2020 09:47
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jan-2020 18:38
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jan-2020 18:38
Acenaphthene	**0.67**		**0.0054**	**0.020**	**mg/L**	200	27-Jan-2020 09:47
Acenaphthylene	**0.0086**		**0.000015**	**0.00010**	**mg/L**	1	23-Jan-2020 18:38
Anthracene	**0.39**		**0.0028**	**0.020**	**mg/L**	200	27-Jan-2020 09:47
Benz(a)anthracene	**0.12**		**0.0010**	**0.0020**	**mg/L**	20	27-Jan-2020 09:28
Benzo(a)pyrene	**0.035**		**0.00040**	**0.0020**	**mg/L**	20	27-Jan-2020 09:28
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jan-2020 18:38
Bis(2-ethylhexyl)phthalate	**0.0021**		**0.000037**	**0.00020**	**mg/L**	1	23-Jan-2020 18:38
Chrysene	**0.095**		**0.00042**	**0.0020**	**mg/L**	20	27-Jan-2020 09:28
Dibenzofuran	**0.54**		**0.0040**	**0.020**	**mg/L**	200	27-Jan-2020 09:47
Di-n-butyl phthalate	**0.0016**		**0.000020**	**0.00020**	**mg/L**	1	23-Jan-2020 18:38
Fluoranthene	**0.75**		**0.0020**	**0.020**	**mg/L**	200	27-Jan-2020 09:47
Fluorene	**0.61**		**0.0060**	**0.020**	**mg/L**	200	27-Jan-2020 09:47
Naphthalene	**7.5**		**0.040**	**0.20**	**mg/L**	2000	25-Jan-2020 21:55
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jan-2020 18:38
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jan-2020 18:38
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jan-2020 18:38
Phenanthrene	**1.9**		**0.0042**	**0.020**	**mg/L**	200	27-Jan-2020 09:47
Phenol	**0.0029**		**0.000035**	**0.00020**	**mg/L**	1	23-Jan-2020 18:38
Pyrene	**0.51**		**0.0038**	**0.020**	**mg/L**	200	27-Jan-2020 09:47
Surr: 2,4,6-Tribromophenol	*64.8*			*34-129*	*%REC*	*1*	*23-Jan-2020 18:38*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*2000*	*25-Jan-2020 21:55*
Surr: 2,4,6-Tribromophenol	*109*			*34-129*	*%REC*	*20*	*27-Jan-2020 09:28*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*200*	*27-Jan-2020 09:47*
Surr: 2-Fluorobiphenyl	*120*			*40-125*	*%REC*	*20*	*27-Jan-2020 09:28*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*200*	*27-Jan-2020 09:47*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*2000*	*25-Jan-2020 21:55*
Surr: 2-Fluorobiphenyl	*61.3*			*40-125*	*%REC*	*1*	*23-Jan-2020 18:38*
Surr: 2-Fluorophenol	*95.5*			*20-120*	*%REC*	*1*	*23-Jan-2020 18:38*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*2000*	*25-Jan-2020 21:55*
Surr: 2-Fluorophenol	*111*			*20-120*	*%REC*	*20*	*27-Jan-2020 09:28*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*200*	*27-Jan-2020 09:47*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW75B-20200117
Collection Date: 17-Jan-2020 08:15

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-22
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
Surr: 4-Terphenyl-d14	*111*			*40-135*	*%REC*	*20*	*27-Jan-2020 09:28*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*200*	*27-Jan-2020 09:47*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*2000*	*25-Jan-2020 21:55*
Surr: 4-Terphenyl-d14	*115*			*40-135*	*%REC*	*1*	*23-Jan-2020 18:38*
Surr: Nitrobenzene-d5	*72.8*			*41-120*	*%REC*	*1*	*23-Jan-2020 18:38*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*2000*	*25-Jan-2020 21:55*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*200*	*27-Jan-2020 09:47*
Surr: Nitrobenzene-d5	*100*			*41-120*	*%REC*	*20*	*27-Jan-2020 09:28*
Surr: Phenol-d6	*121*	*S*		*20-120*	*%REC*	*20*	*27-Jan-2020 09:28*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*200*	*27-Jan-2020 09:47*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*2000*	*25-Jan-2020 21:55*
Surr: Phenol-d6	*91.1*			*20-120*	*%REC*	*1*	*23-Jan-2020 18:38*
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 20-Jan-2020		Analyst: MBG
nC6 to nC12	**13**		**0.19**	**0.49**	**mg/L**	1	21-Jan-2020 06:16
>nC12 to nC28	**21**		**0.19**	**0.49**	**mg/L**	1	21-Jan-2020 06:16
>nC28 to nC35	**0.91**		**0.19**	**0.49**	**mg/L**	1	21-Jan-2020 06:16
Total Petroleum Hydrocarbon	**34.9**		**0.19**	**0.49**	**mg/L**	1	21-Jan-2020 06:16
Surr: 2-Fluorobiphenyl	*111*			*70-130*	*%REC*	*1*	*21-Jan-2020 06:16*
Surr: Trifluoromethyl benzene	*111*			*70-130*	*%REC*	*1*	*21-Jan-2020 06:16*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.00167**	J	**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 03:38

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW79A-20200117
Collection Date: 17-Jan-2020 09:20

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-23
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	22-Jan-2020 05:37
Benzene	**0.12**		**0.00020**	**0.0010**	**mg/L**	1	22-Jan-2020 05:37
Chlorobenzene	U		0.00030	0.0010	mg/L	1	22-Jan-2020 05:37
Ethylbenzene	**0.075**		**0.00030**	**0.0010**	**mg/L**	1	22-Jan-2020 05:37
Methylene chloride	U		0.0010	0.0020	mg/L	1	22-Jan-2020 05:37
Toluene	**0.26**		**0.0010**	**0.0050**	**mg/L**	5	22-Jan-2020 16:23
Xylenes, Total	**0.20**		**0.00030**	**0.0010**	**mg/L**	1	22-Jan-2020 05:37
Surr: 1,2-Dichloroethane-d4	*86.8*			*70-126*	*%REC*	*1*	*22-Jan-2020 05:37*
Surr: 1,2-Dichloroethane-d4	*107*			*70-126*	*%REC*	*5*	*22-Jan-2020 16:23*
Surr: 4-Bromofluorobenzene	*102*			*81-113*	*%REC*	*1*	*22-Jan-2020 05:37*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*5*	*22-Jan-2020 16:23*
Surr: Dibromofluoromethane	*95.8*			*77-123*	*%REC*	*1*	*22-Jan-2020 05:37*
Surr: Dibromofluoromethane	*98.8*			*77-123*	*%REC*	*5*	*22-Jan-2020 16:23*
Surr: Toluene-d8	*98.6*			*82-127*	*%REC*	*1*	*22-Jan-2020 05:37*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*5*	*22-Jan-2020 16:23*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW79A-20200117
Collection Date: 17-Jan-2020 09:20

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-23
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jan-2020 18:57
2,4-Dimethylphenol	**6.7**		**0.080**	**0.40**	**mg/L**	2000	26-Jan-2020 18:43
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jan-2020 18:57
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jan-2020 18:57
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jan-2020 18:57
2-Methylnaphthalene	**0.43**		**0.0038**	**0.020**	**mg/L**	200	27-Jan-2020 10:24
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jan-2020 18:57
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jan-2020 18:57
Acenaphthene	**0.19**		**0.00054**	**0.0020**	**mg/L**	20	27-Jan-2020 10:06
Acenaphthylene	**0.0036**		**0.000015**	**0.00010**	**mg/L**	1	23-Jan-2020 18:57
Anthracene	**0.0094**		**0.000014**	**0.00010**	**mg/L**	1	23-Jan-2020 18:57
Benz(a)anthracene	**0.00081**		**0.000050**	**0.00010**	**mg/L**	1	23-Jan-2020 18:57
Benzo(a)pyrene	**0.00029**		**0.000020**	**0.00010**	**mg/L**	1	23-Jan-2020 18:57
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jan-2020 18:57
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	23-Jan-2020 18:57
Chrysene	**0.00072**		**0.000021**	**0.00010**	**mg/L**	1	23-Jan-2020 18:57
Dibenzofuran	**0.14**		**0.00040**	**0.0020**	**mg/L**	20	27-Jan-2020 10:06
Di-n-butyl phthalate	**0.00098**		**0.000020**	**0.00020**	**mg/L**	1	23-Jan-2020 18:57
Fluoranthene	**0.0076**		**0.000010**	**0.00010**	**mg/L**	1	23-Jan-2020 18:57
Fluorene	**0.094**		**0.00060**	**0.0020**	**mg/L**	20	27-Jan-2020 10:06
Naphthalene	**9.0**		**0.040**	**0.20**	**mg/L**	2000	26-Jan-2020 18:43
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jan-2020 18:57
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jan-2020 18:57
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jan-2020 18:57
Phenanthrene	**0.081**		**0.00042**	**0.0020**	**mg/L**	20	27-Jan-2020 10:06
Phenol	**0.35**		**0.0070**	**0.040**	**mg/L**	200	27-Jan-2020 10:24
Pyrene	**0.0035**		**0.000019**	**0.00010**	**mg/L**	1	23-Jan-2020 18:57
Surr: 2,4,6-Tribromophenol	*98.7*			*34-129*	*%REC*	*1*	*23-Jan-2020 18:57*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*200*	*27-Jan-2020 10:24*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*2000*	*26-Jan-2020 18:43*
Surr: 2,4,6-Tribromophenol	*110*			*34-129*	*%REC*	*20*	*27-Jan-2020 10:06*
Surr: 2-Fluorobiphenyl	*114*			*40-125*	*%REC*	*20*	*27-Jan-2020 10:06*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*2000*	*26-Jan-2020 18:43*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*200*	*27-Jan-2020 10:24*
Surr: 2-Fluorobiphenyl	*103*			*40-125*	*%REC*	*1*	*23-Jan-2020 18:57*
Surr: 2-Fluorophenol	*105*			*20-120*	*%REC*	*1*	*23-Jan-2020 18:57*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*200*	*27-Jan-2020 10:24*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*2000*	*26-Jan-2020 18:43*
Surr: 2-Fluorophenol	*114*			*20-120*	*%REC*	*20*	*27-Jan-2020 10:06*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW79A-20200117
Collection Date: 17-Jan-2020 09:20

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-23
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
Surr: 4-Terphenyl-d14	*101*			*40-135*	*%REC*	*20*	*27-Jan-2020 10:06*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*2000*	*26-Jan-2020 18:43*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*200*	*27-Jan-2020 10:24*
Surr: 4-Terphenyl-d14	*105*			*40-135*	*%REC*	*1*	*23-Jan-2020 18:57*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*2000*	*26-Jan-2020 18:43*
Surr: Nitrobenzene-d5	*91.5*			*41-120*	*%REC*	*1*	*23-Jan-2020 18:57*
Surr: Nitrobenzene-d5	*72.4*	*J*		*41-120*	*%REC*	*20*	*27-Jan-2020 10:06*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*200*	*27-Jan-2020 10:24*
Surr: Phenol-d6	*86.6*			*20-120*	*%REC*	*20*	*27-Jan-2020 10:06*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*200*	*27-Jan-2020 10:24*
Surr: Phenol-d6	*84.0*			*20-120*	*%REC*	*1*	*23-Jan-2020 18:57*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*2000*	*26-Jan-2020 18:43*
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 20-Jan-2020		Analyst: MBG
nC6 to nC12	**21**		**0.19**	**0.47**	**mg/L**	1	21-Jan-2020 06:45
>nC12 to nC28	**16**		**0.19**	**0.47**	**mg/L**	1	21-Jan-2020 06:45
>nC28 to nC35	U		0.19	0.47	mg/L	1	21-Jan-2020 06:45
Total Petroleum Hydrocarbon	**37.0**		**0.19**	**0.47**	**mg/L**	1	21-Jan-2020 06:45
Surr: 2-Fluorobiphenyl	*117*			*70-130*	*%REC*	*1*	*21-Jan-2020 06:45*
Surr: Trifluoromethyl benzene	*113*			*70-130*	*%REC*	*1*	*21-Jan-2020 06:45*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.00893**		**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 03:40

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW74B-20200117
Collection Date: 17-Jan-2020 10:20

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-24
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	22-Jan-2020 06:01
Benzene	**0.12**		**0.00020**	**0.0010**	**mg/L**	1	22-Jan-2020 06:01
Chlorobenzene	U		0.00030	0.0010	mg/L	1	22-Jan-2020 06:01
Ethylbenzene	**0.076**		**0.00030**	**0.0010**	**mg/L**	1	22-Jan-2020 06:01
Methylene chloride	U		0.0010	0.0020	mg/L	1	22-Jan-2020 06:01
Toluene	**0.29**		**0.0010**	**0.0050**	**mg/L**	5	22-Jan-2020 16:50
Xylenes, Total	**0.20**		**0.00030**	**0.0010**	**mg/L**	1	22-Jan-2020 06:01
Surr: 1,2-Dichloroethane-d4	*88.4*			*70-126*	*%REC*	*1*	*22-Jan-2020 06:01*
Surr: 1,2-Dichloroethane-d4	*103*			*70-126*	*%REC*	*5*	*22-Jan-2020 16:50*
Surr: 4-Bromofluorobenzene	*102*			*81-113*	*%REC*	*1*	*22-Jan-2020 06:01*
Surr: 4-Bromofluorobenzene	*99.3*			*81-113*	*%REC*	*5*	*22-Jan-2020 16:50*
Surr: Dibromofluoromethane	*94.6*			*77-123*	*%REC*	*1*	*22-Jan-2020 06:01*
Surr: Dibromofluoromethane	*99.0*			*77-123*	*%REC*	*5*	*22-Jan-2020 16:50*
Surr: Toluene-d8	*97.8*			*82-127*	*%REC*	*1*	*22-Jan-2020 06:01*
Surr: Toluene-d8	*99.9*			*82-127*	*%REC*	*5*	*22-Jan-2020 16:50*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW74B-20200117
Collection Date: 17-Jan-2020 10:20

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-24
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jan-2020 19:17
2,4-Dimethylphenol	**0.21**		**0.0040**	**0.020**	**mg/L**	100	27-Jan-2020 11:02
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jan-2020 19:17
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jan-2020 19:17
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jan-2020 19:17
2-Methylnaphthalene	**1.3**		**0.019**	**0.10**	**mg/L**	1000	26-Jan-2020 19:40
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jan-2020 19:17
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jan-2020 19:17
Acenaphthene	**0.98**		**0.0027**	**0.010**	**mg/L**	100	27-Jan-2020 11:02
Acenaphthylene	**0.018**		**0.00015**	**0.0010**	**mg/L**	10	27-Jan-2020 10:43
Anthracene	**0.42**		**0.0014**	**0.010**	**mg/L**	100	27-Jan-2020 11:02
Benz(a)anthracene	**0.13**		**0.0050**	**0.010**	**mg/L**	100	27-Jan-2020 11:02
Benzo(a)pyrene	**0.034**		**0.00020**	**0.0010**	**mg/L**	10	27-Jan-2020 10:43
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jan-2020 19:17
Bis(2-ethylhexyl)phthalate	**0.0014**		**0.000037**	**0.00020**	**mg/L**	1	23-Jan-2020 19:17
Chrysene	**0.082**		**0.00021**	**0.0010**	**mg/L**	10	27-Jan-2020 10:43
Dibenzofuran	**0.72**		**0.0020**	**0.010**	**mg/L**	100	27-Jan-2020 11:02
Di-n-butyl phthalate	**0.0022**		**0.000020**	**0.00020**	**mg/L**	1	23-Jan-2020 19:17
Fluoranthene	**0.67**		**0.0010**	**0.010**	**mg/L**	100	27-Jan-2020 11:02
Fluorene	**0.88**		**0.0030**	**0.010**	**mg/L**	100	27-Jan-2020 11:02
Naphthalene	**8.5**		**0.020**	**0.10**	**mg/L**	1000	26-Jan-2020 19:40
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jan-2020 19:17
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jan-2020 19:17
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jan-2020 19:17
Phenanthrene	**2.3**		**0.021**	**0.10**	**mg/L**	1000	26-Jan-2020 19:40
Phenol	**0.048**		**0.00035**	**0.0020**	**mg/L**	10	27-Jan-2020 10:43
Pyrene	**0.44**		**0.0019**	**0.010**	**mg/L**	100	27-Jan-2020 11:02
Surr: 2,4,6-Tribromophenol	*78.6*			*34-129*	*%REC*	*1*	*23-Jan-2020 19:17*
Surr: 2,4,6-Tribromophenol	*86.1*			*34-129*	*%REC*	*10*	*27-Jan-2020 10:43*
Surr: 2,4,6-Tribromophenol	*115*	*J*		*34-129*	*%REC*	*100*	*27-Jan-2020 11:02*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*1000*	*26-Jan-2020 19:40*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*1000*	*26-Jan-2020 19:40*
Surr: 2-Fluorobiphenyl	*94.5*			*40-125*	*%REC*	*10*	*27-Jan-2020 10:43*
Surr: 2-Fluorobiphenyl	*120*	*J*		*40-125*	*%REC*	*100*	*27-Jan-2020 11:02*
Surr: 2-Fluorobiphenyl	*64.4*			*40-125*	*%REC*	*1*	*23-Jan-2020 19:17*
Surr: 2-Fluorophenol	*70.1*			*20-120*	*%REC*	*1*	*23-Jan-2020 19:17*
Surr: 2-Fluorophenol	*105*			*20-120*	*%REC*	*10*	*27-Jan-2020 10:43*
Surr: 2-Fluorophenol	*110*	*J*		*20-120*	*%REC*	*100*	*27-Jan-2020 11:02*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*1000*	*26-Jan-2020 19:40*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW74B-20200117
Collection Date: 17-Jan-2020 10:20

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-24
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*1000*	*26-Jan-2020 19:40*
Surr: 4-Terphenyl-d14	*115*			*40-135*	*%REC*	*1*	*23-Jan-2020 19:17*
Surr: 4-Terphenyl-d14	*104*			*40-135*	*%REC*	*10*	*27-Jan-2020 10:43*
Surr: 4-Terphenyl-d14	*87.9*	*J*		*40-135*	*%REC*	*100*	*27-Jan-2020 11:02*
Surr: Nitrobenzene-d5	*95.5*			*41-120*	*%REC*	*10*	*27-Jan-2020 10:43*
Surr: Nitrobenzene-d5	*108*	*J*		*41-120*	*%REC*	*100*	*27-Jan-2020 11:02*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*1000*	*26-Jan-2020 19:40*
Surr: Nitrobenzene-d5	*118*			*41-120*	*%REC*	*1*	*23-Jan-2020 19:17*
Surr: Phenol-d6	*62.2*			*20-120*	*%REC*	*1*	*23-Jan-2020 19:17*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*1000*	*26-Jan-2020 19:40*
Surr: Phenol-d6	*101*			*20-120*	*%REC*	*10*	*27-Jan-2020 10:43*
Surr: Phenol-d6	*111*	*J*		*20-120*	*%REC*	*100*	*27-Jan-2020 11:02*
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 20-Jan-2020		Analyst: MBG
nC6 to nC12	**12**		**0.19**	**0.48**	**mg/L**	1	21-Jan-2020 07:14
>nC12 to nC28	**13**		**0.19**	**0.48**	**mg/L**	1	21-Jan-2020 07:14
>nC28 to nC35	**0.47**	J	**0.19**	**0.48**	**mg/L**	1	21-Jan-2020 07:14
Total Petroleum Hydrocarbon	**25.5**		**0.19**	**0.48**	**mg/L**	1	21-Jan-2020 07:14
Surr: 2-Fluorobiphenyl	*113*			*70-130*	*%REC*	*1*	*21-Jan-2020 07:14*
Surr: Trifluoromethyl benzene	*112*			*70-130*	*%REC*	*1*	*21-Jan-2020 07:14*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.000443**	J	**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 03:42

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW78A-20200117
Collection Date: 17-Jan-2020 11:25

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-25
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	22-Jan-2020 06:26
Benzene	**0.018**		**0.00020**	**0.0010**	**mg/L**	1	22-Jan-2020 06:26
Chlorobenzene	U		0.00030	0.0010	mg/L	1	22-Jan-2020 06:26
Ethylbenzene	**0.011**		**0.00030**	**0.0010**	**mg/L**	1	22-Jan-2020 06:26
Methylene chloride	U		0.0010	0.0020	mg/L	1	22-Jan-2020 06:26
Toluene	**0.033**		**0.00020**	**0.0010**	**mg/L**	1	22-Jan-2020 06:26
Xylenes, Total	**0.028**		**0.00030**	**0.0010**	**mg/L**	1	22-Jan-2020 06:26
Surr: 1,2-Dichloroethane-d4	*91.1*			*70-126*	*%REC*	*1*	*22-Jan-2020 06:26*
Surr: 4-Bromofluorobenzene	*100.0*			*81-113*	*%REC*	*1*	*22-Jan-2020 06:26*
Surr: Dibromofluoromethane	*96.6*			*77-123*	*%REC*	*1*	*22-Jan-2020 06:26*
Surr: Toluene-d8	*99.8*			*82-127*	*%REC*	*1*	*22-Jan-2020 06:26*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW78A-20200117
Collection Date: 17-Jan-2020 11:25

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-25
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	26-Jan-2020 15:31
2,4-Dimethylphenol	**2.5**		**0.016**	**0.080**	**mg/L**	400	28-Jan-2020 09:03
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	26-Jan-2020 15:31
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	26-Jan-2020 15:31
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	26-Jan-2020 15:31
2-Methylnaphthalene	**0.13**		**0.00038**	**0.0020**	**mg/L**	20	28-Jan-2020 08:25
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	26-Jan-2020 15:31
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	26-Jan-2020 15:31
Acenaphthene	**0.071**		**0.00054**	**0.0020**	**mg/L**	20	28-Jan-2020 08:25
Acenaphthylene	**0.0015**		**0.000015**	**0.00010**	**mg/L**	1	26-Jan-2020 15:31
Anthracene	**0.0040**		**0.000014**	**0.00010**	**mg/L**	1	26-Jan-2020 15:31
Benz(a)anthracene	**0.00043**		**0.000050**	**0.00010**	**mg/L**	1	26-Jan-2020 15:31
Benzo(a)pyrene	**0.00014**		**0.000020**	**0.00010**	**mg/L**	1	26-Jan-2020 15:31
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	26-Jan-2020 15:31
Bis(2-ethylhexyl)phthalate	**0.00092**		**0.000037**	**0.00020**	**mg/L**	1	26-Jan-2020 15:31
Chrysene	**0.00039**		**0.000021**	**0.00010**	**mg/L**	1	26-Jan-2020 15:31
Dibenzofuran	**0.055**		**0.00040**	**0.0020**	**mg/L**	20	28-Jan-2020 08:25
Di-n-butyl phthalate	**0.0016**		**0.000020**	**0.00020**	**mg/L**	1	26-Jan-2020 15:31
Fluoranthene	**0.0029**		**0.000010**	**0.00010**	**mg/L**	1	26-Jan-2020 15:31
Fluorene	**0.040**		**0.00060**	**0.0020**	**mg/L**	20	28-Jan-2020 08:25
Naphthalene	**3.1**		**0.0080**	**0.040**	**mg/L**	400	28-Jan-2020 09:03
Nitrobenzene	U		0.000024	0.00020	mg/L	1	26-Jan-2020 15:31
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	26-Jan-2020 15:31
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	26-Jan-2020 15:31
Phenanthrene	**0.031**		**0.00042**	**0.0020**	**mg/L**	20	28-Jan-2020 08:25
Phenol	**0.13**		**0.00070**	**0.0040**	**mg/L**	20	28-Jan-2020 08:25
Pyrene	**0.0018**		**0.000019**	**0.00010**	**mg/L**	1	26-Jan-2020 15:31
Surr: 2,4,6-Tribromophenol	*96.7*			*34-129*	*%REC*	*20*	*28-Jan-2020 08:25*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*400*	*28-Jan-2020 09:03*
Surr: 2,4,6-Tribromophenol	*68.2*			*34-129*	*%REC*	*1*	*26-Jan-2020 15:31*
Surr: 2-Fluorobiphenyl	*70.7*			*40-125*	*%REC*	*1*	*26-Jan-2020 15:31*
Surr: 2-Fluorobiphenyl	*115*			*40-125*	*%REC*	*20*	*28-Jan-2020 08:25*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*400*	*28-Jan-2020 09:03*
Surr: 2-Fluorophenol	*87.6*			*20-120*	*%REC*	*20*	*28-Jan-2020 08:25*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*400*	*28-Jan-2020 09:03*
Surr: 2-Fluorophenol	*59.4*			*20-120*	*%REC*	*1*	*26-Jan-2020 15:31*
Surr: 4-Terphenyl-d14	*86.7*			*40-135*	*%REC*	*1*	*26-Jan-2020 15:31*
Surr: 4-Terphenyl-d14	*110*			*40-135*	*%REC*	*20*	*28-Jan-2020 08:25*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*400*	*28-Jan-2020 09:03*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW78A-20200117
Collection Date: 17-Jan-2020 11:25

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-25
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
Surr: Nitrobenzene-d5	*66.7*			*41-120*	*%REC*	*1*	*26-Jan-2020 15:31*
Surr: Nitrobenzene-d5	*93.6*			*41-120*	*%REC*	*20*	*28-Jan-2020 08:25*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*400*	*28-Jan-2020 09:03*
Surr: Phenol-d6	*102*			*20-120*	*%REC*	*20*	*28-Jan-2020 08:25*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*400*	*28-Jan-2020 09:03*
Surr: Phenol-d6	*71.1*			*20-120*	*%REC*	*1*	*26-Jan-2020 15:31*
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 20-Jan-2020		Analyst: MBG
nC6 to nC12	**2.7**		**0.19**	**0.48**	**mg/L**	1	21-Jan-2020 07:42
>nC12 to nC28	**1.6**		**0.19**	**0.48**	**mg/L**	1	21-Jan-2020 07:42
>nC28 to nC35	U		0.19	0.48	mg/L	1	21-Jan-2020 07:42
Total Petroleum Hydrocarbon	**4.30**		**0.19**	**0.48**	**mg/L**	1	21-Jan-2020 07:42
Surr: 2-Fluorobiphenyl	*108*			*70-130*	*%REC*	*1*	*21-Jan-2020 07:42*
Surr: Trifluoromethyl benzene	*107*			*70-130*	*%REC*	*1*	*21-Jan-2020 07:42*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.00991**		**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 03:44

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WQ-1620-TB05-2020117
Collection Date: 17-Jan-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-26
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	22-Jan-2020 01:32
Benzene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 01:32
Chlorobenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 01:32
Ethylbenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 01:32
Methylene chloride		U	0.0010	0.0020	mg/L	1	22-Jan-2020 01:32
Toluene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 01:32
Vinyl chloride		U	0.00020	0.0010	mg/L	1	22-Jan-2020 14:15
Xylenes, Total		U	0.00030	0.0010	mg/L	1	22-Jan-2020 01:32
Surr: 1,2-Dichloroethane-d4	*90.8*			*70-126*	*%REC*	*1*	*22-Jan-2020 01:32*
Surr: 1,2-Dichloroethane-d4	*103*			*70-126*	*%REC*	*1*	*22-Jan-2020 14:15*
Surr: 4-Bromofluorobenzene	*93.3*			*81-113*	*%REC*	*1*	*22-Jan-2020 01:32*
Surr: 4-Bromofluorobenzene	*100*			*81-113*	*%REC*	*1*	*22-Jan-2020 14:15*
Surr: Dibromofluoromethane	*97.6*			*77-123*	*%REC*	*1*	*22-Jan-2020 01:32*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*22-Jan-2020 14:15*
Surr: Toluene-d8	*99.2*			*82-127*	*%REC*	*1*	*22-Jan-2020 01:32*
Surr: Toluene-d8	*99.1*			*82-127*	*%REC*	*1*	*22-Jan-2020 14:15*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW48C-20200116
Collection Date: 16-Jan-2020 10:20

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-27
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	22-Jan-2020 06:50
Benzene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 06:50
Chlorobenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 06:50
Ethylbenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 06:50
Methylene chloride		U	0.0010	0.0020	mg/L	1	22-Jan-2020 06:50
Toluene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 06:50
Xylenes, Total		U	0.00030	0.0010	mg/L	1	22-Jan-2020 06:50
Surr: 1,2-Dichloroethane-d4	*89.4*			*70-126*	*%REC*	*1*	*22-Jan-2020 06:50*
Surr: 4-Bromofluorobenzene	*96.9*			*81-113*	*%REC*	*1*	*22-Jan-2020 06:50*
Surr: Dibromofluoromethane	*95.4*			*77-123*	*%REC*	*1*	*22-Jan-2020 06:50*
Surr: Toluene-d8	*98.7*			*82-127*	*%REC*	*1*	*22-Jan-2020 06:50*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW48C-20200116
Collection Date: 16-Jan-2020 10:20

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-27
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	26-Jan-2020 15:50
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	26-Jan-2020 15:50
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	26-Jan-2020 15:50
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	26-Jan-2020 15:50
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	26-Jan-2020 15:50
2-Methylnaphthalene	**0.000076**	J	**0.000019**	**0.00010**	**mg/L**	1	26-Jan-2020 15:50
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	26-Jan-2020 15:50
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	26-Jan-2020 15:50
Acenaphthene	**0.000073**	J	**0.000027**	**0.00010**	**mg/L**	1	26-Jan-2020 15:50
Acenaphthylene	U		0.000015	0.00010	mg/L	1	26-Jan-2020 15:50
Anthracene	U		0.000014	0.00010	mg/L	1	26-Jan-2020 15:50
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	26-Jan-2020 15:50
Benzo(a)pyrene	**0.000021**	J	**0.000020**	**0.00010**	**mg/L**	1	26-Jan-2020 15:50
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	26-Jan-2020 15:50
Bis(2-ethylhexyl)phthalate	**0.000039**	J	**0.000037**	**0.00020**	**mg/L**	1	26-Jan-2020 15:50
Chrysene	**0.000029**	J	**0.000021**	**0.00010**	**mg/L**	1	26-Jan-2020 15:50
Dibenzofuran	**0.000054**	J	**0.000020**	**0.00010**	**mg/L**	1	26-Jan-2020 15:50
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	26-Jan-2020 15:50
Fluoranthene	**0.000061**	J	**0.000010**	**0.00010**	**mg/L**	1	26-Jan-2020 15:50
Fluorene	**0.000050**	J	**0.000030**	**0.00010**	**mg/L**	1	26-Jan-2020 15:50
Naphthalene	**0.00052**		**0.000020**	**0.00010**	**mg/L**	1	26-Jan-2020 15:50
Nitrobenzene	U		0.000024	0.00020	mg/L	1	26-Jan-2020 15:50
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	26-Jan-2020 15:50
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	26-Jan-2020 15:50
Phenanthrene	**0.000052**	J	**0.000021**	**0.00010**	**mg/L**	1	26-Jan-2020 15:50
Phenol	U		0.000035	0.00020	mg/L	1	26-Jan-2020 15:50
Pyrene	**0.000065**	J	**0.000019**	**0.00010**	**mg/L**	1	26-Jan-2020 15:50
Surr: 2,4,6-Tribromophenol	*54.9*			*34-129*	*%REC*	*1*	*26-Jan-2020 15:50*
Surr: 2-Fluorobiphenyl	*73.6*			*40-125*	*%REC*	*1*	*26-Jan-2020 15:50*
Surr: 2-Fluorophenol	*54.3*			*20-120*	*%REC*	*1*	*26-Jan-2020 15:50*
Surr: 4-Terphenyl-d14	*89.8*			*40-135*	*%REC*	*1*	*26-Jan-2020 15:50*
Surr: Nitrobenzene-d5	*66.1*			*41-120*	*%REC*	*1*	*26-Jan-2020 15:50*
Surr: Phenol-d6	*64.4*			*20-120*	*%REC*	*1*	*26-Jan-2020 15:50*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.00126**	J	**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 03:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW47C-20200116
Collection Date: 16-Jan-2020 11:05

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-28
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	22-Jan-2020 07:15
Benzene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 07:15
Chlorobenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 07:15
Ethylbenzene		U	0.00030	0.0010	mg/L	1	22-Jan-2020 07:15
Methylene chloride		U	0.0010	0.0020	mg/L	1	22-Jan-2020 07:15
Toluene		U	0.00020	0.0010	mg/L	1	22-Jan-2020 07:15
Xylenes, Total		U	0.00030	0.0010	mg/L	1	22-Jan-2020 07:15
Surr: 1,2-Dichloroethane-d4	*89.5*			*70-126*	*%REC*	*1*	*22-Jan-2020 07:15*
Surr: 4-Bromofluorobenzene	*95.1*			*81-113*	*%REC*	*1*	*22-Jan-2020 07:15*
Surr: Dibromofluoromethane	*95.7*			*77-123*	*%REC*	*1*	*22-Jan-2020 07:15*
Surr: Toluene-d8	*99.5*			*82-127*	*%REC*	*1*	*22-Jan-2020 07:15*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW47C-20200116
Collection Date: 16-Jan-2020 11:05

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-28
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	27-Jan-2020 09:09
2,4-Dimethylphenol	**0.00020**		**0.000040**	**0.00020**	**mg/L**	1	27-Jan-2020 09:09
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	27-Jan-2020 09:09
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	27-Jan-2020 09:09
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	27-Jan-2020 09:09
2-Methylnaphthalene	**0.00010**		**0.000019**	**0.00010**	**mg/L**	1	27-Jan-2020 09:09
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	27-Jan-2020 09:09
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	27-Jan-2020 09:09
Acenaphthene	**0.000057**	J	**0.000027**	**0.00010**	**mg/L**	1	27-Jan-2020 09:09
Acenaphthylene	U		0.000015	0.00010	mg/L	1	27-Jan-2020 09:09
Anthracene	U		0.000014	0.00010	mg/L	1	27-Jan-2020 09:09
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	27-Jan-2020 09:09
Benzo(a)pyrene	**0.000040**	J	**0.000020**	**0.00010**	**mg/L**	1	27-Jan-2020 09:09
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	27-Jan-2020 09:09
Bis(2-ethylhexyl)phthalate	**0.00079**		**0.000037**	**0.00020**	**mg/L**	1	27-Jan-2020 09:09
Chrysene	**0.000060**	J	**0.000021**	**0.00010**	**mg/L**	1	27-Jan-2020 09:09
Dibenzofuran	**0.000049**	J	**0.000020**	**0.00010**	**mg/L**	1	27-Jan-2020 09:09
Di-n-butyl phthalate	**0.0014**		**0.000020**	**0.00020**	**mg/L**	1	27-Jan-2020 09:09
Fluoranthene	**0.00011**		**0.000010**	**0.00010**	**mg/L**	1	27-Jan-2020 09:09
Fluorene	**0.000042**	J	**0.000030**	**0.00010**	**mg/L**	1	27-Jan-2020 09:09
Naphthalene	**0.00056**		**0.000020**	**0.00010**	**mg/L**	1	27-Jan-2020 09:09
Nitrobenzene	U		0.000024	0.00020	mg/L	1	27-Jan-2020 09:09
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	27-Jan-2020 09:09
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	27-Jan-2020 09:09
Phenanthrene	**0.000088**	J	**0.000021**	**0.00010**	**mg/L**	1	27-Jan-2020 09:09
Phenol	U		0.000035	0.00020	mg/L	1	27-Jan-2020 09:09
Pyrene	**0.00010**		**0.000019**	**0.00010**	**mg/L**	1	27-Jan-2020 09:09
Surr: 2,4,6-Tribromophenol	*69.8*			*34-129*	*%REC*	*1*	*27-Jan-2020 09:09*
Surr: 2-Fluorobiphenyl	*72.1*			*40-125*	*%REC*	*1*	*27-Jan-2020 09:09*
Surr: 2-Fluorophenol	*62.5*			*20-120*	*%REC*	*1*	*27-Jan-2020 09:09*
Surr: 4-Terphenyl-d14	*85.6*			*40-135*	*%REC*	*1*	*27-Jan-2020 09:09*
Surr: Nitrobenzene-d5	*67.8*			*41-120*	*%REC*	*1*	*27-Jan-2020 09:09*
Surr: Phenol-d6	*67.4*			*20-120*	*%REC*	*1*	*27-Jan-2020 09:09*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.00234**		**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 03:49

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW61A-20200116
Collection Date: 16-Jan-2020 12:00

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-29
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	25-Jan-2020 12:37
Benzene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 12:37
Chlorobenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 12:37
Ethylbenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 12:37
Methylene chloride		U	0.0010	0.0020	mg/L	1	25-Jan-2020 12:37
Toluene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 12:37
Vinyl chloride		U	0.00020	0.0010	mg/L	1	25-Jan-2020 12:37
Xylenes, Total		U	0.00030	0.0010	mg/L	1	25-Jan-2020 12:37
Surr: 1,2-Dichloroethane-d4	*99.1*			*70-126*	*%REC*	*1*	*25-Jan-2020 12:37*
Surr: 4-Bromofluorobenzene	*95.5*			*81-113*	*%REC*	*1*	*25-Jan-2020 12:37*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*25-Jan-2020 12:37*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*25-Jan-2020 12:37*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW61A-20200116
Collection Date: 16-Jan-2020 12:00

ANALYTICAL REPORT
WorkOrder:HS20010767
Lab ID:HS20010767-29
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 22-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jan-2020 10:37
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jan-2020 10:37
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jan-2020 10:37
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jan-2020 10:37
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jan-2020 10:37
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	23-Jan-2020 10:37
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jan-2020 10:37
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jan-2020 10:37
Acenaphthene	**0.000052**	J	**0.000027**	**0.00010**	**mg/L**	1	23-Jan-2020 10:37
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jan-2020 10:37
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jan-2020 10:37
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jan-2020 10:37
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jan-2020 10:37
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jan-2020 10:37
Bis(2-ethylhexyl)phthalate	**0.000081**	J	**0.000037**	**0.00020**	**mg/L**	1	23-Jan-2020 10:37
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jan-2020 10:37
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jan-2020 10:37
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jan-2020 10:37
Fluoranthene	**0.000060**	J	**0.000010**	**0.00010**	**mg/L**	1	23-Jan-2020 10:37
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jan-2020 10:37
Naphthalene	**0.00021**		**0.000020**	**0.00010**	**mg/L**	1	23-Jan-2020 10:37
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jan-2020 10:37
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jan-2020 10:37
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jan-2020 10:37
Phenanthrene	**0.00010**		**0.000021**	**0.00010**	**mg/L**	1	23-Jan-2020 10:37
Phenol	U		0.000035	0.00020	mg/L	1	23-Jan-2020 10:37
Pyrene	**0.000059**	J	**0.000019**	**0.00010**	**mg/L**	1	23-Jan-2020 10:37
Surr: 2,4,6-Tribromophenol	*112*			*34-129*	*%REC*	*1*	*23-Jan-2020 10:37*
Surr: 2-Fluorobiphenyl	*100*			*40-125*	*%REC*	*1*	*23-Jan-2020 10:37*
Surr: 2-Fluorophenol	*67.9*			*20-120*	*%REC*	*1*	*23-Jan-2020 10:37*
Surr: 4-Terphenyl-d14	*110*			*40-135*	*%REC*	*1*	*23-Jan-2020 10:37*
Surr: Nitrobenzene-d5	*77.2*			*41-120*	*%REC*	*1*	*23-Jan-2020 10:37*
Surr: Phenol-d6	*80.4*			*20-120*	*%REC*	*1*	*23-Jan-2020 10:37*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 23-Jan-2020		Analyst: ALR
Arsenic	**0.00107**	J	**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 02:51

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

Batch ID: 149797 **Start Date:** 20 Jan 2020 12:00 **End Date:** 20 Jan 2020 16:30
Method: TX 1005 PREP **Prep Code:** TX 1005_W PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010767-20	1	30.95 (g)	3 (mL)	0.09693
HS20010767-21	1	31.02 (g)	3 (mL)	0.09671
HS20010767-22	1	30.9 (g)	3 (mL)	0.09709
HS20010767-23	1	31.7 (g)	3 (mL)	0.09464
HS20010767-24	1	30.99 (g)	3 (mL)	0.09681
HS20010767-25	1	31.01 (g)	3 (mL)	0.09674

Batch ID: 149831 **Start Date:** 21 Jan 2020 08:30 **End Date:** 21 Jan 2020 12:30
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010767-18		10 (mL)	10 (mL)	1

Batch ID: 149832 **Start Date:** 21 Jan 2020 13:00 **End Date:** 21 Jan 2020 17:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010767-01		10 (mL)	10 (mL)	1
HS20010767-02		10 (mL)	10 (mL)	1
HS20010767-04		10 (mL)	10 (mL)	1

Batch ID: 149881 **Start Date:** 22 Jan 2020 09:00 **End Date:** 22 Jan 2020 13:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010767-03		10 (mL)	10 (mL)	1
HS20010767-05		10 (mL)	10 (mL)	1
HS20010767-06		10 (mL)	10 (mL)	1
HS20010767-07		10 (mL)	10 (mL)	1
HS20010767-08		10 (mL)	10 (mL)	1

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

Batch ID: 149912 **Start Date:** 22 Jan 2020 10:00 **End Date:** 22 Jan 2020 17:30
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010767-01	1	1000 (mL)	1 (mL)	0.001
HS20010767-02	1	1000 (mL)	1 (mL)	0.001
HS20010767-03	1	1000 (mL)	1 (mL)	0.001
HS20010767-04	1	1000 (mL)	1 (mL)	0.001
HS20010767-05	1	1000 (mL)	1 (mL)	0.001
HS20010767-06	1	1000 (mL)	1 (mL)	0.001
HS20010767-07	1	1000 (mL)	1 (mL)	0.001
HS20010767-08	1	1000 (mL)	1 (mL)	0.001
HS20010767-09	1	1000 (mL)	1 (mL)	0.001
HS20010767-10	1	1000 (mL)	1 (mL)	0.001
HS20010767-11	1	1000 (mL)	1 (mL)	0.001
HS20010767-12	1	1000 (mL)	1 (mL)	0.001
HS20010767-13	1	1000 (mL)	1 (mL)	0.001
HS20010767-14	1	1000 (mL)	1 (mL)	0.001
HS20010767-15	1	1000 (mL)	1 (mL)	0.001
HS20010767-16	1	1000 (mL)	1 (mL)	0.001
HS20010767-17	1	1000 (mL)	1 (mL)	0.001
HS20010767-18	1	1000 (mL)	1 (mL)	0.001
HS20010767-19	1	1000 (mL)	1 (mL)	0.001

Batch ID: 149913 **Start Date:** 22 Jan 2020 11:30 **End Date:** 22 Jan 2020 17:30
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010767-20	1	1000 (mL)	1 (mL)	0.001
HS20010767-21	1	1000 (mL)	1 (mL)	0.001
HS20010767-22	1	1000 (mL)	1 (mL)	0.001
HS20010767-23	1	1000 (mL)	1 (mL)	0.001
HS20010767-24	1	1000 (mL)	1 (mL)	0.001
HS20010767-25	1	1000 (mL)	1 (mL)	0.001
HS20010767-27	1	1000 (mL)	1 (mL)	0.001
HS20010767-28	1	1000 (mL)	1 (mL)	0.001
HS20010767-29	1	1000 (mL)	1 (mL)	0.001

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

Batch ID: 149936 **Start Date:** 23 Jan 2020 08:00 **End Date:** 23 Jan 2020 12:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010767-09		10 (mL)	10 (mL)	1
HS20010767-10		10 (mL)	10 (mL)	1
HS20010767-11		10 (mL)	10 (mL)	1
HS20010767-12		10 (mL)	10 (mL)	1
HS20010767-13		10 (mL)	10 (mL)	1
HS20010767-14		10 (mL)	10 (mL)	1
HS20010767-15		10 (mL)	10 (mL)	1
HS20010767-16		10 (mL)	10 (mL)	1
HS20010767-17		10 (mL)	10 (mL)	1
HS20010767-19		10 (mL)	10 (mL)	1
HS20010767-20		10 (mL)	10 (mL)	1
HS20010767-21		10 (mL)	10 (mL)	1
HS20010767-22		10 (mL)	10 (mL)	1
HS20010767-23		10 (mL)	10 (mL)	1
HS20010767-24		10 (mL)	10 (mL)	1
HS20010767-25		10 (mL)	10 (mL)	1
HS20010767-27		10 (mL)	10 (mL)	1
HS20010767-28		10 (mL)	10 (mL)	1
HS20010767-29		10 (mL)	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 149797 (0)	**Test Name :** LOW-LEVEL TEXAS TPH BY TX1005				**Matrix:** Water	
HS20010767-20	WG-1620-MW86C-20200117	17 Jan 2020 07:25		20 Jan 2020 12:00	21 Jan 2020 05:19	1
HS20010767-21	WG-1620-FD04-20200117	17 Jan 2020 07:25		20 Jan 2020 12:00	21 Jan 2020 05:48	1
HS20010767-22	WG-1620-MW75B-20200117	17 Jan 2020 08:15		20 Jan 2020 12:00	21 Jan 2020 06:16	1
HS20010767-23	WG-1620-MW79A-20200117	17 Jan 2020 09:20		20 Jan 2020 12:00	21 Jan 2020 06:45	1
HS20010767-24	WG-1620-MW74B-20200117	17 Jan 2020 10:20		20 Jan 2020 12:00	21 Jan 2020 07:14	1
HS20010767-25	WG-1620-MW78A-20200117	17 Jan 2020 11:25		20 Jan 2020 12:00	21 Jan 2020 07:42	1
Batch ID: 149831 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS20010767-18	WG-1620-MW65D-20200116	16 Jan 2020 16:20		21 Jan 2020 12:30	23 Jan 2020 00:56	1
Batch ID: 149832 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS20010767-01	WG-1620-MW28A-20200116	16 Jan 2020 09:10		21 Jan 2020 17:00	22 Jan 2020 23:52	1
HS20010767-02	WG-1620-MW28C-20200116	16 Jan 2020 10:15		21 Jan 2020 17:00	22 Jan 2020 23:32	1
HS20010767-04	WG-1620-MW89B-20200116	16 Jan 2020 12:45		21 Jan 2020 17:00	22 Jan 2020 23:54	1
Batch ID: 149881 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS20010767-03	WG-1620-FB08-20200116	16 Jan 2020 12:00		22 Jan 2020 13:00	24 Jan 2020 16:10	1
HS20010767-05	WG-1620-MW84B-20200116	16 Jan 2020 13:45		22 Jan 2020 13:00	24 Jan 2020 16:13	1
HS20010767-06	WG-1620-MW63B-20200116	16 Jan 2020 14:45		22 Jan 2020 13:00	24 Jan 2020 16:15	1
HS20010767-07	WG-1620-MW26A-20200116	16 Jan 2020 16:00		22 Jan 2020 13:00	24 Jan 2020 16:17	1
HS20010767-08	WG-1620-MW68C-20200117	17 Jan 2020 09:10		22 Jan 2020 13:00	24 Jan 2020 16:21	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 149912 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS20010767-01	WG-1620-MW28A-20200116	16 Jan 2020 09:10		22 Jan 2020 10:00	25 Jan 2020 18:43	1
HS20010767-02	WG-1620-MW28C-20200116	16 Jan 2020 10:15		22 Jan 2020 10:00	25 Jan 2020 12:03	1
HS20010767-03	WG-1620-FB08-20200116	16 Jan 2020 12:00		22 Jan 2020 10:00	25 Jan 2020 19:02	1
HS20010767-04	WG-1620-MW89B-20200116	16 Jan 2020 12:45		22 Jan 2020 10:00	25 Jan 2020 19:22	1
HS20010767-05	WG-1620-MW84B-20200116	16 Jan 2020 13:45		22 Jan 2020 10:00	27 Jan 2020 16:43	20
HS20010767-05	WG-1620-MW84B-20200116	16 Jan 2020 13:45		22 Jan 2020 10:00	25 Jan 2020 19:41	1
HS20010767-06	WG-1620-MW63B-20200116	16 Jan 2020 14:45		22 Jan 2020 10:00	25 Jan 2020 20:00	1
HS20010767-07	WG-1620-MW26A-20200116	16 Jan 2020 16:00		22 Jan 2020 10:00	25 Jan 2020 20:19	1
HS20010767-08	WG-1620-MW68C-20200117	17 Jan 2020 09:10		22 Jan 2020 10:00	25 Jan 2020 20:38	1
HS20010767-09	WG-1620-MW68A-20200117	17 Jan 2020 10:15		22 Jan 2020 10:00	25 Jan 2020 20:57	1
HS20010767-10	WG-1620-FB09-20200117	17 Jan 2020 10:00		22 Jan 2020 10:00	25 Jan 2020 21:16	1
HS20010767-11	WG-1620-MW27A-20200115	15 Jan 2020 16:40		22 Jan 2020 10:00	25 Jan 2020 21:35	1
HS20010767-12	WG-1620-MW27C-20200115	15 Jan 2020 17:20		22 Jan 2020 10:00	26 Jan 2020 13:17	1
HS20010767-13	WG-1620-MW59A-20200116	16 Jan 2020 08:05		22 Jan 2020 10:00	26 Jan 2020 13:36	1
HS20010767-14	WG-1620-MW59B-20200116	16 Jan 2020 09:00		22 Jan 2020 10:00	27 Jan 2020 08:31	1
HS20010767-15	WG-1620-MW59D-20200116	16 Jan 2020 13:50		22 Jan 2020 10:00	26 Jan 2020 14:14	1
HS20010767-16	WG-1620-FD03-20200116	16 Jan 2020 13:50		22 Jan 2020 10:00	26 Jan 2020 14:34	1
HS20010767-17	WG-1620-MW66D-20200116	16 Jan 2020 15:00		22 Jan 2020 10:00	27 Jan 2020 08:50	1
HS20010767-18	WG-1620-MW65D-20200116	16 Jan 2020 16:20		22 Jan 2020 10:00	23 Jan 2020 09:40	1
HS20010767-19	WG-1620-MW36D-20200116	16 Jan 2020 17:25		22 Jan 2020 10:00	26 Jan 2020 15:12	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 149913 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS20010767-20	WG-1620-MW86C-20200117	17 Jan 2020 07:25		22 Jan 2020 11:30	23 Jan 2020 18:00	1
HS20010767-21	WG-1620-FD04-20200117	17 Jan 2020 07:25		22 Jan 2020 11:30	23 Jan 2020 18:19	1
HS20010767-22	WG-1620-MW75B-20200117	17 Jan 2020 08:15		22 Jan 2020 11:30	27 Jan 2020 09:47	200
HS20010767-22	WG-1620-MW75B-20200117	17 Jan 2020 08:15		22 Jan 2020 11:30	27 Jan 2020 09:28	20
HS20010767-22	WG-1620-MW75B-20200117	17 Jan 2020 08:15		22 Jan 2020 11:30	25 Jan 2020 21:55	2000
HS20010767-22	WG-1620-MW75B-20200117	17 Jan 2020 08:15		22 Jan 2020 11:30	23 Jan 2020 18:38	1
HS20010767-23	WG-1620-MW79A-20200117	17 Jan 2020 09:20		22 Jan 2020 11:30	27 Jan 2020 10:24	200
HS20010767-23	WG-1620-MW79A-20200117	17 Jan 2020 09:20		22 Jan 2020 11:30	27 Jan 2020 10:06	20
HS20010767-23	WG-1620-MW79A-20200117	17 Jan 2020 09:20		22 Jan 2020 11:30	26 Jan 2020 18:43	2000
HS20010767-23	WG-1620-MW79A-20200117	17 Jan 2020 09:20		22 Jan 2020 11:30	23 Jan 2020 18:57	1
HS20010767-24	WG-1620-MW74B-20200117	17 Jan 2020 10:20		22 Jan 2020 11:30	27 Jan 2020 10:43	10
HS20010767-24	WG-1620-MW74B-20200117	17 Jan 2020 10:20		22 Jan 2020 11:30	27 Jan 2020 11:02	100
HS20010767-24	WG-1620-MW74B-20200117	17 Jan 2020 10:20		22 Jan 2020 11:30	26 Jan 2020 19:40	1000
HS20010767-24	WG-1620-MW74B-20200117	17 Jan 2020 10:20		22 Jan 2020 11:30	23 Jan 2020 19:17	1
HS20010767-25	WG-1620-MW78A-20200117	17 Jan 2020 11:25		22 Jan 2020 11:30	28 Jan 2020 09:03	400
HS20010767-25	WG-1620-MW78A-20200117	17 Jan 2020 11:25		22 Jan 2020 11:30	28 Jan 2020 08:25	20
HS20010767-25	WG-1620-MW78A-20200117	17 Jan 2020 11:25		22 Jan 2020 11:30	26 Jan 2020 15:31	1
HS20010767-27	WG-1620-MW48C-20200116	16 Jan 2020 10:20		22 Jan 2020 11:30	26 Jan 2020 15:50	1
HS20010767-28	WG-1620-MW47C-20200116	16 Jan 2020 11:05		22 Jan 2020 11:30	27 Jan 2020 09:09	1
HS20010767-29	WG-1620-MW61A-20200116	16 Jan 2020 12:00		22 Jan 2020 11:30	23 Jan 2020 10:37	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 149936 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS20010767-09	WG-1620-MW68A-20200117	17 Jan 2020 10:15		23 Jan 2020 12:00	24 Jan 2020 03:07	1
HS20010767-10	WG-1620-FB09-20200117	17 Jan 2020 10:00		23 Jan 2020 12:00	24 Jan 2020 03:09	1
HS20010767-11	WG-1620-MW27A-20200115	15 Jan 2020 16:40		23 Jan 2020 12:00	24 Jan 2020 03:11	1
HS20010767-12	WG-1620-MW27C-20200115	15 Jan 2020 17:20		23 Jan 2020 12:00	24 Jan 2020 03:13	1
HS20010767-13	WG-1620-MW59A-20200116	16 Jan 2020 08:05		23 Jan 2020 12:00	24 Jan 2020 03:15	1
HS20010767-14	WG-1620-MW59B-20200116	16 Jan 2020 09:00		23 Jan 2020 12:00	24 Jan 2020 03:18	1
HS20010767-15	WG-1620-MW59D-20200116	16 Jan 2020 13:50		23 Jan 2020 12:00	24 Jan 2020 03:20	1
HS20010767-16	WG-1620-FD03-20200116	16 Jan 2020 13:50		23 Jan 2020 12:00	24 Jan 2020 03:22	1
HS20010767-17	WG-1620-MW66D-20200116	16 Jan 2020 15:00		23 Jan 2020 12:00	24 Jan 2020 03:24	1
HS20010767-19	WG-1620-MW36D-20200116	16 Jan 2020 17:25		23 Jan 2020 12:00	24 Jan 2020 03:27	1
HS20010767-20	WG-1620-MW86C-20200117	17 Jan 2020 07:25		23 Jan 2020 12:00	24 Jan 2020 03:33	1
HS20010767-21	WG-1620-FD04-20200117	17 Jan 2020 07:25		23 Jan 2020 12:00	24 Jan 2020 03:35	1
HS20010767-22	WG-1620-MW75B-20200117	17 Jan 2020 08:15		23 Jan 2020 12:00	24 Jan 2020 03:38	1
HS20010767-23	WG-1620-MW79A-20200117	17 Jan 2020 09:20		23 Jan 2020 12:00	24 Jan 2020 03:40	1
HS20010767-24	WG-1620-MW74B-20200117	17 Jan 2020 10:20		23 Jan 2020 12:00	24 Jan 2020 03:42	1
HS20010767-25	WG-1620-MW78A-20200117	17 Jan 2020 11:25		23 Jan 2020 12:00	24 Jan 2020 03:44	1
HS20010767-27	WG-1620-MW48C-20200116	16 Jan 2020 10:20		23 Jan 2020 12:00	24 Jan 2020 03:46	1
HS20010767-28	WG-1620-MW47C-20200116	16 Jan 2020 11:05		23 Jan 2020 12:00	24 Jan 2020 03:49	1
HS20010767-29	WG-1620-MW61A-20200116	16 Jan 2020 12:00		23 Jan 2020 12:00	24 Jan 2020 02:51	1
Batch ID: R354794 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010767-01	WG-1620-MW28A-20200116	16 Jan 2020 09:10			22 Jan 2020 00:55	1
HS20010767-02	WG-1620-MW28C-20200116	16 Jan 2020 10:15			21 Jan 2020 23:41	1
HS20010767-03	WG-1620-FB08-20200116	16 Jan 2020 12:00			22 Jan 2020 02:58	1
Batch ID: R354799 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010767-04	WG-1620-MW89B-20200116	16 Jan 2020 12:45			21 Jan 2020 18:37	1
HS20010767-05	WG-1620-MW84B-20200116	16 Jan 2020 13:45			21 Jan 2020 17:23	1
HS20010767-06	WG-1620-MW63B-20200116	16 Jan 2020 14:45			21 Jan 2020 19:01	1
HS20010767-08	WG-1620-MW68C-20200117	17 Jan 2020 09:10			21 Jan 2020 19:26	1
HS20010767-09	WG-1620-MW68A-20200117	17 Jan 2020 10:15			21 Jan 2020 19:50	1
HS20010767-11	WG-1620-MW27A-20200115	15 Jan 2020 16:40			21 Jan 2020 20:14	1
HS20010767-12	WG-1620-MW27C-20200115	15 Jan 2020 17:20			21 Jan 2020 20:39	1
HS20010767-13	WG-1620-MW59A-20200116	16 Jan 2020 08:05			21 Jan 2020 21:03	1
HS20010767-14	WG-1620-MW59B-20200116	16 Jan 2020 09:00			21 Jan 2020 21:28	1
HS20010767-15	WG-1620-MW59D-20200116	16 Jan 2020 13:50			21 Jan 2020 21:52	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R354802 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010767-07	WG-1620-MW26A-20200116	16 Jan 2020 16:00			22 Jan 2020 09:17	1
HS20010767-10	WG-1620-FB09-20200117	17 Jan 2020 10:00			22 Jan 2020 01:08	1
HS20010767-16	WG-1620-FD03-20200116	16 Jan 2020 13:50			22 Jan 2020 03:10	1
HS20010767-17	WG-1620-MW66D-20200116	16 Jan 2020 15:00			22 Jan 2020 03:35	1
HS20010767-18	WG-1620-MW65D-20200116	16 Jan 2020 16:20			22 Jan 2020 01:57	1
HS20010767-19	WG-1620-MW36D-20200116	16 Jan 2020 17:25			22 Jan 2020 03:59	1
HS20010767-20	WG-1620-MW86C-20200117	17 Jan 2020 07:25			22 Jan 2020 04:24	1
HS20010767-21	WG-1620-FD04-20200117	17 Jan 2020 07:25			22 Jan 2020 04:48	1
HS20010767-22	WG-1620-MW75B-20200117	17 Jan 2020 08:15			22 Jan 2020 05:13	1
HS20010767-23	WG-1620-MW79A-20200117	17 Jan 2020 09:20			22 Jan 2020 05:37	1
HS20010767-24	WG-1620-MW74B-20200117	17 Jan 2020 10:20			22 Jan 2020 06:01	1
HS20010767-25	WG-1620-MW78A-20200117	17 Jan 2020 11:25			22 Jan 2020 06:26	1
HS20010767-26	WQ-1620-TB05-2020117	17 Jan 2020 00:00			22 Jan 2020 01:32	1
HS20010767-27	WG-1620-MW48C-20200116	16 Jan 2020 10:20			22 Jan 2020 06:50	1
HS20010767-28	WG-1620-MW47C-20200116	16 Jan 2020 11:05			22 Jan 2020 07:15	1
Batch ID: R354859 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010767-10	WG-1620-FB09-20200117	17 Jan 2020 10:00			22 Jan 2020 13:50	1
HS20010767-23	WG-1620-MW79A-20200117	17 Jan 2020 09:20			22 Jan 2020 16:23	5
HS20010767-24	WG-1620-MW74B-20200117	17 Jan 2020 10:20			22 Jan 2020 16:50	5
HS20010767-26	WQ-1620-TB05-2020117	17 Jan 2020 00:00			22 Jan 2020 14:15	1
Batch ID: R355066 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010767-29	WG-1620-MW61A-20200116	16 Jan 2020 12:00			25 Jan 2020 12:37	1

WorkOrder: HS20010767
InstrumentID: FID-10
Test Code: TX1005_W_Low
Test Number: TX1005
Test Name: Low-level Texas TPH by TX1005

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	nC6 to nC12	TPH-1005-1	0.25	0.26	0.20	0.50
A	>nC12 to nC28	TPH-1005-2	0.25	0.31	0.20	0.50
A	>nC28 to nC35	TPH-1005-4	0.25	0.26	0.20	0.50
A	Total Petroleum Hydrocarbon	TPH	0.25	0.26	0.20	0.50
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	Trifluoromethyl benzene	98-08-8	0	0	0	0

WorkOrder: HS20010767
InstrumentID: ICPMS04
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000456	0.000400	0.00200

WorkOrder: HS20010767
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000499	0.000400	0.00200

WorkOrder: HS20010767
InstrumentID: SV-6
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.000098	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000051	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000094	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000083	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.000093	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000060	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000031	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000037	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000059	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000050	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000047	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000059	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000050	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000081	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00012	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000060	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000050	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.00011	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000049	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000053	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000049	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00012	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00011	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.0000094	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000049	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000096	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000047	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS20010767
InstrumentID: SV-7
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.00013	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000081	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.00010	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.00010	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.00012	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000052	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000060	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000069	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000050	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000046	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000046	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000057	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000047	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.00012	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00014	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000049	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000050	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.00012	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000053	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000050	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000048	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00014	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00012	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000057	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000047	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.00012	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000051	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS20010767
InstrumentID: VOA4
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00061	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00057	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00058	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00048	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00070	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00050	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00045	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00070	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

WorkOrder: HS20010767
InstrumentID: VOA2
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00062	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00059	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00071	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00063	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00075	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00069	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00044	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00059	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149797 (0) **Instrument: FID-10** **Method: LOW-LEVEL TEXAS TPH BY TX1005**

MBLK Sample ID: **MBLK-149797** Units: **mg/L** Analysis Date: **21-Jan-2020 04:50**
Client ID: Run ID: **FID-10_354806** SeqNo: **5443281** PrepDate: **20-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	U	0.50								
>nC12 to nC28	U	0.50								
>nC28 to nC35	U	0.50								
Total Petroleum Hydrocarbon	U	0.50								
Surr: 2-Fluorobiphenyl	*2.764*	*0*	*2.5*	*0*	*111*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.717*	*0*	*2.5*	*0*	*109*	*70 - 130*				

LCS Sample ID: **LCS-149797** Units: **mg/L** Analysis Date: **21-Jan-2020 05:19**
Client ID: Run ID: **FID-10_354806** SeqNo: **5443282** PrepDate: **20-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	28.98	0.50	25	0	116	75 - 125				
>nC12 to nC28	25.19	0.50	25	0	101	75 - 125				
Surr: 2-Fluorobiphenyl	*3.022*	*0*	*2.5*	*0*	*121*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.779*	*0*	*2.5*	*0*	*111*	*70 - 130*				

LCSD Sample ID: **LCSD-149797** Units: **mg/L** Analysis Date: **21-Jan-2020 05:48**
Client ID: Run ID: **FID-10_354806** SeqNo: **5443283** PrepDate: **20-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	28.84	0.50	25	0	115	75 - 125	28.98	0.499	20	
>nC12 to nC28	21.62	0.50	25	0	86.5	75 - 125	25.19	15.3	20	
Surr: 2-Fluorobiphenyl	*2.954*	*0*	*2.5*	*0*	*118*	*70 - 130*	*3.022*	*2.25*	*20*	
Surr: Trifluoromethyl benzene	*2.626*	*0*	*2.5*	*0*	*105*	*70 - 130*	*2.779*	*5.68*	*20*	

MS Sample ID: **HS20010754-08MS** Units: **mg/L** Analysis Date: **21-Jan-2020 06:45**
Client ID: Run ID: **FID-10_354806** SeqNo: **5443285** PrepDate: **20-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	28.22	0.48	24.23	0	116	75 - 125				
>nC12 to nC28	24.36	0.48	24.23	0	101	75 - 125				
Surr: 2-Fluorobiphenyl	*3.105*	*0*	*2.423*	*0*	*128*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.633*	*0*	*2.423*	*0*	*109*	*70 - 130*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149797 (0) **Instrument: FID-10** **Method: LOW-LEVEL TEXAS TPH BY TX1005**

MSD Sample ID: **HS20010754-08MSD** Units: **mg/L** Analysis Date: **21-Jan-2020 07:14**
Client ID: Run ID: **FID-10_354806** SeqNo: **5443286** PrepDate: **20-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	28.04	0.48	23.96	0	117	75 - 125	28.22	0.644	20	
>nC12 to nC28	22.82	0.48	23.96	0	95.2	75 - 125	24.36	6.52	20	
Surr: 2-Fluorobiphenyl	*2.928*	*0*	*2.396*	*0*	*122*	*70 - 130*	*3.105*	*5.88*	*20*	
Surr: Trifluoromethyl benzene	*2.517*	*0*	*2.396*	*0*	*105*	*70 - 130*	*2.633*	*4.52*	*20*	

The following samples were analyzed in this batch: HS20010767-20 HS20010767-21 HS20010767-22 HS20010767-23 HS20010767-24 HS20010767-25

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149831 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-149831** Units: **mg/L** Analysis Date: **23-Jan-2020 13:06**
Client ID: Run ID: **ICPMS06_354915** SeqNo: **5445305** PrepDate: **21-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-149831** Units: **mg/L** Analysis Date: **23-Jan-2020 00:54**
Client ID: Run ID: **ICPMS04_354801** SeqNo: **5444295** PrepDate: **21-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04846	0.00200	0.05	0	96.9	80 - 120				

MS Sample ID: **HS20010767-18MS** Units: **mg/L** Analysis Date: **23-Jan-2020 01:01**
Client ID: **WG-1620-MW65D-20200116** Run ID: **ICPMS04_354801** SeqNo: **5444244** PrepDate: **21-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04904	0.00200	0.05	0.000507	97.1	80 - 120				

MSD Sample ID: **HS20010767-18MSD** Units: **mg/L** Analysis Date: **23-Jan-2020 01:03**
Client ID: **WG-1620-MW65D-20200116** Run ID: **ICPMS04_354801** SeqNo: **5444245** PrepDate: **21-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04827	0.00200	0.05	0.000507	95.5	80 - 120	0.04904	1.58	20	

PDS Sample ID: **HS20010767-18PDS** Units: **mg/L** Analysis Date: **23-Jan-2020 01:05**
Client ID: **WG-1620-MW65D-20200116** Run ID: **ICPMS04_354801** SeqNo: **5444246** PrepDate: **21-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.09677	0.00200	0.1	0.000507	96.3	75 - 125				

SD Sample ID: **HS20010767-18SD** Units: **mg/L** Analysis Date: **23-Jan-2020 00:59**
Client ID: **WG-1620-MW65D-20200116** Run ID: **ICPMS04_354801** SeqNo: **5444297** PrepDate: **21-Jan-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.000507	0	10	

The following samples were analyzed in this batch: HS20010767-18

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149832 (0) **Instrument: ICPMS04** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLKF1-149832** Units: **mg/L** Analysis Date: **22-Jan-2020 23:27**
Client ID: Run ID: **ICPMS04_354801** SeqNo: **5444345** PrepDate: **21-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

MBLK Sample ID: **MBLK-149832** Units: **mg/L** Analysis Date: **22-Jan-2020 23:25**
Client ID: Run ID: **ICPMS04_354801** SeqNo: **5444228** PrepDate: **21-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-149832** Units: **mg/L** Analysis Date: **22-Jan-2020 23:30**
Client ID: Run ID: **ICPMS04_354801** SeqNo: **5444230** PrepDate: **21-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0493	0.00200	0.05	0	98.6	80 - 120				

MS Sample ID: **HS20010767-02MS** Units: **mg/L** Analysis Date: **22-Jan-2020 23:36**
Client ID: **WG-1620-MW28C-20200116** Run ID: **ICPMS04_354801** SeqNo: **5444233** PrepDate: **21-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04794	0.00200	0.05	0.000937	94.0	80 - 120				

MSD Sample ID: **HS20010767-02MSD** Units: **mg/L** Analysis Date: **22-Jan-2020 23:39**
Client ID: **WG-1620-MW28C-20200116** Run ID: **ICPMS04_354801** SeqNo: **5444234** PrepDate: **21-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05018	0.00200	0.05	0.000937	98.5	80 - 120	0.04794	4.57	20	

PDS Sample ID: **HS20010767-02PDS** Units: **mg/L** Analysis Date: **22-Jan-2020 23:41**
Client ID: **WG-1620-MW28C-20200116** Run ID: **ICPMS04_354801** SeqNo: **5444235** PrepDate: **21-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.09536	0.00200	0.1	0.000937	94.4	75 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149832 (0) **Instrument:** ICPMS04 **Method:** ICP-MS METALS BY SW6020A

SD Sample ID: **HS20010767-02SD** Units: **mg/L** Analysis Date: **22-Jan-2020 23:34**
Client ID: **WG-1620-MW28C-20200116** Run ID: **ICPMS04_354801** SeqNo: **5444232** PrepDate: **21-Jan-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.000937	0	10	

The following samples were analyzed in this batch: HS20010767-01 HS20010767-02 HS20010767-04

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149881 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLKF1-149881** Units: **mg/L** Analysis Date: **24-Jan-2020 14:21**
Client ID: Run ID: **ICPMS05_354996** SeqNo: **5447636** PrepDate: **22-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

MBLK Sample ID: **MBLK-149881** Units: **mg/L** Analysis Date: **24-Jan-2020 14:18**
Client ID: Run ID: **ICPMS05_354996** SeqNo: **5447635** PrepDate: **22-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-149881** Units: **mg/L** Analysis Date: **24-Jan-2020 14:23**
Client ID: Run ID: **ICPMS05_354996** SeqNo: **5447637** PrepDate: **22-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04927	0.00200	0.05	0	98.6	80 - 120				

MS Sample ID: **HS20010752-08MS** Units: **mg/L** Analysis Date: **24-Jan-2020 15:26**
Client ID: Run ID: **ICPMS05_354996** SeqNo: **5447650** PrepDate: **22-Jan-2020** DF: **10**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1068	0.0200	0.05	0.06877	76.0	80 - 120				S

MSD Sample ID: **HS20010752-08MSD** Units: **mg/L** Analysis Date: **27-Jan-2020 14:34**
Client ID: Run ID: **ICPMS05_355087** SeqNo: **5448409** PrepDate: **22-Jan-2020** DF: **10**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1141	0.0200	0.05	0.06877	90.6	80 - 120	0.1068	6.58	20	

PDS Sample ID: **HS20010752-08PDS** Units: **mg/L** Analysis Date: **27-Jan-2020 14:39**
Client ID: Run ID: **ICPMS05_355087** SeqNo: **5448411** PrepDate: **22-Jan-2020** DF: **10**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	1.132	0.0200	1	0.06877	106	75 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149881 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

SD Sample ID: **HS20010752-08SD** Units: **mg/L** Analysis Date: **24-Jan-2020 15:24**
Client ID: Run ID: **ICPMS05_354996** SeqNo: **5447649** PrepDate: **22-Jan-2020** DF: **50**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.07175	0.100					0.06877	0	10	J

The following samples were analyzed in this batch: HS20010767-03 HS20010767-05 HS20010767-06 HS20010767-07 HS20010767-08

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149936 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-149936** Units: **mg/L** Analysis Date: **24-Jan-2020 02:47**
Client ID: Run ID: **ICPMS05_354962** SeqNo: **5446103** PrepDate: **23-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-149936** Units: **mg/L** Analysis Date: **24-Jan-2020 02:49**
Client ID: Run ID: **ICPMS05_354962** SeqNo: **5446104** PrepDate: **23-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04886	0.00200	0.05	0	97.7	80 - 120				

MS Sample ID: **HS20010767-29MS** Units: **mg/L** Analysis Date: **24-Jan-2020 02:56**
Client ID: **WG-1620-MW61A-20200116** Run ID: **ICPMS05_354962** SeqNo: **5446107** PrepDate: **23-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05254	0.00200	0.05	0.00107	103	80 - 120				

MSD Sample ID: **HS20010767-29MSD** Units: **mg/L** Analysis Date: **24-Jan-2020 02:58**
Client ID: **WG-1620-MW61A-20200116** Run ID: **ICPMS05_354962** SeqNo: **5446108** PrepDate: **23-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05469	0.00200	0.05	0.00107	107	80 - 120	0.05254	4	20	

PDS Sample ID: **HS20010767-29PDS** Units: **mg/L** Analysis Date: **24-Jan-2020 03:00**
Client ID: **WG-1620-MW61A-20200116** Run ID: **ICPMS05_354962** SeqNo: **5446109** PrepDate: **23-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1055	0.00200	0.1	0.00107	104	75 - 125				

SD Sample ID: **HS20010767-29SD** Units: **mg/L** Analysis Date: **24-Jan-2020 02:53**
Client ID: **WG-1620-MW61A-20200116** Run ID: **ICPMS05_354962** SeqNo: **5446106** PrepDate: **23-Jan-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.0100					0.00107	0	10	

The following samples were analyzed in this batch:

HS20010767-09	HS20010767-10	HS20010767-11	HS20010767-12
HS20010767-13	HS20010767-14	HS20010767-15	HS20010767-16
HS20010767-17	HS20010767-19	HS20010767-20	HS20010767-21
HS20010767-22	HS20010767-23	HS20010767-24	HS20010767-25
HS20010767-27	HS20010767-28	HS20010767-29	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149912 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-149912** Units: **ug/L** Analysis Date: **23-Jan-2020 08:56**
Client ID: Run ID: **SV-7_354913** SeqNo: **5445204** PrepDate: **22-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*5.765*	*0.20*	*5*	*0*	*115*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*5.735*	*0.20*	*5*	*0*	*115*	*40 - 125*				
Surr: 2-Fluorophenol	*4.308*	*0.20*	*5*	*0*	*86.2*	*20 - 120*				
Surr: 4-Terphenyl-d14	*6.463*	*0.20*	*5*	*0*	*129*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.615*	*0.20*	*5*	*0*	*92.3*	*41 - 120*				
Surr: Phenol-d6	*4.471*	*0.20*	*5*	*0*	*89.4*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149912 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-149912** Units: **ug/L** Analysis Date: **23-Jan-2020 09:15**
Client ID: Run ID: **SV-7_354913** SeqNo: **5445205** PrepDate: **22-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.941	0.20	5	0	98.8	39 - 127				
2,4-Dimethylphenol	4.975	0.20	5	0	99.5	35 - 120				
2,4-Dinitrotoluene	5.465	0.20	5	0	109	50 - 122				
2,6-Dinitrotoluene	5.315	0.20	5	0	106	50 - 120				
2-Chloronaphthalene	5.375	0.20	5	0	108	50 - 120				
2-Methylnaphthalene	5.452	0.10	5	0	109	50 - 120				
4,6-Dinitro-2-methylphenol	4.139	0.20	5	0	82.8	25 - 121				
4-Nitrophenol	4.795	1.0	5	0	95.9	30 - 130				
Acenaphthene	5.261	0.10	5	0	105	45 - 120				
Acenaphthylene	5.595	0.10	5	0	112	47 - 120				
Anthracene	5.443	0.10	5	0	109	45 - 120				
Benz(a)anthracene	5.163	0.10	5	0	103	40 - 120				
Benzo(a)pyrene	5.388	0.10	5	0	108	45 - 120				
Bis(2-chloroethoxy)methane	4.569	0.20	5	0	91.4	45 - 120				
Bis(2-ethylhexyl)phthalate	6.14	0.20	5	0	123	40 - 139				
Chrysene	5.073	0.10	5	0	101	43 - 120				
Dibenzofuran	5.456	0.10	5	0	109	50 - 120				
Di-n-butyl phthalate	6.076	0.20	5	0	122	45 - 123				
Fluoranthene	5.46	0.10	5	0	109	45 - 125				
Fluorene	5.591	0.10	5	0	112	49 - 120				
Naphthalene	5.915	0.10	5	0	118	45 - 120				
Nitrobenzene	4.369	0.20	5	0	87.4	44 - 120				
N-Nitrosodiphenylamine	5.411	0.20	5	0	108	40 - 125				
Pentachlorophenol	2.724	0.20	5	0	54.5	19 - 121				
Phenanthrene	5.334	0.10	5	0	107	45 - 121				
Phenol	4.829	0.20	5	0	96.6	20 - 124				
Pyrene	5.438	0.10	5	0	109	40 - 130				
Surr: 2,4,6-Tribromophenol	*6.301*	*0.20*	*5*	*0*	*126*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*6.146*	*0.20*	*5*	*0*	*123*	*40 - 125*				
Surr: 2-Fluorophenol	*4.409*	*0.20*	*5*	*0*	*88.2*	*20 - 120*				
Surr: 4-Terphenyl-d14	*6.275*	*0.20*	*5*	*0*	*126*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.93*	*0.20*	*5*	*0*	*98.6*	*41 - 120*				
Surr: Phenol-d6	*4.815*	*0.20*	*5*	*0*	*96.3*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149912 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MS Sample ID: **HS20010767-18MS** Units: **ug/L** Analysis Date: **23-Jan-2020 09:59**
Client ID: **WG-1620-MW65D-20200116** Run ID: **SV-7_354913** SeqNo: **5445207** PrepDate: **22-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.323	0.20	5	0	86.5	39 - 127				
2,4-Dimethylphenol	4.078	0.20	5	0	81.6	35 - 120				
2,4-Dinitrotoluene	4.77	0.20	5	0	95.4	50 - 122				
2,6-Dinitrotoluene	4.895	0.20	5	0	97.9	50 - 120				
2-Chloronaphthalene	4.764	0.20	5	0	95.3	50 - 120				
2-Methylnaphthalene	4.519	0.10	5	0	90.4	50 - 120				
4,6-Dinitro-2-methylphenol	4.287	0.20	5	0	85.7	25 - 121				
4-Nitrophenol	4.37	1.0	5	0	87.4	30 - 130				
Acenaphthene	4.646	0.10	5	0	92.9	45 - 120				
Acenaphthylene	4.886	0.10	5	0	97.7	47 - 120				
Anthracene	4.867	0.10	5	0	97.3	45 - 120				
Benz(a)anthracene	4.722	0.10	5	0	94.4	40 - 120				
Benzo(a)pyrene	4.84	0.10	5	0	96.8	45 - 120				
Bis(2-chloroethoxy)methane	3.874	0.20	5	0	77.5	45 - 120				
Bis(2-ethylhexyl)phthalate	5.758	0.20	5	0.2648	110	40 - 139				
Chrysene	4.566	0.10	5	0	91.3	43 - 120				
Dibenzofuran	4.741	0.10	5	0	94.8	50 - 120				
Di-n-butyl phthalate	5.562	0.20	5	0	111	45 - 123				
Fluoranthene	4.981	0.10	5	0	99.6	45 - 125				
Fluorene	4.89	0.10	5	0	97.8	49 - 120				
Naphthalene	4.673	0.10	5	0	93.5	45 - 120				
Nitrobenzene	3.616	0.20	5	0	72.3	44 - 120				
N-Nitrosodiphenylamine	4.609	0.20	5	0	92.2	40 - 125				
Pentachlorophenol	3.229	0.20	5	0	64.6	19 - 121				
Phenanthrene	4.672	0.10	5	0	93.4	45 - 121				
Phenol	4.224	0.20	5	0	84.5	20 - 124				
Pyrene	4.975	0.10	5	0	99.5	40 - 130				
Surr: 2,4,6-Tribromophenol	*5.909*	*0.20*	*5*	*0*	*118*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*5.365*	*0.20*	*5*	*0*	*107*	*40 - 125*				
Surr: 2-Fluorophenol	*4.067*	*0.20*	*5*	*0*	*81.3*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.888*	*0.20*	*5*	*0*	*118*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.346*	*0.20*	*5*	*0*	*86.9*	*41 - 120*				
Surr: Phenol-d6	*4.567*	*0.20*	*5*	*0*	*91.3*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149912 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MS Sample ID: **HS20010767-02MS** Units: **ug/L** Analysis Date: **25-Jan-2020 12:22**
Client ID: **WG-1620-MW28C-20200116** Run ID: **SV-6_355049** SeqNo: **5448627** PrepDate: **22-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	5.094	0.20	5	0	102	39 - 127				
2,4-Dimethylphenol	3.359	0.20	5	0	67.2	35 - 120				
2,4-Dinitrotoluene	5.668	0.20	5	0	113	50 - 122				
2,6-Dinitrotoluene	4.959	0.20	5	0	99.2	50 - 120				
2-Chloronaphthalene	4.264	0.20	5	0	85.3	50 - 120				
2-Methylnaphthalene	4.045	0.10	5	0	80.9	50 - 120				
4,6-Dinitro-2-methylphenol	6.467	0.20	5	0	129	25 - 121				S
4-Nitrophenol	5.942	1.0	5	0	119	30 - 130				
Acenaphthene	4.553	0.10	5	0	91.1	45 - 120				
Acenaphthylene	4.175	0.10	5	0	83.5	47 - 120				
Anthracene	5.523	0.10	5	0	110	45 - 120				
Benz(a)anthracene	5.628	0.10	5	0	113	40 - 120				
Benzo(a)pyrene	5.453	0.10	5	0	109	45 - 120				
Bis(2-chloroethoxy)methane	4.015	0.20	5	0	80.3	45 - 120				
Bis(2-ethylhexyl)phthalate	5.277	0.20	5	0.07179	104	40 - 139				
Chrysene	5.372	0.10	5	0	107	43 - 120				
Dibenzofuran	4.21	0.10	5	0	84.2	50 - 120				
Di-n-butyl phthalate	6.154	0.20	5	0	123	45 - 123				S
Fluoranthene	5.615	0.10	5	0	112	45 - 125				
Fluorene	4.421	0.10	5	0	88.4	49 - 120				
Naphthalene	3.715	0.10	5	0.1556	71.2	45 - 120				
Nitrobenzene	3.908	0.20	5	0	78.2	44 - 120				
N-Nitrosodiphenylamine	5.898	0.20	5	0	118	40 - 125				
Pentachlorophenol	5.126	0.20	5	0	103	19 - 121				
Phenanthrene	5.305	0.10	5	0	106	45 - 121				
Phenol	3.48	0.20	5	0.08592	67.9	20 - 124				
Pyrene	5.61	0.10	5	0	112	40 - 130				
Surr: 2,4,6-Tribromophenol	*4.646*	*0.20*	*5*	*0*	*92.9*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*3.968*	*0.20*	*5*	*0*	*79.4*	*40 - 125*				
Surr: 2-Fluorophenol	*2.894*	*0.20*	*5*	*0*	*57.9*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.42*	*0.20*	*5*	*0*	*108*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.91*	*0.20*	*5*	*0*	*78.2*	*41 - 120*				
Surr: Phenol-d6	*3.403*	*0.20*	*5*	*0*	*68.1*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149912 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MSD Sample ID: **HS20010767-18MSD** Units: **ug/L** Analysis Date: **23-Jan-2020 10:18**
Client ID: **WG-1620-MW65D-20200116** Run ID: **SV-7_354913** SeqNo: **5445208** PrepDate: **22-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.677	0.20	5	0	93.5	39 - 127	4.323	7.87	20	
2,4-Dimethylphenol	4.291	0.20	5	0	85.8	35 - 120	4.078	5.09	20	
2,4-Dinitrotoluene	4.91	0.20	5	0	98.2	50 - 122	4.77	2.9	20	
2,6-Dinitrotoluene	4.907	0.20	5	0	98.1	50 - 120	4.895	0.258	20	
2-Chloronaphthalene	4.818	0.20	5	0	96.4	50 - 120	4.764	1.14	20	
2-Methylnaphthalene	4.716	0.10	5	0	94.3	50 - 120	4.519	4.27	20	
4,6-Dinitro-2-methylphenol	4.275	0.20	5	0	85.5	25 - 121	4.287	0.282	30	
4-Nitrophenol	4.178	1.0	5	0	83.6	30 - 130	4.37	4.5	20	
Acenaphthene	4.732	0.10	5	0	94.6	45 - 120	4.646	1.83	20	
Acenaphthylene	5.037	0.10	5	0	101	47 - 120	4.886	3.04	20	
Anthracene	4.947	0.10	5	0	98.9	45 - 120	4.867	1.63	20	
Benz(a)anthracene	4.832	0.10	5	0	96.6	40 - 120	4.722	2.32	20	
Benzo(a)pyrene	4.934	0.10	5	0	98.7	45 - 120	4.84	1.92	20	
Bis(2-chloroethoxy)methane	4.109	0.20	5	0	82.2	45 - 120	3.874	5.88	20	
Bis(2-ethylhexyl)phthalate	5.819	0.20	5	0.2648	111	40 - 139	5.758	1.06	20	
Chrysene	4.668	0.10	5	0	93.4	43 - 120	4.566	2.2	20	
Dibenzofuran	4.871	0.10	5	0	97.4	50 - 120	4.741	2.7	20	
Di-n-butyl phthalate	5.586	0.20	5	0	112	45 - 123	5.562	0.444	20	
Fluoranthene	4.883	0.10	5	0	97.7	45 - 125	4.981	1.97	20	
Fluorene	4.983	0.10	5	0	99.7	49 - 120	4.89	1.88	20	
Naphthalene	4.894	0.10	5	0	97.9	45 - 120	4.673	4.61	20	
Nitrobenzene	3.889	0.20	5	0	77.8	44 - 120	3.616	7.28	20	
N-Nitrosodiphenylamine	4.885	0.20	5	0	97.7	40 - 125	4.609	5.82	20	
Pentachlorophenol	3.134	0.20	5	0	62.7	19 - 121	3.229	3	20	
Phenanthrene	4.996	0.10	5	0	99.9	45 - 121	4.672	6.69	20	
Phenol	4.351	0.20	5	0	87.0	20 - 124	4.224	2.96	20	
Pyrene	5.082	0.10	5	0	102	40 - 130	4.975	2.14	20	
Surr: 2,4,6-Tribromophenol	*5.731*	*0.20*	*5*	*0*	*115*	*34 - 129*	*5.909*	*3.05*	*20*	
Surr: 2-Fluorobiphenyl	*5.483*	*0.20*	*5*	*0*	*110*	*40 - 125*	*5.365*	*2.17*	*20*	
Surr: 2-Fluorophenol	*4.007*	*0.20*	*5*	*0*	*80.1*	*20 - 120*	*4.067*	*1.48*	*20*	
Surr: 4-Terphenyl-d14	*5.938*	*0.20*	*5*	*0*	*119*	*40 - 135*	*5.888*	*0.844*	*20*	
Surr: Nitrobenzene-d5	*4.206*	*0.20*	*5*	*0*	*84.1*	*41 - 120*	*4.346*	*3.27*	*20*	
Surr: Phenol-d6	*4.422*	*0.20*	*5*	*0*	*88.4*	*20 - 120*	*4.567*	*3.23*	*20*	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149912 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MSD Sample ID: **HS20010767-02MSD** Units: **ug/L** Analysis Date: **25-Jan-2020 12:41**
Client ID: **WG-1620-MW28C-20200116** Run ID: **SV-6_355049** SeqNo: **5448628** PrepDate: **22-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.722	0.20	5	0	94.4	39 - 127	5.094	7.57	20	
2,4-Dimethylphenol	3.021	0.20	5	0	60.4	35 - 120	3.359	10.6	20	
2,4-Dinitrotoluene	5.415	0.20	5	0	108	50 - 122	5.668	4.56	20	
2,6-Dinitrotoluene	5.001	0.20	5	0	100	50 - 120	4.959	0.848	20	
2-Chloronaphthalene	4.118	0.20	5	0	82.4	50 - 120	4.264	3.49	20	
2-Methylnaphthalene	3.849	0.10	5	0	77.0	50 - 120	4.045	4.97	20	
4,6-Dinitro-2-methylphenol	5.971	0.20	5	0	119	25 - 121	6.467	7.97	30	
4-Nitrophenol	5.634	1.0	5	0	113	30 - 130	5.942	5.33	20	
Acenaphthene	4.507	0.10	5	0	90.1	45 - 120	4.553	1.02	20	
Acenaphthylene	4.003	0.10	5	0	80.1	47 - 120	4.175	4.2	20	
Anthracene	5.093	0.10	5	0	102	45 - 120	5.523	8.1	20	
Benz(a)anthracene	5.227	0.10	5	0	105	40 - 120	5.628	7.39	20	
Benzo(a)pyrene	5.12	0.10	5	0	102	45 - 120	5.453	6.31	20	
Bis(2-chloroethoxy)methane	3.329	0.20	5	0	66.6	45 - 120	4.015	18.7	20	
Bis(2-ethylhexyl)phthalate	6.092	0.20	5	0.07179	120	40 - 139	5.277	14.3	20	
Chrysene	5.384	0.10	5	0	108	43 - 120	5.372	0.21	20	
Dibenzofuran	4.23	0.10	5	0	84.6	50 - 120	4.21	0.471	20	
Di-n-butyl phthalate	6.028	0.20	5	0	121	45 - 123	6.154	2.06	20	
Fluoranthene	5.168	0.10	5	0	103	45 - 125	5.615	8.29	20	
Fluorene	4.566	0.10	5	0	91.3	49 - 120	4.421	3.21	20	
Naphthalene	3.661	0.10	5	0.1556	70.1	45 - 120	3.715	1.46	20	
Nitrobenzene	3.397	0.20	5	0	67.9	44 - 120	3.908	14	20	
N-Nitrosodiphenylamine	5.397	0.20	5	0	108	40 - 125	5.898	8.86	20	
Pentachlorophenol	4.902	0.20	5	0	98.0	19 - 121	5.126	4.48	20	
Phenanthrene	4.949	0.10	5	0	99.0	45 - 121	5.305	6.95	20	
Phenol	3.956	0.20	5	0.08592	77.4	20 - 124	3.48	12.8	20	
Pyrene	5.27	0.10	5	0	105	40 - 130	5.61	6.25	20	
Surr: 2,4,6-Tribromophenol	*4.371*	*0.20*	*5*	*0*	*87.4*	*34 - 129*	*4.646*	*6.08*	*20*	
Surr: 2-Fluorobiphenyl	*3.867*	*0.20*	*5*	*0*	*77.3*	*40 - 125*	*3.968*	*2.56*	*20*	
Surr: 2-Fluorophenol	*3.454*	*0.20*	*5*	*0*	*69.1*	*20 - 120*	*2.894*	*17.6*	*20*	
Surr: 4-Terphenyl-d14	*5.15*	*0.20*	*5*	*0*	*103*	*40 - 135*	*5.42*	*5.1*	*20*	
Surr: Nitrobenzene-d5	*3.342*	*0.20*	*5*	*0*	*66.8*	*41 - 120*	*3.91*	*15.7*	*20*	
Surr: Phenol-d6	*3.686*	*0.20*	*5*	*0*	*73.7*	*20 - 120*	*3.403*	*8*	*20*	

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	HS20010767

QC BATCH REPORT

Batch ID: 149912 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

The following samples were analyzed in this batch:

HS20010767-01	HS20010767-02	HS20010767-03	HS20010767-04
HS20010767-05	HS20010767-06	HS20010767-07	HS20010767-08
HS20010767-09	HS20010767-10	HS20010767-11	HS20010767-12
HS20010767-13	HS20010767-14	HS20010767-15	HS20010767-16
HS20010767-17	HS20010767-18	HS20010767-19	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149913 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-149913** Units: **ug/L** Analysis Date: **23-Jan-2020 08:18**
Client ID: Run ID: **SV-7_354913** SeqNo: **5447234** PrepDate: **22-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*5.682*	*0.20*	*5*	*0*	*114*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*5.86*	*0.20*	*5*	*0*	*117*	*40 - 125*				
Surr: 2-Fluorophenol	*4.972*	*0.20*	*5*	*0*	*99.4*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.966*	*0.20*	*5*	*0*	*119*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.68*	*0.20*	*5*	*0*	*93.6*	*41 - 120*				
Surr: Phenol-d6	*4.665*	*0.20*	*5*	*0*	*93.3*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149913 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-149913** Units: **ug/L** Analysis Date: **23-Jan-2020 08:37**
Client ID: Run ID: **SV-7_354913** SeqNo: **5447235** PrepDate: **22-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.666	0.20	5	0	93.3	39 - 127				
2,4-Dimethylphenol	4.637	0.20	5	0	92.7	35 - 120				
2,4-Dinitrotoluene	4.853	0.20	5	0	97.1	50 - 122				
2,6-Dinitrotoluene	4.895	0.20	5	0	97.9	50 - 120				
2-Chloronaphthalene	5.237	0.20	5	0	105	50 - 120				
2-Methylnaphthalene	4.811	0.10	5	0	96.2	50 - 120				
4,6-Dinitro-2-methylphenol	3.833	0.20	5	0	76.7	25 - 121				
4-Nitrophenol	4.307	1.0	5	0	86.1	30 - 130				
Acenaphthene	4.824	0.10	5	0	96.5	45 - 120				
Acenaphthylene	4.998	0.10	5	0	100.0	47 - 120				
Anthracene	5.009	0.10	5	0	100	45 - 120				
Benz(a)anthracene	4.636	0.10	5	0	92.7	40 - 120				
Benzo(a)pyrene	4.899	0.10	5	0	98.0	45 - 120				
Bis(2-chloroethoxy)methane	4.26	0.20	5	0	85.2	45 - 120				
Bis(2-ethylhexyl)phthalate	5.545	0.20	5	0	111	40 - 139				
Chrysene	4.739	0.10	5	0	94.8	43 - 120				
Dibenzofuran	4.863	0.10	5	0	97.3	50 - 120				
Di-n-butyl phthalate	5.557	0.20	5	0	111	45 - 123				
Fluoranthene	4.941	0.10	5	0	98.8	45 - 125				
Fluorene	4.979	0.10	5	0	99.6	49 - 120				
Naphthalene	5.181	0.10	5	0	104	45 - 120				
Nitrobenzene	3.945	0.20	5	0	78.9	44 - 120				
N-Nitrosodiphenylamine	4.857	0.20	5	0	97.1	40 - 125				
Pentachlorophenol	2.362	0.20	5	0	47.2	19 - 121				
Phenanthrene	4.929	0.10	5	0	98.6	45 - 121				
Phenol	4.554	0.20	5	0	91.1	20 - 124				
Pyrene	4.944	0.10	5	0	98.9	40 - 130				
Surr: 2,4,6-Tribromophenol	*5.524*	*0.20*	*5*	*0*	*110*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*5.551*	*0.20*	*5*	*0*	*111*	*40 - 125*				
Surr: 2-Fluorophenol	*4.237*	*0.20*	*5*	*0*	*84.7*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.865*	*0.20*	*5*	*0*	*117*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.474*	*0.20*	*5*	*0*	*89.5*	*41 - 120*				
Surr: Phenol-d6	*4.723*	*0.20*	*5*	*0*	*94.5*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149913 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MS Sample ID: **HS20010767-29MS** Units: **ug/L** Analysis Date: **23-Jan-2020 10:57**
Client ID: **WG-1620-MW61A-20200116** Run ID: **SV-7_354913** SeqNo: **5447237** PrepDate: **22-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.127	0.20	5	0	82.5	39 - 127				
2,4-Dimethylphenol	3.82	0.20	5	0	76.4	35 - 120				
2,4-Dinitrotoluene	4.735	0.20	5	0	94.7	50 - 122				
2,6-Dinitrotoluene	4.441	0.20	5	0	88.8	50 - 120				
2-Chloronaphthalene	4.418	0.20	5	0	88.4	50 - 120				
2-Methylnaphthalene	4.114	0.10	5	0	82.3	50 - 120				
4,6-Dinitro-2-methylphenol	4.515	0.20	5	0	90.3	25 - 121				
4-Nitrophenol	4.885	1.0	5	0	97.7	30 - 130				
Acenaphthene	4.136	0.10	5	0.05203	81.7	45 - 120				
Acenaphthylene	4.391	0.10	5	0	87.8	47 - 120				
Anthracene	4.875	0.10	5	0	97.5	45 - 120				
Benz(a)anthracene	4.904	0.10	5	0	98.1	40 - 120				
Benzo(a)pyrene	4.989	0.10	5	0	99.8	45 - 120				
Bis(2-chloroethoxy)methane	3.628	0.20	5	0	72.6	45 - 120				
Bis(2-ethylhexyl)phthalate	5.934	0.20	5	0.08059	117	40 - 139				
Chrysene	4.795	0.10	5	0	95.9	43 - 120				
Dibenzofuran	4.243	0.10	5	0	84.9	50 - 120				
Di-n-butyl phthalate	5.583	0.20	5	0	112	45 - 123				
Fluoranthene	5.114	0.10	5	0.06004	101	45 - 125				
Fluorene	4.513	0.10	5	0	90.3	49 - 120				
Naphthalene	4.262	0.10	5	0.2136	81.0	45 - 120				
Nitrobenzene	3.349	0.20	5	0	67.0	44 - 120				
N-Nitrosodiphenylamine	4.286	0.20	5	0	85.7	40 - 125				
Pentachlorophenol	3.54	0.20	5	0	70.8	19 - 121				
Phenanthrene	4.755	0.10	5	0.1016	93.1	45 - 121				
Phenol	3.665	0.20	5	0	73.3	20 - 124				
Pyrene	5.074	0.10	5	0.0591	100	40 - 130				
Surr: 2,4,6-Tribromophenol	*5.896*	*0.20*	*5*	*0*	*118*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.696*	*0.20*	*5*	*0*	*93.9*	*40 - 125*				
Surr: 2-Fluorophenol	*3.424*	*0.20*	*5*	*0*	*68.5*	*20 - 120*				
Surr: 4-Terphenyl-d14	*6.154*	*0.20*	*5*	*0*	*123*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.847*	*0.20*	*5*	*0*	*76.9*	*41 - 120*				
Surr: Phenol-d6	*3.851*	*0.20*	*5*	*0*	*77.0*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: 149913 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MSD Sample ID: **HS20010767-29MSD** Units: **ug/L** Analysis Date: **23-Jan-2020 11:16**
Client ID: **WG-1620-MW61A-20200116** Run ID: **SV-7_354913** SeqNo: **5447238** PrepDate: **22-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.446	0.20	5	0	88.9	39 - 127	4.127	7.43	20	
2,4-Dimethylphenol	4.161	0.20	5	0	83.2	35 - 120	3.82	8.54	20	
2,4-Dinitrotoluene	4.907	0.20	5	0	98.1	50 - 122	4.735	3.57	20	
2,6-Dinitrotoluene	4.699	0.20	5	0	94.0	50 - 120	4.441	5.64	20	
2-Chloronaphthalene	4.799	0.20	5	0	96.0	50 - 120	4.418	8.26	20	
2-Methylnaphthalene	4.319	0.10	5	0	86.4	50 - 120	4.114	4.88	20	
4,6-Dinitro-2-methylphenol	4.43	0.20	5	0	88.6	25 - 121	4.515	1.91	30	
4-Nitrophenol	4.913	1.0	5	0	98.3	30 - 130	4.885	0.58	20	
Acenaphthene	4.492	0.10	5	0.05203	88.8	45 - 120	4.136	8.24	20	
Acenaphthylene	4.652	0.10	5	0	93.0	47 - 120	4.391	5.76	20	
Anthracene	4.969	0.10	5	0	99.4	45 - 120	4.875	1.9	20	
Benz(a)anthracene	5.055	0.10	5	0	101	40 - 120	4.904	3.05	20	
Benzo(a)pyrene	4.885	0.10	5	0	97.7	45 - 120	4.989	2.12	20	
Bis(2-chloroethoxy)methane	3.667	0.20	5	0	73.3	45 - 120	3.628	1.06	20	
Bis(2-ethylhexyl)phthalate	6.102	0.20	5	0.08059	120	40 - 139	5.934	2.79	20	
Chrysene	4.891	0.10	5	0	97.8	43 - 120	4.795	2	20	
Dibenzofuran	4.52	0.10	5	0	90.4	50 - 120	4.243	6.32	20	
Di-n-butyl phthalate	5.617	0.20	5	0	112	45 - 123	5.583	0.62	20	
Fluoranthene	5.088	0.10	5	0.06004	101	45 - 125	5.114	0.51	20	
Fluorene	4.732	0.10	5	0	94.6	49 - 120	4.513	4.73	20	
Naphthalene	4.399	0.10	5	0.2136	83.7	45 - 120	4.262	3.17	20	
Nitrobenzene	3.289	0.20	5	0	65.8	44 - 120	3.349	1.8	20	
N-Nitrosodiphenylamine	4.566	0.20	5	0	91.3	40 - 125	4.286	6.33	20	
Pentachlorophenol	3.743	0.20	5	0	74.9	19 - 121	3.54	5.57	20	
Phenanthrene	4.944	0.10	5	0.1016	96.8	45 - 121	4.755	3.89	20	
Phenol	3.887	0.20	5	0	77.7	20 - 124	3.665	5.87	20	
Pyrene	5.317	0.10	5	0.0591	105	40 - 130	5.074	4.68	20	
Surr: 2,4,6-Tribromophenol	*5.221*	*0.20*	*5*	*0*	*104*	*34 - 129*	*5.896*	*12.2*	*20*	
Surr: 2-Fluorobiphenyl	*4.822*	*0.20*	*5*	*0*	*96.4*	*40 - 125*	*4.696*	*2.65*	*20*	
Surr: 2-Fluorophenol	*3.562*	*0.20*	*5*	*0*	*71.2*	*20 - 120*	*3.424*	*3.95*	*20*	
Surr: 4-Terphenyl-d14	*6.108*	*0.20*	*5*	*0*	*122*	*40 - 135*	*6.154*	*0.75*	*20*	
Surr: Nitrobenzene-d5	*3.608*	*0.20*	*5*	*0*	*72.2*	*41 - 120*	*3.847*	*6.42*	*20*	
Surr: Phenol-d6	*4.046*	*0.20*	*5*	*0*	*80.9*	*20 - 120*	*3.851*	*4.95*	*20*	

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	HS20010767

QC BATCH REPORT

Batch ID: 149913 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

The following samples were analyzed in this batch:

HS20010767-20	HS20010767-21	HS20010767-22	HS20010767-23
HS20010767-24	HS20010767-25	HS20010767-27	HS20010767-28
HS20010767-29			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: R354794 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200121** Units: **ug/L** Analysis Date: **21-Jan-2020 21:37**
Client ID: Run ID: **VOA4_354794** SeqNo: **5443118** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*51.87*	*1.0*	*50*	*0*	*104*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.88*	*1.0*	*50*	*0*	*95.8*	*82 - 115*				
Surr: Dibromofluoromethane	*49.49*	*1.0*	*50*	*0*	*99.0*	*73 - 126*				
Surr: Toluene-d8	*50.61*	*1.0*	*50*	*0*	*101*	*81 - 120*				

LCS Sample ID: **VLCSW-200121** Units: **ug/L** Analysis Date: **21-Jan-2020 20:48**
Client ID: Run ID: **VOA4_354794** SeqNo: **5443117** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	19.81	1.0	20	0	99.0	70 - 124				
Benzene	20.07	1.0	20	0	100	74 - 120				
Chlorobenzene	19.38	1.0	20	0	96.9	76 - 113				
Ethylbenzene	19.76	1.0	20	0	98.8	77 - 117				
Methylene chloride	21.54	2.0	20	0	108	70 - 127				
Toluene	19.62	1.0	20	0	98.1	77 - 118				
Vinyl chloride	19.87	1.0	20	0	99.3	70 - 130				
Xylenes, Total	62.57	1.0	60	0	104	75 - 122				
Surr: 1,2-Dichloroethane-d4	*51.57*	*1.0*	*50*	*0*	*103*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*49.97*	*1.0*	*50*	*0*	*99.9*	*82 - 115*				
Surr: Dibromofluoromethane	*49.85*	*1.0*	*50*	*0*	*99.7*	*73 - 126*				
Surr: Toluene-d8	*49.58*	*1.0*	*50*	*0*	*99.2*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: R354794 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010767-02MS** Units: **ug/L** Analysis Date: **22-Jan-2020 00:05**
Client ID: **WG-1620-MW28C-20200116** Run ID: **VOA4_354794** SeqNo: **5443123** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	17.06	1.0	20	0	85.3	70 - 127				
Benzene	17.8	1.0	20	0	89.0	70 - 127				
Chlorobenzene	17.78	1.0	20	0	88.9	70 - 114				
Ethylbenzene	18.09	1.0	20	0	90.5	70 - 124				
Methylene chloride	16.05	2.0	20	0	80.2	70 - 128				
Toluene	17.93	1.0	20	0	89.6	70 - 123				
Vinyl chloride	22.17	1.0	20	0.477	108	70 - 130				
Xylenes, Total	56.44	1.0	60	0	94.1	70 - 130				
Surr: 1,2-Dichloroethane-d4	*49.09*	*1.0*	*50*	*0*	*98.2*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*49.59*	*1.0*	*50*	*0*	*99.2*	*81 - 113*				
Surr: Dibromofluoromethane	*49.87*	*1.0*	*50*	*0*	*99.7*	*77 - 123*				
Surr: Toluene-d8	*50.43*	*1.0*	*50*	*0*	*101*	*82 - 127*				

MSD Sample ID: **HS20010767-02MSD** Units: **ug/L** Analysis Date: **22-Jan-2020 00:30**
Client ID: **WG-1620-MW28C-20200116** Run ID: **VOA4_354794** SeqNo: **5443124** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	17.07	1.0	20	0	85.3	70 - 127	17.06	0.0484	20	
Benzene	17.72	1.0	20	0	88.6	70 - 127	17.8	0.415	20	
Chlorobenzene	17.36	1.0	20	0	86.8	70 - 114	17.78	2.36	20	
Ethylbenzene	17.78	1.0	20	0	88.9	70 - 124	18.09	1.74	20	
Methylene chloride	15.15	2.0	20	0	75.8	70 - 128	16.05	5.74	20	
Toluene	17.64	1.0	20	0	88.2	70 - 123	17.93	1.64	20	
Vinyl chloride	21.02	1.0	20	0.477	103	70 - 130	22.17	5.33	20	
Xylenes, Total	55.22	1.0	60	0	92.0	70 - 130	56.44	2.18	20	
Surr: 1,2-Dichloroethane-d4	*50.01*	*1.0*	*50*	*0*	*100*	*70 - 126*	*49.09*	*1.85*	*20*	
Surr: 4-Bromofluorobenzene	*49.69*	*1.0*	*50*	*0*	*99.4*	*81 - 113*	*49.59*	*0.216*	*20*	
Surr: Dibromofluoromethane	*49.6*	*1.0*	*50*	*0*	*99.2*	*77 - 123*	*49.87*	*0.535*	*20*	
Surr: Toluene-d8	*50.93*	*1.0*	*50*	*0*	*102*	*82 - 127*	*50.43*	*0.976*	*20*	

The following samples were analyzed in this batch: HS20010767-01 HS20010767-02 HS20010767-03

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: R354799 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200121** Units: **ug/L** Analysis Date: **21-Jan-2020 12:55**
Client ID: Run ID: **VOA2_354799** SeqNo: **5443190** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*45.22*	*1.0*	*50*	*0*	*90.4*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*46.91*	*1.0*	*50*	*0*	*93.8*	*82 - 115*				
Surr: Dibromofluoromethane	*48.57*	*1.0*	*50*	*0*	*97.1*	*73 - 126*				
Surr: Toluene-d8	*50.32*	*1.0*	*50*	*0*	*101*	*81 - 120*				

LCS Sample ID: **VLCSW-200221** Units: **ug/L** Analysis Date: **21-Jan-2020 12:06**
Client ID: Run ID: **VOA2_354799** SeqNo: **5443189** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.66	1.0	20	0	88.3	70 - 124				
Benzene	17.2	1.0	20	0	86.0	74 - 120				
Chlorobenzene	18.44	1.0	20	0	92.2	76 - 113				
Ethylbenzene	17.94	1.0	20	0	89.7	77 - 117				
Methylene chloride	17.49	2.0	20	0	87.4	70 - 127				
Toluene	19.3	1.0	20	0	96.5	77 - 118				
Vinyl chloride	15.17	1.0	20	0	75.8	70 - 130				
Xylenes, Total	54.82	1.0	60	0	91.4	75 - 122				
Surr: 1,2-Dichloroethane-d4	*46.76*	*1.0*	*50*	*0*	*93.5*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*48.36*	*1.0*	*50*	*0*	*96.7*	*82 - 115*				
Surr: Dibromofluoromethane	*48.03*	*1.0*	*50*	*0*	*96.1*	*73 - 126*				
Surr: Toluene-d8	*49.46*	*1.0*	*50*	*0*	*98.9*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: R354799 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010767-05MS** Units: **ug/L** Analysis Date: **21-Jan-2020 17:48**
Client ID: **WG-1620-MW84B-20200116** Run ID: **VOA2_354799** SeqNo: **5443202** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.36	1.0	20	0	81.8	70 - 127				
Benzene	24.4	1.0	20	6.383	90.1	70 - 127				
Chlorobenzene	17.96	1.0	20	0	89.8	70 - 114				
Ethylbenzene	28.72	1.0	20	9.361	96.8	70 - 124				
Methylene chloride	15.89	2.0	20	0	79.4	70 - 128				
Toluene	20.5	1.0	20	0	102	70 - 123				
Vinyl chloride	17.82	1.0	20	0	89.1	70 - 130				
Xylenes, Total	57.71	1.0	60	3.181	90.9	70 - 130				
Surr: 1,2-Dichloroethane-d4	*46.04*	*1.0*	*50*	*0*	*92.1*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*48.8*	*1.0*	*50*	*0*	*97.6*	*81 - 113*				
Surr: Dibromofluoromethane	*47.49*	*1.0*	*50*	*0*	*95.0*	*77 - 123*				
Surr: Toluene-d8	*49.2*	*1.0*	*50*	*0*	*98.4*	*82 - 127*				

MSD Sample ID: **HS20010767-05MSD** Units: **ug/L** Analysis Date: **21-Jan-2020 18:12**
Client ID: **WG-1620-MW84B-20200116** Run ID: **VOA2_354799** SeqNo: **5443203** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.51	1.0	20	0	82.6	70 - 127	16.36	0.908	20	
Benzene	24.24	1.0	20	6.383	89.3	70 - 127	24.4	0.678	20	
Chlorobenzene	17.68	1.0	20	0	88.4	70 - 114	17.96	1.54	20	
Ethylbenzene	28.32	1.0	20	9.361	94.8	70 - 124	28.72	1.41	20	
Methylene chloride	15.24	2.0	20	0	76.2	70 - 128	15.89	4.15	20	
Toluene	20.18	1.0	20	0	101	70 - 123	20.5	1.56	20	
Vinyl chloride	16.8	1.0	20	0	84.0	70 - 130	17.82	5.89	20	
Xylenes, Total	56.81	1.0	60	3.181	89.4	70 - 130	57.71	1.57	20	
Surr: 1,2-Dichloroethane-d4	*46.11*	*1.0*	*50*	*0*	*92.2*	*70 - 126*	*46.04*	*0.147*	*20*	
Surr: 4-Bromofluorobenzene	*49.23*	*1.0*	*50*	*0*	*98.5*	*81 - 113*	*48.8*	*0.867*	*20*	
Surr: Dibromofluoromethane	*47.4*	*1.0*	*50*	*0*	*94.8*	*77 - 123*	*47.49*	*0.191*	*20*	
Surr: Toluene-d8	*49.04*	*1.0*	*50*	*0*	*98.1*	*82 - 127*	*49.2*	*0.339*	*20*	

The following samples were analyzed in this batch:

HS20010767-04	HS20010767-05	HS20010767-06	HS20010767-08
HS20010767-09	HS20010767-11	HS20010767-12	HS20010767-13
HS20010767-14	HS20010767-15		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: R354802 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200121** Units: **ug/L** Analysis Date: **22-Jan-2020 00:44**
Client ID: Run ID: **VOA2_354802** SeqNo: **5443239** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*45.01*	*1.0*	*50*	*0*	*90.0*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.23*	*1.0*	*50*	*0*	*94.5*	*82 - 115*				
Surr: Dibromofluoromethane	*48.17*	*1.0*	*50*	*0*	*96.3*	*73 - 126*				
Surr: Toluene-d8	*49.91*	*1.0*	*50*	*0*	*99.8*	*81 - 120*				

LCS Sample ID: **VLCSW-200121** Units: **ug/L** Analysis Date: **21-Jan-2020 23:55**
Client ID: Run ID: **VOA2_354802** SeqNo: **5443238** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.23	1.0	20	0	86.2	70 - 124				
Benzene	17.15	1.0	20	0	85.8	74 - 120				
Chlorobenzene	18.1	1.0	20	0	90.5	76 - 113				
Ethylbenzene	17.55	1.0	20	0	87.7	77 - 117				
Methylene chloride	18.45	2.0	20	0	92.3	70 - 127				
Toluene	19.21	1.0	20	0	96.0	77 - 118				
Xylenes, Total	53.45	1.0	60	0	89.1	75 - 122				
Surr: 1,2-Dichloroethane-d4	*46.09*	*1.0*	*50*	*0*	*92.2*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*48.89*	*1.0*	*50*	*0*	*97.8*	*82 - 115*				
Surr: Dibromofluoromethane	*47.27*	*1.0*	*50*	*0*	*94.5*	*73 - 126*				
Surr: Toluene-d8	*49.15*	*1.0*	*50*	*0*	*98.3*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: R354802 (0) **Instrument:** VOA2 **Method:** LOW LEVEL VOLATILES BY SW8260C

MS Sample ID: **HS20010767-18MS** Units: **ug/L** Analysis Date: **22-Jan-2020 02:21**
Client ID: **WG-1620-MW65D-20200116** Run ID: **VOA2_354802** SeqNo: **5443243** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.51	1.0	20	0	82.6	70 - 127				
Benzene	16.52	1.0	20	0	82.6	70 - 127				
Chlorobenzene	17.7	1.0	20	0	88.5	70 - 114				
Ethylbenzene	17.86	1.0	20	0	89.3	70 - 124				
Methylene chloride	15.38	2.0	20	0	76.9	70 - 128				
Toluene	18.94	1.0	20	0	94.7	70 - 123				
Xylenes, Total	53.57	1.0	60	0	89.3	70 - 130				
Surr: 1,2-Dichloroethane-d4	*46.68*	*1.0*	*50*	*0*	*93.4*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*49.26*	*1.0*	*50*	*0*	*98.5*	*81 - 113*				
Surr: Dibromofluoromethane	*48.04*	*1.0*	*50*	*0*	*96.1*	*77 - 123*				
Surr: Toluene-d8	*49.45*	*1.0*	*50*	*0*	*98.9*	*82 - 127*				

MSD Sample ID: **HS20010767-18MSD** Units: **ug/L** Analysis Date: **22-Jan-2020 02:46**
Client ID: **WG-1620-MW65D-20200116** Run ID: **VOA2_354802** SeqNo: **5443244** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.43	1.0	20	0	82.2	70 - 127	16.51	0.508	20	
Benzene	16.5	1.0	20	0	82.5	70 - 127	16.52	0.127	20	
Chlorobenzene	17.09	1.0	20	0	85.5	70 - 114	17.7	3.52	20	
Ethylbenzene	17.06	1.0	20	0	85.3	70 - 124	17.86	4.58	20	
Methylene chloride	15.4	2.0	20	0	77.0	70 - 128	15.38	0.0821	20	
Toluene	18.34	1.0	20	0	91.7	70 - 123	18.94	3.23	20	
Xylenes, Total	51.58	1.0	60	0	86.0	70 - 130	53.57	3.78	20	
Surr: 1,2-Dichloroethane-d4	*46.38*	*1.0*	*50*	*0*	*92.8*	*70 - 126*	*46.68*	*0.626*	*20*	
Surr: 4-Bromofluorobenzene	*48.86*	*1.0*	*50*	*0*	*97.7*	*81 - 113*	*49.26*	*0.814*	*20*	
Surr: Dibromofluoromethane	*47.8*	*1.0*	*50*	*0*	*95.6*	*77 - 123*	*48.04*	*0.511*	*20*	
Surr: Toluene-d8	*48.6*	*1.0*	*50*	*0*	*97.2*	*82 - 127*	*49.45*	*1.73*	*20*	

The following samples were analyzed in this batch:

HS20010767-07	HS20010767-10	HS20010767-16	HS20010767-17
HS20010767-18	HS20010767-19	HS20010767-20	HS20010767-21
HS20010767-22	HS20010767-23	HS20010767-24	HS20010767-25
HS20010767-26	HS20010767-27	HS20010767-28	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: R354859 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200122** Units: **ug/L** Analysis Date: **22-Jan-2020 13:01**
Client ID: Run ID: **VOA4_354859** SeqNo: **5444319** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Surr: 1,2-Dichloroethane-d4	*49.62*	*1.0*	*50*	*0*	*99.2*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*48.7*	*1.0*	*50*	*0*	*97.4*	*82 - 115*				
Surr: Dibromofluoromethane	*48.78*	*1.0*	*50*	*0*	*97.6*	*73 - 126*				
Surr: Toluene-d8	*51.64*	*1.0*	*50*	*0*	*103*	*81 - 120*				

LCS Sample ID: **VLCSW-200122** Units: **ug/L** Analysis Date: **22-Jan-2020 12:12**
Client ID: Run ID: **VOA4_354859** SeqNo: **5444318** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	20.43	1.0	20	0	102	77 - 118				
Vinyl chloride	20.42	1.0	20	0	102	70 - 130				
Surr: 1,2-Dichloroethane-d4	*49.37*	*1.0*	*50*	*0*	*98.7*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*50.11*	*1.0*	*50*	*0*	*100*	*82 - 115*				
Surr: Dibromofluoromethane	*49.33*	*1.0*	*50*	*0*	*98.7*	*73 - 126*				
Surr: Toluene-d8	*50.79*	*1.0*	*50*	*0*	*102*	*81 - 120*				

MS Sample ID: **HS20010767-29MS** Units: **ug/L** Analysis Date: **22-Jan-2020 15:31**
Client ID: **WG-1620-MW61A-20200116** Run ID: **VOA4_354859** SeqNo: **5444325** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Toluene	18.26	1.0	20	0	91.3	70 - 123				
Vinyl chloride	23.34	1.0	20	0	117	70 - 130				
Surr: 1,2-Dichloroethane-d4	*48.8*	*1.0*	*50*	*0*	*97.6*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*49.91*	*1.0*	*50*	*0*	*99.8*	*81 - 113*				
Surr: Dibromofluoromethane	*49.62*	*1.0*	*50*	*0*	*99.2*	*77 - 123*				
Surr: Toluene-d8	*51.16*	*1.0*	*50*	*0*	*102*	*82 - 127*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: R354859 (0) **Instrument:** VOA4 **Method:** LOW LEVEL VOLATILES BY SW8260C

MSD Sample ID: **HS20010767-29MSD** Units: **ug/L** Analysis Date: **22-Jan-2020 15:56**
Client ID: **WG-1620-MW61A-20200116** Run ID: **VOA4_354859** SeqNo: **5444326** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Toluene	17.93	1.0	20	0	89.7	70 - 123	18.26	1.81	20	
Vinyl chloride	22.63	1.0	20	0	113	70 - 130	23.34	3.09	20	
Surr: 1,2-Dichloroethane-d4	*49.43*	*1.0*	*50*	*0*	*98.9*	*70 - 126*	*48.8*	*1.28*	*20*	
Surr: 4-Bromofluorobenzene	*50.04*	*1.0*	*50*	*0*	*100*	*81 - 113*	*49.91*	*0.267*	*20*	
Surr: Dibromofluoromethane	*49.46*	*1.0*	*50*	*0*	*98.9*	*77 - 123*	*49.62*	*0.325*	*20*	
Surr: Toluene-d8	*51.24*	*1.0*	*50*	*0*	*102*	*82 - 127*	*51.16*	*0.159*	*20*	

The following samples were analyzed in this batch: HS20010767-10 HS20010767-23 HS20010767-24 HS20010767-26

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: R355066 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200125** Units: **ug/L** Analysis Date: **25-Jan-2020 11:48**
Client ID: Run ID: **VOA2_355066** SeqNo: **5447954** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*50.24*	*1.0*	*50*	*0*	*100*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.97*	*1.0*	*50*	*0*	*95.9*	*82 - 115*				
Surr: Dibromofluoromethane	*51.29*	*1.0*	*50*	*0*	*103*	*73 - 126*				
Surr: Toluene-d8	*51.05*	*1.0*	*50*	*0*	*102*	*81 - 120*				

LCS Sample ID: **VLCSW-200225** Units: **ug/L** Analysis Date: **25-Jan-2020 10:59**
Client ID: Run ID: **VOA2_355066** SeqNo: **5447953** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.57	1.0	20	0	92.9	70 - 124				
Benzene	18.24	1.0	20	0	91.2	74 - 120				
Chlorobenzene	18.75	1.0	20	0	93.8	76 - 113				
Ethylbenzene	18.83	1.0	20	0	94.1	77 - 117				
Methylene chloride	18.77	2.0	20	0	93.8	70 - 127				
Toluene	20.88	1.0	20	0	104	77 - 118				
Vinyl chloride	19.59	1.0	20	0	98.0	70 - 130				
Xylenes, Total	58.21	1.0	60	0	97.0	75 - 122				
Surr: 1,2-Dichloroethane-d4	*50.59*	*1.0*	*50*	*0*	*101*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*49.95*	*1.0*	*50*	*0*	*99.9*	*82 - 115*				
Surr: Dibromofluoromethane	*48.84*	*1.0*	*50*	*0*	*97.7*	*73 - 126*				
Surr: Toluene-d8	*50.26*	*1.0*	*50*	*0*	*101*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010767

QC BATCH REPORT

Batch ID: R355066 (0) **Instrument:** VOA2 **Method:** LOW LEVEL VOLATILES BY SW8260C

MS Sample ID: **HS20010767-29MS** Units: **ug/L** Analysis Date: **25-Jan-2020 13:28**
Client ID: **WG-1620-MW61A-20200116** Run ID: **VOA2_355066** SeqNo: **5447958** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	17.72	1.0	20	0	88.6	70 - 127				
Benzene	17.87	1.0	20	0	89.3	70 - 127				
Chlorobenzene	18.14	1.0	20	0	90.7	70 - 114				
Ethylbenzene	18.64	1.0	20	0	93.2	70 - 124				
Methylene chloride	18.41	2.0	20	0	92.0	70 - 128				
Toluene	20.39	1.0	20	0	102	70 - 123				
Vinyl chloride	18.29	1.0	20	0	91.4	70 - 130				
Xylenes, Total	57.1	1.0	60	0	95.2	70 - 130				
Surr: 1,2-Dichloroethane-d4	*51.56*	*1.0*	*50*	*0*	*103*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*50.55*	*1.0*	*50*	*0*	*101*	*81 - 113*				
Surr: Dibromofluoromethane	*50.1*	*1.0*	*50*	*0*	*100*	*77 - 123*				
Surr: Toluene-d8	*49.72*	*1.0*	*50*	*0*	*99.4*	*82 - 127*				

MSD Sample ID: **HS20010767-29MSD** Units: **ug/L** Analysis Date: **25-Jan-2020 13:52**
Client ID: **WG-1620-MW61A-20200116** Run ID: **VOA2_355066** SeqNo: **5447959** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	17.67	1.0	20	0	88.4	70 - 127	17.72	0.267	20	
Benzene	17.9	1.0	20	0	89.5	70 - 127	17.87	0.197	20	
Chlorobenzene	18.23	1.0	20	0	91.2	70 - 114	18.14	0.504	20	
Ethylbenzene	18.75	1.0	20	0	93.8	70 - 124	18.64	0.579	20	
Methylene chloride	17.79	2.0	20	0	88.9	70 - 128	18.41	3.41	20	
Toluene	20.63	1.0	20	0	103	70 - 123	20.39	1.13	20	
Vinyl chloride	18.66	1.0	20	0	93.3	70 - 130	18.29	2	20	
Xylenes, Total	57.29	1.0	60	0	95.5	70 - 130	57.1	0.342	20	
Surr: 1,2-Dichloroethane-d4	*50.81*	*1.0*	*50*	*0*	*102*	*70 - 126*	*51.56*	*1.47*	*20*	
Surr: 4-Bromofluorobenzene	*49.73*	*1.0*	*50*	*0*	*99.5*	*81 - 113*	*50.55*	*1.63*	*20*	
Surr: Dibromofluoromethane	*49.79*	*1.0*	*50*	*0*	*99.6*	*77 - 123*	*50.1*	*0.63*	*20*	
Surr: Toluene-d8	*50.3*	*1.0*	*50*	*0*	*101*	*82 - 127*	*49.72*	*1.16*	*20*	

The following samples were analyzed in this batch: HS20010767-29

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS20010767**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	T104704231-19-25	30-Apr-2020

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20010767

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20010767-01	WG-1620-MW28A-20200116	Login	1/17/2020 2:56:40 PM	JRM	MET002
HS20010767-01	WG-1620-MW28A-20200116	Login	1/17/2020 2:56:40 PM	JRM	EXT090
HS20010767-01	WG-1620-MW28A-20200116	Login	1/17/2020 2:56:40 PM	JRM	VOA239

Sample Receipt Checklist

Client Name: PBW
Work Order: HS20010767

Date/Time Received: **17-Jan-2020 13:11**
Received by: **PMG**

Checklist completed by: *Jared R. Makan* eSignature — 17-Jan-2020 Date

Reviewed by: *Dane J. Wacasey* eSignature — 21-Jan-2020 Date

Matrices: **Water**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	4 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:206390, 215871, 215867, 215868
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.7°C, 1.8°C, 1.3°C, 2.0°C, 1.3°C, 1.4°C, 1.7°C Corrected Temp	IR25
Cooler(s)/Kit(s):	45153, 43016, 5236, 42700, 45137, 45594, 45067	
Date/Time sample(s) sent to storage:	01/07/2020 19:30	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:
All VOCs received in cooler 45153 w/Trip Blank.
Samples received, not listed on COC:
MW48C - 01/16/20 10:20
MW47C - 01/16/20 11:05
MW61A (MS & MSD) - 01/16/20 12:00
Samples logged for analysis. IDs added to COC by ALS

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 4

COC ID: 206390

HS20010767

WV

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-07-Rev0 SR 92688
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address	

A: 8260_LL_W (5632528 Volatile Organics Site Specific)
B: 8260_LL_W (5632528 VOC Site Specific + V.C.)
C: 8270_LOW_W (5632532 SemiVolatiles Site specific)
D: ICP_TW (5636002 5652646 Metals - As)
E:
F:
G:
H:
I:
J:

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TB0-202001~~			Water	1	2		X									
2	WG-1620-MW28A-20200116	1-16-20	0910	W		6	X		X	X							
3	WG-1620-MW28C-20200116		1015	W		6	X		X	X							
4	WG-1620-MW28CMS-20200116		1015	W		6	X		X	X							
5	WG-1620-MW28MSD-20200116		1015	W		6	X		X	X							
6	WG-1620-FB08-20200116		1200	W		6	X		X	X							
7	WG-1620-MW89B-20200116		1245	W		6	X		X	X							
8	WG-1620-84B-20200116		1345	W		6	X		X	X							
9	WG-1620-63B-20200116		1445	W		6	X		X	X							
10	WG-1620-MW26A-20200116		1600	W		6	X		X	X							

Sampler(s) Please Print & Sign: JOHN BRAYDON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 -hour [ ] Other

Results Due Date:

Relinquished by: Date: 1-17-20 Time: 1311 Received by:

Relinquished by: Date: Time: Received by (Laboratory): 1/17/2020 13:11

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
45236	1.30.
43016	1.80.
45153	1.70

QC Package: (Check One Box Below)

- [ ] Level II Std QC
- [ ] Level III Std QC/Raw Data
- [ ] Level IV SW846/CLP
- [ ] Other
- [X] TRRP Checklist
- [ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

COC ID: 215871

HS20010767

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-07-Rev0 SR 92688
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address	

A	8260_LL_W (5632528 Volatile Organics Site Specific)
B	8260_LL_W (5632528 VOC Site Specific + V.C.)
C	8270_LOW_W (5632532 SemiVolatiles Site specific)
D	ICP_TW (5636002 5652646 Metals - As)
E	
F	
G	
H	
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TB0__202001~~			Water	1	2		X									
2	WG-1620-MW68C-20200117	1-17-20	0910	W		6	X		X	X							
3	WG-1620-MW68A-20200117	"	1015	W		6	X		X	X							
4	WG-1620-FB09-20200117	"	1000	W		6	X		X	X							
5	WG-1620-MW27A-20200115	1-15-20	1640	W		6	X		X	X							
6	WG-1620-MW27C-20200115	"	1720	W		6	X		X	X							
7	WG-1620-MW59A-20200116	1-16-20	0805	W		6		X	X	X							
8	WG-1620-MW59B-20200116		0900	W		6		X	X	X							
9	WG-1620-MW59D-20200116		1350	W		6	X		X	X							
10	WG-1620-FD03-20200116	"	1350	W		6	X		X	X							

Sampler(s) Please Print & Sign: JOHN BRAYTON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results Due Date:

Relinquished by:	Date: 1-17-20	Time: 311	Received by:	
Relinquished by:	Date:	Time:	Received by (Laboratory): 1/17/2020 13:11	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
42700	2.0°
45137	1.3°
45594	1.4°
45067	1.7°

QC Package: (Check One Box Below)

- [ ] Level II Std QC
- [ ] Level III Std QC/Raw Data
- [ ] Level IV SW846/CLP
- [ ] Other
- [X] TRRP Checklist
- [ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 3 of 4

COC ID: 215867

HS20010767

Golder Associates Inc.
Houston TX-Wood Preserving Works

WV

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 Volatile Organics Site Specific)
Work Order		Project Number	1620-07-Rev0 SR 92688	B	8260_LL_W (5632528 VOC Site Specific + V.C.)
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 5652646 Metals - As)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	TPH TR 1005
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WQ-1620-TB0__202001~~			Water	1	2		X									
2	WG-1620-MW66D-20200116	1-16-20	1500	W		6	X		X	X							
3	WG-1620-MW65D-20200116		1620	W		6	X		X	X							
4	WG-1620-MW65DMS-20200116		1620	W		6	X		X	X							
5	WG-1620-MW65DMSD-20200116		1620	W		6	X		X	X							
6	WG-1620-MW36D-20200116		1725	W		6	X		X	X							
7	WG-1620-MW86C-20200117	1-17-20	0725	W		9	X		X	X	X						
8	WG-1620-~~FB~~FD04-20200117		0725	W		9	X		X	X	X						
9	WG-1620-MW75B-20200117		0815	W		9	X		X	X	X						
10	WG-1620-MW79A-20200117		0920	W		9	X		X	X	X						

Sampler(s) Please Print & Sign: JOHN BRAMTON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results Due Date:

Relinquished by: Date: 1-17-20 Time: 1311 Received by:

Relinquished by: Date: Time: Received by (Laboratory): 1/17/2020 13:11

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)

- [ ] Level II Std QC
- [ ] Level III Std QC/Raw Data
- [ ] Level IV SW846/CLP
- [ ] Other
- [X] TRRP Checklist
- [ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 4 of 4

COC ID: 215868

HS20010767

IV

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-07-Rev0 SR 92688
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address	

A	8260_LL_W (5632528 Volatile Organics Site Specific)
B	8260_LL_W (5632528 VOC Site Specific + V.C.)
C	8270_LOW_W (5632532 SemiVolatiles Site specific)
D	ICP_TW (5636002 5652646 Metals - As)
E	TPH TX1005
F	MS | MSD
G	
H	
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	~~WG-1620-TB0__-202001__~~			Water	1	2		X									
2	WG-1620-MW74B-20200117	1-17-20	1020			9	X		X	X	X						
3	WG-1620-MW78A-20200117	"	1125			9	X		X	X	X						
4	WG-1620-TB05-20200117	"	—			2	X										
5	WG-1620-MW61A-20200116	1-16-20	1200	Ground Water	1,2,8	18	—	X	X	X		X					
6	WG-1620-MW47C-20200116	1-16-20	1105	Ground Water	1,2,8	6	X		X	X							
7	WG-1620-MW48C-20200116	1-16-20	1020	Ground Water	1,2,8	6	X		X	X							
8																	
9																	
10																	

Sampler(s) Please Print & Sign: JOHN BRAUNAN

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results Due Date:

Relinquished by: John Braunan — Date: 1-17-20 — Time: 1311

Received by: —

Relinquished by: — Date: — Time: —

Received by (Laboratory): 1/17/2020 13:11

Logged by (Laboratory): — Date: — Time: —

Checked by (Laboratory): —

Notes: UPRR Houston MW/PW

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)

- [ ] Level II Std QC
- [ ] Level III Std QC/Raw Data
- [ ] Level IV SW846/CLP
- [ ] Other
- [X] TRRP Checklist
- [ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

January 29, 2020

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS20010930**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 10 sample(s) on Jan 21, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20010930**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20010930**	

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 01/29/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20010930				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 149963,149998,R355061,R355066,R355150				
#[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				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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 SW-846 Method 5035?			X		
		If required for the project, 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			1
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			2
		Does the detectability 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				
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				
		Were MS/MSD RPDs within laboratory QC limits?		X			3
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		
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				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				4
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 01/29/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20010930				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 149963,149998,R355061,R355066,R355150				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group	LRC Date: 01/29/2020
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS20010930
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 149963,149998,R355061,R355066,R355150

ER#[5]	Description
1	Semivolatile Organics Method SW8270, sample WG-1620-MW32B-20200120, WG-1620-MW70B-20200120; the surrogate recoveries could not be determined due to dilution below the calibration range in the higher dilutions.
2	Batch 149998, Semivolatile Organics Method SW8260, LCS recovery was above the control limits for 2,4-Dinitrotoluene and 2,6-Dinitrotoluene. The analytes were not detected in the associated samples.
3	Batch 149998, Semivolatile Organics Method SW8260, sample HS20010910-03, MS/MSD RPD is for an unrelated sample.
4	Batch R355150, Volatile Organics Method SW8260, samples WG-1620-MW32B-20200120 and WG-1620-MW70B-20200120: Lowest practical dilution of 25x/50x performed due to high concentration of non-target analyte(s). Batch 149998, Semivolatile Organics Method SW8270, samples WG-1620-MW32B-20200120, WG-1620-MW70B-20200120; The GCMS semi-volatile extract of the samples were run at a dilution due to a high level of matrix interference.

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20010930

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20010930-01	WQ-1620-TB06-20200120	Water	CG-121719-108	20-Jan-2020 00:00	21-Jan-2020 17:10	☐
HS20010930-02	WG-1620-MW32AR-20200120	Water		20-Jan-2020 09:10	21-Jan-2020 17:10	☐
HS20010930-03	WG-1620-MW32B-20200120	Water		20-Jan-2020 10:15	21-Jan-2020 17:10	☐
HS20010930-04	WG-1620-MW70B-20200120	Water		20-Jan-2020 11:30	21-Jan-2020 17:10	☐
HS20010930-05	WG-1620-MW33A-20200120	Water		20-Jan-2020 12:45	21-Jan-2020 17:10	☐
HS20010930-06	WG-1620-MW87C-20200120	Water		20-Jan-2020 14:00	21-Jan-2020 17:10	☐
HS20010930-07	WG-1620-MW90B-20200120	Water		20-Jan-2020 15:15	21-Jan-2020 17:10	☐
HS20010930-08	WG-1620-MW45C-20200120	Water		20-Jan-2020 16:30	21-Jan-2020 17:10	☐
HS20010930-09	WG-1620-FB10-20200120	Water		20-Jan-2020 09:30	21-Jan-2020 17:10	☐
HS20010930-10	WG-1620-FD05-20200120	Water		20-Jan-2020 00:00	21-Jan-2020 17:10	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WQ-1620-TB06-20200120
Collection Date: 20-Jan-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	25-Jan-2020 12:41
Benzene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 12:41
Chlorobenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 12:41
Ethylbenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 12:41
Methylene chloride		U	0.0010	0.0020	mg/L	1	25-Jan-2020 12:41
Toluene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 12:41
Vinyl chloride		U	0.00020	0.0010	mg/L	1	25-Jan-2020 12:41
Xylenes, Total		U	0.00030	0.0010	mg/L	1	25-Jan-2020 12:41
Surr: 1,2-Dichloroethane-d4	*103*			*70-126*	*%REC*	*1*	*25-Jan-2020 12:41*
Surr: 4-Bromofluorobenzene	*97.3*			*81-113*	*%REC*	*1*	*25-Jan-2020 12:41*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*25-Jan-2020 12:41*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*25-Jan-2020 12:41*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW32AR-20200120
Collection Date: 20-Jan-2020 09:10

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	25-Jan-2020 19:22
Benzene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 19:22
Chlorobenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 19:22
Ethylbenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 19:22
Methylene chloride		U	0.0010	0.0020	mg/L	1	25-Jan-2020 19:22
Toluene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 19:22
Vinyl chloride		U	0.00020	0.0010	mg/L	1	25-Jan-2020 19:22
Xylenes, Total		U	0.00030	0.0010	mg/L	1	25-Jan-2020 19:22
Surr: 1,2-Dichloroethane-d4	*97.3*			*70-126*	*%REC*	*1*	*25-Jan-2020 19:22*
Surr: 4-Bromofluorobenzene	*96.7*			*81-113*	*%REC*	*1*	*25-Jan-2020 19:22*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*25-Jan-2020 19:22*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*25-Jan-2020 19:22*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW32AR-20200120
Collection Date: 20-Jan-2020 09:10

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 27-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	29-Jan-2020 00:59
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	29-Jan-2020 00:59
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	29-Jan-2020 00:59
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	29-Jan-2020 00:59
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	29-Jan-2020 00:59
2-Methylnaphthalene	**0.000028**	J	**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 00:59
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	29-Jan-2020 00:59
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	29-Jan-2020 00:59
Acenaphthene	**0.0014**		**0.000027**	**0.00010**	**mg/L**	1	29-Jan-2020 00:59
Acenaphthylene	U		0.000015	0.00010	mg/L	1	29-Jan-2020 00:59
Anthracene	U		0.000014	0.00010	mg/L	1	29-Jan-2020 00:59
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	29-Jan-2020 00:59
Benzo(a)pyrene	**0.000081**	J	**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 00:59
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	29-Jan-2020 00:59
Bis(2-ethylhexyl)phthalate	**0.000043**	J	**0.000037**	**0.00020**	**mg/L**	1	29-Jan-2020 00:59
Chrysene	**0.000042**	J	**0.000021**	**0.00010**	**mg/L**	1	29-Jan-2020 00:59
Dibenzofuran	U		0.000020	0.00010	mg/L	1	29-Jan-2020 00:59
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	29-Jan-2020 00:59
Fluoranthene	**0.00029**		**0.000010**	**0.00010**	**mg/L**	1	29-Jan-2020 00:59
Fluorene	**0.000038**	J	**0.000030**	**0.00010**	**mg/L**	1	29-Jan-2020 00:59
Naphthalene	**0.00014**		**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 00:59
Nitrobenzene	U		0.000024	0.00020	mg/L	1	29-Jan-2020 00:59
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	29-Jan-2020 00:59
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	29-Jan-2020 00:59
Phenanthrene	**0.000032**	J	**0.000021**	**0.00010**	**mg/L**	1	29-Jan-2020 00:59
Phenol	U		0.000035	0.00020	mg/L	1	29-Jan-2020 00:59
Pyrene	**0.00042**		**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 00:59
Surr: 2,4,6-Tribromophenol	*75.9*			*34-129*	*%REC*	*1*	*29-Jan-2020 00:59*
Surr: 2-Fluorobiphenyl	*86.4*			*40-125*	*%REC*	*1*	*29-Jan-2020 00:59*
Surr: 2-Fluorophenol	*72.7*			*20-120*	*%REC*	*1*	*29-Jan-2020 00:59*
Surr: 4-Terphenyl-d14	*99.3*			*40-135*	*%REC*	*1*	*29-Jan-2020 00:59*
Surr: Nitrobenzene-d5	*75.2*			*41-120*	*%REC*	*1*	*29-Jan-2020 00:59*
Surr: Phenol-d6	*70.0*			*20-120*	*%REC*	*1*	*29-Jan-2020 00:59*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jan-2020		Analyst: JC
Arsenic	**0.00770**		**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 23:38

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW32B-20200120
Collection Date: 20-Jan-2020 10:15

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.0050	0.025	mg/L	25	28-Jan-2020 08:52
Benzene	**1.8**		**0.0050**	**0.025**	**mg/L**	25	28-Jan-2020 08:52
Chlorobenzene	U		0.0075	0.025	mg/L	25	28-Jan-2020 08:52
Ethylbenzene	**0.73**		**0.0075**	**0.025**	**mg/L**	25	28-Jan-2020 08:52
Methylene chloride	U		0.025	0.050	mg/L	25	28-Jan-2020 08:52
Toluene	**2.3**		**0.0050**	**0.025**	**mg/L**	25	28-Jan-2020 08:52
Vinyl chloride	U		0.0050	0.025	mg/L	25	28-Jan-2020 08:52
Xylenes, Total	**2.1**		**0.0075**	**0.025**	**mg/L**	25	28-Jan-2020 08:52
Surr: 1,2-Dichloroethane-d4	*102*			*70-126*	*%REC*	*25*	*28-Jan-2020 08:52*
Surr: 4-Bromofluorobenzene	*104*			*81-113*	*%REC*	*25*	*28-Jan-2020 08:52*
Surr: Dibromofluoromethane	*97.9*			*77-123*	*%REC*	*25*	*28-Jan-2020 08:52*
Surr: Toluene-d8	*95.4*			*82-127*	*%REC*	*25*	*28-Jan-2020 08:52*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW32B-20200120
Collection Date: 20-Jan-2020 10:15

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 27-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.00042	0.0040	mg/L	10	29-Jan-2020 13:29
2,4-Dimethylphenol	**26**		**0.16**	**0.80**	**mg/L**	2000	29-Jan-2020 15:03
2,4-Dinitrotoluene	U		0.0012	0.0040	mg/L	10	29-Jan-2020 13:29
2,6-Dinitrotoluene	U		0.00084	0.0040	mg/L	10	29-Jan-2020 13:29
2-Chloronaphthalene	U		0.00042	0.0040	mg/L	10	29-Jan-2020 13:29
2-Methylnaphthalene	**50**		**0.76**	**4.0**	**mg/L**	20000	29-Jan-2020 15:40
4,6-Dinitro-2-methylphenol	U		0.00040	0.0040	mg/L	10	29-Jan-2020 13:29
4-Nitrophenol	U		0.00094	0.020	mg/L	10	29-Jan-2020 13:29
Acenaphthene	**26**		**0.11**	**0.40**	**mg/L**	2000	29-Jan-2020 15:03
Acenaphthylene	U		0.00030	0.0020	mg/L	10	29-Jan-2020 13:29
Anthracene	**23**		**0.056**	**0.40**	**mg/L**	2000	29-Jan-2020 15:03
Benz(a)anthracene	**2.2**		**0.020**	**0.040**	**mg/L**	200	29-Jan-2020 14:44
Benzo(a)pyrene	**0.74**		**0.0080**	**0.040**	**mg/L**	200	29-Jan-2020 14:44
Bis(2-chloroethoxy)methane	U		0.00060	0.0040	mg/L	10	29-Jan-2020 13:29
Bis(2-ethylhexyl)phthalate	U		0.00074	0.0040	mg/L	10	29-Jan-2020 13:29
Chrysene	**2.4**		**0.0084**	**0.040**	**mg/L**	200	29-Jan-2020 14:44
Dibenzofuran	**28**		**0.080**	**0.40**	**mg/L**	2000	29-Jan-2020 15:03
Di-n-butyl phthalate	U		0.00040	0.0040	mg/L	10	29-Jan-2020 13:29
Fluoranthene	**21**		**0.040**	**0.40**	**mg/L**	2000	29-Jan-2020 15:03
Fluorene	**23**		**0.12**	**0.40**	**mg/L**	2000	29-Jan-2020 15:03
Naphthalene	**300**		**0.80**	**4.0**	**mg/L**	20000	29-Jan-2020 15:40
Nitrobenzene	U		0.00048	0.0040	mg/L	10	29-Jan-2020 13:29
N-Nitrosodiphenylamine	U		0.00050	0.0040	mg/L	10	29-Jan-2020 13:29
Pentachlorophenol	U		0.0016	0.0040	mg/L	10	29-Jan-2020 13:29
Phenanthrene	**69**		**0.84**	**4.0**	**mg/L**	20000	29-Jan-2020 15:40
Phenol	**17**		**0.14**	**0.80**	**mg/L**	2000	29-Jan-2020 15:03
Pyrene	**14**		**0.076**	**0.40**	**mg/L**	2000	29-Jan-2020 15:03
Surr: 2,4,6-Tribromophenol	*83.0*			*34-129*	*%REC*	*10*	*29-Jan-2020 13:29*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*200*	*29-Jan-2020 14:44*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*2000*	*29-Jan-2020 15:03*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*20000*	*29-Jan-2020 15:40*
Surr: 2-Fluorobiphenyl	*112*			*40-125*	*%REC*	*10*	*29-Jan-2020 13:29*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*200*	*29-Jan-2020 14:44*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*2000*	*29-Jan-2020 15:03*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*20000*	*29-Jan-2020 15:40*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*20000*	*29-Jan-2020 15:40*
Surr: 2-Fluorophenol	*98.6*			*20-120*	*%REC*	*10*	*29-Jan-2020 13:29*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*200*	*29-Jan-2020 14:44*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*2000*	*29-Jan-2020 15:03*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW32B-20200120
Collection Date: 20-Jan-2020 10:15

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 27-Jan-2020		Analyst: LG
Surr: 4-Terphenyl-d14	*79.5*	*J*		*40-135*	*%REC*	*10*	*29-Jan-2020 13:29*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*200*	*29-Jan-2020 14:44*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*2000*	*29-Jan-2020 15:03*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*20000*	*29-Jan-2020 15:40*
Surr: Nitrobenzene-d5	*84.4*			*41-120*	*%REC*	*10*	*29-Jan-2020 13:29*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*200*	*29-Jan-2020 14:44*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*2000*	*29-Jan-2020 15:03*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*20000*	*29-Jan-2020 15:40*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*2000*	*29-Jan-2020 15:03*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*20000*	*29-Jan-2020 15:40*
Surr: Phenol-d6	*105*			*20-120*	*%REC*	*10*	*29-Jan-2020 13:29*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*200*	*29-Jan-2020 14:44*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jan-2020		Analyst: JHD
Arsenic	**0.00193**	J	**0.000400**	**0.00200**	**mg/L**	1	27-Jan-2020 14:37

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW70B-20200120
Collection Date: 20-Jan-2020 11:30

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.010	0.050	mg/L	50	28-Jan-2020 09:19
Benzene	**1.9**		**0.010**	**0.050**	**mg/L**	50	28-Jan-2020 09:19
Chlorobenzene	U		0.015	0.050	mg/L	50	28-Jan-2020 09:19
Ethylbenzene	**0.57**		**0.015**	**0.050**	**mg/L**	50	28-Jan-2020 09:19
Methylene chloride	U		0.050	0.10	mg/L	50	28-Jan-2020 09:19
Toluene	**2.1**		**0.010**	**0.050**	**mg/L**	50	28-Jan-2020 09:19
Vinyl chloride	U		0.010	0.050	mg/L	50	28-Jan-2020 09:19
Xylenes, Total	**1.5**		**0.015**	**0.050**	**mg/L**	50	28-Jan-2020 09:19
Surr: 1,2-Dichloroethane-d4	*103*			*70-126*	*%REC*	*50*	*28-Jan-2020 09:19*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*50*	*28-Jan-2020 09:19*
Surr: Dibromofluoromethane	*95.7*			*77-123*	*%REC*	*50*	*28-Jan-2020 09:19*
Surr: Toluene-d8	*97.6*			*82-127*	*%REC*	*50*	*28-Jan-2020 09:19*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW70B-20200120
Collection Date: 20-Jan-2020 11:30

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 27-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.00042	0.0040	mg/L	10	29-Jan-2020 14:06
2,4-Dimethylphenol	**49**		**0.64**	**3.2**	**mg/L**	8000	29-Jan-2020 15:59
2,4-Dinitrotoluene	U		0.0012	0.0040	mg/L	10	29-Jan-2020 14:06
2,6-Dinitrotoluene	U		0.00084	0.0040	mg/L	10	29-Jan-2020 14:06
2-Chloronaphthalene	U		0.00042	0.0040	mg/L	10	29-Jan-2020 14:06
2-Methylnaphthalene	**10**		**0.076**	**0.40**	**mg/L**	2000	29-Jan-2020 15:21
4,6-Dinitro-2-methylphenol	U		0.00040	0.0040	mg/L	10	29-Jan-2020 14:06
4-Nitrophenol	U		0.00094	0.020	mg/L	10	29-Jan-2020 14:06
Acenaphthene	**7.1**		**0.11**	**0.40**	**mg/L**	2000	29-Jan-2020 15:21
Acenaphthylene	**0.079**		**0.00030**	**0.0020**	**mg/L**	10	29-Jan-2020 14:06
Anthracene	**5.8**		**0.056**	**0.40**	**mg/L**	2000	29-Jan-2020 15:21
Benz(a)anthracene	**0.52**		**0.020**	**0.040**	**mg/L**	200	29-Jan-2020 14:25
Benzo(a)pyrene	**0.13**		**0.00040**	**0.0020**	**mg/L**	10	29-Jan-2020 14:06
Bis(2-chloroethoxy)methane	U		0.00060	0.0040	mg/L	10	29-Jan-2020 14:06
Bis(2-ethylhexyl)phthalate	**0.0039**	J	**0.00074**	**0.0040**	**mg/L**	10	29-Jan-2020 14:06
Chrysene	**0.63**		**0.0084**	**0.040**	**mg/L**	200	29-Jan-2020 14:25
Dibenzofuran	**6.2**		**0.080**	**0.40**	**mg/L**	2000	29-Jan-2020 15:21
Di-n-butyl phthalate	U		0.00040	0.0040	mg/L	10	29-Jan-2020 14:06
Fluoranthene	**4.7**		**0.040**	**0.40**	**mg/L**	2000	29-Jan-2020 15:21
Fluorene	**6.7**		**0.12**	**0.40**	**mg/L**	2000	29-Jan-2020 15:21
Naphthalene	**71**		**0.32**	**1.6**	**mg/L**	8000	29-Jan-2020 15:59
Nitrobenzene	U		0.00048	0.0040	mg/L	10	29-Jan-2020 14:06
N-Nitrosodiphenylamine	U		0.00050	0.0040	mg/L	10	29-Jan-2020 14:06
Pentachlorophenol	U		0.0016	0.0040	mg/L	10	29-Jan-2020 14:06
Phenanthrene	**14**		**0.084**	**0.40**	**mg/L**	2000	29-Jan-2020 15:21
Phenol	**3.4**		**0.014**	**0.080**	**mg/L**	200	29-Jan-2020 14:25
Pyrene	**3.2**		**0.0076**	**0.040**	**mg/L**	200	29-Jan-2020 14:25
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*2000*	*29-Jan-2020 15:21*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*8000*	*29-Jan-2020 15:59*
Surr: 2,4,6-Tribromophenol	*82.9*			*34-129*	*%REC*	*10*	*29-Jan-2020 14:06*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*200*	*29-Jan-2020 14:25*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*200*	*29-Jan-2020 14:25*
Surr: 2-Fluorobiphenyl	*98.3*			*40-125*	*%REC*	*10*	*29-Jan-2020 14:06*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*2000*	*29-Jan-2020 15:21*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*8000*	*29-Jan-2020 15:59*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*2000*	*29-Jan-2020 15:21*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*8000*	*29-Jan-2020 15:59*
Surr: 2-Fluorophenol	*94.2*			*20-120*	*%REC*	*10*	*29-Jan-2020 14:06*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*200*	*29-Jan-2020 14:25*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW70B-20200120
Collection Date: 20-Jan-2020 11:30

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 27-Jan-2020		Analyst: LG
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*200*	*29-Jan-2020 14:25*
Surr: 4-Terphenyl-d14	*77.9*	*J*		*40-135*	*%REC*	*10*	*29-Jan-2020 14:06*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*2000*	*29-Jan-2020 15:21*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*8000*	*29-Jan-2020 15:59*
Surr: Nitrobenzene-d5	*82.7*			*41-120*	*%REC*	*10*	*29-Jan-2020 14:06*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*200*	*29-Jan-2020 14:25*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*2000*	*29-Jan-2020 15:21*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*8000*	*29-Jan-2020 15:59*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*200*	*29-Jan-2020 14:25*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*2000*	*29-Jan-2020 15:21*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*8000*	*29-Jan-2020 15:59*
Surr: Phenol-d6	*98.9*			*20-120*	*%REC*	*10*	*29-Jan-2020 14:06*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jan-2020		Analyst: JHD
Arsenic	**0.00120**	J	**0.000400**	**0.00200**	**mg/L**	1	27-Jan-2020 14:43

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW33A-20200120
Collection Date: 20-Jan-2020 12:45

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	25-Jan-2020 19:47
Benzene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 19:47
Chlorobenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 19:47
Ethylbenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 19:47
Methylene chloride		U	0.0010	0.0020	mg/L	1	25-Jan-2020 19:47
Toluene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 19:47
Vinyl chloride		U	0.00020	0.0010	mg/L	1	25-Jan-2020 19:47
Xylenes, Total		U	0.00030	0.0010	mg/L	1	25-Jan-2020 19:47
Surr: 1,2-Dichloroethane-d4	*96.7*			*70-126*	*%REC*	*1*	*25-Jan-2020 19:47*
Surr: 4-Bromofluorobenzene	*95.9*			*81-113*	*%REC*	*1*	*25-Jan-2020 19:47*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*25-Jan-2020 19:47*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*25-Jan-2020 19:47*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW33A-20200120
Collection Date: 20-Jan-2020 12:45

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 27-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	29-Jan-2020 01:18
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	29-Jan-2020 01:18
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	29-Jan-2020 01:18
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	29-Jan-2020 01:18
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	29-Jan-2020 01:18
2-Methylnaphthalene	**0.000063**	J	**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 01:18
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	29-Jan-2020 01:18
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	29-Jan-2020 01:18
Acenaphthene	**0.00073**		**0.000027**	**0.00010**	**mg/L**	1	29-Jan-2020 01:18
Acenaphthylene	**0.000049**	J	**0.000015**	**0.00010**	**mg/L**	1	29-Jan-2020 01:18
Anthracene	**0.000057**	J	**0.000014**	**0.00010**	**mg/L**	1	29-Jan-2020 01:18
Benz(a)anthracene	**0.00012**		**0.000050**	**0.00010**	**mg/L**	1	29-Jan-2020 01:18
Benzo(a)pyrene	**0.000066**	J	**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 01:18
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	29-Jan-2020 01:18
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	29-Jan-2020 01:18
Chrysene	**0.000078**	J	**0.000021**	**0.00010**	**mg/L**	1	29-Jan-2020 01:18
Dibenzofuran	**0.000096**	J	**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 01:18
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	29-Jan-2020 01:18
Fluoranthene	**0.00035**		**0.000010**	**0.00010**	**mg/L**	1	29-Jan-2020 01:18
Fluorene	**0.000059**	J	**0.000030**	**0.00010**	**mg/L**	1	29-Jan-2020 01:18
Naphthalene	**0.00050**		**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 01:18
Nitrobenzene	U		0.000024	0.00020	mg/L	1	29-Jan-2020 01:18
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	29-Jan-2020 01:18
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	29-Jan-2020 01:18
Phenanthrene	**0.000056**	J	**0.000021**	**0.00010**	**mg/L**	1	29-Jan-2020 01:18
Phenol	U		0.000035	0.00020	mg/L	1	29-Jan-2020 01:18
Pyrene	**0.00019**		**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 01:18
Surr: 2,4,6-Tribromophenol	*81.6*			*34-129*	*%REC*	*1*	*29-Jan-2020 01:18*
Surr: 2-Fluorobiphenyl	*101*			*40-125*	*%REC*	*1*	*29-Jan-2020 01:18*
Surr: 2-Fluorophenol	*75.3*			*20-120*	*%REC*	*1*	*29-Jan-2020 01:18*
Surr: 4-Terphenyl-d14	*100*			*40-135*	*%REC*	*1*	*29-Jan-2020 01:18*
Surr: Nitrobenzene-d5	*86.8*			*41-120*	*%REC*	*1*	*29-Jan-2020 01:18*
Surr: Phenol-d6	*73.9*			*20-120*	*%REC*	*1*	*29-Jan-2020 01:18*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jan-2020		Analyst: JC
Arsenic	**0.00810**		**0.000400**	**0.00200**	**mg/L**	1	24-Jan-2020 23:58

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW87C-20200120
Collection Date: 20-Jan-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	25-Jan-2020 20:11
Benzene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 20:11
Chlorobenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 20:11
Ethylbenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 20:11
Methylene chloride		U	0.0010	0.0020	mg/L	1	25-Jan-2020 20:11
Toluene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 20:11
Vinyl chloride		U	0.00020	0.0010	mg/L	1	25-Jan-2020 20:11
Xylenes, Total		U	0.00030	0.0010	mg/L	1	25-Jan-2020 20:11
Surr: 1,2-Dichloroethane-d4	*98.1*			*70-126*	*%REC*	*1*	*25-Jan-2020 20:11*
Surr: 4-Bromofluorobenzene	*94.8*			*81-113*	*%REC*	*1*	*25-Jan-2020 20:11*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*25-Jan-2020 20:11*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*25-Jan-2020 20:11*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW87C-20200120
Collection Date: 20-Jan-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 27-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	29-Jan-2020 01:37
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	29-Jan-2020 01:37
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	29-Jan-2020 01:37
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	29-Jan-2020 01:37
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	29-Jan-2020 01:37
2-Methylnaphthalene	**0.00023**		**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 01:37
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	29-Jan-2020 01:37
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	29-Jan-2020 01:37
Acenaphthene	**0.00011**		**0.000027**	**0.00010**	**mg/L**	1	29-Jan-2020 01:37
Acenaphthylene	U		0.000015	0.00010	mg/L	1	29-Jan-2020 01:37
Anthracene	**0.000088**	J	**0.000014**	**0.00010**	**mg/L**	1	29-Jan-2020 01:37
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	29-Jan-2020 01:37
Benzo(a)pyrene	**0.000066**	J	**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 01:37
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	29-Jan-2020 01:37
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	29-Jan-2020 01:37
Chrysene	U		0.000021	0.00010	mg/L	1	29-Jan-2020 01:37
Dibenzofuran	**0.00011**		**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 01:37
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	29-Jan-2020 01:37
Fluoranthene	**0.000086**	J	**0.000010**	**0.00010**	**mg/L**	1	29-Jan-2020 01:37
Fluorene	**0.000093**	J	**0.000030**	**0.00010**	**mg/L**	1	29-Jan-2020 01:37
Naphthalene	**0.0011**		**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 01:37
Nitrobenzene	U		0.000024	0.00020	mg/L	1	29-Jan-2020 01:37
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	29-Jan-2020 01:37
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	29-Jan-2020 01:37
Phenanthrene	**0.00028**		**0.000021**	**0.00010**	**mg/L**	1	29-Jan-2020 01:37
Phenol	**0.00048**		**0.000035**	**0.00020**	**mg/L**	1	29-Jan-2020 01:37
Pyrene	**0.000057**	J	**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 01:37
Surr: 2,4,6-Tribromophenol	*69.4*			*34-129*	*%REC*	*1*	*29-Jan-2020 01:37*
Surr: 2-Fluorobiphenyl	*94.4*			*40-125*	*%REC*	*1*	*29-Jan-2020 01:37*
Surr: 2-Fluorophenol	*79.6*			*20-120*	*%REC*	*1*	*29-Jan-2020 01:37*
Surr: 4-Terphenyl-d14	*99.6*			*40-135*	*%REC*	*1*	*29-Jan-2020 01:37*
Surr: Nitrobenzene-d5	*85.2*			*41-120*	*%REC*	*1*	*29-Jan-2020 01:37*
Surr: Phenol-d6	*78.9*			*20-120*	*%REC*	*1*	*29-Jan-2020 01:37*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jan-2020		Analyst: JC
Arsenic	**0.00135**	J	**0.000400**	**0.00200**	**mg/L**	1	25-Jan-2020 00:00

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW90B-20200120
Collection Date: 20-Jan-2020 15:15

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	25-Jan-2020 20:36
Benzene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 20:36
Chlorobenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 20:36
Ethylbenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 20:36
Methylene chloride		U	0.0010	0.0020	mg/L	1	25-Jan-2020 20:36
Toluene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 20:36
Vinyl chloride		U	0.00020	0.0010	mg/L	1	25-Jan-2020 20:36
Xylenes, Total		U	0.00030	0.0010	mg/L	1	25-Jan-2020 20:36
Surr: 1,2-Dichloroethane-d4	*96.4*			*70-126*	*%REC*	*1*	*25-Jan-2020 20:36*
Surr: 4-Bromofluorobenzene	*94.7*			*81-113*	*%REC*	*1*	*25-Jan-2020 20:36*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*25-Jan-2020 20:36*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*25-Jan-2020 20:36*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW90B-20200120
Collection Date: 20-Jan-2020 15:15

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 27-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	29-Jan-2020 01:55
2,4-Dimethylphenol	**0.000075**	J	**0.000040**	**0.00020**	**mg/L**	1	29-Jan-2020 01:55
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	29-Jan-2020 01:55
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	29-Jan-2020 01:55
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	29-Jan-2020 01:55
2-Methylnaphthalene	**0.00034**		**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 01:55
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	29-Jan-2020 01:55
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	29-Jan-2020 01:55
Acenaphthene	**0.00015**		**0.000027**	**0.00010**	**mg/L**	1	29-Jan-2020 01:55
Acenaphthylene	U		0.000015	0.00010	mg/L	1	29-Jan-2020 01:55
Anthracene	**0.00014**		**0.000014**	**0.00010**	**mg/L**	1	29-Jan-2020 01:55
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	29-Jan-2020 01:55
Benzo(a)pyrene	**0.000052**	J	**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 01:55
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	29-Jan-2020 01:55
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	29-Jan-2020 01:55
Chrysene	U		0.000021	0.00010	mg/L	1	29-Jan-2020 01:55
Dibenzofuran	**0.00011**		**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 01:55
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	29-Jan-2020 01:55
Fluoranthene	**0.00012**		**0.000010**	**0.00010**	**mg/L**	1	29-Jan-2020 01:55
Fluorene	**0.00013**		**0.000030**	**0.00010**	**mg/L**	1	29-Jan-2020 01:55
Naphthalene	**0.0030**		**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 01:55
Nitrobenzene	U		0.000024	0.00020	mg/L	1	29-Jan-2020 01:55
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	29-Jan-2020 01:55
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	29-Jan-2020 01:55
Phenanthrene	**0.00040**		**0.000021**	**0.00010**	**mg/L**	1	29-Jan-2020 01:55
Phenol	**0.00019**	J	**0.000035**	**0.00020**	**mg/L**	1	29-Jan-2020 01:55
Pyrene	**0.000077**	J	**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 01:55
Surr: 2,4,6-Tribromophenol	*67.0*			*34-129*	*%REC*	*1*	*29-Jan-2020 01:55*
Surr: 2-Fluorobiphenyl	*90.7*			*40-125*	*%REC*	*1*	*29-Jan-2020 01:55*
Surr: 2-Fluorophenol	*68.7*			*20-120*	*%REC*	*1*	*29-Jan-2020 01:55*
Surr: 4-Terphenyl-d14	*108*			*40-135*	*%REC*	*1*	*29-Jan-2020 01:55*
Surr: Nitrobenzene-d5	*79.6*			*41-120*	*%REC*	*1*	*29-Jan-2020 01:55*
Surr: Phenol-d6	*73.0*			*20-120*	*%REC*	*1*	*29-Jan-2020 01:55*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jan-2020		Analyst: JC
Arsenic	**0.00290**		**0.000400**	**0.00200**	**mg/L**	1	25-Jan-2020 00:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW45C-20200120
Collection Date: 20-Jan-2020 16:30

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	25-Jan-2020 21:00
Benzene	**0.00050**	J	**0.00020**	**0.0010**	**mg/L**	1	25-Jan-2020 21:00
Chlorobenzene	U		0.00030	0.0010	mg/L	1	25-Jan-2020 21:00
Ethylbenzene	**0.00044**	J	**0.00030**	**0.0010**	**mg/L**	1	25-Jan-2020 21:00
Methylene chloride	U		0.0010	0.0020	mg/L	1	25-Jan-2020 21:00
Toluene	U		0.00020	0.0010	mg/L	1	25-Jan-2020 21:00
Vinyl chloride	U		0.00020	0.0010	mg/L	1	25-Jan-2020 21:00
Xylenes, Total	**0.0051**		**0.00030**	**0.0010**	**mg/L**	1	25-Jan-2020 21:00
Surr: 1,2-Dichloroethane-d4	*98.0*			*70-126*	*%REC*	*1*	*25-Jan-2020 21:00*
Surr: 4-Bromofluorobenzene	*97.8*			*81-113*	*%REC*	*1*	*25-Jan-2020 21:00*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*25-Jan-2020 21:00*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*25-Jan-2020 21:00*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW45C-20200120
Collection Date: 20-Jan-2020 16:30

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-08
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 27-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	**0.000085**	J	**0.000021**	**0.00020**	**mg/L**	1	29-Jan-2020 13:10
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	29-Jan-2020 13:10
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	29-Jan-2020 13:10
2,6-Dinitrotoluene	**0.0022**		**0.000042**	**0.00020**	**mg/L**	1	29-Jan-2020 13:10
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	29-Jan-2020 13:10
2-Methylnaphthalene	**0.00013**		**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 13:10
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	29-Jan-2020 13:10
4-Nitrophenol	**0.000067**	J	**0.000047**	**0.0010**	**mg/L**	1	29-Jan-2020 13:10
Acenaphthene	**0.000084**	J	**0.000027**	**0.00010**	**mg/L**	1	29-Jan-2020 13:10
Acenaphthylene	**0.000037**	J	**0.000015**	**0.00010**	**mg/L**	1	29-Jan-2020 13:10
Anthracene	**0.00090**		**0.000014**	**0.00010**	**mg/L**	1	29-Jan-2020 13:10
Benz(a)anthracene	**0.00039**		**0.000050**	**0.00010**	**mg/L**	1	29-Jan-2020 13:10
Benzo(a)pyrene	**0.00042**		**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 13:10
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	29-Jan-2020 13:10
Bis(2-ethylhexyl)phthalate	**0.000067**	J	**0.000037**	**0.00020**	**mg/L**	1	29-Jan-2020 13:10
Chrysene	**0.00062**		**0.000021**	**0.00010**	**mg/L**	1	29-Jan-2020 13:10
Dibenzofuran	**0.000075**	J	**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 13:10
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	29-Jan-2020 13:10
Fluoranthene	**0.00062**		**0.000010**	**0.00010**	**mg/L**	1	29-Jan-2020 13:10
Fluorene	**0.00023**		**0.000030**	**0.00010**	**mg/L**	1	29-Jan-2020 13:10
Naphthalene	**0.00061**		**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 13:10
Nitrobenzene	U		0.000024	0.00020	mg/L	1	29-Jan-2020 13:10
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	29-Jan-2020 13:10
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	29-Jan-2020 13:10
Phenanthrene	**0.00027**		**0.000021**	**0.00010**	**mg/L**	1	29-Jan-2020 13:10
Phenol	U		0.000035	0.00020	mg/L	1	29-Jan-2020 13:10
Pyrene	**0.00068**		**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 13:10
Surr: 2,4,6-Tribromophenol	*85.3*			*34-129*	*%REC*	*1*	*29-Jan-2020 13:10*
Surr: 2-Fluorobiphenyl	*95.0*			*40-125*	*%REC*	*1*	*29-Jan-2020 13:10*
Surr: 2-Fluorophenol	*75.8*			*20-120*	*%REC*	*1*	*29-Jan-2020 13:10*
Surr: 4-Terphenyl-d14	*112*			*40-135*	*%REC*	*1*	*29-Jan-2020 13:10*
Surr: Nitrobenzene-d5	*91.7*			*41-120*	*%REC*	*1*	*29-Jan-2020 13:10*
Surr: Phenol-d6	*81.6*			*20-120*	*%REC*	*1*	*29-Jan-2020 13:10*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 24-Jan-2020		Analyst: JC
Arsenic	**0.000730**	J	**0.000400**	**0.00200**	**mg/L**	1	25-Jan-2020 00:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB10-20200120
Collection Date: 20-Jan-2020 09:30

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	25-Jan-2020 13:06
Benzene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 13:06
Chlorobenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 13:06
Ethylbenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 13:06
Methylene chloride		U	0.0010	0.0020	mg/L	1	25-Jan-2020 13:06
Toluene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 13:06
Vinyl chloride		U	0.00020	0.0010	mg/L	1	25-Jan-2020 13:06
Xylenes, Total		U	0.00030	0.0010	mg/L	1	25-Jan-2020 13:06
Surr: 1,2-Dichloroethane-d4	*104*			*70-126*	*%REC*	*1*	*25-Jan-2020 13:06*
Surr: 4-Bromofluorobenzene	*97.7*			*81-113*	*%REC*	*1*	*25-Jan-2020 13:06*
Surr: Dibromofluoromethane	*99.2*			*77-123*	*%REC*	*1*	*25-Jan-2020 13:06*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*25-Jan-2020 13:06*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB10-20200120
Collection Date: 20-Jan-2020 09:30

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-09
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 27-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	**0.000047**	J	**0.000021**	**0.00020**	**mg/L**	1	29-Jan-2020 02:33
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	29-Jan-2020 02:33
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	29-Jan-2020 02:33
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	29-Jan-2020 02:33
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	29-Jan-2020 02:33
2-Methylnaphthalene	**0.000035**	J	**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 02:33
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	29-Jan-2020 02:33
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	29-Jan-2020 02:33
Acenaphthene	U		0.000027	0.00010	mg/L	1	29-Jan-2020 02:33
Acenaphthylene	U		0.000015	0.00010	mg/L	1	29-Jan-2020 02:33
Anthracene	U		0.000014	0.00010	mg/L	1	29-Jan-2020 02:33
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	29-Jan-2020 02:33
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	29-Jan-2020 02:33
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	29-Jan-2020 02:33
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	29-Jan-2020 02:33
Chrysene	U		0.000021	0.00010	mg/L	1	29-Jan-2020 02:33
Dibenzofuran	U		0.000020	0.00010	mg/L	1	29-Jan-2020 02:33
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	29-Jan-2020 02:33
Fluoranthene	**0.000060**	J	**0.000010**	**0.00010**	**mg/L**	1	29-Jan-2020 02:33
Fluorene	U		0.000030	0.00010	mg/L	1	29-Jan-2020 02:33
Naphthalene	**0.00019**		**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 02:33
Nitrobenzene	U		0.000024	0.00020	mg/L	1	29-Jan-2020 02:33
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	29-Jan-2020 02:33
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	29-Jan-2020 02:33
Phenanthrene	**0.000066**	J	**0.000021**	**0.00010**	**mg/L**	1	29-Jan-2020 02:33
Phenol	U		0.000035	0.00020	mg/L	1	29-Jan-2020 02:33
Pyrene	**0.000040**	J	**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 02:33
Surr: 2,4,6-Tribromophenol	*68.3*			*34-129*	*%REC*	*1*	*29-Jan-2020 02:33*
Surr: 2-Fluorobiphenyl	*95.0*			*40-125*	*%REC*	*1*	*29-Jan-2020 02:33*
Surr: 2-Fluorophenol	*88.9*			*20-120*	*%REC*	*1*	*29-Jan-2020 02:33*
Surr: 4-Terphenyl-d14	*106*			*40-135*	*%REC*	*1*	*29-Jan-2020 02:33*
Surr: Nitrobenzene-d5	*92.6*			*41-120*	*%REC*	*1*	*29-Jan-2020 02:33*
Surr: Phenol-d6	*85.1*			*20-120*	*%REC*	*1*	*29-Jan-2020 02:33*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 24-Jan-2020		Analyst: JC
Arsenic	U		0.000400	0.00200	mg/L	1	25-Jan-2020 00:07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD05-20200120
Collection Date: 20-Jan-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	25-Jan-2020 19:44
Benzene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 19:44
Chlorobenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 19:44
Ethylbenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 19:44
Methylene chloride		U	0.0010	0.0020	mg/L	1	25-Jan-2020 19:44
Toluene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 19:44
Vinyl chloride		U	0.00020	0.0010	mg/L	1	25-Jan-2020 19:44
Xylenes, Total		U	0.00030	0.0010	mg/L	1	25-Jan-2020 19:44
Surr: 1,2-Dichloroethane-d4	*106*			*70-126*	*%REC*	*1*	*25-Jan-2020 19:44*
Surr: 4-Bromofluorobenzene	*96.6*			*81-113*	*%REC*	*1*	*25-Jan-2020 19:44*
Surr: Dibromofluoromethane	*103*			*77-123*	*%REC*	*1*	*25-Jan-2020 19:44*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*25-Jan-2020 19:44*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD05-20200120
Collection Date: 20-Jan-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20010930
Lab ID:HS20010930-10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 27-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	29-Jan-2020 02:52
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	29-Jan-2020 02:52
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	29-Jan-2020 02:52
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	29-Jan-2020 02:52
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	29-Jan-2020 02:52
2-Methylnaphthalene	**0.000095**	J	**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 02:52
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	29-Jan-2020 02:52
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	29-Jan-2020 02:52
Acenaphthene	**0.0011**		**0.000027**	**0.00010**	**mg/L**	1	29-Jan-2020 02:52
Acenaphthylene	**0.000038**	J	**0.000015**	**0.00010**	**mg/L**	1	29-Jan-2020 02:52
Anthracene	**0.000044**	J	**0.000014**	**0.00010**	**mg/L**	1	29-Jan-2020 02:52
Benz(a)anthracene	**0.00012**		**0.000050**	**0.00010**	**mg/L**	1	29-Jan-2020 02:52
Benzo(a)pyrene	**0.000072**	J	**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 02:52
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	29-Jan-2020 02:52
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	29-Jan-2020 02:52
Chrysene	**0.000093**	J	**0.000021**	**0.00010**	**mg/L**	1	29-Jan-2020 02:52
Dibenzofuran	**0.000067**	J	**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 02:52
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	29-Jan-2020 02:52
Fluoranthene	**0.00057**		**0.000010**	**0.00010**	**mg/L**	1	29-Jan-2020 02:52
Fluorene	**0.000072**	J	**0.000030**	**0.00010**	**mg/L**	1	29-Jan-2020 02:52
Naphthalene	**0.00066**		**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 02:52
Nitrobenzene	U		0.000024	0.00020	mg/L	1	29-Jan-2020 02:52
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	29-Jan-2020 02:52
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	29-Jan-2020 02:52
Phenanthrene	**0.000046**	J	**0.000021**	**0.00010**	**mg/L**	1	29-Jan-2020 02:52
Phenol	U		0.000035	0.00020	mg/L	1	29-Jan-2020 02:52
Pyrene	**0.00052**		**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 02:52
Surr: 2,4,6-Tribromophenol	*63.6*			*34-129*	*%REC*	*1*	*29-Jan-2020 02:52*
Surr: 2-Fluorobiphenyl	*80.8*			*40-125*	*%REC*	*1*	*29-Jan-2020 02:52*
Surr: 2-Fluorophenol	*72.7*			*20-120*	*%REC*	*1*	*29-Jan-2020 02:52*
Surr: 4-Terphenyl-d14	*98.1*			*40-135*	*%REC*	*1*	*29-Jan-2020 02:52*
Surr: Nitrobenzene-d5	*86.5*			*41-120*	*%REC*	*1*	*29-Jan-2020 02:52*
Surr: Phenol-d6	*77.2*			*20-120*	*%REC*	*1*	*29-Jan-2020 02:52*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jan-2020		Analyst: JC
Arsenic	**0.00755**		**0.000400**	**0.00200**	**mg/L**	1	25-Jan-2020 00:09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010930

Batch ID: 149963 **Start Date:** 24 Jan 2020 09:00 **End Date:** 24 Jan 2020 13:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010930-02		10 (mL)	10 (mL)	1
HS20010930-03		10 (mL)	10 (mL)	1
HS20010930-04		10 (mL)	10 (mL)	1
HS20010930-05		10 (mL)	10 (mL)	1
HS20010930-06		10 (mL)	10 (mL)	1
HS20010930-07		10 (mL)	10 (mL)	1
HS20010930-08		10 (mL)	10 (mL)	1
HS20010930-09		10 (mL)	10 (mL)	1
HS20010930-10		10 (mL)	10 (mL)	1

Batch ID: 149998 **Start Date:** 27 Jan 2020 07:00 **End Date:** 27 Jan 2020 13:30
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010930-02	1	1000 (mL)	1 (mL)	0.001
HS20010930-03	1	1000 (mL)	2 (mL)	0.002
HS20010930-04	1	1000 (mL)	2 (mL)	0.002
HS20010930-05	1	1000 (mL)	1 (mL)	0.001
HS20010930-06	1	1000 (mL)	1 (mL)	0.001
HS20010930-07	1	1000 (mL)	1 (mL)	0.001
HS20010930-08	1	1000 (mL)	1 (mL)	0.001
HS20010930-09	1	1000 (mL)	1 (mL)	0.001
HS20010930-10	1	1000 (mL)	1 (mL)	0.001

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010930

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 149963 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS20010930-02	WG-1620-MW32AR-20200120	20 Jan 2020 09:10		24 Jan 2020 13:00	24 Jan 2020 23:38	1
HS20010930-03	WG-1620-MW32B-20200120	20 Jan 2020 10:15		24 Jan 2020 13:00	27 Jan 2020 14:37	1
HS20010930-04	WG-1620-MW70B-20200120	20 Jan 2020 11:30		24 Jan 2020 13:00	27 Jan 2020 14:43	1
HS20010930-05	WG-1620-MW33A-20200120	20 Jan 2020 12:45		24 Jan 2020 13:00	24 Jan 2020 23:58	1
HS20010930-06	WG-1620-MW87C-20200120	20 Jan 2020 14:00		24 Jan 2020 13:00	25 Jan 2020 00:00	1
HS20010930-07	WG-1620-MW90B-20200120	20 Jan 2020 15:15		24 Jan 2020 13:00	25 Jan 2020 00:02	1
HS20010930-08	WG-1620-MW45C-20200120	20 Jan 2020 16:30		24 Jan 2020 13:00	25 Jan 2020 00:05	1
HS20010930-09	WG-1620-FB10-20200120	20 Jan 2020 09:30		24 Jan 2020 13:00	25 Jan 2020 00:07	1
HS20010930-10	WG-1620-FD05-20200120	20 Jan 2020 00:00		24 Jan 2020 13:00	25 Jan 2020 00:09	1
Batch ID: 149998 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS20010930-02	WG-1620-MW32AR-20200120	20 Jan 2020 09:10		27 Jan 2020 10:49	29 Jan 2020 00:59	1
HS20010930-03	WG-1620-MW32B-20200120	20 Jan 2020 10:15		27 Jan 2020 10:49	29 Jan 2020 15:03	2000
HS20010930-03	WG-1620-MW32B-20200120	20 Jan 2020 10:15		27 Jan 2020 10:49	29 Jan 2020 15:40	20000
HS20010930-03	WG-1620-MW32B-20200120	20 Jan 2020 10:15		27 Jan 2020 10:49	29 Jan 2020 14:44	200
HS20010930-03	WG-1620-MW32B-20200120	20 Jan 2020 10:15		27 Jan 2020 10:49	29 Jan 2020 13:29	10
HS20010930-04	WG-1620-MW70B-20200120	20 Jan 2020 11:30		27 Jan 2020 10:49	29 Jan 2020 15:59	8000
HS20010930-04	WG-1620-MW70B-20200120	20 Jan 2020 11:30		27 Jan 2020 10:49	29 Jan 2020 15:21	2000
HS20010930-04	WG-1620-MW70B-20200120	20 Jan 2020 11:30		27 Jan 2020 10:49	29 Jan 2020 14:25	200
HS20010930-04	WG-1620-MW70B-20200120	20 Jan 2020 11:30		27 Jan 2020 10:49	29 Jan 2020 14:06	10
HS20010930-05	WG-1620-MW33A-20200120	20 Jan 2020 12:45		27 Jan 2020 10:49	29 Jan 2020 01:18	1
HS20010930-06	WG-1620-MW87C-20200120	20 Jan 2020 14:00		27 Jan 2020 10:49	29 Jan 2020 01:37	1
HS20010930-07	WG-1620-MW90B-20200120	20 Jan 2020 15:15		27 Jan 2020 10:49	29 Jan 2020 01:55	1
HS20010930-08	WG-1620-MW45C-20200120	20 Jan 2020 16:30		27 Jan 2020 10:49	29 Jan 2020 13:10	1
HS20010930-09	WG-1620-FB10-20200120	20 Jan 2020 09:30		27 Jan 2020 10:49	29 Jan 2020 02:33	1
HS20010930-10	WG-1620-FD05-20200120	20 Jan 2020 00:00		27 Jan 2020 10:49	29 Jan 2020 02:52	1
Batch ID: R355061 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010930-01	WQ-1620-TB06-20200120	20 Jan 2020 00:00			25 Jan 2020 12:41	1
HS20010930-09	WG-1620-FB10-20200120	20 Jan 2020 09:30			25 Jan 2020 13:06	1
HS20010930-10	WG-1620-FD05-20200120	20 Jan 2020 00:00			25 Jan 2020 19:44	1
Batch ID: R355066 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010930-02	WG-1620-MW32AR-20200120	20 Jan 2020 09:10			25 Jan 2020 19:22	1
HS20010930-05	WG-1620-MW33A-20200120	20 Jan 2020 12:45			25 Jan 2020 19:47	1
HS20010930-06	WG-1620-MW87C-20200120	20 Jan 2020 14:00			25 Jan 2020 20:11	1
HS20010930-07	WG-1620-MW90B-20200120	20 Jan 2020 15:15			25 Jan 2020 20:36	1
HS20010930-08	WG-1620-MW45C-20200120	20 Jan 2020 16:30			25 Jan 2020 21:00	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010930

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: R355150 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010930-03	WG-1620-MW32B-20200120	20 Jan 2020 10:15			28 Jan 2020 08:52	25
HS20010930-04	WG-1620-MW70B-20200120	20 Jan 2020 11:30			28 Jan 2020 09:19	50

WorkOrder: HS20010930
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000499	0.000400	0.00200

WorkOrder: HS20010930
InstrumentID: SV-6
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.000098	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000051	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000094	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000083	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.000093	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000060	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000031	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000037	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000059	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000050	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000047	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000059	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000050	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000081	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00012	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000060	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000050	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.00011	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000049	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000053	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000049	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00012	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00011	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.0000094	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000049	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000096	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000047	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS20010930
InstrumentID: VOA4
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00061	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00057	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00058	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00048	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00070	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00050	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00045	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00070	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

WorkOrder: HS20010930
InstrumentID: VOA2
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00062	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00059	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00071	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00063	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00075	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00069	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00044	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00059	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010930

QC BATCH REPORT

Batch ID: 149963 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-149963** Units: **mg/L** Analysis Date: **24-Jan-2020 23:34**
Client ID: Run ID: **ICPMS05_354996** SeqNo: **5447747** PrepDate: **24-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-149963** Units: **mg/L** Analysis Date: **24-Jan-2020 23:36**
Client ID: Run ID: **ICPMS05_354996** SeqNo: **5447748** PrepDate: **24-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.043	0.00200	0.05	0	86.0	80 - 120				

MS Sample ID: **HS20010930-02MS** Units: **mg/L** Analysis Date: **24-Jan-2020 23:42**
Client ID: **WG-1620-MW32AR-20200120** Run ID: **ICPMS05_354996** SeqNo: **5447751** PrepDate: **24-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05468	0.00200	0.05	0.007701	94.0	80 - 120				

MSD Sample ID: **HS20010930-02MSD** Units: **mg/L** Analysis Date: **24-Jan-2020 23:45**
Client ID: **WG-1620-MW32AR-20200120** Run ID: **ICPMS05_354996** SeqNo: **5447752** PrepDate: **24-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05348	0.00200	0.05	0.007701	91.6	80 - 120	0.05468	2.22	20	

PDS Sample ID: **HS20010930-02PDS** Units: **mg/L** Analysis Date: **24-Jan-2020 23:47**
Client ID: **WG-1620-MW32AR-20200120** Run ID: **ICPMS05_354996** SeqNo: **5447753** PrepDate: **24-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.09766	0.00200	0.1	0.007701	90.0	75 - 125				

SD Sample ID: **HS20010930-02SD** Units: **mg/L** Analysis Date: **24-Jan-2020 23:40**
Client ID: **WG-1620-MW32AR-20200120** Run ID: **ICPMS05_354996** SeqNo: **5447750** PrepDate: **24-Jan-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.007533	0.0100					0.007701	0	10	J

The following samples were analyzed in this batch: HS20010930-02, HS20010930-03, HS20010930-04, HS20010930-05, HS20010930-06, HS20010930-07, HS20010930-08, HS20010930-09, HS20010930-10

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010930

QC BATCH REPORT

Batch ID: 149998 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-149998** Units: **ug/L** Analysis Date: **28-Jan-2020 19:21**
Client ID: Run ID: **SV-6_355238** SeqNo: **5452454** PrepDate: **27-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*4.165*	*0.20*	*5*	*0*	*83.3*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*5.567*	*0.20*	*5*	*0*	*111*	*40 - 125*				
Surr: 2-Fluorophenol	*4.869*	*0.20*	*5*	*0*	*97.4*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.797*	*0.20*	*5*	*0*	*116*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.964*	*0.20*	*5*	*0*	*99.3*	*41 - 120*				
Surr: Phenol-d6	*4.941*	*0.20*	*5*	*0*	*98.8*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010930

QC BATCH REPORT

Batch ID: 149998 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-149998** Units: **ug/L** Analysis Date: **28-Jan-2020 19:40**
Client ID: Run ID: **SV-6_355238** SeqNo: **5452455** PrepDate: **27-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	5.783	0.20	5	0	116	39 - 127				
2,4-Dimethylphenol	5.012	0.20	5	0	100	35 - 120				
2,4-Dinitrotoluene	6.415	0.20	5	0	128	50 - 122				S
2,6-Dinitrotoluene	6.03	0.20	5	0	121	50 - 120				S
2-Chloronaphthalene	5.424	0.20	5	0	108	50 - 120				
2-Methylnaphthalene	5.383	0.10	5	0	108	50 - 120				
4,6-Dinitro-2-methylphenol	5.692	0.20	5	0	114	25 - 121				
4-Nitrophenol	5.835	1.0	5	0	117	30 - 130				
Acenaphthene	5.432	0.10	5	0	109	45 - 120				
Acenaphthylene	5.667	0.10	5	0	113	47 - 120				
Anthracene	5.847	0.10	5	0	117	45 - 120				
Benz(a)anthracene	5.919	0.10	5	0	118	40 - 120				
Benzo(a)pyrene	5.832	0.10	5	0	117	45 - 120				
Bis(2-chloroethoxy)methane	5.315	0.20	5	0	106	45 - 120				
Bis(2-ethylhexyl)phthalate	5.645	0.20	5	0	113	40 - 139				
Chrysene	5.825	0.10	5	0	117	43 - 120				
Dibenzofuran	5.475	0.10	5	0	109	50 - 120				
Di-n-butyl phthalate	5.996	0.20	5	0	120	45 - 123				
Fluoranthene	5.728	0.10	5	0	115	45 - 125				
Fluorene	5.748	0.10	5	0	115	49 - 120				
Naphthalene	5.43	0.10	5	0	109	45 - 120				
Nitrobenzene	5.209	0.20	5	0	104	44 - 120				
N-Nitrosodiphenylamine	5.868	0.20	5	0	117	40 - 125				
Pentachlorophenol	2.037	0.20	5	0	40.7	19 - 121				
Phenanthrene	5.866	0.10	5	0	117	45 - 121				
Phenol	5.563	0.20	5	0	111	20 - 124				
Pyrene	5.924	0.10	5	0	118	40 - 130				
Surr: 2,4,6-Tribromophenol	*4.466*	*0.20*	*5*	*0*	*89.3*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*5.582*	*0.20*	*5*	*0*	*112*	*40 - 125*				
Surr: 2-Fluorophenol	*4.846*	*0.20*	*5*	*0*	*96.9*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.609*	*0.20*	*5*	*0*	*112*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.978*	*0.20*	*5*	*0*	*99.6*	*41 - 120*				
Surr: Phenol-d6	*4.891*	*0.20*	*5*	*0*	*97.8*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010930

QC BATCH REPORT

Batch ID: 149998 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MS Sample ID: **HS20010910-03MS** Units: **ug/L** Analysis Date: **28-Jan-2020 23:44**
Client ID: Run ID: **SV-6_355238** SeqNo: **5452170** PrepDate: **27-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.258	0.20	5	0	85.2	39 - 127				
2,4-Dimethylphenol	2.953	0.20	5	0.09533	57.1	35 - 120				
2,4-Dinitrotoluene	5.24	0.20	5	0	105	50 - 122				
2,6-Dinitrotoluene	4.544	0.20	5	0	90.9	50 - 120				
2-Chloronaphthalene	3.621	0.20	5	0	72.4	50 - 120				
2-Methylnaphthalene	3.197	0.10	5	0	63.9	50 - 120				
4,6-Dinitro-2-methylphenol	5.327	0.20	5	0	107	25 - 121				
4-Nitrophenol	5.515	1.0	5	0	110	30 - 130				
Acenaphthene	3.484	0.10	5	0	69.7	45 - 120				
Acenaphthylene	3.505	0.10	5	0	70.1	47 - 120				
Anthracene	5.162	0.10	5	0	103	45 - 120				
Benz(a)anthracene	5.438	0.10	5	0	109	40 - 120				
Benzo(a)pyrene	5.398	0.10	5	0	108	45 - 120				
Bis(2-chloroethoxy)methane	2.957	0.20	5	0	59.1	45 - 120				
Bis(2-ethylhexyl)phthalate	5.76	0.20	5	0	115	40 - 139				
Chrysene	5.195	0.10	5	0	104	43 - 120				
Dibenzofuran	3.564	0.10	5	0	71.3	50 - 120				
Di-n-butyl phthalate	6.041	0.20	5	0	121	45 - 123				
Fluoranthene	5.294	0.10	5	0.02986	105	45 - 125				
Fluorene	3.974	0.10	5	0	79.5	49 - 120				
Naphthalene	3.352	0.10	5	0.22	62.6	45 - 120				
Nitrobenzene	3.206	0.20	5	0	64.1	44 - 120				
N-Nitrosodiphenylamine	5.464	0.20	5	0	109	40 - 125				
Pentachlorophenol	3.381	0.20	5	0	67.6	19 - 121				
Phenanthrene	4.995	0.10	5	0	99.9	45 - 121				
Phenol	3.121	0.20	5	0	62.4	20 - 124				
Pyrene	5.526	0.10	5	0.02733	110	40 - 130				
Surr: 2,4,6-Tribromophenol	*4.181*	*0.20*	*5*	*0*	*83.6*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*3.463*	*0.20*	*5*	*0*	*69.3*	*40 - 125*				
Surr: 2-Fluorophenol	*3.1*	*0.20*	*5*	*0*	*62.0*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.541*	*0.20*	*5*	*0*	*111*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.186*	*0.20*	*5*	*0*	*63.7*	*41 - 120*				
Surr: Phenol-d6	*3.21*	*0.20*	*5*	*0*	*64.2*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010930

QC BATCH REPORT

Batch ID: 149998 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MSD Sample ID: **HS20010910-03MSD** Units: **ug/L** Analysis Date: **29-Jan-2020 00:03**
Client ID: Run ID: **SV-6_355238** SeqNo: **5452171** PrepDate: **27-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	5.047	0.20	5	0	101	39 - 127	4.258	17	20	
2,4-Dimethylphenol	3.862	0.20	5	0.09533	75.3	35 - 120	2.953	26.7	20	R
2,4-Dinitrotoluene	5.46	0.20	5	0	109	50 - 122	5.24	4.12	20	
2,6-Dinitrotoluene	5.056	0.20	5	0	101	50 - 120	4.544	10.7	20	
2-Chloronaphthalene	4.215	0.20	5	0	84.3	50 - 120	3.621	15.2	20	
2-Methylnaphthalene	3.899	0.10	5	0	78.0	50 - 120	3.197	19.8	20	
4,6-Dinitro-2-methylphenol	5.595	0.20	5	0	112	25 - 121	5.327	4.9	30	
4-Nitrophenol	5.641	1.0	5	0	113	30 - 130	5.515	2.26	20	
Acenaphthene	4.245	0.10	5	0	84.9	45 - 120	3.484	19.7	20	
Acenaphthylene	4.266	0.10	5	0	85.3	47 - 120	3.505	19.6	20	
Anthracene	5.342	0.10	5	0	107	45 - 120	5.162	3.43	20	
Benz(a)anthracene	5.45	0.10	5	0	109	40 - 120	5.438	0.221	20	
Benzo(a)pyrene	5.228	0.10	5	0	105	45 - 120	5.398	3.2	20	
Bis(2-chloroethoxy)methane	3.686	0.20	5	0	73.7	45 - 120	2.957	21.9	20	R
Bis(2-ethylhexyl)phthalate	5.666	0.20	5	0	113	40 - 139	5.76	1.64	20	
Chrysene	5.136	0.10	5	0	103	43 - 120	5.195	1.14	20	
Dibenzofuran	4.314	0.10	5	0	86.3	50 - 120	3.564	19	20	
Di-n-butyl phthalate	6.065	0.20	5	0	121	45 - 123	6.041	0.393	20	
Fluoranthene	5.068	0.10	5	0.02986	101	45 - 125	5.294	4.37	20	
Fluorene	4.577	0.10	5	0	91.5	49 - 120	3.974	14.1	20	
Naphthalene	4.118	0.10	5	0.22	78.0	45 - 120	3.352	20.5	20	R
Nitrobenzene	3.792	0.20	5	0	75.8	44 - 120	3.206	16.7	20	
N-Nitrosodiphenylamine	5.62	0.20	5	0	112	40 - 125	5.464	2.8	20	
Pentachlorophenol	3.323	0.20	5	0	66.5	19 - 121	3.381	1.74	20	
Phenanthrene	5.142	0.10	5	0	103	45 - 121	4.995	2.9	20	
Phenol	3.883	0.20	5	0	77.7	20 - 124	3.121	21.7	20	R
Pyrene	5.443	0.10	5	0.02733	108	40 - 130	5.526	1.51	20	
Surr: 2,4,6-Tribromophenol	*4.11*	*0.20*	*5*	*0*	*82.2*	*34 - 129*	*4.181*	*1.73*	*20*	
Surr: 2-Fluorobiphenyl	*4.108*	*0.20*	*5*	*0*	*82.2*	*40 - 125*	*3.463*	*17*	*20*	
Surr: 2-Fluorophenol	*3.476*	*0.20*	*5*	*0*	*69.5*	*20 - 120*	*3.1*	*11.4*	*20*	
Surr: 4-Terphenyl-d14	*5.339*	*0.20*	*5*	*0*	*107*	*40 - 135*	*5.541*	*3.71*	*20*	
Surr: Nitrobenzene-d5	*3.75*	*0.20*	*5*	*0*	*75.0*	*41 - 120*	*3.186*	*16.3*	*20*	
Surr: Phenol-d6	*3.663*	*0.20*	*5*	*0*	*73.3*	*20 - 120*	*3.21*	*13.2*	*20*	

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	HS20010930

QC BATCH REPORT

Batch ID: 149998 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

The following samples were analyzed in this batch:

HS20010930-02	HS20010930-03	HS20010930-04	HS20010930-05
HS20010930-06	HS20010930-07	HS20010930-08	HS20010930-09
HS20010930-10			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010930

QC BATCH REPORT

Batch ID: R355061 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200125** Units: **ug/L** Analysis Date: **25-Jan-2020 11:52**
Client ID: Run ID: **VOA4_355061** SeqNo: **5447903** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*51.99*	*1.0*	*50*	*0*	*104*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*48.39*	*1.0*	*50*	*0*	*96.8*	*82 - 115*				
Surr: Dibromofluoromethane	*50.4*	*1.0*	*50*	*0*	*101*	*73 - 126*				
Surr: Toluene-d8	*48.94*	*1.0*	*50*	*0*	*97.9*	*81 - 120*				

LCS Sample ID: **VLCSW-200125** Units: **ug/L** Analysis Date: **25-Jan-2020 11:02**
Client ID: Run ID: **VOA4_355061** SeqNo: **5447902** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.78	1.0	20	0	93.9	70 - 124				
Benzene	19.4	1.0	20	0	97.0	74 - 120				
Chlorobenzene	19.61	1.0	20	0	98.0	76 - 113				
Ethylbenzene	19.57	1.0	20	0	97.8	77 - 117				
Methylene chloride	20.36	2.0	20	0	102	70 - 127				
Toluene	19.83	1.0	20	0	99.1	77 - 118				
Vinyl chloride	19.46	1.0	20	0	97.3	70 - 130				
Xylenes, Total	58.33	1.0	60	0	97.2	75 - 122				
Surr: 1,2-Dichloroethane-d4	*49.57*	*1.0*	*50*	*0*	*99.1*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*49.72*	*1.0*	*50*	*0*	*99.4*	*82 - 115*				
Surr: Dibromofluoromethane	*49.96*	*1.0*	*50*	*0*	*99.9*	*73 - 126*				
Surr: Toluene-d8	*50.95*	*1.0*	*50*	*0*	*102*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010930

QC BATCH REPORT

Batch ID: R355061 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010937-01MS** Units: **ug/L** Analysis Date: **25-Jan-2020 15:09**
Client ID: Run ID: **VOA4_355061** SeqNo: **5447911** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.24	1.0	20	0	81.2	70 - 127				
Benzene	17.71	1.0	20	0	88.5	70 - 127				
Chlorobenzene	17.17	1.0	20	0	85.8	70 - 114				
Ethylbenzene	17.53	1.0	20	0	87.6	70 - 124				
Methylene chloride	18.41	2.0	20	0	92.1	70 - 128				
Toluene	18.12	1.0	20	0	90.6	70 - 123				
Vinyl chloride	17.88	1.0	20	0	89.4	70 - 130				
Xylenes, Total	51.84	1.0	60	0	86.4	70 - 130				
Surr: 1,2-Dichloroethane-d4	*51.17*	*1.0*	*50*	*0*	*102*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*49.86*	*1.0*	*50*	*0*	*99.7*	*81 - 113*				
Surr: Dibromofluoromethane	*50.64*	*1.0*	*50*	*0*	*101*	*77 - 123*				
Surr: Toluene-d8	*51.21*	*1.0*	*50*	*0*	*102*	*82 - 127*				

MSD Sample ID: **HS20010937-01MSD** Units: **ug/L** Analysis Date: **25-Jan-2020 15:34**
Client ID: Run ID: **VOA4_355061** SeqNo: **5447912** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	15.9	1.0	20	0	79.5	70 - 127	16.24	2.11	20	
Benzene	17.13	1.0	20	0	85.6	70 - 127	17.71	3.33	20	
Chlorobenzene	17.02	1.0	20	0	85.1	70 - 114	17.17	0.844	20	
Ethylbenzene	16.92	1.0	20	0	84.6	70 - 124	17.53	3.5	20	
Methylene chloride	17.25	2.0	20	0	86.3	70 - 128	18.41	6.49	20	
Toluene	16.89	1.0	20	0	84.4	70 - 123	18.12	7.08	20	
Vinyl chloride	16.93	1.0	20	0	84.6	70 - 130	17.88	5.47	20	
Xylenes, Total	50.49	1.0	60	0	84.1	70 - 130	51.84	2.64	20	
Surr: 1,2-Dichloroethane-d4	*51.37*	*1.0*	*50*	*0*	*103*	*70 - 126*	*51.17*	*0.402*	*20*	
Surr: 4-Bromofluorobenzene	*51.63*	*1.0*	*50*	*0*	*103*	*81 - 113*	*49.86*	*3.48*	*20*	
Surr: Dibromofluoromethane	*51.81*	*1.0*	*50*	*0*	*104*	*77 - 123*	*50.64*	*2.29*	*20*	
Surr: Toluene-d8	*49.4*	*1.0*	*50*	*0*	*98.8*	*82 - 127*	*51.21*	*3.59*	*20*	

The following samples were analyzed in this batch: HS20010930-01 HS20010930-09 HS20010930-10

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010930

QC BATCH REPORT

Batch ID: R355066 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200125** Units: **ug/L** Analysis Date: **25-Jan-2020 11:48**
Client ID: Run ID: **VOA2_355066** SeqNo: **5447954** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*50.24*	*1.0*	*50*	*0*	*100*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.97*	*1.0*	*50*	*0*	*95.9*	*82 - 115*				
Surr: Dibromofluoromethane	*51.29*	*1.0*	*50*	*0*	*103*	*73 - 126*				
Surr: Toluene-d8	*51.05*	*1.0*	*50*	*0*	*102*	*81 - 120*				

LCS Sample ID: **VLCSW-200225** Units: **ug/L** Analysis Date: **25-Jan-2020 10:59**
Client ID: Run ID: **VOA2_355066** SeqNo: **5447953** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.57	1.0	20	0	92.9	70 - 124				
Benzene	18.24	1.0	20	0	91.2	74 - 120				
Chlorobenzene	18.75	1.0	20	0	93.8	76 - 113				
Ethylbenzene	18.83	1.0	20	0	94.1	77 - 117				
Methylene chloride	18.77	2.0	20	0	93.8	70 - 127				
Toluene	20.88	1.0	20	0	104	77 - 118				
Vinyl chloride	19.59	1.0	20	0	98.0	70 - 130				
Xylenes, Total	58.21	1.0	60	0	97.0	75 - 122				
Surr: 1,2-Dichloroethane-d4	*50.59*	*1.0*	*50*	*0*	*101*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*49.95*	*1.0*	*50*	*0*	*99.9*	*82 - 115*				
Surr: Dibromofluoromethane	*48.84*	*1.0*	*50*	*0*	*97.7*	*73 - 126*				
Surr: Toluene-d8	*50.26*	*1.0*	*50*	*0*	*101*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010930

QC BATCH REPORT

Batch ID: R355066 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010767-29MS** Units: **ug/L** Analysis Date: **25-Jan-2020 13:28**
Client ID: Run ID: **VOA2_355066** SeqNo: **5447958** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.72	1.0	20	0	88.6	70 - 127				
Benzene	17.87	1.0	20	0	89.3	70 - 127				
Chlorobenzene	18.14	1.0	20	0	90.7	70 - 114				
Ethylbenzene	18.64	1.0	20	0	93.2	70 - 124				
Methylene chloride	18.41	2.0	20	0	92.0	70 - 128				
Toluene	20.39	1.0	20	0	102	70 - 123				
Vinyl chloride	18.29	1.0	20	0	91.4	70 - 130				
Xylenes, Total	57.1	1.0	60	0	95.2	70 - 130				
Surr: 1,2-Dichloroethane-d4	*51.56*	*1.0*	*50*	*0*	*103*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*50.55*	*1.0*	*50*	*0*	*101*	*81 - 113*				
Surr: Dibromofluoromethane	*50.1*	*1.0*	*50*	*0*	*100*	*77 - 123*				
Surr: Toluene-d8	*49.72*	*1.0*	*50*	*0*	*99.4*	*82 - 127*				

MSD Sample ID: **HS20010767-29MSD** Units: **ug/L** Analysis Date: **25-Jan-2020 13:52**
Client ID: Run ID: **VOA2_355066** SeqNo: **5447959** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.67	1.0	20	0	88.4	70 - 127	17.72	0.267	20	
Benzene	17.9	1.0	20	0	89.5	70 - 127	17.87	0.197	20	
Chlorobenzene	18.23	1.0	20	0	91.2	70 - 114	18.14	0.504	20	
Ethylbenzene	18.75	1.0	20	0	93.8	70 - 124	18.64	0.579	20	
Methylene chloride	17.79	2.0	20	0	88.9	70 - 128	18.41	3.41	20	
Toluene	20.63	1.0	20	0	103	70 - 123	20.39	1.13	20	
Vinyl chloride	18.66	1.0	20	0	93.3	70 - 130	18.29	2	20	
Xylenes, Total	57.29	1.0	60	0	95.5	70 - 130	57.1	0.342	20	
Surr: 1,2-Dichloroethane-d4	*50.81*	*1.0*	*50*	*0*	*102*	*70 - 126*	*51.56*	*1.47*	*20*	
Surr: 4-Bromofluorobenzene	*49.73*	*1.0*	*50*	*0*	*99.5*	*81 - 113*	*50.55*	*1.63*	*20*	
Surr: Dibromofluoromethane	*49.79*	*1.0*	*50*	*0*	*99.6*	*77 - 123*	*50.1*	*0.63*	*20*	
Surr: Toluene-d8	*50.3*	*1.0*	*50*	*0*	*101*	*82 - 127*	*49.72*	*1.16*	*20*	

The following samples were analyzed in this batch: HS20010930-02 HS20010930-05 HS20010930-06 HS20010930-07 HS20010930-08

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010930

QC BATCH REPORT

Batch ID: R355150 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200127** Units: **ug/L** Analysis Date: **28-Jan-2020 00:04**
Client ID: Run ID: **VOA4_355150** SeqNo: **5449458** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*53.74*	*1.0*	*50*	*0*	*107*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*49.81*	*1.0*	*50*	*0*	*99.6*	*82 - 115*				
Surr: Dibromofluoromethane	*51.4*	*1.0*	*50*	*0*	*103*	*73 - 126*				
Surr: Toluene-d8	*51.46*	*1.0*	*50*	*0*	*103*	*81 - 120*				

LCS Sample ID: **VLCSW-200127** Units: **ug/L** Analysis Date: **27-Jan-2020 23:14**
Client ID: Run ID: **VOA4_355150** SeqNo: **5449457** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.77	1.0	20	0	88.9	70 - 124				
Benzene	18.82	1.0	20	0	94.1	74 - 120				
Chlorobenzene	18.67	1.0	20	0	93.4	76 - 113				
Ethylbenzene	18.47	1.0	20	0	92.3	77 - 117				
Methylene chloride	20	2.0	20	0	100.0	70 - 127				
Toluene	18.6	1.0	20	0	93.0	77 - 118				
Vinyl chloride	17.6	1.0	20	0	88.0	70 - 130				
Xylenes, Total	57.11	1.0	60	0	95.2	75 - 122				
Surr: 1,2-Dichloroethane-d4	*50.88*	*1.0*	*50*	*0*	*102*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*50.8*	*1.0*	*50*	*0*	*102*	*82 - 115*				
Surr: Dibromofluoromethane	*51.31*	*1.0*	*50*	*0*	*103*	*73 - 126*				
Surr: Toluene-d8	*49.36*	*1.0*	*50*	*0*	*98.7*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010930

QC BATCH REPORT

Batch ID: R355150 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010958-02MS** Units: **ug/L** Analysis Date: **28-Jan-2020 02:07**
Client ID: Run ID: **VOA4_355150** SeqNo: **5449463** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.91	1.0	20	0	84.5	70 - 127				
Benzene	18.82	1.0	20	0	94.1	70 - 127				
Chlorobenzene	17.88	1.0	20	0	89.4	70 - 114				
Ethylbenzene	17.99	1.0	20	0	89.9	70 - 124				
Methylene chloride	18.93	2.0	20	0	94.6	70 - 128				
Toluene	18.76	1.0	20	0	93.8	70 - 123				
Vinyl chloride	17.58	1.0	20	0	87.9	70 - 130				
Xylenes, Total	54.55	1.0	60	0	90.9	70 - 130				
Surr: 1,2-Dichloroethane-d4	*51.55*	*1.0*	*50*	*0*	*103*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*50.92*	*1.0*	*50*	*0*	*102*	*81 - 113*				
Surr: Dibromofluoromethane	*51.17*	*1.0*	*50*	*0*	*102*	*77 - 123*				
Surr: Toluene-d8	*50.57*	*1.0*	*50*	*0*	*101*	*82 - 127*				

MSD Sample ID: **HS20010958-02MSD** Units: **ug/L** Analysis Date: **28-Jan-2020 02:32**
Client ID: Run ID: **VOA4_355150** SeqNo: **5449464** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.29	1.0	20	0	81.4	70 - 127	16.91	3.76	20	
Benzene	17.94	1.0	20	0	89.7	70 - 127	18.82	4.77	20	
Chlorobenzene	17.53	1.0	20	0	87.7	70 - 114	17.88	1.94	20	
Ethylbenzene	17.71	1.0	20	0	88.5	70 - 124	17.99	1.57	20	
Methylene chloride	18.74	2.0	20	0	93.7	70 - 128	18.93	0.98	20	
Toluene	17.72	1.0	20	0	88.6	70 - 123	18.76	5.69	20	
Vinyl chloride	16.97	1.0	20	0	84.8	70 - 130	17.58	3.57	20	
Xylenes, Total	53.22	1.0	60	0	88.7	70 - 130	54.55	2.47	20	
Surr: 1,2-Dichloroethane-d4	*51.67*	*1.0*	*50*	*0*	*103*	*70 - 126*	*51.55*	*0.229*	*20*	
Surr: 4-Bromofluorobenzene	*51.04*	*1.0*	*50*	*0*	*102*	*81 - 113*	*50.92*	*0.238*	*20*	
Surr: Dibromofluoromethane	*51.48*	*1.0*	*50*	*0*	*103*	*77 - 123*	*51.17*	*0.604*	*20*	
Surr: Toluene-d8	*50.25*	*1.0*	*50*	*0*	*100*	*82 - 127*	*50.57*	*0.637*	*20*	

The following samples were analyzed in this batch: HS20010930-03 HS20010930-04

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS20010930**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	T104704231-19-25	30-Apr-2020

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20010930

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20010930-01	WQ-1620-TB06-20200120	Login	1/21/2020 6:41:02 PM	JRM	VOA232
HS20010930-02	WG-1620-MW32AR-20200120	Login	1/21/2020 6:41:02 PM	JRM	MET074
HS20010930-02	WG-1620-MW32AR-20200120	Login	1/21/2020 6:41:02 PM	JRM	EXT106
HS20010930-02	WG-1620-MW32AR-20200120	Login	1/21/2020 6:41:02 PM	JRM	VOA252
HS20010930-03	WG-1620-MW32B-20200120	Login	1/21/2020 6:41:02 PM	JRM	MET074
HS20010930-03	WG-1620-MW32B-20200120	Login	1/21/2020 6:41:02 PM	JRM	EXT106
HS20010930-03	WG-1620-MW32B-20200120	Login	1/21/2020 6:41:02 PM	JRM	VOA252
HS20010930-04	WG-1620-MW70B-20200120	Login	1/21/2020 6:41:02 PM	JRM	MET074
HS20010930-04	WG-1620-MW70B-20200120	Login	1/21/2020 6:41:02 PM	JRM	EXT106
HS20010930-04	WG-1620-MW70B-20200120	Login	1/21/2020 6:41:02 PM	JRM	VOA252
HS20010930-05	WG-1620-MW33A-20200120	Login	1/21/2020 6:41:02 PM	JRM	MET074
HS20010930-05	WG-1620-MW33A-20200120	Login	1/21/2020 6:41:02 PM	JRM	EXT106
HS20010930-05	WG-1620-MW33A-20200120	Login	1/21/2020 6:41:02 PM	JRM	VOA252
HS20010930-06	WG-1620-MW87C-20200120	Login	1/21/2020 6:41:02 PM	JRM	MET074
HS20010930-06	WG-1620-MW87C-20200120	Login	1/21/2020 6:41:02 PM	JRM	EXT106
HS20010930-06	WG-1620-MW87C-20200120	Login	1/21/2020 6:41:02 PM	JRM	VOA252
HS20010930-07	WG-1620-MW90B-20200120	Login	1/21/2020 6:41:02 PM	JRM	MET074
HS20010930-07	WG-1620-MW90B-20200120	Login	1/21/2020 6:41:02 PM	JRM	EXT106
HS20010930-07	WG-1620-MW90B-20200120	Login	1/21/2020 6:41:02 PM	JRM	VOA252
HS20010930-08	WG-1620-MW45C-20200120	Login	1/21/2020 6:41:02 PM	JRM	MET074
HS20010930-08	WG-1620-MW45C-20200120	Login	1/21/2020 6:41:02 PM	JRM	EXT111
HS20010930-08	WG-1620-MW45C-20200120	Login	1/21/2020 6:41:02 PM	JRM	VOA252
HS20010930-09	WG-1620-FB10-20200120	Login	1/21/2020 6:41:02 PM	JRM	MET074
HS20010930-09	WG-1620-FB10-20200120	Login	1/21/2020 6:41:02 PM	JRM	EXT111
HS20010930-09	WG-1620-FB10-20200120	Login	1/21/2020 6:41:02 PM	JRM	VOA252
HS20010930-10	WG-1620-FD05-20200120	Login	1/21/2020 6:41:02 PM	JRM	MET074
HS20010930-10	WG-1620-FD05-20200120	Login	1/21/2020 6:41:02 PM	JRM	EXT111
HS20010930-10	WG-1620-FD05-20200120	Login	1/21/2020 6:41:02 PM	JRM	VOA252

Sample Receipt Checklist

Client Name: PBW
Work Order: HS20010930

Date/Time Received: **21-Jan-2020 17:10**
Received by: **DDG**

Checklist completed by: *Jared R. Makan* eSignature — 21-Jan-2020 Date

Reviewed by: *Dane J. Wacasey* eSignature — 27-Jan-2020 Date

Matrices: **Water**

Carrier name: **ALS Courier**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:206397
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.3°C/1.3°C, 2.0°C/2.0°C, 1.6°C/1.6°C UC/C	IR25	
Cooler(s)/Kit(s):	45675, 45543, 44845		
Date/Time sample(s) sent to storage:	01/21/2020 18:52		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of ____

COC ID: 206397

HS20010930

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 Volatile Organics Site Specific)
Work Order		Project Number	1620-07-Rev0 SR 92688	B	8260_LL_W (5632528 VOC Site Specific + V.C.)
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 5652646 Metals - As)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	F	
Phone	(512) 671-3434	Phone		G	
Fax	(512) 671-3446	Fax		H	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		I	
				J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WQ-1620-TB006-20200121	1-20-20		Water	1	2		X									
2	WG-1620-MW-32AR-20200120	1-20-20	9:10	water	1	6	X	X	X	X							
3	WG-1620-MW-32B-20200120	1-20-20	10:15	H2O	1	6	X	X	X	X							
4	WG-1620-MW-70B-20200120	1-20-20	11:30	H2O	1	6	X	X	X	X							
5	WG-1620-MW-33A-20200120	1-20-20	12:45	H2O	1	6	X	X	X	X							
6	WG-1620-MW-87D-20200120	1-20-20	14:00	H2O	1	6	X	X	X	X							
7	WG-1620-MW-90B-20200120	1-20-20	15:15	H2O	1	6	X	X	X	X							
8	WG-1620-MW-45C-20200120	1-20-20	16:30	H2O	1	6	X	X	X	X							
9	WG-1620-FB-10-20200120	1-20-20	9:30	H2O	1	6	X	X	X	X							
10	WG-1620-FD-05-20200120	1-20-20	—	H2O	1	6	X	X	X	X							

Sampler(s) Please Print & Sign: Tim McGuckin T. McGuckin

Shipment Method:

Required Turnaround Time: (Check Box) ☐ Other ____ ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

Relinquished by: Date: 1-20-20 Time: 16:20 Received by:

Relinquished by: Date: 1-21-20 Time: 1710 Received by (Laboratory):

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
45643	2.2
44815	1.6
45675	1.5

QC Package: (Check One Box Below)

☐ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SVM43/CLP
☐ Other
☒ TRRP Check st
☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

January 30, 2020

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS20010958**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 7 sample(s) on Jan 22, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20010958**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	**HS20010958**

TRRP Laboratory Data Package Cover Page

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 01/30/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20010958				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 149970,149998,R355061,R355150				
#[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				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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 SW-846 Method 5035?			X		
		If required for the project, 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			1
		Does the detectability 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				
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			2
		Were MS/MSD RPDs within laboratory QC limits?		X			3
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		
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				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 01/30/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20010958				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 149970,149998,R355061,R355150				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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			4
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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group	LRC Date: 01/30/2020
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS20010958
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 149970,149998,R355061,R355150

ER#[5]	Description
1	Batch 149998, Semivolatile Organics Method SW8270, LCS recovery was above the control limits for 2,4-Dinitrotoluene and 2,6-Dinitrotoluene. The analytes were not detected in the associated samples.
2	Batch 149998, Semivolatile Organics Method SW8270, sample WG-1620-MW82B-20200121, MS recovered outside the control limit for 4-Nitrophenol due to possible matrix effect.
3	Batch 149998, Semivolatile Organics Method SW8270, sample WG-1620-MW82B-20200121, MS/MSD RPD recovered above the RPD limits for select compounds due to possible matrix effect.
4	Batch 149970, Metals Method SW6020, sample WG-1620-MW82B-20200121, PDS recovered above the control limit for Arsenic.

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20010958

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20010958-01	WQ-1620-TB07-20200121	Water	CG-121719-114	21-Jan-2020 00:00	22-Jan-2020 11:30	☐
HS20010958-02	WG-1620-MW82B-20200121	Water		21-Jan-2020 09:10	22-Jan-2020 11:30	☐
HS20010958-03	WG-1620-MW38A-20200121	Water		21-Jan-2020 11:10	22-Jan-2020 11:30	☐
HS20010958-04	WG-1620-MW38B-20200121	Water		21-Jan-2020 13:45	22-Jan-2020 11:30	☐
HS20010958-05	WG-1620-MW03-20200121	Water		21-Jan-2020 15:00	22-Jan-2020 11:30	☐
HS20010958-06	WG-1620-MW04-20200121	Water		21-Jan-2020 16:00	22-Jan-2020 11:30	☐
HS20010958-07	WG-1620-FB11-20200121	Water		21-Jan-2020 15:30	22-Jan-2020 11:30	☐

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010958
Sample ID: WQ-1620-TB07-20200121
Lab ID:HS20010958-01
Collection Date: 21-Jan-2020 00:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	28-Jan-2020 00:28
Benzene		U	0.00020	0.0010	mg/L	1	28-Jan-2020 00:28
Chlorobenzene		U	0.00030	0.0010	mg/L	1	28-Jan-2020 00:28
Ethylbenzene		U	0.00030	0.0010	mg/L	1	28-Jan-2020 00:28
Methylene chloride		U	0.0010	0.0020	mg/L	1	28-Jan-2020 00:28
Toluene		U	0.00020	0.0010	mg/L	1	28-Jan-2020 00:28
Xylenes, Total		U	0.00030	0.0010	mg/L	1	28-Jan-2020 00:28
Surr: 1,2-Dichloroethane-d4	*108*			*70-126*	*%REC*	*1*	*28-Jan-2020 00:28*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*1*	*28-Jan-2020 00:28*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*28-Jan-2020 00:28*
Surr: Toluene-d8	*99.8*			*82-127*	*%REC*	*1*	*28-Jan-2020 00:28*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010958
Sample ID: WG-1620-MW82B-20200121
Lab ID:HS20010958-02
Collection Date: 21-Jan-2020 09:10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	28-Jan-2020 01:42
Benzene		U	0.00020	0.0010	mg/L	1	28-Jan-2020 01:42
Chlorobenzene		U	0.00030	0.0010	mg/L	1	28-Jan-2020 01:42
Ethylbenzene		U	0.00030	0.0010	mg/L	1	28-Jan-2020 01:42
Methylene chloride		U	0.0010	0.0020	mg/L	1	28-Jan-2020 01:42
Toluene		U	0.00020	0.0010	mg/L	1	28-Jan-2020 01:42
Xylenes, Total		U	0.00030	0.0010	mg/L	1	28-Jan-2020 01:42
Surr: 1,2-Dichloroethane-d4	*108*			*70-126*	*%REC*	*1*	*28-Jan-2020 01:42*
Surr: 4-Bromofluorobenzene	*99.0*			*81-113*	*%REC*	*1*	*28-Jan-2020 01:42*
Surr: Dibromofluoromethane	*105*			*77-123*	*%REC*	*1*	*28-Jan-2020 01:42*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*28-Jan-2020 01:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW82B-20200121
Collection Date: 21-Jan-2020 09:10

ANALYTICAL REPORT
WorkOrder:HS20010958
Lab ID:HS20010958-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 27-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	29-Jan-2020 22:17
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	29-Jan-2020 22:17
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	29-Jan-2020 22:17
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	29-Jan-2020 22:17
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	29-Jan-2020 22:17
2-Methylnaphthalene	**0.00010**		**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 22:17
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	29-Jan-2020 22:17
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	29-Jan-2020 22:17
Acenaphthene	**0.000043**	J	**0.000027**	**0.00010**	**mg/L**	1	29-Jan-2020 22:17
Acenaphthylene	U		0.000015	0.00010	mg/L	1	29-Jan-2020 22:17
Anthracene	**0.000031**	J	**0.000014**	**0.00010**	**mg/L**	1	29-Jan-2020 22:17
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	29-Jan-2020 22:17
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	29-Jan-2020 22:17
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	29-Jan-2020 22:17
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	29-Jan-2020 22:17
Chrysene	U		0.000021	0.00010	mg/L	1	29-Jan-2020 22:17
Dibenzofuran	**0.000040**	J	**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 22:17
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	29-Jan-2020 22:17
Fluoranthene	U		0.000010	0.00010	mg/L	1	29-Jan-2020 22:17
Fluorene	**0.000037**	J	**0.000030**	**0.00010**	**mg/L**	1	29-Jan-2020 22:17
Naphthalene	**0.00041**		**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 22:17
Nitrobenzene	U		0.000024	0.00020	mg/L	1	29-Jan-2020 22:17
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	29-Jan-2020 22:17
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	29-Jan-2020 22:17
Phenanthrene	**0.00012**		**0.000021**	**0.00010**	**mg/L**	1	29-Jan-2020 22:17
Phenol	U		0.000035	0.00020	mg/L	1	29-Jan-2020 22:17
Pyrene	U		0.000019	0.00010	mg/L	1	29-Jan-2020 22:17
Surr: 2,4,6-Tribromophenol	*93.1*			*34-129*	*%REC*	*1*	*29-Jan-2020 22:17*
Surr: 2-Fluorobiphenyl	*93.3*			*40-125*	*%REC*	*1*	*29-Jan-2020 22:17*
Surr: 2-Fluorophenol	*68.9*			*20-120*	*%REC*	*1*	*29-Jan-2020 22:17*
Surr: 4-Terphenyl-d14	*115*			*40-135*	*%REC*	*1*	*29-Jan-2020 22:17*
Surr: Nitrobenzene-d5	*79.2*			*41-120*	*%REC*	*1*	*29-Jan-2020 22:17*
Surr: Phenol-d6	*74.6*			*20-120*	*%REC*	*1*	*29-Jan-2020 22:17*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jan-2020		Analyst: JHD
Arsenic	**0.00484**		**0.000400**	**0.00200**	**mg/L**	1	27-Jan-2020 21:28

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010958
Sample ID: WG-1620-MW38A-20200121
Lab ID:HS20010958-03
Collection Date: 21-Jan-2020 11:10
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	25-Jan-2020 20:08
Benzene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 20:08
Chlorobenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 20:08
Ethylbenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 20:08
Methylene chloride		U	0.0010	0.0020	mg/L	1	25-Jan-2020 20:08
Toluene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 20:08
Xylenes, Total		U	0.00030	0.0010	mg/L	1	25-Jan-2020 20:08
Surr: 1,2-Dichloroethane-d4	*105*			*70-126*	*%REC*	*1*	*25-Jan-2020 20:08*
Surr: 4-Bromofluorobenzene	*99.5*			*81-113*	*%REC*	*1*	*25-Jan-2020 20:08*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*25-Jan-2020 20:08*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*25-Jan-2020 20:08*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW38A-20200121
Collection Date: 21-Jan-2020 11:10

ANALYTICAL REPORT
WorkOrder:HS20010958
Lab ID:HS20010958-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 27-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	29-Jan-2020 23:14
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	29-Jan-2020 23:14
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	29-Jan-2020 23:14
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	29-Jan-2020 23:14
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	29-Jan-2020 23:14
2-Methylnaphthalene	**0.00017**		**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 23:14
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	29-Jan-2020 23:14
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	29-Jan-2020 23:14
Acenaphthene	**0.00068**		**0.000027**	**0.00010**	**mg/L**	1	29-Jan-2020 23:14
Acenaphthylene	U		0.000015	0.00010	mg/L	1	29-Jan-2020 23:14
Anthracene	**0.00015**		**0.000014**	**0.00010**	**mg/L**	1	29-Jan-2020 23:14
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	29-Jan-2020 23:14
Benzo(a)pyrene	**0.000032**	J	**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 23:14
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	29-Jan-2020 23:14
Bis(2-ethylhexyl)phthalate	**0.000063**	J	**0.000037**	**0.00020**	**mg/L**	1	29-Jan-2020 23:14
Chrysene	**0.000060**	J	**0.000021**	**0.00010**	**mg/L**	1	29-Jan-2020 23:14
Dibenzofuran	**0.00036**		**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 23:14
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	29-Jan-2020 23:14
Fluoranthene	**0.00018**		**0.000010**	**0.00010**	**mg/L**	1	29-Jan-2020 23:14
Fluorene	**0.00029**		**0.000030**	**0.00010**	**mg/L**	1	29-Jan-2020 23:14
Naphthalene	**0.0011**		**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 23:14
Nitrobenzene	U		0.000024	0.00020	mg/L	1	29-Jan-2020 23:14
N-Nitrosodiphenylamine	**0.00011**	J	**0.000025**	**0.00020**	**mg/L**	1	29-Jan-2020 23:14
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	29-Jan-2020 23:14
Phenanthrene	**0.00039**		**0.000021**	**0.00010**	**mg/L**	1	29-Jan-2020 23:14
Phenol	U		0.000035	0.00020	mg/L	1	29-Jan-2020 23:14
Pyrene	**0.00014**		**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 23:14
Surr: 2,4,6-Tribromophenol	*68.4*			*34-129*	*%REC*	*1*	*29-Jan-2020 23:14*
Surr: 2-Fluorobiphenyl	*72.4*			*40-125*	*%REC*	*1*	*29-Jan-2020 23:14*
Surr: 2-Fluorophenol	*63.9*			*20-120*	*%REC*	*1*	*29-Jan-2020 23:14*
Surr: 4-Terphenyl-d14	*92.4*			*40-135*	*%REC*	*1*	*29-Jan-2020 23:14*
Surr: Nitrobenzene-d5	*67.8*			*41-120*	*%REC*	*1*	*29-Jan-2020 23:14*
Surr: Phenol-d6	*66.4*			*20-120*	*%REC*	*1*	*29-Jan-2020 23:14*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jan-2020		Analyst: JHD
Arsenic	**0.0177**		**0.000400**	**0.00200**	**mg/L**	1	27-Jan-2020 21:44

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW38B-20200121
Collection Date: 21-Jan-2020 13:45

ANALYTICAL REPORT
WorkOrder:HS20010958
Lab ID:HS20010958-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	25-Jan-2020 20:33
Benzene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 20:33
Chlorobenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 20:33
Ethylbenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 20:33
Methylene chloride		U	0.0010	0.0020	mg/L	1	25-Jan-2020 20:33
Toluene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 20:33
Xylenes, Total		U	0.00030	0.0010	mg/L	1	25-Jan-2020 20:33
Surr: 1,2-Dichloroethane-d4	*104*			*70-126*	*%REC*	*1*	*25-Jan-2020 20:33*
Surr: 4-Bromofluorobenzene	*99.4*			*81-113*	*%REC*	*1*	*25-Jan-2020 20:33*
Surr: Dibromofluoromethane	*98.8*			*77-123*	*%REC*	*1*	*25-Jan-2020 20:33*
Surr: Toluene-d8	*96.9*			*82-127*	*%REC*	*1*	*25-Jan-2020 20:33*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW38B-20200121
Collection Date: 21-Jan-2020 13:45

ANALYTICAL REPORT
WorkOrder:HS20010958
Lab ID:HS20010958-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 27-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	**0.00025**		**0.000021**	**0.00020**	**mg/L**	1	29-Jan-2020 23:33
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	29-Jan-2020 23:33
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	29-Jan-2020 23:33
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	29-Jan-2020 23:33
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	29-Jan-2020 23:33
2-Methylnaphthalene	**0.00017**		**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 23:33
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	29-Jan-2020 23:33
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	29-Jan-2020 23:33
Acenaphthene	**0.054**		**0.00027**	**0.0010**	**mg/L**	10	30-Jan-2020 14:04
Acenaphthylene	**0.00045**		**0.000015**	**0.00010**	**mg/L**	1	29-Jan-2020 23:33
Anthracene	**0.0012**		**0.000014**	**0.00010**	**mg/L**	1	29-Jan-2020 23:33
Benz(a)anthracene	**0.000055**	J	**0.000050**	**0.00010**	**mg/L**	1	29-Jan-2020 23:33
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	29-Jan-2020 23:33
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	29-Jan-2020 23:33
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	29-Jan-2020 23:33
Chrysene	**0.000057**	J	**0.000021**	**0.00010**	**mg/L**	1	29-Jan-2020 23:33
Dibenzofuran	**0.0054**		**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 23:33
Di-n-butyl phthalate	**0.000036**	J	**0.000020**	**0.00020**	**mg/L**	1	29-Jan-2020 23:33
Fluoranthene	**0.0025**		**0.000010**	**0.00010**	**mg/L**	1	29-Jan-2020 23:33
Fluorene	**0.015**		**0.00030**	**0.0010**	**mg/L**	10	30-Jan-2020 14:04
Naphthalene	**0.00098**		**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 23:33
Nitrobenzene	U		0.000024	0.00020	mg/L	1	29-Jan-2020 23:33
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	29-Jan-2020 23:33
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	29-Jan-2020 23:33
Phenanthrene	**0.00095**		**0.000021**	**0.00010**	**mg/L**	1	29-Jan-2020 23:33
Phenol	U		0.000035	0.00020	mg/L	1	29-Jan-2020 23:33
Pyrene	**0.0015**		**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 23:33
Surr: 2,4,6-Tribromophenol	*80.6*			*34-129*	*%REC*	*1*	*29-Jan-2020 23:33*
Surr: 2,4,6-Tribromophenol	*93.5*			*34-129*	*%REC*	*10*	*30-Jan-2020 14:04*
Surr: 2-Fluorobiphenyl	*106*			*40-125*	*%REC*	*10*	*30-Jan-2020 14:04*
Surr: 2-Fluorobiphenyl	*87.7*			*40-125*	*%REC*	*1*	*29-Jan-2020 23:33*
Surr: 2-Fluorophenol	*71.8*			*20-120*	*%REC*	*1*	*29-Jan-2020 23:33*
Surr: 2-Fluorophenol	*74.8*			*20-120*	*%REC*	*10*	*30-Jan-2020 14:04*
Surr: 4-Terphenyl-d14	*117*			*40-135*	*%REC*	*10*	*30-Jan-2020 14:04*
Surr: 4-Terphenyl-d14	*95.1*			*40-135*	*%REC*	*1*	*29-Jan-2020 23:33*
Surr: Nitrobenzene-d5	*75.9*			*41-120*	*%REC*	*1*	*29-Jan-2020 23:33*
Surr: Nitrobenzene-d5	*94.3*			*41-120*	*%REC*	*10*	*30-Jan-2020 14:04*
Surr: Phenol-d6	*93.3*			*20-120*	*%REC*	*10*	*30-Jan-2020 14:04*
Surr: Phenol-d6	*79.3*			*20-120*	*%REC*	*1*	*29-Jan-2020 23:33*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW38B-20200121
Collection Date: 21-Jan-2020 13:45

ANALYTICAL REPORT
WorkOrder:HS20010958
Lab ID:HS20010958-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jan-2020		Analyst: JHD
Arsenic	**0.0173**		**0.000400**	**0.00200**	**mg/L**	1	27-Jan-2020 21:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010958
Sample ID: WG-1620-MW03-20200121
Lab ID:HS20010958-05
Collection Date: 21-Jan-2020 15:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	25-Jan-2020 20:58
Benzene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 20:58
Chlorobenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 20:58
Ethylbenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2020 20:58
Methylene chloride		U	0.0010	0.0020	mg/L	1	25-Jan-2020 20:58
Toluene		U	0.00020	0.0010	mg/L	1	25-Jan-2020 20:58
Xylenes, Total		U	0.00030	0.0010	mg/L	1	25-Jan-2020 20:58
Surr: 1,2-Dichloroethane-d4	*104*			*70-126*	*%REC*	*1*	*25-Jan-2020 20:58*
Surr: 4-Bromofluorobenzene	*97.5*			*81-113*	*%REC*	*1*	*25-Jan-2020 20:58*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*25-Jan-2020 20:58*
Surr: Toluene-d8	*99.2*			*82-127*	*%REC*	*1*	*25-Jan-2020 20:58*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW03-20200121
Collection Date: 21-Jan-2020 15:00

ANALYTICAL REPORT
WorkOrder:HS20010958
Lab ID:HS20010958-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 27-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	29-Jan-2020 23:52
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	29-Jan-2020 23:52
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	29-Jan-2020 23:52
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	29-Jan-2020 23:52
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	29-Jan-2020 23:52
2-Methylnaphthalene	**0.000045**	J	**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 23:52
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	29-Jan-2020 23:52
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	29-Jan-2020 23:52
Acenaphthene	**0.000061**	J	**0.000027**	**0.00010**	**mg/L**	1	29-Jan-2020 23:52
Acenaphthylene	U		0.000015	0.00010	mg/L	1	29-Jan-2020 23:52
Anthracene	**0.000069**	J	**0.000014**	**0.00010**	**mg/L**	1	29-Jan-2020 23:52
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	29-Jan-2020 23:52
Benzo(a)pyrene	**0.000024**	J	**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 23:52
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	29-Jan-2020 23:52
Bis(2-ethylhexyl)phthalate	**0.00011**	J	**0.000037**	**0.00020**	**mg/L**	1	29-Jan-2020 23:52
Chrysene	U		0.000021	0.00010	mg/L	1	29-Jan-2020 23:52
Dibenzofuran	U		0.000020	0.00010	mg/L	1	29-Jan-2020 23:52
Di-n-butyl phthalate	**0.000029**	J	**0.000020**	**0.00020**	**mg/L**	1	29-Jan-2020 23:52
Fluoranthene	**0.000055**	J	**0.000010**	**0.00010**	**mg/L**	1	29-Jan-2020 23:52
Fluorene	U		0.000030	0.00010	mg/L	1	29-Jan-2020 23:52
Naphthalene	**0.00024**		**0.000020**	**0.00010**	**mg/L**	1	29-Jan-2020 23:52
Nitrobenzene	U		0.000024	0.00020	mg/L	1	29-Jan-2020 23:52
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	29-Jan-2020 23:52
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	29-Jan-2020 23:52
Phenanthrene	U		0.000021	0.00010	mg/L	1	29-Jan-2020 23:52
Phenol	U		0.000035	0.00020	mg/L	1	29-Jan-2020 23:52
Pyrene	**0.000036**	J	**0.000019**	**0.00010**	**mg/L**	1	29-Jan-2020 23:52
Surr: 2,4,6-Tribromophenol	*68.7*			*34-129*	*%REC*	*1*	*29-Jan-2020 23:52*
Surr: 2-Fluorobiphenyl	*91.9*			*40-125*	*%REC*	*1*	*29-Jan-2020 23:52*
Surr: 2-Fluorophenol	*75.5*			*20-120*	*%REC*	*1*	*29-Jan-2020 23:52*
Surr: 4-Terphenyl-d14	*94.9*			*40-135*	*%REC*	*1*	*29-Jan-2020 23:52*
Surr: Nitrobenzene-d5	*80.4*			*41-120*	*%REC*	*1*	*29-Jan-2020 23:52*
Surr: Phenol-d6	*77.0*			*20-120*	*%REC*	*1*	*29-Jan-2020 23:52*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jan-2020		Analyst: JHD
Arsenic	**0.00207**		**0.000400**	**0.00200**	**mg/L**	1	27-Jan-2020 21:48

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010958
Sample ID: WG-1620-MW04-20200121
Lab ID:HS20010958-06
Collection Date: 21-Jan-2020 16:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	28-Jan-2020 02:56
Benzene		U	0.00020	0.0010	mg/L	1	28-Jan-2020 02:56
Chlorobenzene		U	0.00030	0.0010	mg/L	1	28-Jan-2020 02:56
Ethylbenzene		U	0.00030	0.0010	mg/L	1	28-Jan-2020 02:56
Methylene chloride		U	0.0010	0.0020	mg/L	1	28-Jan-2020 02:56
Toluene		U	0.00020	0.0010	mg/L	1	28-Jan-2020 02:56
Xylenes, Total		U	0.00030	0.0010	mg/L	1	28-Jan-2020 02:56
Surr: 1,2-Dichloroethane-d4	*105*			*70-126*	*%REC*	*1*	*28-Jan-2020 02:56*
Surr: 4-Bromofluorobenzene	*98.5*			*81-113*	*%REC*	*1*	*28-Jan-2020 02:56*
Surr: Dibromofluoromethane	*103*			*77-123*	*%REC*	*1*	*28-Jan-2020 02:56*
Surr: Toluene-d8	*99.1*			*82-127*	*%REC*	*1*	*28-Jan-2020 02:56*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW04-20200121
Collection Date: 21-Jan-2020 16:00

ANALYTICAL REPORT
WorkOrder:HS20010958
Lab ID:HS20010958-06
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 27-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	30-Jan-2020 00:11
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	30-Jan-2020 00:11
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	30-Jan-2020 00:11
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	30-Jan-2020 00:11
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	30-Jan-2020 00:11
2-Methylnaphthalene	**0.00026**		**0.000019**	**0.00010**	**mg/L**	1	30-Jan-2020 00:11
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	30-Jan-2020 00:11
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	30-Jan-2020 00:11
Acenaphthene	**0.00015**		**0.000027**	**0.00010**	**mg/L**	1	30-Jan-2020 00:11
Acenaphthylene	U		0.000015	0.00010	mg/L	1	30-Jan-2020 00:11
Anthracene	**0.00010**		**0.000014**	**0.00010**	**mg/L**	1	30-Jan-2020 00:11
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	30-Jan-2020 00:11
Benzo(a)pyrene	**0.000033**	J	**0.000020**	**0.00010**	**mg/L**	1	30-Jan-2020 00:11
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	30-Jan-2020 00:11
Bis(2-ethylhexyl)phthalate	**0.0018**		**0.000037**	**0.00020**	**mg/L**	1	30-Jan-2020 00:11
Chrysene	**0.000034**	J	**0.000021**	**0.00010**	**mg/L**	1	30-Jan-2020 00:11
Dibenzofuran	**0.000097**	J	**0.000020**	**0.00010**	**mg/L**	1	30-Jan-2020 00:11
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	30-Jan-2020 00:11
Fluoranthene	**0.00029**		**0.000010**	**0.00010**	**mg/L**	1	30-Jan-2020 00:11
Fluorene	**0.000067**	J	**0.000030**	**0.00010**	**mg/L**	1	30-Jan-2020 00:11
Naphthalene	**0.0013**		**0.000020**	**0.00010**	**mg/L**	1	30-Jan-2020 00:11
Nitrobenzene	U		0.000024	0.00020	mg/L	1	30-Jan-2020 00:11
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	30-Jan-2020 00:11
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	30-Jan-2020 00:11
Phenanthrene	**0.00017**		**0.000021**	**0.00010**	**mg/L**	1	30-Jan-2020 00:11
Phenol	U		0.000035	0.00020	mg/L	1	30-Jan-2020 00:11
Pyrene	**0.00020**		**0.000019**	**0.00010**	**mg/L**	1	30-Jan-2020 00:11
Surr: 2,4,6-Tribromophenol	*70.9*			*34-129*	*%REC*	*1*	*30-Jan-2020 00:11*
Surr: 2-Fluorobiphenyl	*85.8*			*40-125*	*%REC*	*1*	*30-Jan-2020 00:11*
Surr: 2-Fluorophenol	*62.6*			*20-120*	*%REC*	*1*	*30-Jan-2020 00:11*
Surr: 4-Terphenyl-d14	*95.4*			*40-135*	*%REC*	*1*	*30-Jan-2020 00:11*
Surr: Nitrobenzene-d5	*71.1*			*41-120*	*%REC*	*1*	*30-Jan-2020 00:11*
Surr: Phenol-d6	*71.4*			*20-120*	*%REC*	*1*	*30-Jan-2020 00:11*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jan-2020		Analyst: JHD
Arsenic	**0.00223**		**0.000400**	**0.00200**	**mg/L**	1	27-Jan-2020 21:50

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20010958
Sample ID: WG-1620-FB11-20200121
Lab ID:HS20010958-07
Collection Date: 21-Jan-2020 15:30
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	28-Jan-2020 00:53
Benzene		U	0.00020	0.0010	mg/L	1	28-Jan-2020 00:53
Chlorobenzene		U	0.00030	0.0010	mg/L	1	28-Jan-2020 00:53
Ethylbenzene		U	0.00030	0.0010	mg/L	1	28-Jan-2020 00:53
Methylene chloride		U	0.0010	0.0020	mg/L	1	28-Jan-2020 00:53
Toluene		U	0.00020	0.0010	mg/L	1	28-Jan-2020 00:53
Xylenes, Total		U	0.00030	0.0010	mg/L	1	28-Jan-2020 00:53
Surr: 1,2-Dichloroethane-d4	*108*			*70-126*	*%REC*	*1*	*28-Jan-2020 00:53*
Surr: 4-Bromofluorobenzene	*98.0*			*81-113*	*%REC*	*1*	*28-Jan-2020 00:53*
Surr: Dibromofluoromethane	*104*			*77-123*	*%REC*	*1*	*28-Jan-2020 00:53*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*28-Jan-2020 00:53*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB11-20200121
Collection Date: 21-Jan-2020 15:30

ANALYTICAL REPORT
WorkOrder:HS20010958
Lab ID:HS20010958-07
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 27-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine		U	0.000021	0.00020	mg/L	1	30-Jan-2020 00:30
2,4-Dimethylphenol		U	0.000040	0.00020	mg/L	1	30-Jan-2020 00:30
2,4-Dinitrotoluene		U	0.000058	0.00020	mg/L	1	30-Jan-2020 00:30
2,6-Dinitrotoluene		U	0.000042	0.00020	mg/L	1	30-Jan-2020 00:30
2-Chloronaphthalene		U	0.000021	0.00020	mg/L	1	30-Jan-2020 00:30
2-Methylnaphthalene		U	0.000019	0.00010	mg/L	1	30-Jan-2020 00:30
4,6-Dinitro-2-methylphenol		U	0.000020	0.00020	mg/L	1	30-Jan-2020 00:30
4-Nitrophenol		U	0.000047	0.0010	mg/L	1	30-Jan-2020 00:30
Acenaphthene		U	0.000027	0.00010	mg/L	1	30-Jan-2020 00:30
Acenaphthylene		U	0.000015	0.00010	mg/L	1	30-Jan-2020 00:30
Anthracene		U	0.000014	0.00010	mg/L	1	30-Jan-2020 00:30
Benz(a)anthracene		U	0.000050	0.00010	mg/L	1	30-Jan-2020 00:30
Benzo(a)pyrene		U	0.000020	0.00010	mg/L	1	30-Jan-2020 00:30
Bis(2-chloroethoxy)methane		U	0.000030	0.00020	mg/L	1	30-Jan-2020 00:30
Bis(2-ethylhexyl)phthalate		U	0.000037	0.00020	mg/L	1	30-Jan-2020 00:30
Chrysene		U	0.000021	0.00010	mg/L	1	30-Jan-2020 00:30
Dibenzofuran		U	0.000020	0.00010	mg/L	1	30-Jan-2020 00:30
Di-n-butyl phthalate		U	0.000020	0.00020	mg/L	1	30-Jan-2020 00:30
Fluoranthene		U	0.000010	0.00010	mg/L	1	30-Jan-2020 00:30
Fluorene		U	0.000030	0.00010	mg/L	1	30-Jan-2020 00:30
Naphthalene	**0.00018**		**0.000020**	**0.00010**	**mg/L**	1	30-Jan-2020 00:30
Nitrobenzene		U	0.000024	0.00020	mg/L	1	30-Jan-2020 00:30
N-Nitrosodiphenylamine		U	0.000025	0.00020	mg/L	1	30-Jan-2020 00:30
Pentachlorophenol		U	0.000079	0.00020	mg/L	1	30-Jan-2020 00:30
Phenanthrene		U	0.000021	0.00010	mg/L	1	30-Jan-2020 00:30
Phenol		U	0.000035	0.00020	mg/L	1	30-Jan-2020 00:30
Pyrene		U	0.000019	0.00010	mg/L	1	30-Jan-2020 00:30
Surr: 2,4,6-Tribromophenol	*69.2*			*34-129*	*%REC*	*1*	*30-Jan-2020 00:30*
Surr: 2-Fluorobiphenyl	*94.6*			*40-125*	*%REC*	*1*	*30-Jan-2020 00:30*
Surr: 2-Fluorophenol	*80.3*			*20-120*	*%REC*	*1*	*30-Jan-2020 00:30*
Surr: 4-Terphenyl-d14	*92.1*			*40-135*	*%REC*	*1*	*30-Jan-2020 00:30*
Surr: Nitrobenzene-d5	*86.0*			*41-120*	*%REC*	*1*	*30-Jan-2020 00:30*
Surr: Phenol-d6	*81.8*			*20-120*	*%REC*	*1*	*30-Jan-2020 00:30*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 24-Jan-2020		Analyst: JHD
Arsenic		U	0.000400	0.00200	mg/L	1	27-Jan-2020 21:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010958

Batch ID: 149970 **Start Date:** 24 Jan 2020 09:00 **End Date:** 24 Jan 2020 13:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010958-02		10 (mL)	10 (mL)	1
HS20010958-03		10 (mL)	10 (mL)	1
HS20010958-04		10 (mL)	10 (mL)	1
HS20010958-05		10 (mL)	10 (mL)	1
HS20010958-06		10 (mL)	10 (mL)	1
HS20010958-07		10 (mL)	10 (mL)	1

Batch ID: 149998 **Start Date:** 27 Jan 2020 07:00 **End Date:** 27 Jan 2020 13:30
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010958-02	1	1000 (mL)	1 (mL)	0.001
HS20010958-03	1	1000 (mL)	1 (mL)	0.001
HS20010958-04	1	1000 (mL)	1 (mL)	0.001
HS20010958-05	1	1000 (mL)	1 (mL)	0.001
HS20010958-06	1	1000 (mL)	1 (mL)	0.001
HS20010958-07	1	1000 (mL)	1 (mL)	0.001

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010958

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 149970 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS20010958-02	WG-1620-MW82B-20200121	21 Jan 2020 09:10		24 Jan 2020 13:00	27 Jan 2020 21:28	1
HS20010958-03	WG-1620-MW38A-20200121	21 Jan 2020 11:10		24 Jan 2020 13:00	27 Jan 2020 21:44	1
HS20010958-04	WG-1620-MW38B-20200121	21 Jan 2020 13:45		24 Jan 2020 13:00	27 Jan 2020 21:46	1
HS20010958-05	WG-1620-MW03-20200121	21 Jan 2020 15:00		24 Jan 2020 13:00	27 Jan 2020 21:48	1
HS20010958-06	WG-1620-MW04-20200121	21 Jan 2020 16:00		24 Jan 2020 13:00	27 Jan 2020 21:50	1
HS20010958-07	WG-1620-FB11-20200121	21 Jan 2020 15:30		24 Jan 2020 13:00	27 Jan 2020 21:52	1
Batch ID: 149998 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS20010958-02	WG-1620-MW82B-20200121	21 Jan 2020 09:10		27 Jan 2020 10:49	29 Jan 2020 22:17	1
HS20010958-03	WG-1620-MW38A-20200121	21 Jan 2020 11:10		27 Jan 2020 10:49	29 Jan 2020 23:14	1
HS20010958-04	WG-1620-MW38B-20200121	21 Jan 2020 13:45		27 Jan 2020 10:49	30 Jan 2020 14:04	10
HS20010958-04	WG-1620-MW38B-20200121	21 Jan 2020 13:45		27 Jan 2020 10:49	29 Jan 2020 23:33	1
HS20010958-05	WG-1620-MW03-20200121	21 Jan 2020 15:00		27 Jan 2020 10:49	29 Jan 2020 23:52	1
HS20010958-06	WG-1620-MW04-20200121	21 Jan 2020 16:00		27 Jan 2020 10:49	30 Jan 2020 00:11	1
HS20010958-07	WG-1620-FB11-20200121	21 Jan 2020 15:30		27 Jan 2020 10:49	30 Jan 2020 00:30	1
Batch ID: R355061 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010958-03	WG-1620-MW38A-20200121	21 Jan 2020 11:10			25 Jan 2020 20:08	1
HS20010958-04	WG-1620-MW38B-20200121	21 Jan 2020 13:45			25 Jan 2020 20:33	1
HS20010958-05	WG-1620-MW03-20200121	21 Jan 2020 15:00			25 Jan 2020 20:58	1
Batch ID: R355150 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20010958-01	WQ-1620-TB07-20200121	21 Jan 2020 00:00			28 Jan 2020 00:28	1
HS20010958-02	WG-1620-MW82B-20200121	21 Jan 2020 09:10			28 Jan 2020 01:42	1
HS20010958-06	WG-1620-MW04-20200121	21 Jan 2020 16:00			28 Jan 2020 02:56	1
HS20010958-07	WG-1620-FB11-20200121	21 Jan 2020 15:30			28 Jan 2020 00:53	1

WorkOrder: HS20010958
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000499	0.000400	0.00200

WorkOrder: HS20010958
InstrumentID: SV-6
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.000098	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000051	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000094	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000083	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.000093	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000060	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000031	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000037	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000059	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000050	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000047	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000059	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000050	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000081	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00012	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000060	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000050	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.00011	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000049	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000053	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000049	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00012	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00011	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.0000094	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000049	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000096	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000047	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS20010958
InstrumentID: VOA4
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00061	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00057	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00058	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00048	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00070	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00050	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00070	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010958

QC BATCH REPORT

Batch ID: 149970 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-149970** Units: **mg/L** Analysis Date: **27-Jan-2020 21:24**
Client ID: Run ID: **ICPMS05_355087** SeqNo: **5449127** PrepDate: **24-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

MBLK Sample ID: **MBLK-149970** Units: **mg/L** Analysis Date: **28-Jan-2020 13:11**
Client ID: Run ID: **ICPMS05_355152** SeqNo: **5450164** PrepDate: **24-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-149970** Units: **mg/L** Analysis Date: **27-Jan-2020 21:26**
Client ID: Run ID: **ICPMS05_355087** SeqNo: **5449128** PrepDate: **24-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04847	0.00200	0.05	0	96.9	80 - 120				

MS Sample ID: **HS20010958-02MS** Units: **mg/L** Analysis Date: **27-Jan-2020 21:33**
Client ID: **WG-1620-MW82B-20200121** Run ID: **ICPMS05_355087** SeqNo: **5449131** PrepDate: **24-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05447	0.00200	0.05	0.004841	99.3	80 - 120				

MSD Sample ID: **HS20010958-02MSD** Units: **mg/L** Analysis Date: **27-Jan-2020 21:35**
Client ID: **WG-1620-MW82B-20200121** Run ID: **ICPMS05_355087** SeqNo: **5449132** PrepDate: **24-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05461	0.00200	0.05	0.004841	99.5	80 - 120	0.05447	0.248	20	

PDS Sample ID: **HS20010958-02PDS** Units: **mg/L** Analysis Date: **28-Jan-2020 13:18**
Client ID: **WG-1620-MW82B-20200121** Run ID: **ICPMS05_355152** SeqNo: **5450167** PrepDate: **24-Jan-2020** DF: **20**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	1.996	0.0400	0.1	0.00472	1990	75 - 125				S

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010958

QC BATCH REPORT

Batch ID: 149970 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

PDS Sample ID: **HS20010958-02PDS** Units: **mg/L** Analysis Date: **27-Jan-2020 21:37**
Client ID: **WG-1620-MW82B-20200121** Run ID: **ICPMS05_355087** SeqNo: **5449133** PrepDate: **24-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1045	0.00200	0.1	0.004841	99.6	75 - 125				

SD Sample ID: **HS20010958-02SD** Units: **mg/L** Analysis Date: **27-Jan-2020 21:30**
Client ID: **WG-1620-MW82B-20200121** Run ID: **ICPMS05_355087** SeqNo: **5449130** PrepDate: **24-Jan-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.005043	0.0100					0.004841	0	10	J

SD Sample ID: **HS20010958-02SD** Units: **mg/L** Analysis Date: **28-Jan-2020 13:15**
Client ID: **WG-1620-MW82B-20200121** Run ID: **ICPMS05_355152** SeqNo: **5450166** PrepDate: **24-Jan-2020** DF: **100**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	U	0.200					0.00472	0	10	

The following samples were analyzed in this batch: HS20010958-02 HS20010958-03 HS20010958-04 HS20010958-05 HS20010958-06 HS20010958-07

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010958

QC BATCH REPORT

Batch ID: 149998 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-149998** Units: **ug/L** Analysis Date: **28-Jan-2020 19:21**
Client ID: Run ID: **SV-6_355238** SeqNo: **5452454** PrepDate: **27-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*4.165*	*0.20*	*5*	*0*	*83.3*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*5.567*	*0.20*	*5*	*0*	*111*	*40 - 125*				
Surr: 2-Fluorophenol	*4.869*	*0.20*	*5*	*0*	*97.4*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.797*	*0.20*	*5*	*0*	*116*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.964*	*0.20*	*5*	*0*	*99.3*	*41 - 120*				
Surr: Phenol-d6	*4.941*	*0.20*	*5*	*0*	*98.8*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010958

QC BATCH REPORT

Batch ID: 149998 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-149998** Units: **ug/L** Analysis Date: **28-Jan-2020 19:40**
Client ID: Run ID: **SV-6_355238** SeqNo: **5452455** PrepDate: **27-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	5.783	0.20	5	0	116	39 - 127				
2,4-Dimethylphenol	5.012	0.20	5	0	100	35 - 120				
2,4-Dinitrotoluene	6.415	0.20	5	0	128	50 - 122				S
2,6-Dinitrotoluene	6.03	0.20	5	0	121	50 - 120				S
2-Chloronaphthalene	5.424	0.20	5	0	108	50 - 120				
2-Methylnaphthalene	5.383	0.10	5	0	108	50 - 120				
4,6-Dinitro-2-methylphenol	5.692	0.20	5	0	114	25 - 121				
4-Nitrophenol	5.835	1.0	5	0	117	30 - 130				
Acenaphthene	5.432	0.10	5	0	109	45 - 120				
Acenaphthylene	5.667	0.10	5	0	113	47 - 120				
Anthracene	5.847	0.10	5	0	117	45 - 120				
Benz(a)anthracene	5.919	0.10	5	0	118	40 - 120				
Benzo(a)pyrene	5.832	0.10	5	0	117	45 - 120				
Bis(2-chloroethoxy)methane	5.315	0.20	5	0	106	45 - 120				
Bis(2-ethylhexyl)phthalate	5.645	0.20	5	0	113	40 - 139				
Chrysene	5.825	0.10	5	0	117	43 - 120				
Dibenzofuran	5.475	0.10	5	0	109	50 - 120				
Di-n-butyl phthalate	5.996	0.20	5	0	120	45 - 123				
Fluoranthene	5.728	0.10	5	0	115	45 - 125				
Fluorene	5.748	0.10	5	0	115	49 - 120				
Naphthalene	5.43	0.10	5	0	109	45 - 120				
Nitrobenzene	5.209	0.20	5	0	104	44 - 120				
N-Nitrosodiphenylamine	5.868	0.20	5	0	117	40 - 125				
Pentachlorophenol	2.037	0.20	5	0	40.7	19 - 121				
Phenanthrene	5.866	0.10	5	0	117	45 - 121				
Phenol	5.563	0.20	5	0	111	20 - 124				
Pyrene	5.924	0.10	5	0	118	40 - 130				
Surr: 2,4,6-Tribromophenol	*4.466*	*0.20*	*5*	*0*	*89.3*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*5.582*	*0.20*	*5*	*0*	*112*	*40 - 125*				
Surr: 2-Fluorophenol	*4.846*	*0.20*	*5*	*0*	*96.9*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.609*	*0.20*	*5*	*0*	*112*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.978*	*0.20*	*5*	*0*	*99.6*	*41 - 120*				
Surr: Phenol-d6	*4.891*	*0.20*	*5*	*0*	*97.8*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010958

QC BATCH REPORT

Batch ID: 149998 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MS Sample ID: **HS20010958-02MS** Units: **ug/L** Analysis Date: **29-Jan-2020 22:36**
Client ID: **WG-1620-MW82B-20200121** Run ID: **SV-6_355351** SeqNo: **5453263** PrepDate: **27-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	5.036	0.20	5	0	101	39 - 127				
2,4-Dimethylphenol	3.403	0.20	5	0	68.1	35 - 120				
2,4-Dinitrotoluene	6.071	0.20	5	0	121	50 - 122				
2,6-Dinitrotoluene	5.246	0.20	5	0	105	50 - 120				
2-Chloronaphthalene	3.81	0.20	5	0	76.2	50 - 120				
2-Methylnaphthalene	3.528	0.10	5	0.1009	68.5	50 - 120				
4,6-Dinitro-2-methylphenol	4.25	0.20	5	0	85.0	25 - 121				
4-Nitrophenol	6.787	1.0	5	0	136	30 - 130				S
Acenaphthene	4.374	0.10	5	0.04257	86.6	45 - 120				
Acenaphthylene	4.018	0.10	5	0	80.4	47 - 120				
Anthracene	5.906	0.10	5	0.03111	117	45 - 120				
Benz(a)anthracene	5.831	0.10	5	0	117	40 - 120				
Benzo(a)pyrene	5.639	0.10	5	0	113	45 - 120				
Bis(2-chloroethoxy)methane	3.489	0.20	5	0	69.8	45 - 120				
Bis(2-ethylhexyl)phthalate	3.59	0.20	5	0	71.8	40 - 139				
Chrysene	5.562	0.10	5	0	111	43 - 120				
Dibenzofuran	4.131	0.10	5	0.04005	81.8	50 - 120				
Di-n-butyl phthalate	4.49	0.20	5	0	89.8	45 - 123				
Fluoranthene	5.834	0.10	5	0	117	45 - 125				
Fluorene	4.534	0.10	5	0.03736	89.9	49 - 120				
Naphthalene	3.669	0.10	5	0.4092	65.2	45 - 120				
Nitrobenzene	3.406	0.20	5	0	68.1	44 - 120				
N-Nitrosodiphenylamine	5.951	0.20	5	0	119	40 - 125				
Pentachlorophenol	5.92	0.20	5	0	118	19 - 121				
Phenanthrene	5.624	0.10	5	0.1179	110	45 - 121				
Phenol	3.512	0.20	5	0	70.2	20 - 124				
Pyrene	5.934	0.10	5	0	119	40 - 130				
Surr: 2,4,6-Tribromophenol	*4.8*	*0.20*	*5*	*0*	*96.0*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*3.948*	*0.20*	*5*	*0*	*79.0*	*40 - 125*				
Surr: 2-Fluorophenol	*3.307*	*0.20*	*5*	*0*	*66.1*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.739*	*0.20*	*5*	*0*	*115*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.377*	*0.20*	*5*	*0*	*67.5*	*41 - 120*				
Surr: Phenol-d6	*3.333*	*0.20*	*5*	*0*	*66.7*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010958

QC BATCH REPORT

Batch ID: 149998 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MS Sample ID: **HS20010910-03MS** Units: **ug/L** Analysis Date: **28-Jan-2020 23:44**
Client ID: Run ID: **SV-6_355238** SeqNo: **5452170** PrepDate: **27-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.258	0.20	5	0	85.2	39 - 127				
2,4-Dimethylphenol	2.953	0.20	5	0.09533	57.1	35 - 120				
2,4-Dinitrotoluene	5.24	0.20	5	0	105	50 - 122				
2,6-Dinitrotoluene	4.544	0.20	5	0	90.9	50 - 120				
2-Chloronaphthalene	3.621	0.20	5	0	72.4	50 - 120				
2-Methylnaphthalene	3.197	0.10	5	0	63.9	50 - 120				
4,6-Dinitro-2-methylphenol	5.327	0.20	5	0	107	25 - 121				
4-Nitrophenol	5.515	1.0	5	0	110	30 - 130				
Acenaphthene	3.484	0.10	5	0	69.7	45 - 120				
Acenaphthylene	3.505	0.10	5	0	70.1	47 - 120				
Anthracene	5.162	0.10	5	0	103	45 - 120				
Benz(a)anthracene	5.438	0.10	5	0	109	40 - 120				
Benzo(a)pyrene	5.398	0.10	5	0	108	45 - 120				
Bis(2-chloroethoxy)methane	2.957	0.20	5	0	59.1	45 - 120				
Bis(2-ethylhexyl)phthalate	5.76	0.20	5	0	115	40 - 139				
Chrysene	5.195	0.10	5	0	104	43 - 120				
Dibenzofuran	3.564	0.10	5	0	71.3	50 - 120				
Di-n-butyl phthalate	6.041	0.20	5	0	121	45 - 123				
Fluoranthene	5.294	0.10	5	0.02986	105	45 - 125				
Fluorene	3.974	0.10	5	0	79.5	49 - 120				
Naphthalene	3.352	0.10	5	0.22	62.6	45 - 120				
Nitrobenzene	3.206	0.20	5	0	64.1	44 - 120				
N-Nitrosodiphenylamine	5.464	0.20	5	0	109	40 - 125				
Pentachlorophenol	3.381	0.20	5	0	67.6	19 - 121				
Phenanthrene	4.995	0.10	5	0	99.9	45 - 121				
Phenol	3.121	0.20	5	0	62.4	20 - 124				
Pyrene	5.526	0.10	5	0.02733	110	40 - 130				
Surr: 2,4,6-Tribromophenol	*4.181*	*0.20*	*5*	*0*	*83.6*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*3.463*	*0.20*	*5*	*0*	*69.3*	*40 - 125*				
Surr: 2-Fluorophenol	*3.1*	*0.20*	*5*	*0*	*62.0*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.541*	*0.20*	*5*	*0*	*111*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.186*	*0.20*	*5*	*0*	*63.7*	*41 - 120*				
Surr: Phenol-d6	*3.21*	*0.20*	*5*	*0*	*64.2*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010958

QC BATCH REPORT

Batch ID: 149998 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MSD Sample ID: **HS20010958-02MSD** Units: **ug/L** Analysis Date: **29-Jan-2020 22:55**
Client ID: **WG-1620-MW82B-20200121** Run ID: **SV-6_355351** SeqNo: **5453264** PrepDate: **27-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.703	0.20	5	0	94.1	39 - 127	5.036	6.83	20	
2,4-Dimethylphenol	3.362	0.20	5	0	67.2	35 - 120	3.403	1.21	20	
2,4-Dinitrotoluene	5.237	0.20	5	0	105	50 - 122	6.071	14.8	20	
2,6-Dinitrotoluene	4.788	0.20	5	0	95.8	50 - 120	5.246	9.14	20	
2-Chloronaphthalene	3.704	0.20	5	0	74.1	50 - 120	3.81	2.82	20	
2-Methylnaphthalene	3.424	0.10	5	0.1009	66.5	50 - 120	3.528	2.98	20	
4,6-Dinitro-2-methylphenol	4.301	0.20	5	0	86.0	25 - 121	4.25	1.18	30	
4-Nitrophenol	4.754	1.0	5	0	95.1	30 - 130	6.787	35.2	20	R
Acenaphthene	4.092	0.10	5	0.04257	81.0	45 - 120	4.374	6.66	20	
Acenaphthylene	3.822	0.10	5	0	76.4	47 - 120	4.018	4.98	20	
Anthracene	5.18	0.10	5	0.03111	103	45 - 120	5.906	13.1	20	
Benz(a)anthracene	5.424	0.10	5	0	108	40 - 120	5.831	7.23	20	
Benzo(a)pyrene	5.25	0.10	5	0	105	45 - 120	5.639	7.13	20	
Bis(2-chloroethoxy)methane	3.359	0.20	5	0	67.2	45 - 120	3.489	3.81	20	
Bis(2-ethylhexyl)phthalate	6.024	0.20	5	0	120	40 - 139	3.59	50.6	20	R
Chrysene	4.985	0.10	5	0	99.7	43 - 120	5.562	10.9	20	
Dibenzofuran	3.858	0.10	5	0.04005	76.4	50 - 120	4.131	6.83	20	
Di-n-butyl phthalate	6.119	0.20	5	0	122	45 - 123	4.49	30.7	20	R
Fluoranthene	5.225	0.10	5	0	105	45 - 125	5.834	11	20	
Fluorene	4.231	0.10	5	0.03736	83.9	49 - 120	4.534	6.92	20	
Naphthalene	3.7	0.10	5	0.4092	65.8	45 - 120	3.669	0.855	20	
Nitrobenzene	3.342	0.20	5	0	66.8	44 - 120	3.406	1.89	20	
N-Nitrosodiphenylamine	5.416	0.20	5	0	108	40 - 125	5.951	9.43	20	
Pentachlorophenol	5.036	0.20	5	0	101	19 - 121	5.92	16.1	20	
Phenanthrene	5.126	0.10	5	0.1179	100	45 - 121	5.624	9.27	20	
Phenol	3.5	0.20	5	0	70.0	20 - 124	3.512	0.332	20	
Pyrene	5.407	0.10	5	0	108	40 - 130	5.934	9.3	20	
Surr: 2,4,6-Tribromophenol	*4.064*	*0.20*	*5*	*0*	*81.3*	*34 - 129*	*4.8*	*16.6*	*20*	
Surr: 2-Fluorobiphenyl	*3.604*	*0.20*	*5*	*0*	*72.1*	*40 - 125*	*3.948*	*9.1*	*20*	
Surr: 2-Fluorophenol	*3.185*	*0.20*	*5*	*0*	*63.7*	*20 - 120*	*3.307*	*3.77*	*20*	
Surr: 4-Terphenyl-d14	*5.088*	*0.20*	*5*	*0*	*102*	*40 - 135*	*5.739*	*12*	*20*	
Surr: Nitrobenzene-d5	*3.252*	*0.20*	*5*	*0*	*65.0*	*41 - 120*	*3.377*	*3.77*	*20*	
Surr: Phenol-d6	*3.158*	*0.20*	*5*	*0*	*63.2*	*20 - 120*	*3.333*	*5.39*	*20*	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010958

QC BATCH REPORT

Batch ID: 149998 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MSD Sample ID: **HS20010910-03MSD** Units: **ug/L** Analysis Date: **29-Jan-2020 00:03**
Client ID: Run ID: **SV-6_355238** SeqNo: **5452171** PrepDate: **27-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	5.047	0.20	5	0	101	39 - 127	4.258	17	20	
2,4-Dimethylphenol	3.862	0.20	5	0.09533	75.3	35 - 120	2.953	26.7	20	R
2,4-Dinitrotoluene	5.46	0.20	5	0	109	50 - 122	5.24	4.12	20	
2,6-Dinitrotoluene	5.056	0.20	5	0	101	50 - 120	4.544	10.7	20	
2-Chloronaphthalene	4.215	0.20	5	0	84.3	50 - 120	3.621	15.2	20	
2-Methylnaphthalene	3.899	0.10	5	0	78.0	50 - 120	3.197	19.8	20	
4,6-Dinitro-2-methylphenol	5.595	0.20	5	0	112	25 - 121	5.327	4.9	30	
4-Nitrophenol	5.641	1.0	5	0	113	30 - 130	5.515	2.26	20	
Acenaphthene	4.245	0.10	5	0	84.9	45 - 120	3.484	19.7	20	
Acenaphthylene	4.266	0.10	5	0	85.3	47 - 120	3.505	19.6	20	
Anthracene	5.342	0.10	5	0	107	45 - 120	5.162	3.43	20	
Benz(a)anthracene	5.45	0.10	5	0	109	40 - 120	5.438	0.221	20	
Benzo(a)pyrene	5.228	0.10	5	0	105	45 - 120	5.398	3.2	20	
Bis(2-chloroethoxy)methane	3.686	0.20	5	0	73.7	45 - 120	2.957	21.9	20	R
Bis(2-ethylhexyl)phthalate	5.666	0.20	5	0	113	40 - 139	5.76	1.64	20	
Chrysene	5.136	0.10	5	0	103	43 - 120	5.195	1.14	20	
Dibenzofuran	4.314	0.10	5	0	86.3	50 - 120	3.564	19	20	
Di-n-butyl phthalate	6.065	0.20	5	0	121	45 - 123	6.041	0.393	20	
Fluoranthene	5.068	0.10	5	0.02986	101	45 - 125	5.294	4.37	20	
Fluorene	4.577	0.10	5	0	91.5	49 - 120	3.974	14.1	20	
Naphthalene	4.118	0.10	5	0.22	78.0	45 - 120	3.352	20.5	20	R
Nitrobenzene	3.792	0.20	5	0	75.8	44 - 120	3.206	16.7	20	
N-Nitrosodiphenylamine	5.62	0.20	5	0	112	40 - 125	5.464	2.8	20	
Pentachlorophenol	3.323	0.20	5	0	66.5	19 - 121	3.381	1.74	20	
Phenanthrene	5.142	0.10	5	0	103	45 - 121	4.995	2.9	20	
Phenol	3.883	0.20	5	0	77.7	20 - 124	3.121	21.7	20	R
Pyrene	5.443	0.10	5	0.02733	108	40 - 130	5.526	1.51	20	
Surr: 2,4,6-Tribromophenol	*4.11*	*0.20*	*5*	*0*	*82.2*	*34 - 129*	*4.181*	*1.73*	*20*	
Surr: 2-Fluorobiphenyl	*4.108*	*0.20*	*5*	*0*	*82.2*	*40 - 125*	*3.463*	*17*	*20*	
Surr: 2-Fluorophenol	*3.476*	*0.20*	*5*	*0*	*69.5*	*20 - 120*	*3.1*	*11.4*	*20*	
Surr: 4-Terphenyl-d14	*5.339*	*0.20*	*5*	*0*	*107*	*40 - 135*	*5.541*	*3.71*	*20*	
Surr: Nitrobenzene-d5	*3.75*	*0.20*	*5*	*0*	*75.0*	*41 - 120*	*3.186*	*16.3*	*20*	
Surr: Phenol-d6	*3.663*	*0.20*	*5*	*0*	*73.3*	*20 - 120*	*3.21*	*13.2*	*20*	

The following samples were analyzed in this batch: HS20010958-02 HS20010958-03 HS20010958-04 HS20010958-05 HS20010958-06 HS20010958-07

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010958

QC BATCH REPORT

Batch ID: R355061 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200125** Units: **ug/L** Analysis Date: **25-Jan-2020 11:52**
Client ID: Run ID: **VOA4_355061** SeqNo: **5447903** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*51.99*	*1.0*	*50*	*0*	*104*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*48.39*	*1.0*	*50*	*0*	*96.8*	*82 - 115*				
Surr: Dibromofluoromethane	*50.4*	*1.0*	*50*	*0*	*101*	*73 - 126*				
Surr: Toluene-d8	*48.94*	*1.0*	*50*	*0*	*97.9*	*81 - 120*				

LCS Sample ID: **VLCSW-200125** Units: **ug/L** Analysis Date: **25-Jan-2020 11:02**
Client ID: Run ID: **VOA4_355061** SeqNo: **5447902** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.78	1.0	20	0	93.9	70 - 124				
Benzene	19.4	1.0	20	0	97.0	74 - 120				
Chlorobenzene	19.61	1.0	20	0	98.0	76 - 113				
Ethylbenzene	19.57	1.0	20	0	97.8	77 - 117				
Methylene chloride	20.36	2.0	20	0	102	70 - 127				
Toluene	19.83	1.0	20	0	99.1	77 - 118				
Vinyl chloride	19.46	1.0	20	0	97.3	70 - 130				
Xylenes, Total	58.33	1.0	60	0	97.2	75 - 122				
Surr: 1,2-Dichloroethane-d4	*49.57*	*1.0*	*50*	*0*	*99.1*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*49.72*	*1.0*	*50*	*0*	*99.4*	*82 - 115*				
Surr: Dibromofluoromethane	*49.96*	*1.0*	*50*	*0*	*99.9*	*73 - 126*				
Surr: Toluene-d8	*50.95*	*1.0*	*50*	*0*	*102*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010958

QC BATCH REPORT

Batch ID: R355061 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010937-01MS** Units: **ug/L** Analysis Date: **25-Jan-2020 15:09**
Client ID: Run ID: **VOA4_355061** SeqNo: **5447911** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.24	1.0	20	0	81.2	70 - 127				
Benzene	17.71	1.0	20	0	88.5	70 - 127				
Chlorobenzene	17.17	1.0	20	0	85.8	70 - 114				
Ethylbenzene	17.53	1.0	20	0	87.6	70 - 124				
Methylene chloride	18.41	2.0	20	0	92.1	70 - 128				
Toluene	18.12	1.0	20	0	90.6	70 - 123				
Vinyl chloride	17.88	1.0	20	0	89.4	70 - 130				
Xylenes, Total	51.84	1.0	60	0	86.4	70 - 130				
Surr: 1,2-Dichloroethane-d4	*51.17*	*1.0*	*50*	*0*	*102*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*49.86*	*1.0*	*50*	*0*	*99.7*	*81 - 113*				
Surr: Dibromofluoromethane	*50.64*	*1.0*	*50*	*0*	*101*	*77 - 123*				
Surr: Toluene-d8	*51.21*	*1.0*	*50*	*0*	*102*	*82 - 127*				

MSD Sample ID: **HS20010937-01MSD** Units: **ug/L** Analysis Date: **25-Jan-2020 15:34**
Client ID: Run ID: **VOA4_355061** SeqNo: **5447912** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	15.9	1.0	20	0	79.5	70 - 127	16.24	2.11	20	
Benzene	17.13	1.0	20	0	85.6	70 - 127	17.71	3.33	20	
Chlorobenzene	17.02	1.0	20	0	85.1	70 - 114	17.17	0.844	20	
Ethylbenzene	16.92	1.0	20	0	84.6	70 - 124	17.53	3.5	20	
Methylene chloride	17.25	2.0	20	0	86.3	70 - 128	18.41	6.49	20	
Toluene	16.89	1.0	20	0	84.4	70 - 123	18.12	7.08	20	
Vinyl chloride	16.93	1.0	20	0	84.6	70 - 130	17.88	5.47	20	
Xylenes, Total	50.49	1.0	60	0	84.1	70 - 130	51.84	2.64	20	
Surr: 1,2-Dichloroethane-d4	*51.37*	*1.0*	*50*	*0*	*103*	*70 - 126*	*51.17*	*0.402*	*20*	
Surr: 4-Bromofluorobenzene	*51.63*	*1.0*	*50*	*0*	*103*	*81 - 113*	*49.86*	*3.48*	*20*	
Surr: Dibromofluoromethane	*51.81*	*1.0*	*50*	*0*	*104*	*77 - 123*	*50.64*	*2.29*	*20*	
Surr: Toluene-d8	*49.4*	*1.0*	*50*	*0*	*98.8*	*82 - 127*	*51.21*	*3.59*	*20*	

The following samples were analyzed in this batch: HS20010958-03 HS20010958-04 HS20010958-05

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010958

QC BATCH REPORT

Batch ID: R355150 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200127** Units: **ug/L** Analysis Date: **28-Jan-2020 00:04**
Client ID: Run ID: **VOA4_355150** SeqNo: **5449458** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*53.74*	*1.0*	*50*	*0*	*107*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*49.81*	*1.0*	*50*	*0*	*99.6*	*82 - 115*				
Surr: Dibromofluoromethane	*51.4*	*1.0*	*50*	*0*	*103*	*73 - 126*				
Surr: Toluene-d8	*51.46*	*1.0*	*50*	*0*	*103*	*81 - 120*				

LCS Sample ID: **VLCSW-200127** Units: **ug/L** Analysis Date: **27-Jan-2020 23:14**
Client ID: Run ID: **VOA4_355150** SeqNo: **5449457** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.77	1.0	20	0	88.9	70 - 124				
Benzene	18.82	1.0	20	0	94.1	74 - 120				
Chlorobenzene	18.67	1.0	20	0	93.4	76 - 113				
Ethylbenzene	18.47	1.0	20	0	92.3	77 - 117				
Methylene chloride	20	2.0	20	0	100.0	70 - 127				
Toluene	18.6	1.0	20	0	93.0	77 - 118				
Xylenes, Total	57.11	1.0	60	0	95.2	75 - 122				
Surr: 1,2-Dichloroethane-d4	*50.88*	*1.0*	*50*	*0*	*102*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*50.8*	*1.0*	*50*	*0*	*102*	*82 - 115*				
Surr: Dibromofluoromethane	*51.31*	*1.0*	*50*	*0*	*103*	*73 - 126*				
Surr: Toluene-d8	*49.36*	*1.0*	*50*	*0*	*98.7*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010958

QC BATCH REPORT

Batch ID: R355150 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20010958-02MS** Units: **ug/L** Analysis Date: **28-Jan-2020 02:07**
Client ID: **WG-1620-MW82B-20200121** Run ID: **VOA4_355150** SeqNo: **5449463** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.91	1.0	20	0	84.5	70 - 127				
Benzene	18.82	1.0	20	0	94.1	70 - 127				
Chlorobenzene	17.88	1.0	20	0	89.4	70 - 114				
Ethylbenzene	17.99	1.0	20	0	89.9	70 - 124				
Methylene chloride	18.93	2.0	20	0	94.6	70 - 128				
Toluene	18.76	1.0	20	0	93.8	70 - 123				
Xylenes, Total	54.55	1.0	60	0	90.9	70 - 130				
Surr: 1,2-Dichloroethane-d4	*51.55*	*1.0*	*50*	*0*	*103*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*50.92*	*1.0*	*50*	*0*	*102*	*81 - 113*				
Surr: Dibromofluoromethane	*51.17*	*1.0*	*50*	*0*	*102*	*77 - 123*				
Surr: Toluene-d8	*50.57*	*1.0*	*50*	*0*	*101*	*82 - 127*				

MSD Sample ID: **HS20010958-02MSD** Units: **ug/L** Analysis Date: **28-Jan-2020 02:32**
Client ID: **WG-1620-MW82B-20200121** Run ID: **VOA4_355150** SeqNo: **5449464** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.29	1.0	20	0	81.4	70 - 127	16.91	3.76	20	
Benzene	17.94	1.0	20	0	89.7	70 - 127	18.82	4.77	20	
Chlorobenzene	17.53	1.0	20	0	87.7	70 - 114	17.88	1.94	20	
Ethylbenzene	17.71	1.0	20	0	88.5	70 - 124	17.99	1.57	20	
Methylene chloride	18.74	2.0	20	0	93.7	70 - 128	18.93	0.98	20	
Toluene	17.72	1.0	20	0	88.6	70 - 123	18.76	5.69	20	
Xylenes, Total	53.22	1.0	60	0	88.7	70 - 130	54.55	2.47	20	
Surr: 1,2-Dichloroethane-d4	*51.67*	*1.0*	*50*	*0*	*103*	*70 - 126*	*51.55*	*0.229*	*20*	
Surr: 4-Bromofluorobenzene	*51.04*	*1.0*	*50*	*0*	*102*	*81 - 113*	*50.92*	*0.238*	*20*	
Surr: Dibromofluoromethane	*51.48*	*1.0*	*50*	*0*	*103*	*77 - 123*	*51.17*	*0.604*	*20*	
Surr: Toluene-d8	*50.25*	*1.0*	*50*	*0*	*100*	*82 - 127*	*50.57*	*0.637*	*20*	

The following samples were analyzed in this batch: HS20010958-01 HS20010958-02 HS20010958-06 HS20010958-07

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS20010958**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	T104704231-19-25	30-Apr-2020

Sample Receipt Checklist

Client Name: PBW
Work Order: HS20010958
Date/Time Received: **22-Jan-2020 11:30**
Received by: **AC**

Checklist completed by: *Paresh M. Giga* eSignature 22-Jan-2020 Date
Reviewed by: *Dane J. Wacasey* eSignature 27-Jan-2020 Date

Matrices: **Water**
Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:206376
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	0.6C; 1.7C; 1.4C u/c	IR25
Cooler(s)/Kit(s):	44257/4197/42818	
Date/Time sample(s) sent to storage:	1/22/2020 13:25	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes: ID Differs. Samples identified using collection times: COC=WG-1620-MW38C-20200121 LBL=WG-1620-MW38B-20200121. Logged ID/date/time per Label, per client direction.

Client Contacted: Golder Associates Date Contacted: 27-Jan-2020 Person Contacted: Michelle Hermiston

Contacted By: 369 Regarding: anlayte list

Comments: No sample in this WO requires reporting of vinyl chloride.

Corrective Action: Logged per client instructions to report site list VOCs only. Log in sample ID as MW38B per sample labels.

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page ____ of ____

COC ID: 206376

HS20010958

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 Volatile Organics Site Specific)
Work Order		Project Number	1620-07-Rev0 SR 92688	B	8260_LL_W (5632528 VOC Site Specific + V.C.)
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 5652646 Metals - As)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WG-1620-TB07-20200121	1-21-20	-	Water	1	2		X									
2	WG1620MW828 20200121	1-21-20	9:10		1	6	X	X	X	X							
3	WG1620 MW828MS 20200121	1-21-20	9:10		1	6	X	X	X	X							
4	WG1620 MW828MSD 20200121	1-21-20	9:10		1	6	X	X	X	X							
5	WG1620 MW38A 20200121	1-21-20	11:10		1	6	X	X	X	X							
6	WG1620 MW 38C 20200121	1-21-20	13:45		1	6	X	X	X	X							
7	WG 1620 MW 03 20200121	1-21-20	15:00		1	6	X	X	X	X							
8	WG 1620 MW 04 20200121	1-21-20	16:00		1	6	X	X	X	X							
9	WG 1620 FB 11 20200121	1-21-20	15:30		1	6	X	X	X	X							
10																	

Sampler(s) Please Print & Sign: TIM McSpadden T. McSpadden

Shipment Method:

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 -hour [ ] Other ____

Results Due Date:

Relinquished by: T. McSpadden Date: 1/22/20 Time: 11:30 Received by:

Relinquished by: Date: 1/22/2020 Time: 11:30 Received by (Laboratory): AC

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
	°C
44251	0.6
4197	1.7
42818	1.4

QC Package: (Check One Box Below)
[ ] Level II Std QC
[ ] Level III Std QC/Raw Data
[ ] Level IV SW846/CLP
[ ] Other
[X] TRRP Checklist
[ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

IR#25 COC

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

January 31, 2020

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS20011116**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 5 sample(s) on Jan 23, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DAYNA.FISHER
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20011116**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20011116**	

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 01/31/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20011116				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 150059, 150108, R355244, R355245				
#[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				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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 SW-846 Method 5035?			X		
		If required for the project, 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			1
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 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			2
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			3
		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		
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				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				4
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 01/31/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20011116				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 150059, 150108, R355244, R355245				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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			5
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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group	LRC Date: 01/31/2020
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS20011116
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 150059, 150108, R355244, R355245

ER#[5]	Description
1	Batch 150108, Semivolatile Organics Method SW8270, samples WG-1620-MW41B-20200123, WG-1620-MW12B-20200123, WG-1620-MW68B-20200123: surrogate recoveries could not be determined due to dilution below the calibration range.
2	Batch 150108, Semivolatiles by Method SW8270, LCSD RPD recovered above upper limits for 2-Methylnaphthalene due to possible matrix effect.
3	Batch 150059, Metals by method SW6020, Sample WG-1620-MW41B-20200123, MSD recovered below lower limits for Arsenic; however, the result in the parent sample is greater than 4x the spike amount.
4	Batch R355245, Volatiles by Method SW8260, Samples WG-1620-MW68B-20200123, WG-1620-MW12B-20200123: Lowest practical dilution due to high concentration of non-target analyte(s). Batch 150108, Semivolatiles by Method SW8270, Sample WG-1620-MW12B-20200123, The GCMS semi-volatile extract of this sample was run at a dilution due to a high level of matrix interference.
5	Batch 150059, Metals by method SW6020, Sample WG-1620-MW41B-20200123, The percent difference between the results of the sample and the serial dilution were greater than 10% for Arsenic due to possible matrix effect.

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if “NR” or “No” is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20011116

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20011116-01	WQ-1620-TB08-20200123	Water		23-Jan-2020 16:00	23-Jan-2020 17:50	☐
HS20011116-02	WG-1620-MW41B-20200123	Water		23-Jan-2020 12:40	23-Jan-2020 17:50	☐
HS20011116-03	WG-1620-MW12B-20200123	Water		23-Jan-2020 14:00	23-Jan-2020 17:50	☐
HS20011116-04	WG-1620-MW68B-20200123	Water		23-Jan-2020 15:25	23-Jan-2020 17:50	☐
HS20011116-05	WG-1620-FB12-20200123	Water		23-Jan-2020 13:00	23-Jan-2020 17:50	☐

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20011116
Sample ID: WQ-1620-TB08-20200123
Lab ID:HS20011116-01
Collection Date: 23-Jan-2020 16:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	28-Jan-2020 14:27
Benzene		U	0.00020	0.0010	mg/L	1	28-Jan-2020 14:27
Chlorobenzene		U	0.00030	0.0010	mg/L	1	28-Jan-2020 14:27
Ethylbenzene		U	0.00030	0.0010	mg/L	1	28-Jan-2020 14:27
Methylene chloride		U	0.0010	0.0020	mg/L	1	28-Jan-2020 14:27
Toluene		U	0.00020	0.0010	mg/L	1	28-Jan-2020 14:27
Vinyl chloride		U	0.00020	0.0010	mg/L	1	28-Jan-2020 14:27
Xylenes, Total		U	0.00030	0.0010	mg/L	1	28-Jan-2020 14:27
Surr: 1,2-Dichloroethane-d4	*97.1*			*70-126*	*%REC*	*1*	*28-Jan-2020 14:27*
Surr: 4-Bromofluorobenzene	*95.3*			*81-113*	*%REC*	*1*	*28-Jan-2020 14:27*
Surr: Dibromofluoromethane	*99.8*			*77-123*	*%REC*	*1*	*28-Jan-2020 14:27*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*28-Jan-2020 14:27*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW41B-20200123
Collection Date: 23-Jan-2020 12:40

ANALYTICAL REPORT
WorkOrder:HS20011116
Lab ID:HS20011116-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	28-Jan-2020 15:14
Benzene	**0.012**		**0.00020**	**0.0010**	**mg/L**	1	28-Jan-2020 15:14
Chlorobenzene	U		0.00030	0.0010	mg/L	1	28-Jan-2020 15:14
Ethylbenzene	**0.066**		**0.00030**	**0.0010**	**mg/L**	1	28-Jan-2020 15:14
Methylene chloride	U		0.0010	0.0020	mg/L	1	28-Jan-2020 15:14
Toluene	**0.087**		**0.00020**	**0.0010**	**mg/L**	1	28-Jan-2020 15:14
Vinyl chloride	U		0.00020	0.0010	mg/L	1	28-Jan-2020 15:14
Xylenes, Total	**0.16**		**0.00030**	**0.0010**	**mg/L**	1	28-Jan-2020 15:14
Surr: 1,2-Dichloroethane-d4	*98.2*			*70-126*	*%REC*	*1*	*28-Jan-2020 15:14*
Surr: 4-Bromofluorobenzene	*102*			*81-113*	*%REC*	*1*	*28-Jan-2020 15:14*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*28-Jan-2020 15:14*
Surr: Toluene-d8	*99.5*			*82-127*	*%REC*	*1*	*28-Jan-2020 15:14*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW41B-20200123
Collection Date: 23-Jan-2020 12:40

ANALYTICAL REPORT
WorkOrder:HS20011116
Lab ID:HS20011116-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 29-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	30-Jan-2020 18:04
2,4-Dimethylphenol	**0.043**		**0.00080**	**0.0040**	**mg/L**	20	31-Jan-2020 11:30
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	30-Jan-2020 18:04
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	30-Jan-2020 18:04
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	30-Jan-2020 18:04
2-Methylnaphthalene	**0.67**		**0.0038**	**0.020**	**mg/L**	200	31-Jan-2020 12:27
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	30-Jan-2020 18:04
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	30-Jan-2020 18:04
Acenaphthene	**0.49**		**0.0054**	**0.020**	**mg/L**	200	31-Jan-2020 12:27
Acenaphthylene	**0.0089**		**0.000015**	**0.00010**	**mg/L**	1	30-Jan-2020 18:04
Anthracene	**0.045**		**0.00028**	**0.0020**	**mg/L**	20	31-Jan-2020 11:30
Benz(a)anthracene	**0.0040**		**0.000050**	**0.00010**	**mg/L**	1	30-Jan-2020 18:04
Benzo(a)pyrene	**0.00090**		**0.000020**	**0.00010**	**mg/L**	1	30-Jan-2020 18:04
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	30-Jan-2020 18:04
Bis(2-ethylhexyl)phthalate	**0.00032**		**0.000037**	**0.00020**	**mg/L**	1	30-Jan-2020 18:04
Chrysene	**0.0033**		**0.000021**	**0.00010**	**mg/L**	1	30-Jan-2020 18:04
Dibenzofuran	**0.39**		**0.0040**	**0.020**	**mg/L**	200	31-Jan-2020 12:27
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	30-Jan-2020 18:04
Fluoranthene	**0.052**		**0.00020**	**0.0020**	**mg/L**	20	31-Jan-2020 11:30
Fluorene	**0.35**		**0.0060**	**0.020**	**mg/L**	200	31-Jan-2020 12:27
Naphthalene	**10**		**0.040**	**0.20**	**mg/L**	2000	31-Jan-2020 13:24
Nitrobenzene	U		0.000024	0.00020	mg/L	1	30-Jan-2020 18:04
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	30-Jan-2020 18:04
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	30-Jan-2020 18:04
Phenanthrene	**0.41**		**0.0042**	**0.020**	**mg/L**	200	31-Jan-2020 12:27
Phenol	U		0.000035	0.00020	mg/L	1	30-Jan-2020 18:04
Pyrene	**0.029**		**0.00038**	**0.0020**	**mg/L**	20	31-Jan-2020 11:30
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*2000*	*31-Jan-2020 13:24*
Surr: 2,4,6-Tribromophenol	*86.5*			*34-129*	*%REC*	*1*	*30-Jan-2020 18:04*
Surr: 2,4,6-Tribromophenol	*114*			*34-129*	*%REC*	*20*	*31-Jan-2020 11:30*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*200*	*31-Jan-2020 12:27*
Surr: 2-Fluorobiphenyl	*104*			*40-125*	*%REC*	*20*	*31-Jan-2020 11:30*
Surr: 2-Fluorobiphenyl	*112*			*40-125*	*%REC*	*1*	*30-Jan-2020 18:04*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*200*	*31-Jan-2020 12:27*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*2000*	*31-Jan-2020 13:24*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*200*	*31-Jan-2020 12:27*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*2000*	*31-Jan-2020 13:24*
Surr: 2-Fluorophenol	*104*			*20-120*	*%REC*	*1*	*30-Jan-2020 18:04*
Surr: 2-Fluorophenol	*110*			*20-120*	*%REC*	*20*	*31-Jan-2020 11:30*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW41B-20200123
Collection Date: 23-Jan-2020 12:40

ANALYTICAL REPORT
WorkOrder:HS20011116
Lab ID:HS20011116-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 29-Jan-2020		Analyst: LG
Surr: 4-Terphenyl-d14	*111*			*40-135*	*%REC*	*20*	*31-Jan-2020 11:30*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*200*	*31-Jan-2020 12:27*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*2000*	*31-Jan-2020 13:24*
Surr: 4-Terphenyl-d14	*108*			*40-135*	*%REC*	*1*	*30-Jan-2020 18:04*
Surr: Nitrobenzene-d5	*109*			*41-120*	*%REC*	*20*	*31-Jan-2020 11:30*
Surr: Nitrobenzene-d5	*84.4*			*41-120*	*%REC*	*1*	*30-Jan-2020 18:04*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*200*	*31-Jan-2020 12:27*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*2000*	*31-Jan-2020 13:24*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*200*	*31-Jan-2020 12:27*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*2000*	*31-Jan-2020 13:24*
Surr: Phenol-d6	*92.3*			*20-120*	*%REC*	*1*	*30-Jan-2020 18:04*
Surr: Phenol-d6	*116*			*20-120*	*%REC*	*20*	*31-Jan-2020 11:30*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 28-Jan-2020		Analyst: JHD
Arsenic	**0.0842**		**0.000400**	**0.00200**	**mg/L**	1	29-Jan-2020 15:59

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW12B-20200123
Collection Date: 23-Jan-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20011116
Lab ID:HS20011116-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.0050	0.025	mg/L	25	29-Jan-2020 07:52
Benzene	**0.030**		**0.0050**	**0.025**	**mg/L**	25	29-Jan-2020 07:52
Chlorobenzene	U		0.0075	0.025	mg/L	25	29-Jan-2020 07:52
Ethylbenzene	**0.014**	J	**0.0075**	**0.025**	**mg/L**	25	29-Jan-2020 07:52
Methylene chloride	U		0.025	0.050	mg/L	25	29-Jan-2020 07:52
Toluene	U		0.0050	0.025	mg/L	25	29-Jan-2020 07:52
Vinyl chloride	U		0.0050	0.025	mg/L	25	29-Jan-2020 07:52
Xylenes, Total	U		0.0075	0.025	mg/L	25	29-Jan-2020 07:52
Surr: 1,2-Dichloroethane-d4	*96.7*			*70-126*	*%REC*	*25*	*29-Jan-2020 07:52*
Surr: 4-Bromofluorobenzene	*97.4*			*81-113*	*%REC*	*25*	*29-Jan-2020 07:52*
Surr: Dibromofluoromethane	*98.6*			*77-123*	*%REC*	*25*	*29-Jan-2020 07:52*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*25*	*29-Jan-2020 07:52*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW12B-20200123
Collection Date: 23-Jan-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20011116
Lab ID:HS20011116-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 29-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.0021	0.020	mg/L	10	30-Jan-2020 18:23
2,4-Dimethylphenol	U		0.0040	0.020	mg/L	10	30-Jan-2020 18:23
2,4-Dinitrotoluene	U		0.0058	0.020	mg/L	10	30-Jan-2020 18:23
2,6-Dinitrotoluene	U		0.0042	0.020	mg/L	10	30-Jan-2020 18:23
2-Chloronaphthalene	U		0.0021	0.020	mg/L	10	30-Jan-2020 18:23
2-Methylnaphthalene	**320**		**3.8**	**20**	**mg/L**	20000	31-Jan-2020 12:46
4,6-Dinitro-2-methylphenol	U		0.0020	0.020	mg/L	10	30-Jan-2020 18:23
4-Nitrophenol	U		0.0047	0.10	mg/L	10	30-Jan-2020 18:23
Acenaphthene	**350**		**5.4**	**20**	**mg/L**	20000	31-Jan-2020 12:46
Acenaphthylene	**5.7**		**0.015**	**0.10**	**mg/L**	100	30-Jan-2020 18:42
Anthracene	**160**		**0.28**	**2.0**	**mg/L**	2000	31-Jan-2020 11:49
Benz(a)anthracene	**79**		**1.0**	**2.0**	**mg/L**	2000	31-Jan-2020 11:49
Benzo(a)pyrene	**22**		**0.40**	**2.0**	**mg/L**	2000	31-Jan-2020 11:49
Bis(2-chloroethoxy)methane	U		0.0030	0.020	mg/L	10	30-Jan-2020 18:23
Bis(2-ethylhexyl)phthalate	U		0.0037	0.020	mg/L	10	30-Jan-2020 18:23
Chrysene	**64**		**0.42**	**2.0**	**mg/L**	2000	31-Jan-2020 11:49
Dibenzofuran	**320**		**4.0**	**20**	**mg/L**	20000	31-Jan-2020 12:46
Di-n-butyl phthalate	U		0.0020	0.020	mg/L	10	30-Jan-2020 18:23
Fluoranthene	**520**		**2.0**	**20**	**mg/L**	20000	31-Jan-2020 12:46
Fluorene	**420**		**6.0**	**20**	**mg/L**	20000	31-Jan-2020 12:46
Naphthalene	**760**		**4.0**	**20**	**mg/L**	20000	31-Jan-2020 12:46
Nitrobenzene	U		0.0024	0.020	mg/L	10	30-Jan-2020 18:23
N-Nitrosodiphenylamine	U		0.0025	0.020	mg/L	10	30-Jan-2020 18:23
Pentachlorophenol	U		0.0079	0.020	mg/L	10	30-Jan-2020 18:23
Phenanthrene	**1,200**		**4.2**	**20**	**mg/L**	20000	31-Jan-2020 12:46
Phenol	U		0.0035	0.020	mg/L	10	30-Jan-2020 18:23
Pyrene	**330**		**3.8**	**20**	**mg/L**	20000	31-Jan-2020 12:46
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*20000*	*31-Jan-2020 12:46*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*2000*	*31-Jan-2020 11:49*
Surr: 2,4,6-Tribromophenol	*40.5*	*J*		*34-129*	*%REC*	*10*	*30-Jan-2020 18:23*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*30-Jan-2020 18:42*
Surr: 2-Fluorobiphenyl	*71.2*	*J*		*40-125*	*%REC*	*10*	*30-Jan-2020 18:23*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*30-Jan-2020 18:42*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*2000*	*31-Jan-2020 11:49*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*20000*	*31-Jan-2020 12:46*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*20000*	*31-Jan-2020 12:46*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*2000*	*31-Jan-2020 11:49*
Surr: 2-Fluorophenol	*101*	*J*		*20-120*	*%REC*	*10*	*30-Jan-2020 18:23*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*30-Jan-2020 18:42*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW12B-20200123
Collection Date: 23-Jan-2020 14:00

ANALYTICAL REPORT
WorkOrder:HS20011116
Lab ID:HS20011116-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 29-Jan-2020		Analyst: LG
Surr: 4-Terphenyl-d14	*99.5*	*J*		*40-135*	*%REC*	*10*	*30-Jan-2020 18:23*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*2000*	*31-Jan-2020 11:49*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*20000*	*31-Jan-2020 12:46*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*30-Jan-2020 18:42*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*20000*	*31-Jan-2020 12:46*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*30-Jan-2020 18:42*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*2000*	*31-Jan-2020 11:49*
Surr: Nitrobenzene-d5	*111*	*J*		*41-120*	*%REC*	*10*	*30-Jan-2020 18:23*
Surr: Phenol-d6	*105*	*J*		*20-120*	*%REC*	*10*	*30-Jan-2020 18:23*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*30-Jan-2020 18:42*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*20000*	*31-Jan-2020 12:46*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*2000*	*31-Jan-2020 11:49*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 28-Jan-2020		Analyst: JC
Arsenic	**0.0491**		**0.000400**	**0.00200**	**mg/L**	1	29-Jan-2020 16:37

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW68B-20200123
Collection Date: 23-Jan-2020 15:25

ANALYTICAL REPORT
WorkOrder:HS20011116
Lab ID:HS20011116-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.0050	0.025	mg/L	25	29-Jan-2020 07:26
Benzene	**1.4**		**0.0050**	**0.025**	**mg/L**	25	29-Jan-2020 07:26
Chlorobenzene	U		0.0075	0.025	mg/L	25	29-Jan-2020 07:26
Ethylbenzene	**0.39**		**0.0075**	**0.025**	**mg/L**	25	29-Jan-2020 07:26
Methylene chloride	U		0.025	0.050	mg/L	25	29-Jan-2020 07:26
Toluene	**0.23**		**0.0050**	**0.025**	**mg/L**	25	29-Jan-2020 07:26
Vinyl chloride	U		0.0050	0.025	mg/L	25	29-Jan-2020 07:26
Xylenes, Total	**1.1**		**0.0075**	**0.025**	**mg/L**	25	29-Jan-2020 07:26
Surr: 1,2-Dichloroethane-d4	*96.7*			*70-126*	*%REC*	*25*	*29-Jan-2020 07:26*
Surr: 4-Bromofluorobenzene	*99.4*			*81-113*	*%REC*	*25*	*29-Jan-2020 07:26*
Surr: Dibromofluoromethane	*98.3*			*77-123*	*%REC*	*25*	*29-Jan-2020 07:26*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*25*	*29-Jan-2020 07:26*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW68B-20200123
Collection Date: 23-Jan-2020 15:25

ANALYTICAL REPORT
WorkOrder:HS20011116
Lab ID:HS20011116-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 29-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	30-Jan-2020 19:01
2,4-Dimethylphenol	**0.075**		**0.00080**	**0.0040**	**mg/L**	20	31-Jan-2020 12:08
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	30-Jan-2020 19:01
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	30-Jan-2020 19:01
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	30-Jan-2020 19:01
2-Methylnaphthalene	**1.1**		**0.0038**	**0.020**	**mg/L**	200	31-Jan-2020 13:05
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	30-Jan-2020 19:01
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	30-Jan-2020 19:01
Acenaphthene	**0.44**		**0.0054**	**0.020**	**mg/L**	200	31-Jan-2020 13:05
Acenaphthylene	**0.0037**		**0.000015**	**0.00010**	**mg/L**	1	30-Jan-2020 19:01
Anthracene	**0.15**		**0.00028**	**0.0020**	**mg/L**	20	31-Jan-2020 12:08
Benz(a)anthracene	**0.047**		**0.0010**	**0.0020**	**mg/L**	20	31-Jan-2020 12:08
Benzo(a)pyrene	**0.0089**		**0.000020**	**0.00010**	**mg/L**	1	30-Jan-2020 19:01
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	30-Jan-2020 19:01
Bis(2-ethylhexyl)phthalate	**0.0011**		**0.000037**	**0.00020**	**mg/L**	1	30-Jan-2020 19:01
Chrysene	**0.040**		**0.00042**	**0.0020**	**mg/L**	20	31-Jan-2020 12:08
Dibenzofuran	**0.50**		**0.0040**	**0.020**	**mg/L**	200	31-Jan-2020 13:05
Di-n-butyl phthalate	**0.00018**	J	**0.000020**	**0.00020**	**mg/L**	1	30-Jan-2020 19:01
Fluoranthene	**0.31**		**0.0020**	**0.020**	**mg/L**	200	31-Jan-2020 13:05
Fluorene	**0.32**		**0.0060**	**0.020**	**mg/L**	200	31-Jan-2020 13:05
Naphthalene	**12**		**0.040**	**0.20**	**mg/L**	2000	31-Jan-2020 13:43
Nitrobenzene	U		0.000024	0.00020	mg/L	1	30-Jan-2020 19:01
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	30-Jan-2020 19:01
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	30-Jan-2020 19:01
Phenanthrene	**0.95**		**0.0042**	**0.020**	**mg/L**	200	31-Jan-2020 13:05
Phenol	U		0.000035	0.00020	mg/L	1	30-Jan-2020 19:01
Pyrene	**0.19**		**0.00038**	**0.0020**	**mg/L**	20	31-Jan-2020 12:08
Surr: 2,4,6-Tribromophenol	*112*			*34-129*	*%REC*	*20*	*31-Jan-2020 12:08*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*200*	*31-Jan-2020 13:05*
Surr: 2,4,6-Tribromophenol	*53.8*			*34-129*	*%REC*	*1*	*30-Jan-2020 19:01*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*2000*	*31-Jan-2020 13:43*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*2000*	*31-Jan-2020 13:43*
Surr: 2-Fluorobiphenyl	*56.6*			*40-125*	*%REC*	*1*	*30-Jan-2020 19:01*
Surr: 2-Fluorobiphenyl	*115*			*40-125*	*%REC*	*20*	*31-Jan-2020 12:08*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*200*	*31-Jan-2020 13:05*
Surr: 2-Fluorophenol	*113*			*20-120*	*%REC*	*20*	*31-Jan-2020 12:08*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*200*	*31-Jan-2020 13:05*
Surr: 2-Fluorophenol	*54.5*			*20-120*	*%REC*	*1*	*30-Jan-2020 19:01*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*2000*	*31-Jan-2020 13:43*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW68B-20200123
Collection Date: 23-Jan-2020 15:25

ANALYTICAL REPORT
WorkOrder:HS20011116
Lab ID:HS20011116-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 29-Jan-2020		Analyst: LG
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*2000*	*31-Jan-2020 13:43*
Surr: 4-Terphenyl-d14	*89.9*			*40-135*	*%REC*	*1*	*30-Jan-2020 19:01*
Surr: 4-Terphenyl-d14	*106*			*40-135*	*%REC*	*20*	*31-Jan-2020 12:08*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*200*	*31-Jan-2020 13:05*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*2000*	*31-Jan-2020 13:43*
Surr: Nitrobenzene-d5	*110*			*41-120*	*%REC*	*1*	*30-Jan-2020 19:01*
Surr: Nitrobenzene-d5	*93.0*			*41-120*	*%REC*	*20*	*31-Jan-2020 12:08*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*200*	*31-Jan-2020 13:05*
Surr: Phenol-d6	*99.0*			*20-120*	*%REC*	*20*	*31-Jan-2020 12:08*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*200*	*31-Jan-2020 13:05*
Surr: Phenol-d6	*48.7*			*20-120*	*%REC*	*1*	*30-Jan-2020 19:01*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*2000*	*31-Jan-2020 13:43*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 28-Jan-2020		Analyst: JC
Arsenic	**0.00944**		**0.000400**	**0.00200**	**mg/L**	1	29-Jan-2020 16:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB12-20200123
Collection Date: 23-Jan-2020 13:00

ANALYTICAL REPORT
WorkOrder:HS20011116
Lab ID:HS20011116-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	28-Jan-2020 14:50
Benzene		U	0.00020	0.0010	mg/L	1	28-Jan-2020 14:50
Chlorobenzene		U	0.00030	0.0010	mg/L	1	28-Jan-2020 14:50
Ethylbenzene		U	0.00030	0.0010	mg/L	1	28-Jan-2020 14:50
Methylene chloride		U	0.0010	0.0020	mg/L	1	28-Jan-2020 14:50
Toluene		U	0.00020	0.0010	mg/L	1	28-Jan-2020 14:50
Vinyl chloride		U	0.00020	0.0010	mg/L	1	28-Jan-2020 14:50
Xylenes, Total		U	0.00030	0.0010	mg/L	1	28-Jan-2020 14:50
Surr: 1,2-Dichloroethane-d4	*96.0*			*70-126*	*%REC*	*1*	*28-Jan-2020 14:50*
Surr: 4-Bromofluorobenzene	*94.7*			*81-113*	*%REC*	*1*	*28-Jan-2020 14:50*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*28-Jan-2020 14:50*
Surr: Toluene-d8	*99.9*			*82-127*	*%REC*	*1*	*28-Jan-2020 14:50*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB12-20200123
Collection Date: 23-Jan-2020 13:00

ANALYTICAL REPORT
WorkOrder:HS20011116
Lab ID:HS20011116-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 29-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	31-Jan-2020 10:33
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	31-Jan-2020 10:33
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	31-Jan-2020 10:33
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	31-Jan-2020 10:33
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	31-Jan-2020 10:33
2-Methylnaphthalene	**0.000099**	J	**0.000019**	**0.00010**	**mg/L**	1	31-Jan-2020 10:33
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	31-Jan-2020 10:33
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	31-Jan-2020 10:33
Acenaphthene	U		0.000027	0.00010	mg/L	1	31-Jan-2020 10:33
Acenaphthylene	U		0.000015	0.00010	mg/L	1	31-Jan-2020 10:33
Anthracene	U		0.000014	0.00010	mg/L	1	31-Jan-2020 10:33
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	31-Jan-2020 10:33
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	31-Jan-2020 10:33
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	31-Jan-2020 10:33
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	31-Jan-2020 10:33
Chrysene	U		0.000021	0.00010	mg/L	1	31-Jan-2020 10:33
Dibenzofuran	U		0.000020	0.00010	mg/L	1	31-Jan-2020 10:33
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	31-Jan-2020 10:33
Fluoranthene	U		0.000010	0.00010	mg/L	1	31-Jan-2020 10:33
Fluorene	U		0.000030	0.00010	mg/L	1	31-Jan-2020 10:33
Naphthalene	**0.00083**		**0.000020**	**0.00010**	**mg/L**	1	31-Jan-2020 10:33
Nitrobenzene	U		0.000024	0.00020	mg/L	1	31-Jan-2020 10:33
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	31-Jan-2020 10:33
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	31-Jan-2020 10:33
Phenanthrene	**0.000073**	J	**0.000021**	**0.00010**	**mg/L**	1	31-Jan-2020 10:33
Phenol	U		0.000035	0.00020	mg/L	1	31-Jan-2020 10:33
Pyrene	U		0.000019	0.00010	mg/L	1	31-Jan-2020 10:33
Surr: 2,4,6-Tribromophenol	*75.4*			*34-129*	*%REC*	*1*	*31-Jan-2020 10:33*
Surr: 2-Fluorobiphenyl	*107*			*40-125*	*%REC*	*1*	*31-Jan-2020 10:33*
Surr: 2-Fluorophenol	*86.1*			*20-120*	*%REC*	*1*	*31-Jan-2020 10:33*
Surr: 4-Terphenyl-d14	*107*			*40-135*	*%REC*	*1*	*31-Jan-2020 10:33*
Surr: Nitrobenzene-d5	*94.4*			*41-120*	*%REC*	*1*	*31-Jan-2020 10:33*
Surr: Phenol-d6	*91.6*			*20-120*	*%REC*	*1*	*31-Jan-2020 10:33*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 28-Jan-2020		Analyst: JC
Arsenic	U		0.000400	0.00200	mg/L	1	29-Jan-2020 16:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011116

Batch ID: 150059 **Start Date:** 28 Jan 2020 11:00 **End Date:** 28 Jan 2020 15:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20011116-02		10 (mL)	10 (mL)	1
HS20011116-03		10 (mL)	10 (mL)	1
HS20011116-04		10 (mL)	10 (mL)	1
HS20011116-05		10 (mL)	10 (mL)	1

Batch ID: 150108 **Start Date:** 29 Jan 2020 08:59 **End Date:** 29 Jan 2020 14:30
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20011116-02	1	1000 (mL)	1 (mL)	0.001
HS20011116-03	1	1000 (mL)	10 (mL)	0.01
HS20011116-04	1	1000 (mL)	1 (mL)	0.001
HS20011116-05	1	1000 (mL)	1 (mL)	0.001

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011116

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 150059 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS20011116-02	WG-1620-MW41B-20200123	23 Jan 2020 12:40		28 Jan 2020 11:00	29 Jan 2020 15:59	1
HS20011116-03	WG-1620-MW12B-20200123	23 Jan 2020 14:00		28 Jan 2020 11:00	29 Jan 2020 16:37	1
HS20011116-04	WG-1620-MW68B-20200123	23 Jan 2020 15:25		28 Jan 2020 11:00	29 Jan 2020 16:39	1
HS20011116-05	WG-1620-FB12-20200123	23 Jan 2020 13:00		28 Jan 2020 11:00	29 Jan 2020 16:52	1
Batch ID: 150108 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS20011116-02	WG-1620-MW41B-20200123	23 Jan 2020 12:40		29 Jan 2020 08:59	31 Jan 2020 12:27	200
HS20011116-02	WG-1620-MW41B-20200123	23 Jan 2020 12:40		29 Jan 2020 08:59	31 Jan 2020 13:24	2000
HS20011116-02	WG-1620-MW41B-20200123	23 Jan 2020 12:40		29 Jan 2020 08:59	31 Jan 2020 11:30	20
HS20011116-02	WG-1620-MW41B-20200123	23 Jan 2020 12:40		29 Jan 2020 08:59	30 Jan 2020 18:04	1
HS20011116-03	WG-1620-MW12B-20200123	23 Jan 2020 14:00		29 Jan 2020 08:59	31 Jan 2020 12:46	20000
HS20011116-03	WG-1620-MW12B-20200123	23 Jan 2020 14:00		29 Jan 2020 08:59	31 Jan 2020 11:49	2000
HS20011116-03	WG-1620-MW12B-20200123	23 Jan 2020 14:00		29 Jan 2020 08:59	30 Jan 2020 18:42	100
HS20011116-03	WG-1620-MW12B-20200123	23 Jan 2020 14:00		29 Jan 2020 08:59	30 Jan 2020 18:23	10
HS20011116-04	WG-1620-MW68B-20200123	23 Jan 2020 15:25		29 Jan 2020 08:59	31 Jan 2020 13:05	200
HS20011116-04	WG-1620-MW68B-20200123	23 Jan 2020 15:25		29 Jan 2020 08:59	31 Jan 2020 13:43	2000
HS20011116-04	WG-1620-MW68B-20200123	23 Jan 2020 15:25		29 Jan 2020 08:59	31 Jan 2020 12:08	20
HS20011116-04	WG-1620-MW68B-20200123	23 Jan 2020 15:25		29 Jan 2020 08:59	30 Jan 2020 19:01	1
HS20011116-05	WG-1620-FB12-20200123	23 Jan 2020 13:00		29 Jan 2020 08:59	31 Jan 2020 10:33	1
Batch ID: R355244 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20011116-01	WQ-1620-TB08-20200123	23 Jan 2020 16:00			28 Jan 2020 14:27	1
HS20011116-02	WG-1620-MW41B-20200123	23 Jan 2020 12:40			28 Jan 2020 15:14	1
HS20011116-05	WG-1620-FB12-20200123	23 Jan 2020 13:00			28 Jan 2020 14:50	1
Batch ID: R355245 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20011116-03	WG-1620-MW12B-20200123	23 Jan 2020 14:00			29 Jan 2020 07:52	25
HS20011116-04	WG-1620-MW68B-20200123	23 Jan 2020 15:25			29 Jan 2020 07:26	25

WorkOrder: HS20011116
InstrumentID: ICPMS06
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000479	0.000400	0.00200

WorkOrder: HS20011116
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000499	0.000400	0.00200

WorkOrder: HS20011116
InstrumentID: SV-6
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.000098	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000051	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000094	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000083	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.000093	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000060	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000031	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000037	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000059	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000050	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000047	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000059	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000050	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000081	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00012	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000060	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000050	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.00011	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000049	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000053	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000049	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00012	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00011	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.0000094	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000049	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000096	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000047	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS20011116
InstrumentID: VOA2
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00062	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00059	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00071	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00063	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00075	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00069	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00044	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00059	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011116

QC BATCH REPORT

Batch ID: 150059 (0) **Instrument: ICPMS06** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-150059** Units: **mg/L** Analysis Date: **29-Jan-2020 15:56**
Client ID: Run ID: **ICPMS06_355299** SeqNo: **5452423** PrepDate: **28-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-150059** Units: **mg/L** Analysis Date: **29-Jan-2020 15:58**
Client ID: Run ID: **ICPMS06_355299** SeqNo: **5452424** PrepDate: **28-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04514	0.00200	0.05	0	90.3	80 - 120				

MS Sample ID: **HS20011116-02MS** Units: **mg/L** Analysis Date: **29-Jan-2020 16:03**
Client ID: **WG-1620-MW41B-20200123** Run ID: **ICPMS06_355299** SeqNo: **5452427** PrepDate: **28-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1253	0.00200	0.05	0.08425	82.0	80 - 120				

MSD Sample ID: **HS20011116-02MSD** Units: **mg/L** Analysis Date: **29-Jan-2020 16:04**
Client ID: **WG-1620-MW41B-20200123** Run ID: **ICPMS06_355299** SeqNo: **5452428** PrepDate: **28-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1164	0.00200	0.05	0.08425	64.3	80 - 120	0.1253	7.35	20	S

PDS Sample ID: **HS20011116-02PDS** Units: **mg/L** Analysis Date: **29-Jan-2020 16:06**
Client ID: **WG-1620-MW41B-20200123** Run ID: **ICPMS06_355299** SeqNo: **5452429** PrepDate: **28-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1758	0.00200	0.1	0.08425	91.6	75 - 125				

SD Sample ID: **HS20011116-02SD** Units: **mg/L** Analysis Date: **29-Jan-2020 16:01**
Client ID: **WG-1620-MW41B-20200123** Run ID: **ICPMS06_355299** SeqNo: **5452426** PrepDate: **28-Jan-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.07491	0.0100					0.08425	11.1	10	R

The following samples were analyzed in this batch: HS20011116-02 HS20011116-03 HS20011116-04 HS20011116-05

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011116

QC BATCH REPORT

Batch ID: 150108 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-150108** Units: **ug/L** Analysis Date: **29-Jan-2020 20:03**
Client ID: Run ID: **SV-6_355351** SeqNo: **5453256** PrepDate: **29-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*4.224*	*0.20*	*5*	*0*	*84.5*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*5.201*	*0.20*	*5*	*0*	*104*	*40 - 125*				
Surr: 2-Fluorophenol	*4.679*	*0.20*	*5*	*0*	*93.6*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.066*	*0.20*	*5*	*0*	*101*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.664*	*0.20*	*5*	*0*	*93.3*	*41 - 120*				
Surr: Phenol-d6	*4.624*	*0.20*	*5*	*0*	*92.5*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011116

QC BATCH REPORT

Batch ID: 150108 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-150108** Units: **ug/L** Analysis Date: **29-Jan-2020 20:23**
Client ID: Run ID: **SV-6_355351** SeqNo: **5453257** PrepDate: **29-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	5.107	0.20	5	0	102	39 - 127				
2,4-Dimethylphenol	4.701	0.20	5	0	94.0	35 - 120				
2,4-Dinitrotoluene	5.219	0.20	5	0	104	50 - 122				
2,6-Dinitrotoluene	5.149	0.20	5	0	103	50 - 120				
2-Chloronaphthalene	4.991	0.20	5	0	99.8	50 - 120				
2-Methylnaphthalene	4.769	0.10	5	0	95.4	50 - 120				
4,6-Dinitro-2-methylphenol	5.839	0.20	5	0	117	25 - 121				
4-Nitrophenol	5.028	1.0	5	0	101	30 - 130				
Acenaphthene	5.038	0.10	5	0	101	45 - 120				
Acenaphthylene	4.847	0.10	5	0	96.9	47 - 120				
Anthracene	5.231	0.10	5	0	105	45 - 120				
Benz(a)anthracene	4.934	0.10	5	0	98.7	40 - 120				
Benzo(a)pyrene	4.902	0.10	5	0	98.0	45 - 120				
Bis(2-chloroethoxy)methane	4.639	0.20	5	0	92.8	45 - 120				
Bis(2-ethylhexyl)phthalate	5.985	0.20	5	0	120	40 - 139				
Chrysene	4.767	0.10	5	0	95.3	43 - 120				
Dibenzofuran	4.752	0.10	5	0	95.0	50 - 120				
Di-n-butyl phthalate	5.839	0.20	5	0	117	45 - 123				
Fluoranthene	5.012	0.10	5	0	100	45 - 125				
Fluorene	4.867	0.10	5	0	97.3	49 - 120				
Naphthalene	4.782	0.10	5	0	95.6	45 - 120				
Nitrobenzene	4.42	0.20	5	0	88.4	44 - 120				
N-Nitrosodiphenylamine	5.618	0.20	5	0	112	40 - 125				
Pentachlorophenol	4.372	0.20	5	0	87.4	19 - 121				
Phenanthrene	4.959	0.10	5	0	99.2	45 - 121				
Phenol	4.747	0.20	5	0	94.9	20 - 124				
Pyrene	5.005	0.10	5	0	100	40 - 130				
Surr: 2,4,6-Tribromophenol	*4.299*	*0.20*	*5*	*0*	*86.0*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*5.038*	*0.20*	*5*	*0*	*101*	*40 - 125*				
Surr: 2-Fluorophenol	*4.503*	*0.20*	*5*	*0*	*90.1*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.95*	*0.20*	*5*	*0*	*99.0*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.54*	*0.20*	*5*	*0*	*90.8*	*41 - 120*				
Surr: Phenol-d6	*4.729*	*0.20*	*5*	*0*	*94.6*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011116

QC BATCH REPORT

Batch ID: 150108 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-150108** Units: **ug/L** Analysis Date: **29-Jan-2020 20:42**
Client ID: Run ID: **SV-6_355351** SeqNo: **5453258** PrepDate: **29-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	5.262	0.20	5	0	105	39 - 127	5.107	3	20	
2,4-Dimethylphenol	4.491	0.20	5	0	89.8	35 - 120	4.701	4.56	20	
2,4-Dinitrotoluene	5.375	0.20	5	0	107	50 - 122	5.219	2.94	20	
2,6-Dinitrotoluene	5.408	0.20	5	0	108	50 - 120	5.149	4.9	20	
2-Chloronaphthalene	4.958	0.20	5	0	99.2	50 - 120	4.991	0.651	20	
2-Methylnaphthalene	5.835	0.10	5	0	117	50 - 120	4.769	20.1	20	R
4,6-Dinitro-2-methylphenol	5.428	0.20	5	0	109	25 - 121	5.839	7.3	30	
4-Nitrophenol	5.067	1.0	5	0	101	30 - 130	5.028	0.77	20	
Acenaphthene	5.053	0.10	5	0	101	45 - 120	5.038	0.302	20	
Acenaphthylene	4.875	0.10	5	0	97.5	47 - 120	4.847	0.584	20	
Anthracene	5.218	0.10	5	0	104	45 - 120	5.231	0.257	20	
Benz(a)anthracene	5.073	0.10	5	0	101	40 - 120	4.934	2.78	20	
Benzo(a)pyrene	4.915	0.10	5	0	98.3	45 - 120	4.902	0.266	20	
Bis(2-chloroethoxy)methane	4.715	0.20	5	0	94.3	45 - 120	4.639	1.63	20	
Bis(2-ethylhexyl)phthalate	5.942	0.20	5	0	119	40 - 139	5.985	0.725	20	
Chrysene	4.855	0.10	5	0	97.1	43 - 120	4.767	1.83	20	
Dibenzofuran	4.808	0.10	5	0	96.2	50 - 120	4.752	1.19	20	
Di-n-butyl phthalate	5.854	0.20	5	0	117	45 - 123	5.839	0.253	20	
Fluoranthene	4.9	0.10	5	0	98.0	45 - 125	5.012	2.27	20	
Fluorene	4.841	0.10	5	0	96.8	49 - 120	4.867	0.542	20	
Naphthalene	4.712	0.10	5	0	94.2	45 - 120	4.782	1.48	20	
Nitrobenzene	4.576	0.20	5	0	91.5	44 - 120	4.42	3.47	20	
N-Nitrosodiphenylamine	5.763	0.20	5	0	115	40 - 125	5.618	2.55	20	
Pentachlorophenol	4.251	0.20	5	0	85.0	19 - 121	4.372	2.79	20	
Phenanthrene	4.876	0.10	5	0	97.5	45 - 121	4.959	1.69	20	
Phenol	4.406	0.20	5	0	88.1	20 - 124	4.747	7.46	20	
Pyrene	4.965	0.10	5	0	99.3	40 - 130	5.005	0.811	20	
Surr: 2,4,6-Tribromophenol	*4.039*	*0.20*	*5*	*0*	*80.8*	*34 - 129*	*4.299*	*6.25*	*20*	
Surr: 2-Fluorobiphenyl	*4.979*	*0.20*	*5*	*0*	*99.6*	*40 - 125*	*5.038*	*1.19*	*20*	
Surr: 2-Fluorophenol	*4.378*	*0.20*	*5*	*0*	*87.6*	*20 - 120*	*4.503*	*2.81*	*20*	
Surr: 4-Terphenyl-d14	*4.766*	*0.20*	*5*	*0*	*95.3*	*40 - 135*	*4.95*	*3.77*	*20*	
Surr: Nitrobenzene-d5	*4.575*	*0.20*	*5*	*0*	*91.5*	*41 - 120*	*4.54*	*0.784*	*20*	
Surr: Phenol-d6	*4.363*	*0.20*	*5*	*0*	*87.3*	*20 - 120*	*4.729*	*8.06*	*20*	

The following samples were analyzed in this batch: HS20011116-02 HS20011116-03 HS20011116-04 HS20011116-05

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011116

QC BATCH REPORT

Batch ID: R355244 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200128** Units: **ug/L** Analysis Date: **28-Jan-2020 13:40**
Client ID: Run ID: **VOA2_355244** SeqNo: **5451226** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*47.88*	*1.0*	*50*	*0*	*95.8*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*46.96*	*1.0*	*50*	*0*	*93.9*	*82 - 115*				
Surr: Dibromofluoromethane	*50*	*1.0*	*50*	*0*	*100*	*73 - 126*				
Surr: Toluene-d8	*51.02*	*1.0*	*50*	*0*	*102*	*81 - 120*				

LCS Sample ID: **VLCSW-200128** Units: **ug/L** Analysis Date: **28-Jan-2020 12:53**
Client ID: Run ID: **VOA2_355244** SeqNo: **5451225** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.02	1.0	20	0	90.1	70 - 124				
Benzene	17.64	1.0	20	0	88.2	74 - 120				
Chlorobenzene	17.96	1.0	20	0	89.8	76 - 113				
Ethylbenzene	17.99	1.0	20	0	90.0	77 - 117				
Methylene chloride	19.04	2.0	20	0	95.2	70 - 127				
Toluene	19.88	1.0	20	0	99.4	77 - 118				
Vinyl chloride	17.17	1.0	20	0	85.9	70 - 130				
Xylenes, Total	55.27	1.0	60	0	92.1	75 - 122				
Surr: 1,2-Dichloroethane-d4	*50.45*	*1.0*	*50*	*0*	*101*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*50.02*	*1.0*	*50*	*0*	*100*	*82 - 115*				
Surr: Dibromofluoromethane	*49.41*	*1.0*	*50*	*0*	*98.8*	*73 - 126*				
Surr: Toluene-d8	*50.46*	*1.0*	*50*	*0*	*101*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011116

QC BATCH REPORT

Batch ID: R355244 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20011116-02MS** Units: **ug/L** Analysis Date: **28-Jan-2020 15:37**
Client ID: **WG-1620-MW41B-20200123** Run ID: **VOA2_355244** SeqNo: **5451231** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	16.84	1.0	20	0	84.2	70 - 127				
Benzene	29.47	1.0	20	12.37	85.5	70 - 127				
Chlorobenzene	17.11	1.0	20	0	85.5	70 - 114				
Ethylbenzene	84.99	1.0	20	66.49	92.5	70 - 124				
Methylene chloride	17.37	2.0	20	0	86.9	70 - 128				
Toluene	110.3	1.0	20	86.56	119	70 - 123				O
Vinyl chloride	20.48	1.0	20	0	102	70 - 130				
Xylenes, Total	219.7	1.0	60	164.8	91.4	70 - 130				
Surr: 1,2-Dichloroethane-d4	*50.84*	*1.0*	*50*	*0*	*102*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*51.97*	*1.0*	*50*	*0*	*104*	*81 - 113*				
Surr: Dibromofluoromethane	*49.5*	*1.0*	*50*	*0*	*99.0*	*77 - 123*				
Surr: Toluene-d8	*50.03*	*1.0*	*50*	*0*	*100*	*82 - 127*				

MSD Sample ID: **HS20011116-02MSD** Units: **ug/L** Analysis Date: **28-Jan-2020 16:01**
Client ID: **WG-1620-MW41B-20200123** Run ID: **VOA2_355244** SeqNo: **5451232** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Dichloroethane	16.56	1.0	20	0	82.8	70 - 127	16.84	1.64	20	
Benzene	28.93	1.0	20	12.37	82.8	70 - 127	29.47	1.84	20	
Chlorobenzene	16.61	1.0	20	0	83.0	70 - 114	17.11	2.97	20	
Ethylbenzene	82.23	1.0	20	66.49	78.7	70 - 124	84.99	3.3	20	
Methylene chloride	17.54	2.0	20	0	87.7	70 - 128	17.37	0.981	20	
Toluene	106.3	1.0	20	86.56	98.7	70 - 123	110.3	3.69	20	O
Vinyl chloride	19.88	1.0	20	0	99.4	70 - 130	20.48	2.99	20	
Xylenes, Total	212.9	1.0	60	164.8	80.1	70 - 130	219.7	3.15	20	
Surr: 1,2-Dichloroethane-d4	*51.45*	*1.0*	*50*	*0*	*103*	*70 - 126*	*50.84*	*1.18*	*20*	
Surr: 4-Bromofluorobenzene	*51.73*	*1.0*	*50*	*0*	*103*	*81 - 113*	*51.97*	*0.464*	*20*	
Surr: Dibromofluoromethane	*49.79*	*1.0*	*50*	*0*	*99.6*	*77 - 123*	*49.5*	*0.578*	*20*	
Surr: Toluene-d8	*49.75*	*1.0*	*50*	*0*	*99.5*	*82 - 127*	*50.03*	*0.56*	*20*	

The following samples were analyzed in this batch: HS20011116-01 HS20011116-02 HS20011116-05

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011116

QC BATCH REPORT

Batch ID: R355245 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200128** Units: **ug/L** Analysis Date: **29-Jan-2020 01:03**
Client ID: Run ID: **VOA2_355245** SeqNo: **5451281** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*48.86*	*1.0*	*50*	*0*	*97.7*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*48.26*	*1.0*	*50*	*0*	*96.5*	*82 - 115*				
Surr: Dibromofluoromethane	*50.02*	*1.0*	*50*	*0*	*100*	*73 - 126*				
Surr: Toluene-d8	*50.6*	*1.0*	*50*	*0*	*101*	*81 - 120*				

LCS Sample ID: **VLCSW-200128** Units: **ug/L** Analysis Date: **29-Jan-2020 00:16**
Client ID: Run ID: **VOA2_355245** SeqNo: **5451280** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	19.02	1.0	20	0	95.1	70 - 124				
Benzene	18.45	1.0	20	0	92.3	74 - 120				
Chlorobenzene	18.55	1.0	20	0	92.7	76 - 113				
Ethylbenzene	18.58	1.0	20	0	92.9	77 - 117				
Methylene chloride	19.05	2.0	20	0	95.2	70 - 127				
Toluene	20.61	1.0	20	0	103	77 - 118				
Vinyl chloride	17.95	1.0	20	0	89.8	70 - 130				
Xylenes, Total	57.33	1.0	60	0	95.6	75 - 122				
Surr: 1,2-Dichloroethane-d4	*51.22*	*1.0*	*50*	*0*	*102*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*50.26*	*1.0*	*50*	*0*	*101*	*82 - 115*				
Surr: Dibromofluoromethane	*49.32*	*1.0*	*50*	*0*	*98.6*	*73 - 126*				
Surr: Toluene-d8	*49.83*	*1.0*	*50*	*0*	*99.7*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011116

QC BATCH REPORT

Batch ID: R355245 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20011181-02MS** Units: **ug/L** Analysis Date: **29-Jan-2020 03:23**
Client ID: Run ID: **VOA2_355245** SeqNo: **5451287** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.01	1.0	20	0	90.1	70 - 127				
Benzene	18.01	1.0	20	0	90.0	70 - 127				
Chlorobenzene	18.25	1.0	20	0	91.2	70 - 114				
Ethylbenzene	18.69	1.0	20	0	93.4	70 - 124				
Methylene chloride	18.42	2.0	20	0	92.1	70 - 128				
Toluene	20.55	1.0	20	0	103	70 - 123				
Vinyl chloride	17.79	1.0	20	0	89.0	70 - 130				
Xylenes, Total	57.19	1.0	60	0	95.3	70 - 130				
Surr: 1,2-Dichloroethane-d4	*51.14*	*1.0*	*50*	*0*	*102*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*49.9*	*1.0*	*50*	*0*	*99.8*	*81 - 113*				
Surr: Dibromofluoromethane	*49.79*	*1.0*	*50*	*0*	*99.6*	*77 - 123*				
Surr: Toluene-d8	*50.38*	*1.0*	*50*	*0*	*101*	*82 - 127*				

MSD Sample ID: **HS20011181-02MSD** Units: **ug/L** Analysis Date: **29-Jan-2020 03:47**
Client ID: Run ID: **VOA2_355245** SeqNo: **5451288** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.35	1.0	20	0	86.7	70 - 127	18.01	3.74	20	
Benzene	17.3	1.0	20	0	86.5	70 - 127	18.01	3.99	20	
Chlorobenzene	17.41	1.0	20	0	87.0	70 - 114	18.25	4.73	20	
Ethylbenzene	17.98	1.0	20	0	89.9	70 - 124	18.69	3.85	20	
Methylene chloride	17.49	2.0	20	0	87.5	70 - 128	18.42	5.17	20	
Toluene	19.27	1.0	20	0	96.3	70 - 123	20.55	6.44	20	
Vinyl chloride	16.9	1.0	20	0	84.5	70 - 130	17.79	5.17	20	
Xylenes, Total	54.86	1.0	60	0	91.4	70 - 130	57.19	4.16	20	
Surr: 1,2-Dichloroethane-d4	*49.72*	*1.0*	*50*	*0*	*99.4*	*70 - 126*	*51.14*	*2.81*	*20*	
Surr: 4-Bromofluorobenzene	*49.96*	*1.0*	*50*	*0*	*99.9*	*81 - 113*	*49.9*	*0.117*	*20*	
Surr: Dibromofluoromethane	*49.63*	*1.0*	*50*	*0*	*99.3*	*77 - 123*	*49.79*	*0.325*	*20*	
Surr: Toluene-d8	*50.46*	*1.0*	*50*	*0*	*101*	*82 - 127*	*50.38*	*0.144*	*20*	

The following samples were analyzed in this batch: HS20011116-03 HS20011116-04

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS20011116**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	T104704231-19-25	30-Apr-2020

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20011116

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20011116-01	WQ-1620-TB08-20200123	Login	1/24/2020 2:47:57 PM	JRM	VOA160
HS20011116-02	WG-1620-MW41B-20200123	Login	1/24/2020 2:47:57 PM	JRM	MET011
HS20011116-02	WG-1620-MW41B-20200123	Login	1/24/2020 2:47:57 PM	JRM	EXT043
HS20011116-02	WG-1620-MW41B-20200123	Login	1/24/2020 2:47:57 PM	JRM	VOA160
HS20011116-03	WG-1620-MW12B-20200123	Login	1/24/2020 2:47:57 PM	JRM	MET011
HS20011116-03	WG-1620-MW12B-20200123	Login	1/24/2020 2:47:57 PM	JRM	EXT043
HS20011116-03	WG-1620-MW12B-20200123	Login	1/24/2020 2:47:57 PM	JRM	VOA160
HS20011116-04	WG-1620-MW68B-20200123	Login	1/24/2020 2:47:57 PM	JRM	MET011
HS20011116-04	WG-1620-MW68B-20200123	Login	1/24/2020 2:47:57 PM	JRM	EXT043
HS20011116-04	WG-1620-MW68B-20200123	Login	1/24/2020 2:47:57 PM	JRM	VOA160
HS20011116-05	WG-1620-FB12-20200123	Login	1/24/2020 2:47:57 PM	JRM	MET011
HS20011116-05	WG-1620-FB12-20200123	Login	1/24/2020 2:47:57 PM	JRM	EXT043
HS20011116-05	WG-1620-FB12-20200123	Login	1/24/2020 2:47:57 PM	JRM	VOA160

Sample Receipt Checklist

Client Name: PBW
Work Order: HS20011116

Date/Time Received: **23-Jan-2020 17:50**
Received by: **DDG**

Checklist completed by: *Jared R. Makan* eSignature — 24-Jan-2020 Date

Reviewed by: *Dane J. Wacasey* eSignature — 27-Jan-2020 Date

Matrices: **Water**

Carrier name: **ALS Courier**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:214254
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	2.0°C/2.0°C UC/C	IR25
Cooler(s)/Kit(s):	44479	
Date/Time sample(s) sent to storage:	01/24/2020 14:55	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes: Samples refrigerated prior to login.

Client Contacted: Golder Associates — Date Contacted: 27-Jan-2020 — Person Contacted: Michelle Hermiston

Contacted By: 369 — Regarding: anlayte list

Comments: No sample in this WO requires reporting of vinyl chloride.

Corrective Action: Logged per client instructions to report site list VOCs only.

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 214254

HS20011116 WV

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-07-Rev0 SR 92688
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address	

A 8260_LL_W (5632528 Volatile Organics Site Specific)
B 8260_LL_W (5632528 VOC Site Specific + V.C.)
C 8270_LOW_W (5632532 SemiVolatiles Site specific)
D ICP_TW (5636002 5652646 Metals - As)
E
F
G
H
I
J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WQ-1620-TB0 8-20200123	1-23-20	1600	Water	1	2		X									
2	WG-1620 MW 41B 20200123	1-23-20	12:40	H2O	1	6	X	X	X	X							
3	WG-1620 MW 12B 20200123	1-23-20	14:00	H2O	1	6	X	X	X	X							
4	WG 1620 MW 68B 20200123	1-23-20	15:25	H2O	1	6	X	X	X	X							
5	WG-1620 FB 12 20200123	1-23-20	13:00	H2O	1	6	X	X	X	X							
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Tim McSpadden T. McSpadden

Shipment Method:

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results Due Date:

Relinquished by: T. McSpadden Date: 1-23-20 Time: 16:30 Received by: D.S

Relinquished by: D.S Date: 1-23-20 Time: 17:50 Received by (Laboratory): D.S

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
444-70	4C
	2.0

QC Package: (Check One Box Below)
[ ] Level II Std QC
[ ] Level III Std QC/Raw Data
[ ] Level IV SW846/CLP
[ ] Other
[X] TRRP Checklist
[ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

1625

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

February 04, 2020

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS20011249**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 5 sample(s) on Jan 27, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20011249**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	**HS20011249**

TRRP Laboratory Data Package Cover Page

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 02/04/2020					
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20011249					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 150153,150187,R355340,R355399					
#[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				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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 SW-846 Method 5035?			X		
		If required for the project, 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			1
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			2
		Does the detectability 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				
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			3
		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		
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				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				4
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/04/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20011249				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 150153,150187,R355340,R355399				
#[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			5
		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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group	LRC Date: 02/04/2020
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS20011249
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 150153,150187,R355340,R355399

ER#[5]	Description
1	Semivolatile Organics Method SW8270, sample WG-1620-MW49B-20200127, the surrogate recoveries could not be determined due to dilution below the calibration range.
2	Batch R355399, Volatile Organics Method SW8260, LCS recovery was above the control limits for Vinyl chloride. The analyte was not detected in the associated samples.
3	Batch 150187, Semivolatile Organics Method SW8270, sample HS20011317-01, MS and MSD were performed on unrelated sample.
4	Batch 150187, Semivolatile Organics Method SW8270, sample WG-1620-MW49B-20200127: The GCMS semi-volatile extract of this sample was run at a dilution due to a high level of matrix interference.
5	Batch R355399, Volatile Organics Method SW8260, Vinyl chloride exceeded % recovery limits on CCV. The analyte was not detected in the associated samples.

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20011249

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20011249-01	WQ-1620-TB09-20200127	Water		27-Jan-2020 15:00	27-Jan-2020 17:15	☐
HS20011249-02	WG-1620-MW62B-20200127	Water		27-Jan-2020 09:25	27-Jan-2020 17:15	☐
HS20011249-03	WG-1620-MW64A-20200127	Water		27-Jan-2020 11:15	27-Jan-2020 17:15	☐
HS20011249-04	WG-1620-MW49B-20200127	Water		27-Jan-2020 13:30	27-Jan-2020 17:15	☐
HS20011249-05	WG-1620-FB13-20200127	Water		27-Jan-2020 12:00	27-Jan-2020 17:15	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WQ-1620-TB09-20200127
Collection Date: 27-Jan-2020 15:00

ANALYTICAL REPORT
WorkOrder:HS20011249
Lab ID:HS20011249-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	29-Jan-2020 13:55
Benzene		U	0.00020	0.0010	mg/L	1	29-Jan-2020 13:55
Chlorobenzene		U	0.00030	0.0010	mg/L	1	29-Jan-2020 13:55
Ethylbenzene		U	0.00030	0.0010	mg/L	1	29-Jan-2020 13:55
Methylene chloride		U	0.0010	0.0020	mg/L	1	29-Jan-2020 13:55
Toluene		U	0.00020	0.0010	mg/L	1	29-Jan-2020 13:55
Vinyl chloride		U	0.00020	0.0010	mg/L	1	29-Jan-2020 13:55
Xylenes, Total		U	0.00030	0.0010	mg/L	1	29-Jan-2020 13:55
Surr: 1,2-Dichloroethane-d4	*97.2*			*70-126*	*%REC*	*1*	*29-Jan-2020 13:55*
Surr: 4-Bromofluorobenzene	*94.5*			*81-113*	*%REC*	*1*	*29-Jan-2020 13:55*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*29-Jan-2020 13:55*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*29-Jan-2020 13:55*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW62B-20200127
Collection Date: 27-Jan-2020 09:25

ANALYTICAL REPORT
WorkOrder:HS20011249
Lab ID:HS20011249-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	30-Jan-2020 17:20
Benzene		U	0.00020	0.0010	mg/L	1	30-Jan-2020 17:20
Chlorobenzene		U	0.00030	0.0010	mg/L	1	30-Jan-2020 17:20
Ethylbenzene		U	0.00030	0.0010	mg/L	1	30-Jan-2020 17:20
Methylene chloride		U	0.0010	0.0020	mg/L	1	30-Jan-2020 17:20
Toluene		U	0.00020	0.0010	mg/L	1	30-Jan-2020 17:20
Xylenes, Total		U	0.00030	0.0010	mg/L	1	30-Jan-2020 17:20
Surr: 1,2-Dichloroethane-d4	*97.9*			*70-126*	*%REC*	*1*	*30-Jan-2020 17:20*
Surr: 4-Bromofluorobenzene	*98.4*			*81-113*	*%REC*	*1*	*30-Jan-2020 17:20*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*30-Jan-2020 17:20*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*30-Jan-2020 17:20*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW62B-20200127
Collection Date: 27-Jan-2020 09:25

ANALYTICAL REPORT
WorkOrder:HS20011249
Lab ID:HS20011249-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 31-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	03-Feb-2020 12:44
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	03-Feb-2020 12:44
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	03-Feb-2020 12:44
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	03-Feb-2020 12:44
2-Chloronaphthalene	**0.00016**	J	**0.000021**	**0.00020**	**mg/L**	1	03-Feb-2020 12:44
2-Methylnaphthalene	**0.00011**		**0.000019**	**0.00010**	**mg/L**	1	03-Feb-2020 12:44
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	03-Feb-2020 12:44
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	03-Feb-2020 12:44
Acenaphthene	**0.040**		**0.00011**	**0.00040**	**mg/L**	4	04-Feb-2020 12:03
Acenaphthylene	**0.00029**		**0.000015**	**0.00010**	**mg/L**	1	03-Feb-2020 12:44
Anthracene	**0.00096**		**0.000014**	**0.00010**	**mg/L**	1	03-Feb-2020 12:44
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	03-Feb-2020 12:44
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	03-Feb-2020 12:44
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	03-Feb-2020 12:44
Bis(2-ethylhexyl)phthalate	**0.000095**	J	**0.000037**	**0.00020**	**mg/L**	1	03-Feb-2020 12:44
Chrysene	**0.000027**	J	**0.000021**	**0.00010**	**mg/L**	1	03-Feb-2020 12:44
Dibenzofuran	**0.0042**		**0.000020**	**0.00010**	**mg/L**	1	03-Feb-2020 12:44
Di-n-butyl phthalate	**0.00014**	J	**0.000020**	**0.00020**	**mg/L**	1	03-Feb-2020 12:44
Fluoranthene	**0.0020**		**0.000010**	**0.00010**	**mg/L**	1	03-Feb-2020 12:44
Fluorene	**0.011**		**0.00012**	**0.00040**	**mg/L**	4	04-Feb-2020 12:03
Naphthalene	**0.0010**		**0.000020**	**0.00010**	**mg/L**	1	03-Feb-2020 12:44
Nitrobenzene	U		0.000024	0.00020	mg/L	1	03-Feb-2020 12:44
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	03-Feb-2020 12:44
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	03-Feb-2020 12:44
Phenanthrene	**0.00087**		**0.000021**	**0.00010**	**mg/L**	1	03-Feb-2020 12:44
Phenol	U		0.000035	0.00020	mg/L	1	03-Feb-2020 12:44
Pyrene	**0.0013**		**0.000019**	**0.00010**	**mg/L**	1	03-Feb-2020 12:44
Surr: 2,4,6-Tribromophenol	*73.7*			*34-129*	*%REC*	*1*	*03-Feb-2020 12:44*
Surr: 2,4,6-Tribromophenol	*65.6*			*34-129*	*%REC*	*4*	*04-Feb-2020 12:03*
Surr: 2-Fluorobiphenyl	*83.1*			*40-125*	*%REC*	*4*	*04-Feb-2020 12:03*
Surr: 2-Fluorobiphenyl	*79.2*			*40-125*	*%REC*	*1*	*03-Feb-2020 12:44*
Surr: 2-Fluorophenol	*64.6*			*20-120*	*%REC*	*1*	*03-Feb-2020 12:44*
Surr: 2-Fluorophenol	*52.6*			*20-120*	*%REC*	*4*	*04-Feb-2020 12:03*
Surr: 4-Terphenyl-d14	*89.6*			*40-135*	*%REC*	*4*	*04-Feb-2020 12:03*
Surr: 4-Terphenyl-d14	*94.4*			*40-135*	*%REC*	*1*	*03-Feb-2020 12:44*
Surr: Nitrobenzene-d5	*71.9*			*41-120*	*%REC*	*4*	*04-Feb-2020 12:03*
Surr: Nitrobenzene-d5	*72.8*			*41-120*	*%REC*	*1*	*03-Feb-2020 12:44*
Surr: Phenol-d6	*71.5*			*20-120*	*%REC*	*1*	*03-Feb-2020 12:44*
Surr: Phenol-d6	*69.0*			*20-120*	*%REC*	*4*	*04-Feb-2020 12:03*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client:	Golder Associates Inc.	**ANALYTICAL REPORT**
Project:	Houston TX-Wood Preserving Works	WorkOrder:HS20011249
Sample ID:	WG-1620-MW62B-20200127	Lab ID:HS20011249-02
Collection Date:	27-Jan-2020 09:25	Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 30-Jan-2020		Analyst: JHD
Arsenic	**0.0161**		**0.000400**	**0.00200**	**mg/L**	1	31-Jan-2020 16:08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW64A-20200127
Collection Date: 27-Jan-2020 11:15

ANALYTICAL REPORT
WorkOrder:HS20011249
Lab ID:HS20011249-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	30-Jan-2020 17:44
Benzene		U	0.00020	0.0010	mg/L	1	30-Jan-2020 17:44
Chlorobenzene		U	0.00030	0.0010	mg/L	1	30-Jan-2020 17:44
Ethylbenzene		U	0.00030	0.0010	mg/L	1	30-Jan-2020 17:44
Methylene chloride		U	0.0010	0.0020	mg/L	1	30-Jan-2020 17:44
Toluene		U	0.00020	0.0010	mg/L	1	30-Jan-2020 17:44
Xylenes, Total		U	0.00030	0.0010	mg/L	1	30-Jan-2020 17:44
Surr: 1,2-Dichloroethane-d4	*98.9*			*70-126*	*%REC*	*1*	*30-Jan-2020 17:44*
Surr: 4-Bromofluorobenzene	*97.3*			*81-113*	*%REC*	*1*	*30-Jan-2020 17:44*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*30-Jan-2020 17:44*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*30-Jan-2020 17:44*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW64A-20200127
Collection Date: 27-Jan-2020 11:15

ANALYTICAL REPORT
WorkOrder:HS20011249
Lab ID:HS20011249-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 31-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	03-Feb-2020 13:04
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	03-Feb-2020 13:04
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	03-Feb-2020 13:04
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	03-Feb-2020 13:04
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	03-Feb-2020 13:04
2-Methylnaphthalene	**0.00037**		**0.000019**	**0.00010**	**mg/L**	1	03-Feb-2020 13:04
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	03-Feb-2020 13:04
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	03-Feb-2020 13:04
Acenaphthene	**0.00016**		**0.000027**	**0.00010**	**mg/L**	1	03-Feb-2020 13:04
Acenaphthylene	U		0.000015	0.00010	mg/L	1	03-Feb-2020 13:04
Anthracene	**0.000096**	J	**0.000014**	**0.00010**	**mg/L**	1	03-Feb-2020 13:04
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	03-Feb-2020 13:04
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	03-Feb-2020 13:04
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	03-Feb-2020 13:04
Bis(2-ethylhexyl)phthalate	**0.00031**		**0.000037**	**0.00020**	**mg/L**	1	03-Feb-2020 13:04
Chrysene	U		0.000021	0.00010	mg/L	1	03-Feb-2020 13:04
Dibenzofuran	**0.000100**	J	**0.000020**	**0.00010**	**mg/L**	1	03-Feb-2020 13:04
Di-n-butyl phthalate	**0.000079**	J	**0.000020**	**0.00020**	**mg/L**	1	03-Feb-2020 13:04
Fluoranthene	**0.00028**		**0.000010**	**0.00010**	**mg/L**	1	03-Feb-2020 13:04
Fluorene	**0.000082**	J	**0.000030**	**0.00010**	**mg/L**	1	03-Feb-2020 13:04
Naphthalene	**0.0020**		**0.000020**	**0.00010**	**mg/L**	1	03-Feb-2020 13:04
Nitrobenzene	U		0.000024	0.00020	mg/L	1	03-Feb-2020 13:04
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	03-Feb-2020 13:04
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	03-Feb-2020 13:04
Phenanthrene	U		0.000021	0.00010	mg/L	1	03-Feb-2020 13:04
Phenol	U		0.000035	0.00020	mg/L	1	03-Feb-2020 13:04
Pyrene	**0.00015**		**0.000019**	**0.00010**	**mg/L**	1	03-Feb-2020 13:04
Surr: 2,4,6-Tribromophenol	*67.5*			*34-129*	*%REC*	*1*	*03-Feb-2020 13:04*
Surr: 2-Fluorobiphenyl	*75.1*			*40-125*	*%REC*	*1*	*03-Feb-2020 13:04*
Surr: 2-Fluorophenol	*64.8*			*20-120*	*%REC*	*1*	*03-Feb-2020 13:04*
Surr: 4-Terphenyl-d14	*86.0*			*40-135*	*%REC*	*1*	*03-Feb-2020 13:04*
Surr: Nitrobenzene-d5	*71.0*			*41-120*	*%REC*	*1*	*03-Feb-2020 13:04*
Surr: Phenol-d6	*69.5*			*20-120*	*%REC*	*1*	*03-Feb-2020 13:04*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 30-Jan-2020		Analyst: JHD
Arsenic	**0.00126**	J	**0.000400**	**0.00200**	**mg/L**	1	31-Jan-2020 16:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW49B-20200127
Collection Date: 27-Jan-2020 13:30

ANALYTICAL REPORT
WorkOrder:HS20011249
Lab ID:HS20011249-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	U		0.010	0.050	mg/L	50	30-Jan-2020 18:07
Benzene	**0.60**		**0.010**	**0.050**	**mg/L**	50	30-Jan-2020 18:07
Chlorobenzene	U		0.015	0.050	mg/L	50	30-Jan-2020 18:07
Ethylbenzene	**0.26**		**0.015**	**0.050**	**mg/L**	50	30-Jan-2020 18:07
Methylene chloride	U		0.050	0.10	mg/L	50	30-Jan-2020 18:07
Toluene	**0.72**		**0.010**	**0.050**	**mg/L**	50	30-Jan-2020 18:07
Vinyl chloride	U		0.010	0.050	mg/L	50	30-Jan-2020 18:07
Xylenes, Total	**0.71**		**0.015**	**0.050**	**mg/L**	50	30-Jan-2020 18:07
Surr: 1,2-Dichloroethane-d4	*95.9*			*70-126*	*%REC*	*50*	*30-Jan-2020 18:07*
Surr: 4-Bromofluorobenzene	*98.8*			*81-113*	*%REC*	*50*	*30-Jan-2020 18:07*
Surr: Dibromofluoromethane	*99.0*			*77-123*	*%REC*	*50*	*30-Jan-2020 18:07*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*50*	*30-Jan-2020 18:07*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW49B-20200127
Collection Date: 27-Jan-2020 13:30

ANALYTICAL REPORT
WorkOrder:HS20011249
Lab ID:HS20011249-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 31-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.0013	0.012	mg/L	10	03-Feb-2020 19:05
2,4-Dimethylphenol	**25**		**0.48**	**2.4**	**mg/L**	2000	04-Feb-2020 12:22
2,4-Dinitrotoluene	U		0.0035	0.012	mg/L	10	03-Feb-2020 19:05
2,6-Dinitrotoluene	U		0.0025	0.012	mg/L	10	03-Feb-2020 19:05
2-Chloronaphthalene	U		0.0013	0.012	mg/L	10	03-Feb-2020 19:05
2-Methylnaphthalene	**250**		**2.3**	**12**	**mg/L**	20000	04-Feb-2020 12:40
4,6-Dinitro-2-methylphenol	U		0.0012	0.012	mg/L	10	03-Feb-2020 19:05
4-Nitrophenol	U		0.0028	0.060	mg/L	10	03-Feb-2020 19:05
Acenaphthene	**190**		**3.2**	**12**	**mg/L**	20000	04-Feb-2020 12:40
Acenaphthylene	**2.1**		**0.018**	**0.12**	**mg/L**	200	04-Feb-2020 11:44
Anthracene	**87**		**0.17**	**1.2**	**mg/L**	2000	04-Feb-2020 12:22
Benz(a)anthracene	**23**		**0.60**	**1.2**	**mg/L**	2000	04-Feb-2020 12:22
Benzo(a)pyrene	**7.5**		**0.024**	**0.12**	**mg/L**	200	04-Feb-2020 11:44
Bis(2-chloroethoxy)methane	U		0.0018	0.012	mg/L	10	03-Feb-2020 19:05
Bis(2-ethylhexyl)phthalate	U		0.0022	0.012	mg/L	10	03-Feb-2020 19:05
Chrysene	**23**		**0.25**	**1.2**	**mg/L**	2000	04-Feb-2020 12:22
Dibenzofuran	**160**		**2.4**	**12**	**mg/L**	20000	04-Feb-2020 12:40
Di-n-butyl phthalate	U		0.0012	0.012	mg/L	10	03-Feb-2020 19:05
Fluoranthene	**170**		**1.2**	**12**	**mg/L**	20000	04-Feb-2020 12:40
Fluorene	**170**		**3.6**	**12**	**mg/L**	20000	04-Feb-2020 12:40
Naphthalene	**1,200**		**2.4**	**12**	**mg/L**	20000	04-Feb-2020 12:40
Nitrobenzene	U		0.0014	0.012	mg/L	10	03-Feb-2020 19:05
N-Nitrosodiphenylamine	U		0.0015	0.012	mg/L	10	03-Feb-2020 19:05
Pentachlorophenol	U		0.0047	0.012	mg/L	10	03-Feb-2020 19:05
Phenanthrene	**500**		**2.5**	**12**	**mg/L**	20000	04-Feb-2020 12:40
Phenol	U		0.0021	0.012	mg/L	10	03-Feb-2020 19:05
Pyrene	**96**		**0.23**	**1.2**	**mg/L**	2000	04-Feb-2020 12:22
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*200*	*04-Feb-2020 11:44*
Surr: 2,4,6-Tribromophenol	*125*	*J*		*34-129*	*%REC*	*10*	*03-Feb-2020 19:05*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*2000*	*04-Feb-2020 12:22*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*20000*	*04-Feb-2020 12:40*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*2000*	*04-Feb-2020 12:22*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*20000*	*04-Feb-2020 12:40*
Surr: 2-Fluorobiphenyl	*95.1*	*J*		*40-125*	*%REC*	*10*	*03-Feb-2020 19:05*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*200*	*04-Feb-2020 11:44*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*200*	*04-Feb-2020 11:44*
Surr: 2-Fluorophenol	*94.0*	*J*		*20-120*	*%REC*	*10*	*03-Feb-2020 19:05*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*2000*	*04-Feb-2020 12:22*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*20000*	*04-Feb-2020 12:40*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW49B-20200127
Collection Date: 27-Jan-2020 13:30

ANALYTICAL REPORT
WorkOrder:HS20011249
Lab ID:HS20011249-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 31-Jan-2020		Analyst: LG
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*2000*	*04-Feb-2020 12:22*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*20000*	*04-Feb-2020 12:40*
Surr: 4-Terphenyl-d14	*67.0*	*J*		*40-135*	*%REC*	*10*	*03-Feb-2020 19:05*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*200*	*04-Feb-2020 11:44*
Surr: Nitrobenzene-d5	*86.3*	*J*		*41-120*	*%REC*	*10*	*03-Feb-2020 19:05*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*200*	*04-Feb-2020 11:44*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*2000*	*04-Feb-2020 12:22*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*20000*	*04-Feb-2020 12:40*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*200*	*04-Feb-2020 11:44*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*2000*	*04-Feb-2020 12:22*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*20000*	*04-Feb-2020 12:40*
Surr: Phenol-d6	*51.0*	*J*		*20-120*	*%REC*	*10*	*03-Feb-2020 19:05*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 30-Jan-2020		Analyst: JHD
Arsenic	**0.0107**		**0.000400**	**0.00200**	**mg/L**	1	31-Jan-2020 16:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20011249
Sample ID: WG-1620-FB13-20200127
Lab ID:HS20011249-05
Collection Date: 27-Jan-2020 12:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	29-Jan-2020 14:18
Benzene		U	0.00020	0.0010	mg/L	1	29-Jan-2020 14:18
Chlorobenzene		U	0.00030	0.0010	mg/L	1	29-Jan-2020 14:18
Ethylbenzene		U	0.00030	0.0010	mg/L	1	29-Jan-2020 14:18
Methylene chloride		U	0.0010	0.0020	mg/L	1	29-Jan-2020 14:18
Toluene		U	0.00020	0.0010	mg/L	1	29-Jan-2020 14:18
Vinyl chloride		U	0.00020	0.0010	mg/L	1	29-Jan-2020 14:18
Xylenes, Total		U	0.00030	0.0010	mg/L	1	29-Jan-2020 14:18
Surr: 1,2-Dichloroethane-d4	*95.7*			*70-126*	*%REC*	*1*	*29-Jan-2020 14:18*
Surr: 4-Bromofluorobenzene	*95.1*			*81-113*	*%REC*	*1*	*29-Jan-2020 14:18*
Surr: Dibromofluoromethane	*98.6*			*77-123*	*%REC*	*1*	*29-Jan-2020 14:18*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*29-Jan-2020 14:18*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB13-20200127
Collection Date: 27-Jan-2020 12:00

ANALYTICAL REPORT
WorkOrder:HS20011249
Lab ID:HS20011249-05
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 31-Jan-2020		Analyst: LG
1,2-Diphenylhydrazine		U	0.000021	0.00020	mg/L	1	03-Feb-2020 13:23
2,4-Dimethylphenol		U	0.000040	0.00020	mg/L	1	03-Feb-2020 13:23
2,4-Dinitrotoluene		U	0.000058	0.00020	mg/L	1	03-Feb-2020 13:23
2,6-Dinitrotoluene		U	0.000042	0.00020	mg/L	1	03-Feb-2020 13:23
2-Chloronaphthalene		U	0.000021	0.00020	mg/L	1	03-Feb-2020 13:23
2-Methylnaphthalene		U	0.000019	0.00010	mg/L	1	03-Feb-2020 13:23
4,6-Dinitro-2-methylphenol		U	0.000020	0.00020	mg/L	1	03-Feb-2020 13:23
4-Nitrophenol		U	0.000047	0.0010	mg/L	1	03-Feb-2020 13:23
Acenaphthene		U	0.000027	0.00010	mg/L	1	03-Feb-2020 13:23
Acenaphthylene		U	0.000015	0.00010	mg/L	1	03-Feb-2020 13:23
Anthracene		U	0.000014	0.00010	mg/L	1	03-Feb-2020 13:23
Benz(a)anthracene		U	0.000050	0.00010	mg/L	1	03-Feb-2020 13:23
Benzo(a)pyrene		U	0.000020	0.00010	mg/L	1	03-Feb-2020 13:23
Bis(2-chloroethoxy)methane		U	0.000030	0.00020	mg/L	1	03-Feb-2020 13:23
Bis(2-ethylhexyl)phthalate		U	0.000037	0.00020	mg/L	1	03-Feb-2020 13:23
Chrysene		U	0.000021	0.00010	mg/L	1	03-Feb-2020 13:23
Dibenzofuran		U	0.000020	0.00010	mg/L	1	03-Feb-2020 13:23
Di-n-butyl phthalate		U	0.000020	0.00020	mg/L	1	03-Feb-2020 13:23
Fluoranthene		U	0.000010	0.00010	mg/L	1	03-Feb-2020 13:23
Fluorene		U	0.000030	0.00010	mg/L	1	03-Feb-2020 13:23
Naphthalene		U	0.000020	0.00010	mg/L	1	03-Feb-2020 13:23
Nitrobenzene		U	0.000024	0.00020	mg/L	1	03-Feb-2020 13:23
N-Nitrosodiphenylamine		U	0.000025	0.00020	mg/L	1	03-Feb-2020 13:23
Pentachlorophenol		U	0.000079	0.00020	mg/L	1	03-Feb-2020 13:23
Phenanthrene		U	0.000021	0.00010	mg/L	1	03-Feb-2020 13:23
Phenol		U	0.000035	0.00020	mg/L	1	03-Feb-2020 13:23
Pyrene		U	0.000019	0.00010	mg/L	1	03-Feb-2020 13:23
Surr: 2,4,6-Tribromophenol	*55.7*			*34-129*	*%REC*	*1*	*03-Feb-2020 13:23*
Surr: 2-Fluorobiphenyl	*83.6*			*40-125*	*%REC*	*1*	*03-Feb-2020 13:23*
Surr: 2-Fluorophenol	*68.1*			*20-120*	*%REC*	*1*	*03-Feb-2020 13:23*
Surr: 4-Terphenyl-d14	*92.5*			*40-135*	*%REC*	*1*	*03-Feb-2020 13:23*
Surr: Nitrobenzene-d5	*83.5*			*41-120*	*%REC*	*1*	*03-Feb-2020 13:23*
Surr: Phenol-d6	*69.4*			*20-120*	*%REC*	*1*	*03-Feb-2020 13:23*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 30-Jan-2020		Analyst: JHD
Arsenic		U	0.000400	0.00200	mg/L	1	31-Jan-2020 16:31

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011249

Batch ID: 150153 **Start Date:** 30 Jan 2020 09:00 **End Date:** 30 Jan 2020 13:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20011249-02		10 (mL)	10 (mL)	1
HS20011249-03		10 (mL)	10 (mL)	1
HS20011249-04		10 (mL)	10 (mL)	1
HS20011249-05		10 (mL)	10 (mL)	1

Batch ID: 150187 **Start Date:** 31 Jan 2020 08:41 **End Date:** 31 Jan 2020 14:00
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20011249-02	1	1000 (mL)	1 (mL)	0.001
HS20011249-03	1	1000 (mL)	1 (mL)	0.001
HS20011249-04	1	1000 (mL)	6 (mL)	0.006
HS20011249-05	1	1000 (mL)	1 (mL)	0.001

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011249

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 150153 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS20011249-02	WG-1620-MW62B-20200127	27 Jan 2020 09:25		30 Jan 2020 13:00	31 Jan 2020 16:08	1
HS20011249-03	WG-1620-MW64A-20200127	27 Jan 2020 11:15		30 Jan 2020 13:00	31 Jan 2020 16:27	1
HS20011249-04	WG-1620-MW49B-20200127	27 Jan 2020 13:30		30 Jan 2020 13:00	31 Jan 2020 16:29	1
HS20011249-05	WG-1620-FB13-20200127	27 Jan 2020 12:00		30 Jan 2020 13:00	31 Jan 2020 16:31	1
Batch ID: 150187 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS20011249-02	WG-1620-MW62B-20200127	27 Jan 2020 09:25		31 Jan 2020 08:41	04 Feb 2020 12:03	4
HS20011249-02	WG-1620-MW62B-20200127	27 Jan 2020 09:25		31 Jan 2020 08:41	03 Feb 2020 12:44	1
HS20011249-03	WG-1620-MW64A-20200127	27 Jan 2020 11:15		31 Jan 2020 08:41	03 Feb 2020 13:04	1
HS20011249-04	WG-1620-MW49B-20200127	27 Jan 2020 13:30		31 Jan 2020 08:41	04 Feb 2020 12:40	20000
HS20011249-04	WG-1620-MW49B-20200127	27 Jan 2020 13:30		31 Jan 2020 08:41	04 Feb 2020 12:22	2000
HS20011249-04	WG-1620-MW49B-20200127	27 Jan 2020 13:30		31 Jan 2020 08:41	04 Feb 2020 11:44	200
HS20011249-04	WG-1620-MW49B-20200127	27 Jan 2020 13:30		31 Jan 2020 08:41	03 Feb 2020 19:05	10
HS20011249-05	WG-1620-FB13-20200127	27 Jan 2020 12:00		31 Jan 2020 08:41	03 Feb 2020 13:23	1
Batch ID: R355340 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20011249-01	WQ-1620-TB09-20200127	27 Jan 2020 15:00			29 Jan 2020 13:55	1
HS20011249-05	WG-1620-FB13-20200127	27 Jan 2020 12:00			29 Jan 2020 14:18	1
Batch ID: R355399 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20011249-02	WG-1620-MW62B-20200127	27 Jan 2020 09:25			30 Jan 2020 17:20	1
HS20011249-03	WG-1620-MW64A-20200127	27 Jan 2020 11:15			30 Jan 2020 17:44	1
HS20011249-04	WG-1620-MW49B-20200127	27 Jan 2020 13:30			30 Jan 2020 18:07	50

WorkOrder: HS20011249
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000499	0.000400	0.00200

WorkOrder: HS20011249
InstrumentID: SV-6
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.000098	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000051	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000094	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000083	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.000093	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000060	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000031	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000037	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000059	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000050	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000047	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000059	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000050	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000081	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00012	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000060	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000050	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.00011	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000049	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000053	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000049	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00012	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00011	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.0000094	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000049	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000096	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000047	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS20011249
InstrumentID: VOA2
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00062	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00059	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00071	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00063	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00075	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00069	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00044	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00059	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011249

QC BATCH REPORT

Batch ID: 150153 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-150153** Units: **mg/L** Analysis Date: **31-Jan-2020 15:23**
Client ID: Run ID: **ICPMS05_355457** SeqNo: **5456059** PrepDate: **30-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-150153** Units: **mg/L** Analysis Date: **31-Jan-2020 15:25**
Client ID: Run ID: **ICPMS05_355457** SeqNo: **5456060** PrepDate: **30-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04913	0.00200	0.05	0	98.3	80 - 120				

MS Sample ID: **HS20011246-19MS** Units: **mg/L** Analysis Date: **31-Jan-2020 15:32**
Client ID: Run ID: **ICPMS05_355457** SeqNo: **5456063** PrepDate: **30-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05845	0.00200	0.05	0.01101	94.9	80 - 120				

MSD Sample ID: **HS20011246-19MSD** Units: **mg/L** Analysis Date: **31-Jan-2020 15:34**
Client ID: Run ID: **ICPMS05_355457** SeqNo: **5456064** PrepDate: **30-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.06129	0.00200	0.05	0.01101	101	80 - 120	0.05845	4.73	20	

PDS Sample ID: **HS20011246-19PDS** Units: **mg/L** Analysis Date: **31-Jan-2020 15:36**
Client ID: Run ID: **ICPMS05_355457** SeqNo: **5456065** PrepDate: **30-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1101	0.00200	0.1	0.01101	99.1	75 - 125				

SD Sample ID: **HS20011246-19SD** Units: **mg/L** Analysis Date: **31-Jan-2020 15:30**
Client ID: Run ID: **ICPMS05_355457** SeqNo: **5456062** PrepDate: **30-Jan-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.01196	0.0100					0.01101	8.65	10	

The following samples were analyzed in this batch: HS20011249-02 HS20011249-03 HS20011249-04 HS20011249-05

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011249

QC BATCH REPORT

Batch ID: 150187 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-150187** Units: **ug/L** Analysis Date: **03-Feb-2020 10:47**
Client ID: Run ID: **SV-6_355515** SeqNo: **5458500** PrepDate: **31-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*3.568*	*0.20*	*5*	*0*	*71.4*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.784*	*0.20*	*5*	*0*	*95.7*	*40 - 125*				
Surr: 2-Fluorophenol	*3.407*	*0.20*	*5*	*0*	*68.1*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.819*	*0.20*	*5*	*0*	*96.4*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.429*	*0.20*	*5*	*0*	*88.6*	*41 - 120*				
Surr: Phenol-d6	*4.155*	*0.20*	*5*	*0*	*83.1*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011249

QC BATCH REPORT

Batch ID: 150187 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-150187** Units: **ug/L** Analysis Date: **03-Feb-2020 11:06**
Client ID: Run ID: **SV-6_355515** SeqNo: **5458501** PrepDate: **31-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.974	0.20	5	0	99.5	39 - 127				
2,4-Dimethylphenol	4.102	0.20	5	0	82.0	35 - 120				
2,4-Dinitrotoluene	5.156	0.20	5	0	103	50 - 122				
2,6-Dinitrotoluene	5.308	0.20	5	0	106	50 - 120				
2-Chloronaphthalene	4.849	0.20	5	0	97.0	50 - 120				
2-Methylnaphthalene	4.446	0.10	5	0	88.9	50 - 120				
4,6-Dinitro-2-methylphenol	5.753	0.20	5	0	115	25 - 121				
4-Nitrophenol	5.112	1.0	5	0	102	30 - 130				
Acenaphthene	4.544	0.10	5	0	90.9	45 - 120				
Acenaphthylene	4.692	0.10	5	0	93.8	47 - 120				
Anthracene	4.942	0.10	5	0	98.8	45 - 120				
Benz(a)anthracene	4.879	0.10	5	0	97.6	40 - 120				
Benzo(a)pyrene	4.857	0.10	5	0	97.1	45 - 120				
Bis(2-chloroethoxy)methane	4.461	0.20	5	0	89.2	45 - 120				
Bis(2-ethylhexyl)phthalate	5.993	0.20	5	0	120	40 - 139				
Chrysene	4.777	0.10	5	0	95.5	43 - 120				
Dibenzofuran	4.611	0.10	5	0	92.2	50 - 120				
Di-n-butyl phthalate	5.627	0.20	5	0	113	45 - 123				
Fluoranthene	4.764	0.10	5	0	95.3	45 - 125				
Fluorene	4.707	0.10	5	0	94.1	49 - 120				
Naphthalene	4.784	0.10	5	0	95.7	45 - 120				
Nitrobenzene	4.389	0.20	5	0	87.8	44 - 120				
N-Nitrosodiphenylamine	5.269	0.20	5	0	105	40 - 125				
Pentachlorophenol	3.426	0.20	5	0	68.5	19 - 121				
Phenanthrene	4.766	0.10	5	0	95.3	45 - 121				
Phenol	4.401	0.20	5	0	88.0	20 - 124				
Pyrene	4.891	0.10	5	0	97.8	40 - 130				
Surr: 2,4,6-Tribromophenol	*3.879*	*0.20*	*5*	*0*	*77.6*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.775*	*0.20*	*5*	*0*	*95.5*	*40 - 125*				
Surr: 2-Fluorophenol	*4.464*	*0.20*	*5*	*0*	*89.3*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.729*	*0.20*	*5*	*0*	*94.6*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.364*	*0.20*	*5*	*0*	*87.3*	*41 - 120*				
Surr: Phenol-d6	*4.354*	*0.20*	*5*	*0*	*87.1*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011249

QC BATCH REPORT

Batch ID: 150187 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MS Sample ID: **HS20011317-01MS** Units: **ug/L** Analysis Date: **03-Feb-2020 11:44**
Client ID: Run ID: **SV-6_355515** SeqNo: **5458503** PrepDate: **31-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.376	0.20	5	0	87.5	39 - 127				
2,4-Dimethylphenol	2.967	0.20	5	0	59.3	35 - 120				
2,4-Dinitrotoluene	5.103	0.20	5	0	102	50 - 122				
2,6-Dinitrotoluene	4.756	0.20	5	0	95.1	50 - 120				
2-Chloronaphthalene	3.688	0.20	5	0	73.8	50 - 120				
2-Methylnaphthalene	3.335	0.10	5	0	66.7	50 - 120				
4,6-Dinitro-2-methylphenol	6.191	0.20	5	0	124	25 - 121				S
4-Nitrophenol	5.628	1.0	5	0	113	30 - 130				
Acenaphthene	3.612	0.10	5	0	72.2	45 - 120				
Acenaphthylene	3.752	0.10	5	0	75.0	47 - 120				
Anthracene	4.894	0.10	5	0	97.9	45 - 120				
Benz(a)anthracene	5.344	0.10	5	0	107	40 - 120				
Benzo(a)pyrene	5.125	0.10	5	0	102	45 - 120				
Bis(2-chloroethoxy)methane	3.215	0.20	5	0	64.3	45 - 120				
Bis(2-ethylhexyl)phthalate	6.461	0.20	5	0	129	40 - 139				
Chrysene	4.879	0.10	5	0	97.6	43 - 120				
Dibenzofuran	3.829	0.10	5	0	76.6	50 - 120				
Di-n-butyl phthalate	5.862	0.20	5	0	117	45 - 123				
Fluoranthene	4.836	0.10	5	0	96.7	45 - 125				
Fluorene	4.126	0.10	5	0	82.5	49 - 120				
Naphthalene	3.422	0.10	5	0	68.4	45 - 120				
Nitrobenzene	3.178	0.20	5	0	63.6	44 - 120				
N-Nitrosodiphenylamine	5.08	0.20	5	0	102	40 - 125				
Pentachlorophenol	4.285	0.20	5	0	85.7	19 - 121				
Phenanthrene	4.616	0.10	5	0	92.3	45 - 121				
Phenol	3.402	0.20	5	0	68.0	20 - 124				
Pyrene	5.192	0.10	5	0	104	40 - 130				
Surr: 2,4,6-Tribromophenol	*3.916*	*0.20*	*5*	*0*	*78.3*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*3.634*	*0.20*	*5*	*0*	*72.7*	*40 - 125*				
Surr: 2-Fluorophenol	*3.269*	*0.20*	*5*	*0*	*65.4*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.243*	*0.20*	*5*	*0*	*105*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.151*	*0.20*	*5*	*0*	*63.0*	*41 - 120*				
Surr: Phenol-d6	*3.227*	*0.20*	*5*	*0*	*64.5*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011249

QC BATCH REPORT

Batch ID: 150187 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MSD Sample ID: **HS20011317-01MSD** Units: **ug/L** Analysis Date: **03-Feb-2020 12:03**
Client ID: Run ID: **SV-6_355515** SeqNo: **5458504** PrepDate: **31-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.949	0.20	5	0	99.0	39 - 127	4.376	12.3	20	
2,4-Dimethylphenol	3.31	0.20	5	0	66.2	35 - 120	2.967	10.9	20	
2,4-Dinitrotoluene	5.611	0.20	5	0	112	50 - 122	5.103	9.48	20	
2,6-Dinitrotoluene	5.203	0.20	5	0	104	50 - 120	4.756	8.98	20	
2-Chloronaphthalene	4.007	0.20	5	0	80.1	50 - 120	3.688	8.28	20	
2-Methylnaphthalene	3.668	0.10	5	0	73.4	50 - 120	3.335	9.52	20	
4,6-Dinitro-2-methylphenol	6.078	0.20	5	0	122	25 - 121	6.191	1.83	30	S
4-Nitrophenol	5.579	1.0	5	0	112	30 - 130	5.628	0.874	20	
Acenaphthene	4.043	0.10	5	0	80.9	45 - 120	3.612	11.3	20	
Acenaphthylene	4.189	0.10	5	0	83.8	47 - 120	3.752	11	20	
Anthracene	5.189	0.10	5	0	104	45 - 120	4.894	5.85	20	
Benz(a)anthracene	5.317	0.10	5	0	106	40 - 120	5.344	0.514	20	
Benzo(a)pyrene	5.152	0.10	5	0	103	45 - 120	5.125	0.537	20	
Bis(2-chloroethoxy)methane	3.514	0.20	5	0	70.3	45 - 120	3.215	8.88	20	
Bis(2-ethylhexyl)phthalate	6.589	0.20	5	0	132	40 - 139	6.461	1.97	20	
Chrysene	4.918	0.10	5	0	98.4	43 - 120	4.879	0.794	20	
Dibenzofuran	4.316	0.10	5	0	86.3	50 - 120	3.829	12	20	
Di-n-butyl phthalate	6.118	0.20	5	0	122	45 - 123	5.862	4.28	20	
Fluoranthene	5.049	0.10	5	0	101	45 - 125	4.836	4.3	20	
Fluorene	4.612	0.10	5	0	92.2	49 - 120	4.126	11.1	20	
Naphthalene	3.753	0.10	5	0	75.1	45 - 120	3.422	9.23	20	
Nitrobenzene	3.535	0.20	5	0	70.7	44 - 120	3.178	10.6	20	
N-Nitrosodiphenylamine	5.664	0.20	5	0	113	40 - 125	5.08	10.9	20	
Pentachlorophenol	4.308	0.20	5	0	86.2	19 - 121	4.285	0.544	20	
Phenanthrene	5.046	0.10	5	0	101	45 - 121	4.616	8.9	20	
Phenol	3.764	0.20	5	0	75.3	20 - 124	3.402	10.1	20	
Pyrene	5.302	0.10	5	0	106	40 - 130	5.192	2.08	20	
Surr: 2,4,6-Tribromophenol	*4.079*	*0.20*	*5*	*0*	*81.6*	*34 - 129*	*3.916*	*4.06*	*20*	
Surr: 2-Fluorobiphenyl	*3.951*	*0.20*	*5*	*0*	*79.0*	*40 - 125*	*3.634*	*8.37*	*20*	
Surr: 2-Fluorophenol	*3.335*	*0.20*	*5*	*0*	*66.7*	*20 - 120*	*3.269*	*1.99*	*20*	
Surr: 4-Terphenyl-d14	*5.006*	*0.20*	*5*	*0*	*100*	*40 - 135*	*5.243*	*4.61*	*20*	
Surr: Nitrobenzene-d5	*3.487*	*0.20*	*5*	*0*	*69.7*	*41 - 120*	*3.151*	*10.1*	*20*	
Surr: Phenol-d6	*3.341*	*0.20*	*5*	*0*	*66.8*	*20 - 120*	*3.227*	*3.47*	*20*	

The following samples were analyzed in this batch: HS20011249-02 HS20011249-03 HS20011249-04 HS20011249-05

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011249

QC BATCH REPORT

Batch ID: R355340 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200129** Units: **ug/L** Analysis Date: **29-Jan-2020 13:32**
Client ID: Run ID: **VOA2_355340** SeqNo: **5452958** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*48.98*	*1.0*	*50*	*0*	*98.0*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.81*	*1.0*	*50*	*0*	*95.6*	*82 - 115*				
Surr: Dibromofluoromethane	*50.34*	*1.0*	*50*	*0*	*101*	*73 - 126*				
Surr: Toluene-d8	*50.52*	*1.0*	*50*	*0*	*101*	*81 - 120*				

LCS Sample ID: **VLCSW-200129** Units: **ug/L** Analysis Date: **29-Jan-2020 12:45**
Client ID: Run ID: **VOA2_355340** SeqNo: **5452957** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	19.14	1.0	20	0	95.7	70 - 124				
Benzene	18.94	1.0	20	0	94.7	74 - 120				
Chlorobenzene	19.34	1.0	20	0	96.7	76 - 113				
Ethylbenzene	19.56	1.0	20	0	97.8	77 - 117				
Methylene chloride	19.55	2.0	20	0	97.8	70 - 127				
Toluene	21.49	1.0	20	0	107	77 - 118				
Vinyl chloride	25.95	1.0	20	0	130	70 - 130				
Xylenes, Total	59.72	1.0	60	0	99.5	75 - 122				
Surr: 1,2-Dichloroethane-d4	*50.88*	*1.0*	*50*	*0*	*102*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*50.15*	*1.0*	*50*	*0*	*100*	*82 - 115*				
Surr: Dibromofluoromethane	*49.47*	*1.0*	*50*	*0*	*98.9*	*73 - 126*				
Surr: Toluene-d8	*49.73*	*1.0*	*50*	*0*	*99.5*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011249

QC BATCH REPORT

Batch ID: R355340 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20011265-01MS** Units: **ug/L** Analysis Date: **29-Jan-2020 15:29**
Client ID: Run ID: **VOA2_355340** SeqNo: **5452963** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	15.88	1.0	20	0	79.4	70 - 127				
Benzene	16.38	1.0	20	0	81.9	70 - 127				
Chlorobenzene	16.56	1.0	20	0	82.8	70 - 114				
Ethylbenzene	16.93	1.0	20	0	84.7	70 - 124				
Methylene chloride	16.47	2.0	20	0	82.4	70 - 128				
Toluene	18.24	1.0	20	0	91.2	70 - 123				
Vinyl chloride	16.8	1.0	20	0	84.0	70 - 130				
Xylenes, Total	51.65	1.0	60	0	86.1	70 - 130				
Surr: 1,2-Dichloroethane-d4	*50.12*	*1.0*	*50*	*0*	*100*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*49.26*	*1.0*	*50*	*0*	*98.5*	*81 - 113*				
Surr: Dibromofluoromethane	*49.3*	*1.0*	*50*	*0*	*98.6*	*77 - 123*				
Surr: Toluene-d8	*49.51*	*1.0*	*50*	*0*	*99.0*	*82 - 127*				

MSD Sample ID: **HS20011265-01MSD** Units: **ug/L** Analysis Date: **29-Jan-2020 15:52**
Client ID: Run ID: **VOA2_355340** SeqNo: **5452964** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.17	1.0	20	0	80.9	70 - 127	15.88	1.84	20	
Benzene	16.4	1.0	20	0	82.0	70 - 127	16.38	0.119	20	
Chlorobenzene	16.88	1.0	20	0	84.4	70 - 114	16.56	1.96	20	
Ethylbenzene	17.43	1.0	20	0	87.2	70 - 124	16.93	2.9	20	
Methylene chloride	16.38	2.0	20	0	81.9	70 - 128	16.47	0.562	20	
Toluene	18.87	1.0	20	0	94.4	70 - 123	18.24	3.44	20	
Vinyl chloride	16.92	1.0	20	0	84.6	70 - 130	16.8	0.697	20	
Xylenes, Total	52.68	1.0	60	0	87.8	70 - 130	51.65	1.98	20	
Surr: 1,2-Dichloroethane-d4	*50.31*	*1.0*	*50*	*0*	*101*	*70 - 126*	*50.12*	*0.362*	*20*	
Surr: 4-Bromofluorobenzene	*49.67*	*1.0*	*50*	*0*	*99.3*	*81 - 113*	*49.26*	*0.814*	*20*	
Surr: Dibromofluoromethane	*49.1*	*1.0*	*50*	*0*	*98.2*	*77 - 123*	*49.3*	*0.406*	*20*	
Surr: Toluene-d8	*50.69*	*1.0*	*50*	*0*	*101*	*82 - 127*	*49.51*	*2.35*	*20*	

The following samples were analyzed in this batch: HS20011249-01 HS20011249-05

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011249

QC BATCH REPORT

Batch ID: R355399 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200130** Units: **ug/L** Analysis Date: **30-Jan-2020 12:03**
Client ID: Run ID: **VOA2_355399** SeqNo: **5454133** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Vinyl chloride	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*48.05*	*1.0*	*50*	*0*	*96.1*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.69*	*1.0*	*50*	*0*	*95.4*	*82 - 115*				
Surr: Dibromofluoromethane	*49.74*	*1.0*	*50*	*0*	*99.5*	*73 - 126*				
Surr: Toluene-d8	*51.31*	*1.0*	*50*	*0*	*103*	*81 - 120*				

LCS Sample ID: **VLCSW-200130** Units: **ug/L** Analysis Date: **30-Jan-2020 10:53**
Client ID: Run ID: **VOA2_355399** SeqNo: **5454132** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.56	1.0	20	0	92.8	70 - 124				
Benzene	18.33	1.0	20	0	91.7	74 - 120				
Chlorobenzene	18.39	1.0	20	0	91.9	76 - 113				
Ethylbenzene	18.57	1.0	20	0	92.8	77 - 117				
Methylene chloride	19.02	2.0	20	0	95.1	70 - 127				
Toluene	20.59	1.0	20	0	103	77 - 118				
Vinyl chloride	26.92	1.0	20	0	135	70 - 130				S
Xylenes, Total	57.19	1.0	60	0	95.3	75 - 122				
Surr: 1,2-Dichloroethane-d4	*51.23*	*1.0*	*50*	*0*	*102*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*50.05*	*1.0*	*50*	*0*	*100*	*82 - 115*				
Surr: Dibromofluoromethane	*48.85*	*1.0*	*50*	*0*	*97.7*	*73 - 126*				
Surr: Toluene-d8	*49.8*	*1.0*	*50*	*0*	*99.6*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20011249

QC BATCH REPORT

Batch ID: R355399 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20011350-01MS** Units: **ug/L** Analysis Date: **30-Jan-2020 19:20**
Client ID: Run ID: **VOA2_355399** SeqNo: **5456624** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.07	1.0	20	0	85.4	70 - 127				
Benzene	18.93	1.0	20	0	94.6	70 - 127				
Chlorobenzene	17.61	1.0	20	0	88.0	70 - 114				
Ethylbenzene	18.17	1.0	20	0	90.9	70 - 124				
Methylene chloride	17.9	2.0	20	0	89.5	70 - 128				
Toluene	20.39	1.0	20	0	102	70 - 123				
Vinyl chloride	17.48	1.0	20	0	87.4	70 - 130				
Xylenes, Total	54.48	1.0	60	0	90.8	70 - 130				
Surr: 1,2-Dichloroethane-d4	*51.06*	*1.0*	*50*	*0*	*102*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*49.88*	*1.0*	*50*	*0*	*99.8*	*81 - 113*				
Surr: Dibromofluoromethane	*49.67*	*1.0*	*50*	*0*	*99.3*	*77 - 123*				
Surr: Toluene-d8	*50.26*	*1.0*	*50*	*0*	*101*	*82 - 127*				

MSD Sample ID: **HS20011350-01MSD** Units: **ug/L** Analysis Date: **30-Jan-2020 19:43**
Client ID: Run ID: **VOA2_355399** SeqNo: **5456625** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.78	1.0	20	0	83.9	70 - 127	17.07	1.7	20	
Benzene	17.77	1.0	20	0	88.9	70 - 127	18.93	6.29	20	
Chlorobenzene	17.08	1.0	20	0	85.4	70 - 114	17.61	3.01	20	
Ethylbenzene	17.53	1.0	20	0	87.6	70 - 124	18.17	3.61	20	
Methylene chloride	17.33	2.0	20	0	86.6	70 - 128	17.9	3.26	20	
Toluene	19.29	1.0	20	0	96.5	70 - 123	20.39	5.51	20	
Vinyl chloride	16.52	1.0	20	0	82.6	70 - 130	17.48	5.61	20	
Xylenes, Total	52.79	1.0	60	0	88.0	70 - 130	54.48	3.16	20	
Surr: 1,2-Dichloroethane-d4	*50.87*	*1.0*	*50*	*0*	*102*	*70 - 126*	*51.06*	*0.375*	*20*	
Surr: 4-Bromofluorobenzene	*48.96*	*1.0*	*50*	*0*	*97.9*	*81 - 113*	*49.88*	*1.86*	*20*	
Surr: Dibromofluoromethane	*49.49*	*1.0*	*50*	*0*	*99.0*	*77 - 123*	*49.67*	*0.362*	*20*	
Surr: Toluene-d8	*50.5*	*1.0*	*50*	*0*	*101*	*82 - 127*	*50.26*	*0.473*	*20*	

The following samples were analyzed in this batch: HS20011249-02 HS20011249-03 HS20011249-04

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS20011249**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	T104704231-19-25	30-Apr-2020

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20011249

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS20011249-01	WQ-1620-TB09-20200127	Login	1/27/2020 8:50:44 PM	NDR	VOA186
HS20011249-02	WG-1620-MW62B-20200127	Login	1/27/2020 8:50:44 PM	NDR	MET040
HS20011249-02	WG-1620-MW62B-20200127	Login	1/27/2020 8:50:44 PM	NDR	EXT053
HS20011249-02	WG-1620-MW62B-20200127	Login	1/27/2020 8:50:44 PM	NDR	VOA186

Sample Receipt Checklist

Client Name: PBW
Work Order: HS20011249

Date/Time Received: **27-Jan-2020 17:15**
Received by: **TW**

Checklist completed by: *Nilesh D. Ranchod* eSignature — 27-Jan-2020 Date

Reviewed by: *Dane J. Wacasey* eSignature — 29-Jan-2020 Date

Matrices: **Water**

Carrier name: **ALS Courier**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:206379
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	0.6°C UC/C	IR25
Cooler(s)/Kit(s):	45495	
Date/Time sample(s) sent to storage:	01/27/2020 9:20PM	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page _____ of _____

COC ID: 206379

HS20011249

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-07-Rev0 SR 92688
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address	

A: 8260_LL_W (5632528 Volatile Organics Site Specific)
B: 8260_LL_W (5632528 VOC Site Specific + V.C.)
C: 8270_LOW_W (5632532 SemiVolatiles Site specific)
D: ICP_TW (5636002 5652646 Metals - As)
E: Vinyl Chloride
F:
G:
H:
I:
J:

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WQ-1620-TB09-20200127	1-27-20	15:00	Water	1	2		X									
2	WG-1620 MW 62B 20200127	1-27-20	9:25	H2O	1	6	X	X	X	X							
3	WG-1620 MW 64A 20200127	1-27-20	11:15	H2O	1	6	X	X	X	X							
4	WG-1620 MW 49B 20200127	1-27-20	13:30	H2O	1	6	X	X	X	X	X						
5	WG-1620 FB 13 20200127	1-27-20	12:00	H2O	1	6	X	X	X	X							
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Tim McSpadden - MSpadden

Shipment Method:

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other _____

Results Due Date:

Relinquished by: [signature] Date: 1-27-20 Time: 4:20 Received by:

Relinquished by: [signature] Date: 1/27/20 Time: 17:15 Received by (Laboratory):

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
454195	0.6

QC Package: (Check One Box Below)
[ ] Level II Std QC
[ ] Level III Std QC/Raw Data
[ ] Level IV SW846/CLP
[ ] Other
[X] TRRP Checklist
[ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

February 18, 2020

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS20020456**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 4 sample(s) on Feb 11, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20020456**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20020456**	

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/18/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20020456				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 150549,150594,R356238				
#[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				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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 SW-846 Method 5035?			X		
		If required for the project, 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 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				
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			1
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		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		
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				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 02/18/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20020456				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 150549,150594,R356238				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group	LRC Date: 02/18/2020
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS20020456
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 150549,150594,R356238

ER#[5]	Description
1	Batch 150549, Semivolatile Organics Method SW8270, LCS/LCSD were analyzed and reported in lieu of an MS/MSD for this batch.

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20020456

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20020456-01	WQ-1620-TB11-20200211	Water	CG-121719-91	11-Feb-2020 12:00	11-Feb-2020 14:40	☐
HS20020456-02	WG-1620-MW22AR-20200210	Water		10-Feb-2020 10:00	11-Feb-2020 14:40	☐
HS20020456-03	WG-1620-MW22BR-20200210	Water		10-Feb-2020 11:00	11-Feb-2020 14:40	☐
HS20020456-04	WG-1620-FB14-20200210	Water		10-Feb-2020 11:30	11-Feb-2020 14:40	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WQ-1620-TB11-20200211
Collection Date: 11-Feb-2020 12:00

ANALYTICAL REPORT
WorkOrder:HS20020456
Lab ID:HS20020456-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	13-Feb-2020 12:57
Benzene		U	0.00020	0.0010	mg/L	1	13-Feb-2020 12:57
Chlorobenzene		U	0.00030	0.0010	mg/L	1	13-Feb-2020 12:57
Ethylbenzene		U	0.00030	0.0010	mg/L	1	13-Feb-2020 12:57
Methylene chloride		U	0.0010	0.0020	mg/L	1	13-Feb-2020 12:57
Toluene		U	0.00020	0.0010	mg/L	1	13-Feb-2020 12:57
Xylenes, Total		U	0.00030	0.0010	mg/L	1	13-Feb-2020 12:57
Surr: 1,2-Dichloroethane-d4	*99.1*			*70-126*	*%REC*	*1*	*13-Feb-2020 12:57*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*1*	*13-Feb-2020 12:57*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*13-Feb-2020 12:57*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*13-Feb-2020 12:57*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20020456
Sample ID: WG-1620-MW22AR-20200210
Lab ID:HS20020456-02
Collection Date: 10-Feb-2020 10:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	13-Feb-2020 17:37
Benzene		U	0.00020	0.0010	mg/L	1	13-Feb-2020 17:37
Chlorobenzene		U	0.00030	0.0010	mg/L	1	13-Feb-2020 17:37
Ethylbenzene		U	0.00030	0.0010	mg/L	1	13-Feb-2020 17:37
Methylene chloride		U	0.0010	0.0020	mg/L	1	13-Feb-2020 17:37
Toluene		U	0.00020	0.0010	mg/L	1	13-Feb-2020 17:37
Xylenes, Total		U	0.00030	0.0010	mg/L	1	13-Feb-2020 17:37
Surr: 1,2-Dichloroethane-d4	*98.7*			*70-126*	*%REC*	*1*	*13-Feb-2020 17:37*
Surr: 4-Bromofluorobenzene	*99.5*			*81-113*	*%REC*	*1*	*13-Feb-2020 17:37*
Surr: Dibromofluoromethane	*98.7*			*77-123*	*%REC*	*1*	*13-Feb-2020 17:37*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*13-Feb-2020 17:37*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW22AR-20200210
Collection Date: 10-Feb-2020 10:00

ANALYTICAL REPORT
WorkOrder:HS20020456
Lab ID:HS20020456-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 12-Feb-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	12-Feb-2020 16:19
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	12-Feb-2020 16:19
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	12-Feb-2020 16:19
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	12-Feb-2020 16:19
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	12-Feb-2020 16:19
2-Methylnaphthalene	**0.00012**		**0.000019**	**0.00010**	**mg/L**	1	12-Feb-2020 16:19
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	12-Feb-2020 16:19
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	12-Feb-2020 16:19
Acenaphthene	**0.00015**		**0.000027**	**0.00010**	**mg/L**	1	12-Feb-2020 16:19
Acenaphthylene	U		0.000015	0.00010	mg/L	1	12-Feb-2020 16:19
Anthracene	**0.00020**		**0.000014**	**0.00010**	**mg/L**	1	12-Feb-2020 16:19
Benz(a)anthracene	**0.00029**		**0.000050**	**0.00010**	**mg/L**	1	12-Feb-2020 16:19
Benzo(a)pyrene	**0.00010**		**0.000020**	**0.00010**	**mg/L**	1	12-Feb-2020 16:19
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	12-Feb-2020 16:19
Bis(2-ethylhexyl)phthalate	**0.00011**	J	**0.000037**	**0.00020**	**mg/L**	1	12-Feb-2020 16:19
Chrysene	**0.00032**		**0.000021**	**0.00010**	**mg/L**	1	12-Feb-2020 16:19
Dibenzofuran	**0.00015**		**0.000020**	**0.00010**	**mg/L**	1	12-Feb-2020 16:19
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	12-Feb-2020 16:19
Fluoranthene	**0.0015**		**0.000010**	**0.00010**	**mg/L**	1	12-Feb-2020 16:19
Fluorene	**0.00019**		**0.000030**	**0.00010**	**mg/L**	1	12-Feb-2020 16:19
Naphthalene	**0.00044**		**0.000020**	**0.00010**	**mg/L**	1	12-Feb-2020 16:19
Nitrobenzene	U		0.000024	0.00020	mg/L	1	12-Feb-2020 16:19
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	12-Feb-2020 16:19
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	12-Feb-2020 16:19
Phenanthrene	**0.0015**		**0.000021**	**0.00010**	**mg/L**	1	12-Feb-2020 16:19
Phenol	**0.000041**	J	**0.000035**	**0.00020**	**mg/L**	1	12-Feb-2020 16:19
Pyrene	**0.0010**		**0.000019**	**0.00010**	**mg/L**	1	12-Feb-2020 16:19
Surr: 2,4,6-Tribromophenol	*75.2*			*34-129*	*%REC*	*1*	*12-Feb-2020 16:19*
Surr: 2-Fluorobiphenyl	*62.6*			*40-125*	*%REC*	*1*	*12-Feb-2020 16:19*
Surr: 2-Fluorophenol	*46.1*			*20-120*	*%REC*	*1*	*12-Feb-2020 16:19*
Surr: 4-Terphenyl-d14	*92.4*			*40-135*	*%REC*	*1*	*12-Feb-2020 16:19*
Surr: Nitrobenzene-d5	*51.8*			*41-120*	*%REC*	*1*	*12-Feb-2020 16:19*
Surr: Phenol-d6	*51.8*			*20-120*	*%REC*	*1*	*12-Feb-2020 16:19*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Feb-2020		Analyst: JHD
Arsenic	**0.00352**		**0.000400**	**0.00200**	**mg/L**	1	14-Feb-2020 14:31

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20020456
Sample ID: WG-1620-MW22BR-20200210
Lab ID:HS20020456-03
Collection Date: 10-Feb-2020 11:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	13-Feb-2020 17:59
Benzene		U	0.00020	0.0010	mg/L	1	13-Feb-2020 17:59
Chlorobenzene		U	0.00030	0.0010	mg/L	1	13-Feb-2020 17:59
Ethylbenzene		U	0.00030	0.0010	mg/L	1	13-Feb-2020 17:59
Methylene chloride		U	0.0010	0.0020	mg/L	1	13-Feb-2020 17:59
Toluene		U	0.00020	0.0010	mg/L	1	13-Feb-2020 17:59
Xylenes, Total		U	0.00030	0.0010	mg/L	1	13-Feb-2020 17:59
Surr: 1,2-Dichloroethane-d4	*96.8*			*70-126*	*%REC*	*1*	*13-Feb-2020 17:59*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*1*	*13-Feb-2020 17:59*
Surr: Dibromofluoromethane	*99.7*			*77-123*	*%REC*	*1*	*13-Feb-2020 17:59*
Surr: Toluene-d8	*99.1*			*82-127*	*%REC*	*1*	*13-Feb-2020 17:59*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW22BR-20200210
Collection Date: 10-Feb-2020 11:00

ANALYTICAL REPORT
WorkOrder:HS20020456
Lab ID:HS20020456-03
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 12-Feb-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	12-Feb-2020 14:25
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	12-Feb-2020 14:25
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	12-Feb-2020 14:25
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	12-Feb-2020 14:25
2-Chloronaphthalene	**0.00011**	J	**0.000021**	**0.00020**	**mg/L**	1	12-Feb-2020 14:25
2-Methylnaphthalene	**0.000043**	J	**0.000019**	**0.00010**	**mg/L**	1	12-Feb-2020 14:25
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	12-Feb-2020 14:25
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	12-Feb-2020 14:25
Acenaphthene	**0.018**		**0.00014**	**0.00050**	**mg/L**	5	12-Feb-2020 16:38
Acenaphthylene	**0.00018**		**0.000015**	**0.00010**	**mg/L**	1	12-Feb-2020 14:25
Anthracene	**0.00042**		**0.000014**	**0.00010**	**mg/L**	1	12-Feb-2020 14:25
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	12-Feb-2020 14:25
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	12-Feb-2020 14:25
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	12-Feb-2020 14:25
Bis(2-ethylhexyl)phthalate	**0.000075**	J	**0.000037**	**0.00020**	**mg/L**	1	12-Feb-2020 14:25
Chrysene	U		0.000021	0.00010	mg/L	1	12-Feb-2020 14:25
Dibenzofuran	**0.00029**		**0.000020**	**0.00010**	**mg/L**	1	12-Feb-2020 14:25
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	12-Feb-2020 14:25
Fluoranthene	**0.0017**		**0.000010**	**0.00010**	**mg/L**	1	12-Feb-2020 14:25
Fluorene	**0.0026**		**0.000030**	**0.00010**	**mg/L**	1	12-Feb-2020 14:25
Naphthalene	**0.00013**		**0.000020**	**0.00010**	**mg/L**	1	12-Feb-2020 14:25
Nitrobenzene	U		0.000024	0.00020	mg/L	1	12-Feb-2020 14:25
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	12-Feb-2020 14:25
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	12-Feb-2020 14:25
Phenanthrene	**0.00013**		**0.000021**	**0.00010**	**mg/L**	1	12-Feb-2020 14:25
Phenol	U		0.000035	0.00020	mg/L	1	12-Feb-2020 14:25
Pyrene	**0.00082**		**0.000019**	**0.00010**	**mg/L**	1	12-Feb-2020 14:25
Surr: 2,4,6-Tribromophenol	*79.8*			*34-129*	*%REC*	*1*	*12-Feb-2020 14:25*
Surr: 2,4,6-Tribromophenol	*72.7*			*34-129*	*%REC*	*5*	*12-Feb-2020 16:38*
Surr: 2-Fluorobiphenyl	*68.4*			*40-125*	*%REC*	*1*	*12-Feb-2020 14:25*
Surr: 2-Fluorobiphenyl	*71.5*			*40-125*	*%REC*	*5*	*12-Feb-2020 16:38*
Surr: 2-Fluorophenol	*60.6*			*20-120*	*%REC*	*1*	*12-Feb-2020 14:25*
Surr: 2-Fluorophenol	*59.5*			*20-120*	*%REC*	*5*	*12-Feb-2020 16:38*
Surr: 4-Terphenyl-d14	*104*			*40-135*	*%REC*	*1*	*12-Feb-2020 14:25*
Surr: 4-Terphenyl-d14	*102*			*40-135*	*%REC*	*5*	*12-Feb-2020 16:38*
Surr: Nitrobenzene-d5	*59.6*			*41-120*	*%REC*	*1*	*12-Feb-2020 14:25*
Surr: Nitrobenzene-d5	*58.8*			*41-120*	*%REC*	*5*	*12-Feb-2020 16:38*
Surr: Phenol-d6	*59.4*			*20-120*	*%REC*	*1*	*12-Feb-2020 14:25*
Surr: Phenol-d6	*56.5*			*20-120*	*%REC*	*5*	*12-Feb-2020 16:38*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20020456
Sample ID: WG-1620-MW22BR-20200210
Lab ID:HS20020456-03
Collection Date: 10-Feb-2020 11:00
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Feb-2020		Analyst: JHD
Arsenic	**0.0160**		**0.000400**	**0.00200**	**mg/L**	1	14-Feb-2020 14:34

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20020456
Sample ID: WG-1620-FB14-20200210
Lab ID:HS20020456-04
Collection Date: 10-Feb-2020 11:30
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		**Method:SW8260**					Analyst: AKP
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	13-Feb-2020 13:20
Benzene		U	0.00020	0.0010	mg/L	1	13-Feb-2020 13:20
Chlorobenzene		U	0.00030	0.0010	mg/L	1	13-Feb-2020 13:20
Ethylbenzene		U	0.00030	0.0010	mg/L	1	13-Feb-2020 13:20
Methylene chloride		U	0.0010	0.0020	mg/L	1	13-Feb-2020 13:20
Toluene		U	0.00020	0.0010	mg/L	1	13-Feb-2020 13:20
Xylenes, Total		U	0.00030	0.0010	mg/L	1	13-Feb-2020 13:20
Surr: 1,2-Dichloroethane-d4	*96.9*			*70-126*	*%REC*	*1*	*13-Feb-2020 13:20*
Surr: 4-Bromofluorobenzene	*99.6*			*81-113*	*%REC*	*1*	*13-Feb-2020 13:20*
Surr: Dibromofluoromethane	*99.5*			*77-123*	*%REC*	*1*	*13-Feb-2020 13:20*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*13-Feb-2020 13:20*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB14-20200210
Collection Date: 10-Feb-2020 11:30

ANALYTICAL REPORT
WorkOrder:HS20020456
Lab ID:HS20020456-04
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 12-Feb-2020		Analyst: LG
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	12-Feb-2020 14:44
2,4-Dimethylphenol	**0.00095**		**0.000040**	**0.00020**	**mg/L**	1	12-Feb-2020 14:44
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	12-Feb-2020 14:44
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	12-Feb-2020 14:44
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	12-Feb-2020 14:44
2-Methylnaphthalene	**0.00039**		**0.000019**	**0.00010**	**mg/L**	1	12-Feb-2020 14:44
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	12-Feb-2020 14:44
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	12-Feb-2020 14:44
Acenaphthene	**0.00020**		**0.000027**	**0.00010**	**mg/L**	1	12-Feb-2020 14:44
Acenaphthylene	U		0.000015	0.00010	mg/L	1	12-Feb-2020 14:44
Anthracene	U		0.000014	0.00010	mg/L	1	12-Feb-2020 14:44
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	12-Feb-2020 14:44
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	12-Feb-2020 14:44
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	12-Feb-2020 14:44
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	12-Feb-2020 14:44
Chrysene	U		0.000021	0.00010	mg/L	1	12-Feb-2020 14:44
Dibenzofuran	**0.00019**		**0.000020**	**0.00010**	**mg/L**	1	12-Feb-2020 14:44
Di-n-butyl phthalate	**0.000025**	J	**0.000020**	**0.00020**	**mg/L**	1	12-Feb-2020 14:44
Fluoranthene	U		0.000010	0.00010	mg/L	1	12-Feb-2020 14:44
Fluorene	**0.000081**	J	**0.000030**	**0.00010**	**mg/L**	1	12-Feb-2020 14:44
Naphthalene	**0.0034**		**0.000020**	**0.00010**	**mg/L**	1	12-Feb-2020 14:44
Nitrobenzene	U		0.000024	0.00020	mg/L	1	12-Feb-2020 14:44
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	12-Feb-2020 14:44
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	12-Feb-2020 14:44
Phenanthrene	**0.000029**	J	**0.000021**	**0.00010**	**mg/L**	1	12-Feb-2020 14:44
Phenol	**0.00053**		**0.000035**	**0.00020**	**mg/L**	1	12-Feb-2020 14:44
Pyrene	U		0.000019	0.00010	mg/L	1	12-Feb-2020 14:44
Surr: 2,4,6-Tribromophenol	*69.2*			*34-129*	*%REC*	*1*	*12-Feb-2020 14:44*
Surr: 2-Fluorobiphenyl	*96.0*			*40-125*	*%REC*	*1*	*12-Feb-2020 14:44*
Surr: 2-Fluorophenol	*81.2*			*20-120*	*%REC*	*1*	*12-Feb-2020 14:44*
Surr: 4-Terphenyl-d14	*92.6*			*40-135*	*%REC*	*1*	*12-Feb-2020 14:44*
Surr: Nitrobenzene-d5	*85.1*			*41-120*	*%REC*	*1*	*12-Feb-2020 14:44*
Surr: Phenol-d6	*79.4*			*20-120*	*%REC*	*1*	*12-Feb-2020 14:44*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 13-Feb-2020		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	14-Feb-2020 15:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20020456

Batch ID: 150549 **Start Date:** 12 Feb 2020 08:10 **End Date:** 12 Feb 2020 13:30
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20020456-02	1	1000 (mL)	1 (mL)	0.001
HS20020456-03	1	1000 (mL)	1 (mL)	0.001
HS20020456-04	1	1000 (mL)	1 (mL)	0.001

Batch ID: 150594 **Start Date:** 13 Feb 2020 09:00 **End Date:** 13 Feb 2020 13:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20020456-02		10 (mL)	10 (mL)	1
HS20020456-03		10 (mL)	10 (mL)	1
HS20020456-04		10 (mL)	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20020456

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 150549 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS20020456-02	WG-1620-MW22AR-20200210	10 Feb 2020 10:00		12 Feb 2020 08:10	12 Feb 2020 16:19	1
HS20020456-03	WG-1620-MW22BR-20200210	10 Feb 2020 11:00		12 Feb 2020 08:10	12 Feb 2020 16:38	5
HS20020456-03	WG-1620-MW22BR-20200210	10 Feb 2020 11:00		12 Feb 2020 08:10	12 Feb 2020 14:25	1
HS20020456-04	WG-1620-FB14-20200210	10 Feb 2020 11:30		12 Feb 2020 08:10	12 Feb 2020 14:44	1
Batch ID: 150594 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Water	
HS20020456-02	WG-1620-MW22AR-20200210	10 Feb 2020 10:00		13 Feb 2020 13:00	14 Feb 2020 14:31	1
HS20020456-03	WG-1620-MW22BR-20200210	10 Feb 2020 11:00		13 Feb 2020 13:00	14 Feb 2020 14:34	1
HS20020456-04	WG-1620-FB14-20200210	10 Feb 2020 11:30		13 Feb 2020 13:00	14 Feb 2020 15:15	1
Batch ID: R356238 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20020456-01	WQ-1620-TB11-20200211	11 Feb 2020 12:00			13 Feb 2020 12:57	1
HS20020456-02	WG-1620-MW22AR-20200210	10 Feb 2020 10:00			13 Feb 2020 17:37	1
HS20020456-03	WG-1620-MW22BR-20200210	10 Feb 2020 11:00			13 Feb 2020 17:59	1
HS20020456-04	WG-1620-FB14-20200210	10 Feb 2020 11:30			13 Feb 2020 13:20	1

WorkOrder: HS20020456
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000499	0.000400	0.00200

WorkOrder: HS20020456
InstrumentID: SV-6
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.000098	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000051	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000094	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000083	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.000093	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000060	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000031	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000037	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000059	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000050	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000047	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000059	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000050	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000081	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00012	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000060	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000050	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.00011	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000049	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000053	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000049	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00012	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00011	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.0000094	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000049	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000096	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000047	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS20020456
InstrumentID: VOA2
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00062	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00059	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00071	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00063	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00075	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00069	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00059	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20020456

QC BATCH REPORT

Batch ID: 150594 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-150594** Units: **mg/L** Analysis Date: **14-Feb-2020 13:14**
Client ID: Run ID: **ICPMS05_356303** SeqNo: **5474006** PrepDate: **13-Feb-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.00200								

LCS Sample ID: **LCS-150594** Units: **mg/L** Analysis Date: **14-Feb-2020 13:17**
Client ID: Run ID: **ICPMS05_356303** SeqNo: **5474007** PrepDate: **13-Feb-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04604	0.00200	0.05	0	92.1	80 - 120				

MS Sample ID: **HS20020453-01MS** Units: **mg/L** Analysis Date: **14-Feb-2020 13:23**
Client ID: Run ID: **ICPMS05_356303** SeqNo: **5474010** PrepDate: **13-Feb-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0889	0.00200	0.05	0.04209	93.6	80 - 120				

MSD Sample ID: **HS20020453-01MSD** Units: **mg/L** Analysis Date: **14-Feb-2020 13:26**
Client ID: Run ID: **ICPMS05_356303** SeqNo: **5474011** PrepDate: **13-Feb-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.09146	0.00200	0.05	0.04209	98.7	80 - 120	0.0889	2.83	20	

PDS Sample ID: **HS20020453-01PDS** Units: **mg/L** Analysis Date: **14-Feb-2020 13:28**
Client ID: Run ID: **ICPMS05_356303** SeqNo: **5474012** PrepDate: **13-Feb-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1563	0.00200	0.1	0.04209	114	75 - 125				

SD Sample ID: **HS20020453-01SD** Units: **mg/L** Analysis Date: **14-Feb-2020 13:21**
Client ID: Run ID: **ICPMS05_356303** SeqNo: **5474009** PrepDate: **13-Feb-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.04136	0.0100					0.04209	1.73	10	

The following samples were analyzed in this batch: HS20020456-02 HS20020456-03 HS20020456-04

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20020456

QC BATCH REPORT

Batch ID: 150549 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-150549** Units: **ug/L** Analysis Date: **12-Feb-2020 09:58**
Client ID: Run ID: **SV-6_356146** SeqNo: **5470142** PrepDate: **12-Feb-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	U	0.20								
2,4-Dimethylphenol	U	0.20								
2,4-Dinitrotoluene	U	0.20								
2,6-Dinitrotoluene	U	0.20								
2-Chloronaphthalene	U	0.20								
2-Methylnaphthalene	U	0.10								
4,6-Dinitro-2-methylphenol	U	0.20								
4-Nitrophenol	U	1.0								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Benz(a)anthracene	U	0.10								
Benzo(a)pyrene	U	0.10								
Bis(2-chloroethoxy)methane	U	0.20								
Bis(2-ethylhexyl)phthalate	U	0.20								
Chrysene	U	0.10								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Nitrobenzene	U	0.20								
N-Nitrosodiphenylamine	U	0.20								
Pentachlorophenol	U	0.20								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*3.329*	*0.20*	*5*	*0*	*66.6*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.669*	*0.20*	*5*	*0*	*93.4*	*40 - 125*				
Surr: 2-Fluorophenol	*4.4*	*0.20*	*5*	*0*	*88.0*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.725*	*0.20*	*5*	*0*	*94.5*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.118*	*0.20*	*5*	*0*	*82.4*	*41 - 120*				
Surr: Phenol-d6	*3.995*	*0.20*	*5*	*0*	*79.9*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20020456

QC BATCH REPORT

Batch ID: 150549 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-150549** Units: **ug/L** Analysis Date: **12-Feb-2020 10:17**
Client ID: Run ID: **SV-6_356146** SeqNo: **5470143** PrepDate: **12-Feb-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.832	0.20	5	0	96.6	39 - 127				
2,4-Dimethylphenol	4.124	0.20	5	0	82.5	35 - 120				
2,4-Dinitrotoluene	5.313	0.20	5	0	106	50 - 122				
2,6-Dinitrotoluene	5.337	0.20	5	0	107	50 - 120				
2-Chloronaphthalene	4.964	0.20	5	0	99.3	50 - 120				
2-Methylnaphthalene	4.367	0.10	5	0	87.3	50 - 120				
4,6-Dinitro-2-methylphenol	5.848	0.20	5	0	117	25 - 121				
4-Nitrophenol	4.061	1.0	5	0	81.2	30 - 130				
Acenaphthene	4.707	0.10	5	0	94.1	45 - 120				
Acenaphthylene	4.744	0.10	5	0	94.9	47 - 120				
Anthracene	5.024	0.10	5	0	100	45 - 120				
Benz(a)anthracene	4.981	0.10	5	0	99.6	40 - 120				
Benzo(a)pyrene	4.733	0.10	5	0	94.7	45 - 120				
Bis(2-chloroethoxy)methane	4.378	0.20	5	0	87.6	45 - 120				
Bis(2-ethylhexyl)phthalate	6.092	0.20	5	0	122	40 - 139				
Chrysene	4.751	0.10	5	0	95.0	43 - 120				
Dibenzofuran	4.607	0.10	5	0	92.1	50 - 120				
Di-n-butyl phthalate	5.595	0.20	5	0	112	45 - 123				
Fluoranthene	4.741	0.10	5	0	94.8	45 - 125				
Fluorene	4.695	0.10	5	0	93.9	49 - 120				
Naphthalene	4.404	0.10	5	0	88.1	45 - 120				
Nitrobenzene	4.15	0.20	5	0	83.0	44 - 120				
N-Nitrosodiphenylamine	5.326	0.20	5	0	107	40 - 125				
Pentachlorophenol	3.971	0.20	5	0	79.4	19 - 121				
Phenanthrene	4.698	0.10	5	0	94.0	45 - 121				
Phenol	4.283	0.20	5	0	85.7	20 - 124				
Pyrene	5.051	0.10	5	0	101	40 - 130				
Surr: 2,4,6-Tribromophenol	*3.83*	*0.20*	*5*	*0*	*76.6*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.712*	*0.20*	*5*	*0*	*94.2*	*40 - 125*				
Surr: 2-Fluorophenol	*4.272*	*0.20*	*5*	*0*	*85.4*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.806*	*0.20*	*5*	*0*	*96.1*	*40 - 135*				
Surr: Nitrobenzene-d5	*4.018*	*0.20*	*5*	*0*	*80.4*	*41 - 120*				
Surr: Phenol-d6	*4.152*	*0.20*	*5*	*0*	*83.0*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20020456

QC BATCH REPORT

Batch ID: 150549 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-150549** Units: **ug/L** Analysis Date: **12-Feb-2020 10:36**
Client ID: Run ID: **SV-6_356146** SeqNo: **5470144** PrepDate: **12-Feb-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.646	0.20	5	0	92.9	39 - 127	4.832	3.91	20	
2,4-Dimethylphenol	4.085	0.20	5	0	81.7	35 - 120	4.124	0.951	20	
2,4-Dinitrotoluene	4.973	0.20	5	0	99.5	50 - 122	5.313	6.61	20	
2,6-Dinitrotoluene	4.989	0.20	5	0	99.8	50 - 120	5.337	6.73	20	
2-Chloronaphthalene	4.655	0.20	5	0	93.1	50 - 120	4.964	6.43	20	
2-Methylnaphthalene	4.232	0.10	5	0	84.6	50 - 120	4.367	3.13	20	
4,6-Dinitro-2-methylphenol	5.8	0.20	5	0	116	25 - 121	5.848	0.825	30	
4-Nitrophenol	3.845	1.0	5	0	76.9	30 - 130	4.061	5.46	20	
Acenaphthene	4.442	0.10	5	0	88.8	45 - 120	4.707	5.8	20	
Acenaphthylene	4.414	0.10	5	0	88.3	47 - 120	4.744	7.22	20	
Anthracene	4.909	0.10	5	0	98.2	45 - 120	5.024	2.31	20	
Benz(a)anthracene	4.706	0.10	5	0	94.1	40 - 120	4.981	5.69	20	
Benzo(a)pyrene	4.536	0.10	5	0	90.7	45 - 120	4.733	4.26	20	
Bis(2-chloroethoxy)methane	4.276	0.20	5	0	85.5	45 - 120	4.378	2.36	20	
Bis(2-ethylhexyl)phthalate	5.715	0.20	5	0	114	40 - 139	6.092	6.39	20	
Chrysene	4.467	0.10	5	0	89.3	43 - 120	4.751	6.16	20	
Dibenzofuran	4.373	0.10	5	0	87.5	50 - 120	4.607	5.22	20	
Di-n-butyl phthalate	5.419	0.20	5	0	108	45 - 123	5.595	3.2	20	
Fluoranthene	4.584	0.10	5	0	91.7	45 - 125	4.741	3.36	20	
Fluorene	4.429	0.10	5	0	88.6	49 - 120	4.695	5.83	20	
Naphthalene	4.286	0.10	5	0	85.7	45 - 120	4.404	2.72	20	
Nitrobenzene	4.078	0.20	5	0	81.6	44 - 120	4.15	1.75	20	
N-Nitrosodiphenylamine	5.247	0.20	5	0	105	40 - 125	5.326	1.5	20	
Pentachlorophenol	4.014	0.20	5	0	80.3	19 - 121	3.971	1.09	20	
Phenanthrene	4.567	0.10	5	0	91.3	45 - 121	4.698	2.82	20	
Phenol	3.965	0.20	5	0	79.3	20 - 124	4.283	7.71	20	
Pyrene	4.755	0.10	5	0	95.1	40 - 130	5.051	6.03	20	
Surr: 2,4,6-Tribromophenol	*3.716*	*0.20*	*5*	*0*	*74.3*	*34 - 129*	*3.83*	*3.02*	*20*	
Surr: 2-Fluorobiphenyl	*4.416*	*0.20*	*5*	*0*	*88.3*	*40 - 125*	*4.712*	*6.49*	*20*	
Surr: 2-Fluorophenol	*3.948*	*0.20*	*5*	*0*	*79.0*	*20 - 120*	*4.272*	*7.88*	*20*	
Surr: 4-Terphenyl-d14	*4.493*	*0.20*	*5*	*0*	*89.9*	*40 - 135*	*4.806*	*6.74*	*20*	
Surr: Nitrobenzene-d5	*3.853*	*0.20*	*5*	*0*	*77.1*	*41 - 120*	*4.018*	*4.21*	*20*	
Surr: Phenol-d6	*3.79*	*0.20*	*5*	*0*	*75.8*	*20 - 120*	*4.152*	*9.1*	*20*	

The following samples were analyzed in this batch: HS20020456-02 HS20020456-03 HS20020456-04

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20020456

QC BATCH REPORT

Batch ID: R356238 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200213** Units: **ug/L** Analysis Date: **13-Feb-2020 12:34**
Client ID: Run ID: **VOA2_356238** SeqNo: **5472049** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	U	1.0								
Benzene	U	1.0								
Chlorobenzene	U	1.0								
Ethylbenzene	U	1.0								
Methylene chloride	U	2.0								
Toluene	U	1.0								
Xylenes, Total	U	1.0								
Surr: 1,2-Dichloroethane-d4	*49.97*	*1.0*	*50*	*0*	*99.9*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*49.94*	*1.0*	*50*	*0*	*99.9*	*82 - 115*				
Surr: Dibromofluoromethane	*50.41*	*1.0*	*50*	*0*	*101*	*73 - 126*				
Surr: Toluene-d8	*50.56*	*1.0*	*50*	*0*	*101*	*81 - 120*				

LCS Sample ID: **VLCSW-200213** Units: **ug/L** Analysis Date: **13-Feb-2020 11:48**
Client ID: Run ID: **VOA2_356238** SeqNo: **5472048** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.97	1.0	20	0	94.8	70 - 124				
Benzene	18.57	1.0	20	0	92.8	74 - 120				
Chlorobenzene	18.83	1.0	20	0	94.2	76 - 113				
Ethylbenzene	18.94	1.0	20	0	94.7	77 - 117				
Methylene chloride	19.11	2.0	20	0	95.5	70 - 127				
Toluene	20.9	1.0	20	0	104	77 - 118				
Xylenes, Total	57.59	1.0	60	0	96.0	75 - 122				
Surr: 1,2-Dichloroethane-d4	*52.12*	*1.0*	*50*	*0*	*104*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*51.31*	*1.0*	*50*	*0*	*103*	*82 - 115*				
Surr: Dibromofluoromethane	*49.48*	*1.0*	*50*	*0*	*99.0*	*73 - 126*				
Surr: Toluene-d8	*50.03*	*1.0*	*50*	*0*	*100*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20020456

QC BATCH REPORT

Batch ID: R356238 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20020304-21MS** Units: **ug/L** Analysis Date: **13-Feb-2020 14:56**
Client ID: Run ID: **VOA2_356238** SeqNo: **5472137** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.92	1.0	20	0.7205	91.0	70 - 127				
Benzene	18.21	1.0	20	0	91.0	70 - 127				
Chlorobenzene	17.96	1.0	20	0	89.8	70 - 114				
Ethylbenzene	18.68	1.0	20	0	93.4	70 - 124				
Methylene chloride	18.3	2.0	20	0	91.5	70 - 128				
Toluene	20.23	1.0	20	0	101	70 - 123				
Xylenes, Total	56.88	1.0	60	0	94.8	70 - 130				
Surr: 1,2-Dichloroethane-d4	*50.96*	*1.0*	*50*	*0*	*102*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*51.8*	*1.0*	*50*	*0*	*104*	*81 - 113*				
Surr: Dibromofluoromethane	*49.16*	*1.0*	*50*	*0*	*98.3*	*77 - 123*				
Surr: Toluene-d8	*49.49*	*1.0*	*50*	*0*	*99.0*	*82 - 127*				

MSD Sample ID: **HS20020304-21MSD** Units: **ug/L** Analysis Date: **13-Feb-2020 15:19**
Client ID: Run ID: **VOA2_356238** SeqNo: **5472138** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.04	1.0	20	0.7205	86.6	70 - 127	18.92	4.78	20	
Benzene	17.41	1.0	20	0	87.0	70 - 127	18.21	4.5	20	
Chlorobenzene	17.6	1.0	20	0	88.0	70 - 114	17.96	2.02	20	
Ethylbenzene	18.38	1.0	20	0	91.9	70 - 124	18.68	1.63	20	
Methylene chloride	17.76	2.0	20	0	88.8	70 - 128	18.3	2.98	20	
Toluene	19.85	1.0	20	0	99.3	70 - 123	20.23	1.88	20	
Xylenes, Total	55.31	1.0	60	0	92.2	70 - 130	56.88	2.81	20	
Surr: 1,2-Dichloroethane-d4	*50.93*	*1.0*	*50*	*0*	*102*	*70 - 126*	*50.96*	*0.0592*	*20*	
Surr: 4-Bromofluorobenzene	*50.77*	*1.0*	*50*	*0*	*102*	*81 - 113*	*51.8*	*2.01*	*20*	
Surr: Dibromofluoromethane	*49.13*	*1.0*	*50*	*0*	*98.3*	*77 - 123*	*49.16*	*0.0527*	*20*	
Surr: Toluene-d8	*50.25*	*1.0*	*50*	*0*	*100*	*82 - 127*	*49.49*	*1.51*	*20*	

The following samples were analyzed in this batch: HS20020456-01 HS20020456-02 HS20020456-03 HS20020456-04

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS20020456**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	T104704231-19-25	30-Apr-2020

Sample Receipt Checklist

Client Name: PBW
Work Order: HS20020456

Date/Time Received: **11-Feb-2020 14:40**
Received by: **PMG**

Checklist completed by: *Paresh M. Giga* eSignature — 11-Feb-2020 Date

Reviewed by: *Dane J. Wacasey* eSignature — 12-Feb-2020 Date

Matrices: **Water**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:206375
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	0.2°C U/C	IR25
Cooler(s)/Kit(s):	45623	
Date/Time sample(s) sent to storage:	2/11/202018:30	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 206375

HS20020456

Golder Associates Inc.
Houston TX-Wood Preserving Works

IV

Customer Information		Project Information		ALS Project Manager:
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	
Work Order		Project Number	1620-07-Rev0 SR 92688	
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	
Phone	(512) 671-3434	Phone		
Fax	(512) 671-3446	Fax		
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address		

A 8260_LL_W (5632528 Volatile Organics Site Specific)
B 8260_LL_W (5632528 VOC Site Specific + V.C.)
C 8270_LOW_W (5632532 SemiVolatiles Site specific)
D ICP_TW (5636002 5652646 Metals - As)
E
F
G
H
I
J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WQ-1620-TB01-20200211	2-11-2020	12:00	Water	1	2		X									
2	WQ1620MW22AR20200210	2-10-2020	10:00	water	1	6	X		X	X							
3	WQ-1620MW22BR20200210	2-10-2020	11:00	water	1	6	X		X	X							
4	WQ-1620 FB14 20200210	2-10-2020	11:30	water	1	6	X		X	X							
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Tim Spade, Eric Matzner

Shipment Method:

Required Turnaround Time: (Check Box) ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 -hour ☐ Other

Results Due Date:

Relinquished by: Tim Spade — Date: 2-11-2020 — Time: 12:25 — Received by: Blake Sikora

Relinquished by: Blake Sikora — Date: 2-11-20 — Time: 1440 — Received by (Laboratory): 2/11/20 1440

Logged by (Laboratory): — Date: — Time: — Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
43623	0.2 c 4.2 c c/f 0.0 c

QC Package: (Check One Box Below)

☐ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SVM843/CLP
☐ Other
☒ TRRP Checklist
☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

ote:
1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Memorandum

March 10, 2020

To:	Eric Matzner	Ref. No.:	11183954-1620
From:	Chris G. Knight/eew/559-NF	Tel:	512-506-8803
cc:	Jesse Orth, Jon Lang; Julie Lidstone		

Subject: **Data Usability Summary**
Semiannual Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January 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 Semiannual Groundwater Monitoring Event at the Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works site during January 2020. Samples were submitted to ALS Environmental (ALS), located in Houston, Texas and are reported in data package HS20010618. The intended use of the data is to support the Semiannual Groundwater Monitoring 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, field quality assurance/quality control (QA/QC) samples, 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 # TX104704231 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 field blank samples, a field duplicate sample set, and 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 and MS.

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 properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

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.

4.2 Sample Containers

Sample containers used were certified pre-cleaned glass 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.

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 semi-volatile organic compounds (SVOCs) 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. Sample analyzed at elevated sample dilutions (five times or greater) were not assessed.

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 are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The recovery ranges established by the laboratory are adopted as the acceptance criteria for the project.

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

The LCS contained all compounds specified in the method. All LCS recoveries were within the laboratory control limits, demonstrating acceptable analytical accuracy.

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/matrix spike duplicate (MSD) samples. The RPD between the MS and MSD is used to assess analytical precision.

An MS/MSD analysis was performed as specified in Table 1. The recovery ranges established by the laboratory is adopted as the acceptance criteria for the project.

The MS/MSD samples were spiked with all compounds specified in the method. All percent recoveries and the RPD value were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision.

4.8 Field QA/QC Samples

The field QA/QC consisted of two field blank samples and one field duplicate sample set.

Field Blank Sample Analysis

To assess ambient conditions at the site, two field blank samples were submitted for analysis, as identified in Table 1. All results were non-detect for the compounds of interest.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample set was collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than thirty percent for water samples. The RPDs are only used when sample concentrations are above the estimated regions of detection.

Field duplicate summary data are presented in Table 2. All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

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.

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 Semiannual Groundwater Monitoring Event at the site by providing current concentration of chemicals of concern without qualification.

Table 1

Sample Collection and Analysis Summary
Semiannual Groundwater Monitoring Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January 2020

					Analysis/Parameters	
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**SVOCs**	**Comments**
WG-1620-P12-20200113	P-12	Water	01/13/2020	10:30	X	MS/MSD
WG-1620-MW08-20200113	MW-08	Water	01/13/2020	11:30	X	
WG-1620-FB01-20200113	-	Water	01/13/2020	11:30	X	Field Blank
WG-1620-MW07-20200113	MW-07	Water	01/13/2020	13:15	X	
WG-1620-P10-20200113	P-10	Water	01/13/2020	14:20	X	
WG-1620-MW11B-20200114	MW-11B	Water	01/14/2020	09:25	X	
WG-1620-MW11A-20200114	MW-11A	Water	01/14/2020	10:35	X	
WG-1620-MW10B-20200114	MW-10B	Water	01/14/2020	11:35	X	
WG-1620-MW10A-20200114	MW-10A	Water	01/14/2020	12:25	X	
WG-1620-MW02-20200114	MW-02	Water	01/14/2020	13:30	X	
WG-1620-MW01A-20200114	MW-01A	Water	01/14/2020	14:35	X	
WG-1620-FD01-20200114	MW-01A	Water	01/14/2020	14:35	X	Field duplicate of MW-01A
WG-1620-FB02-20200114	-	Water	01/14/2020	15:00	X	Field Blank

Notes:

SVOCs - Semi-volatile Organic Compounds
MS/MSD - Matrix Spike/ Matrix Spike Duplicate
"-" - Not Applicable

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January 2020

Location ID:		MW-01A	MW-01A	MW-02	MW-07
Sample Name:		WG-1620-MW01A-20200114	WG-1620-FD01-20200114	WG-1620-MW02-20200114	WG-1620-MW07-20200113
Sample Date:		01/14/2020	01/14/2020	01/14/2020	01/13/2020
			Duplicate		
Parameters	**Unit**				
Semi-volatile Organic Compounds					
2-Methylnaphthalene	mg/L	0.00019	<0.000019	<0.000019	0.000066 J
Acenaphthene	mg/L	0.024	0.018	0.0030	<0.000027
Acenaphthylene	mg/L	0.00084	0.00066	<0.000015	<0.000015
Anthracene	mg/L	<0.000014	<0.000014	0.00011	<0.000014
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	0.000074 J	<0.000037	<0.000037
Di-n-butylphthalate (DBP)	mg/L	--	--	--	--
Dibenzofuran	mg/L	0.0036	0.0021	0.00039	0.000057 J
Fluoranthene	mg/L	0.0011	0.0012	0.00024	0.00010
Fluorene	mg/L	0.0064	0.0038	0.0017	<0.000030
Naphthalene	mg/L	0.00052	<0.000020	<0.000020	0.00017
Phenanthrene	mg/L	<0.000021	<0.000021	0.00011	0.00014
Phenol	mg/L	--	--	--	--
Pyrene	mg/L	0.00052	0.00059	0.00011	<0.000019

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January 2020

Location ID:		MW-08	MW-10A	MW-10B	MW-11A
Sample Name:		WG-1620-MW08-20200113	WG-1620-MW10A-20200114	WG-1620-MW10B-20200114	WG-1620-MW11A-20200114
Sample Date:		01/13/2020	01/14/2020	01/14/2020	01/14/2020
Parameters	**Unit**				
Semi-volatile Organic Compounds					
2-Methylnaphthalene	mg/L	<0.000019	<0.000019	--	<0.000019
Acenaphthene	mg/L	<0.000027	0.00011	0.069	<0.000027
Acenaphthylene	mg/L	<0.000015	<0.000015	0.00066	<0.000015
Anthracene	mg/L	<0.000014	<0.000014	0.0028	<0.000014
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.00021	<0.000037	0.00020	<0.000037
Di-n-butylphthalate (DBP)	mg/L	--	--	<0.000020	--
Dibenzofuran	mg/L	<0.000020	<0.000020	0.022	<0.000020
Fluoranthene	mg/L	<0.000010	<0.000010	0.0029	<0.000010
Fluorene	mg/L	<0.000030	<0.000030	0.036	<0.000030
Naphthalene	mg/L	<0.000020	<0.000020	0.0021	<0.000020
Phenanthrene	mg/L	0.000046 J	<0.000021	--	<0.000021
Phenol	mg/L	--	--	<0.000035	--
Pyrene	mg/L	<0.000019	<0.000019	0.0013	<0.000019

Table 2

Analytical Results Summary
Semiannual Groundwater Monitoring Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January 2020

Location ID:		**MW-11B**	**P-10**	**P-12**
Sample Name:		**WG-1620-MW11B-20200114**	**WG-1620-P10-20200113**	**WG-1620-P12-20200113**
Sample Date:		**01/14/2020**	**01/13/2020**	**01/13/2020**
Parameters	**Unit**			
Semi-volatile Organic Compounds				
2-Methylnaphthalene	mg/L	--	--	--
Acenaphthene	mg/L	0.033	<0.000027	<0.000027
Acenaphthylene	mg/L	0.0016	<0.000015	<0.000015
Anthracene	mg/L	<0.000014	<0.000014	0.00010
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.000095 J	<0.000037	<0.000037
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	<0.000020	<0.000020	<0.000020
Fluoranthene	mg/L	0.0024	<0.000010	<0.000010
Fluorene	mg/L	0.00035	<0.000030	<0.000030
Naphthalene	mg/L	<0.000020	0.00017	0.00016
Phenanthrene	mg/L	--	--	--
Phenol	mg/L	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	0.0023	<0.000019	0.00063

Notes:

< - Not detected at the associated reporting limit
J - Estimated concentration
"--" - Not applicable

Table 3

Analytical Methods
Semiannual Groundwater Monitoring Event
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
January 2020

			Holding Time	
Parameter	**Method**	**Matrix**	**Collection to Extraction (Days)**	**Extraction to Analysis (Days)**
SVOCs	SW-846 8270D	Water	7	40

Notes:

SVOCs - Semi-volatile Organic Compounds

Method References:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

Attachment A
Laboratory NELAP Certificate

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Drinking Water***

Method EPA 1613

Analyte	AB	Analyte ID	Method ID
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10120408

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Copper	TX	1055	10014605
Lead	TX	1075	10014605

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	TX	1780	10116606

Method EPA 120.1

Analyte	AB	Analyte ID	Method ID
Conductivity	TX	1610	10006403

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	TX	849	10118806

Method EPA 1312

Analyte	AB	Analyte ID	Method ID
SPLP	TX	850	10119003

Method EPA 160.4

Analyte	AB	Analyte ID	Method ID
Residue-volatile	TX	1970	10010409

Method EPA 1613

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	TX	9516	10120408
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	TX	9519	10120408
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	TX	9420	10120408
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	TX	9426	10120408
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	TX	9423	10120408
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	TX	9471	10120408
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	TX	9453	10120408
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	TX	9474	10120408
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	TX	9456	10120408
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	TX	9477	10120408
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	TX	9459	10120408
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	TX	9543	10120408
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	TX	9540	10120408
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	TX	9480	10120408

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	TX	9549	10120408
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	TX	9612	10120408
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10120408
Total Heptachlorodibenzofuran (Total HpCDF)	TX	9444	10120408
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	TX	9438	10120408
Total Hexachlorodibenzofuran (Total HxCDF)	TX	9483	10120408
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	TX	9468	10120408
Total Pentachlorodibenzofuran (Total PeCDF)	TX	9552	10120408
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	TX	9555	10120408
Total Tetrachlorodibenzofuran (Total TCDF)	TX	9615	10120408
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	TX	9609	10120408

Method EPA 1664

Analyte	**AB**	**Analyte ID**	**Method ID**
n-Hexane Extractable Material (HEM) (O&G)	TX	1803	10127807

Method EPA 180.1

Analyte	**AB**	**Analyte ID**	**Method ID**
Turbidity	TX	2055	10011606

Method EPA 200.8

Analyte	**AB**	**Analyte ID**	**Method ID**
Aluminum	TX	1000	10014605
Antimony	TX	1005	10014605
Arsenic	TX	1010	10014605
Barium	TX	1015	10014605
Beryllium	TX	1020	10014605
Boron	TX	1025	10014605
Cadmium	TX	1030	10014605
Calcium	TX	1035	10014605
Chromium	TX	1040	10014605
Cobalt	TX	1050	10014605
Copper	TX	1055	10014605
Iron	TX	1070	10014605

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Lead	TX	1075	10014605
Magnesium	TX	1085	10014605
Manganese	TX	1090	10014605
Molybdenum	TX	1100	10014605
Nickel	TX	1105	10014605
Potassium	TX	1125	10014605
Selenium	TX	1140	10014605
Silver	TX	1150	10014605
Sodium	TX	1155	10014605
Strontium	TX	1160	10014605
Thallium	TX	1165	10014605
Tin	TX	1175	10014605
Titanium	TX	1180	10014605
Uranium	TX	3035	10014605
Vanadium	TX	1185	10014605
Zinc	TX	1190	10014605

Method EPA 245.1

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10036609

Method EPA 300.0

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

Method EPA 325.1

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

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Chloride	TX	1575	10056801

Method EPA 335.1

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	TX	1510	10060001

Method EPA 335.2

Analyte	AB	Analyte ID	Method ID
Total cyanide	TX	1645	10278203

Method EPA 335.4

Analyte	AB	Analyte ID	Method ID
Total cyanide	TX	1645	10061402

Method EPA 350.3

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	10064401

Method EPA 365.3

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	TX	1870	10070801
Phosphorus	TX	1910	10070801

Method EPA 375.4

Analyte	AB	Analyte ID	Method ID
Sulfate	TX	2000	10073800

Method EPA 376.1

Analyte	AB	Analyte ID	Method ID
Sulfide	TX	2005	10074201

Method EPA 410.4

Analyte	AB	Analyte ID	Method ID
Chemical oxygen demand (COD)	TX	1565	10077404

Method EPA 415.1

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	10078407

Method EPA 420.1

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10079400

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 420.4

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10080203

Method EPA 6020

Analyte	AB	Analyte ID	Method ID
Aluminum	TX	1000	10156419
Antimony	TX	1005	10156419
Arsenic	TX	1010	10156419
Barium	TX	1015	10156419
Beryllium	TX	1020	10156419
Boron	TX	1025	10156419
Cadmium	TX	1030	10156419
Calcium	TX	1035	10156419
Chromium	TX	1040	10156419
Cobalt	TX	1050	10156419
Copper	TX	1055	10156419
Iron	TX	1070	10156419
Lead	TX	1075	10156419
Lithium	TX	1080	10156419
Magnesium	TX	1085	10156419
Manganese	TX	1090	10156419
Molybdenum	TX	1100	10156419
Nickel	TX	1105	10156419
Potassium	TX	1125	10156419
Selenium	TX	1140	10156419
Silver	TX	1150	10156419
Sodium	TX	1155	10156419
Strontium	TX	1160	10156419
Thallium	TX	1165	10156419
Tin	TX	1175	10156419
Titanium	TX	1180	10156419

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Vanadium	TX	1185	10156419
Zinc	TX	1190	10156419

Method EPA 608

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	TX	7355	10103603
4,4'-DDE	TX	7360	10103603
4,4'-DDT	TX	7365	10103603
Aldrin	TX	7025	10103603
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10103603
alpha-Chlordane	TX	7240	10103603
Aroclor-1016 (PCB-1016)	TX	8880	10103603
Aroclor-1221 (PCB-1221)	TX	8885	10103603
Aroclor-1232 (PCB-1232)	TX	8890	10103603
Aroclor-1242 (PCB-1242)	TX	8895	10103603
Aroclor-1248 (PCB-1248)	TX	8900	10103603
Aroclor-1254 (PCB-1254)	TX	8905	10103603
Aroclor-1260 (PCB-1260)	TX	8910	10103603
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10103603
Chlordane (tech.)	TX	7250	10103603
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10103603
Dieldrin	TX	7470	10103603
Endosulfan I	TX	7510	10103603
Endosulfan II	TX	7515	10103603
Endosulfan sulfate	TX	7520	10103603
Endrin	TX	7540	10103603
Endrin aldehyde	TX	7530	10103603
Endrin ketone	TX	7535	10103603
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10103603
gamma-Chlordane	TX	7245	10103603
Heptachlor	TX	7685	10103603

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Heptachlor epoxide	TX	7690	10103603
Methoxychlor	TX	7810	10103603
Toxaphene (Chlorinated camphene)	TX	8250	10103603

Method EPA 624

Analyte	AB	Analyte ID	Method ID
1,1,1-Trichloroethane	TX	5160	10107207
1,1,2,2-Tetrachloroethane	TX	5110	10107207
1,1,2-Trichloroethane	TX	5165	10107207
1,1-Dichloroethane	TX	4630	10107207
1,1-Dichloroethylene	TX	4640	10107207
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10107207
1,2-Dichlorobenzene	TX	4610	10107207
1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10107207
1,2-Dichloropropane	TX	4655	10107207
1,3-Dichlorobenzene	TX	4615	10107207
1,4-Dichlorobenzene	TX	4620	10107207
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10107207
2-Chloroethyl vinyl ether	TX	4500	10107207
Acetone (2-Propanone)	TX	4315	10107207
Acrolein (Propenal)	TX	4325	10107207
Acrylonitrile	TX	4340	10107207
Benzene	TX	4375	10107207
Bromodichloromethane	TX	4395	10107207
Bromoform	TX	4400	10107207
Carbon tetrachloride	TX	4455	10107207
Chlorobenzene	TX	4475	10107207
Chlorodibromomethane	TX	4575	10107207
Chloroethane (Ethyl chloride)	TX	4485	10107207
Chloroform	TX	4505	10107207
cis-1,2-Dichloroethylene	TX	4645	10107207

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

cis-1,3-Dichloropropene	TX	4680	10107207
Ethylbenzene	TX	4765	10107207
m+p-xylene	TX	5240	10107207
Methyl bromide (Bromomethane)	TX	4950	10107207
Methyl chloride (Chloromethane)	TX	4960	10107207
Methyl tert-butyl ether (MTBE)	TX	5000	10107207
Methylene chloride (Dichloromethane)	TX	4975	10107207
Naphthalene	TX	5005	10107207
o-Xylene	TX	5250	10107207
Tetrachloroethylene (Perchloroethylene)	TX	5115	10107207
Toluene	TX	5140	10107207
trans-1,2-Dichloroethylene	TX	4700	10107207
trans-1,3-Dichloropropylene	TX	4685	10107207
Trichloroethene (Trichloroethylene)	TX	5170	10107207
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10107207
Vinyl chloride	TX	5235	10107207
Xylene (total)	TX	5260	10107207

Method EPA 625

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,4,5-Tetrachlorobenzene	TX	6715	10107401
1,2,4-Trichlorobenzene	TX	5155	10107401
1,2-Dichlorobenzene	TX	4610	10107401
1,2-Diphenylhydrazine	TX	6220	10107401
1,3-Dichlorobenzene	TX	4615	10107401
1,4-Dichlorobenzene	TX	4620	10107401
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	TX	4659	10107401
2,4,5-Trichlorophenol	TX	6835	10107401
2,4,6-Trichlorophenol	TX	6840	10107401
2,4-Dichlorophenol	TX	6000	10107401
2,4-Dimethylphenol	TX	6130	10107401

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

2,4-Dinitrophenol	TX	6175	10107401
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10107401
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10107401
2-Chloronaphthalene	TX	5795	10107401
2-Chlorophenol	TX	5800	10107401
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	TX	6360	10107401
2-Methylphenol (o-Cresol)	TX	6400	10107401
2-Nitrophenol	TX	6490	10107401
3,3'-Dichlorobenzidine	TX	5945	10107401
4-Bromophenyl phenyl ether (BDE-3)	TX	5660	10107401
4-Chloro-3-methylphenol	TX	5700	10107401
4-Chlorophenyl phenylether	TX	5825	10107401
4-Methylphenol (p-Cresol)	TX	6410	10107401
4-Nitrophenol	TX	6500	10107401
Acenaphthene	TX	5500	10107401
Acenaphthylene	TX	5505	10107401
Anthracene	TX	5555	10107401
Benzidine	TX	5595	10107401
Benzo(a)anthracene	TX	5575	10107401
Benzo(a)pyrene	TX	5580	10107401
Benzo(b)fluoranthene	TX	5585	10107401
Benzo(g,h,i)perylene	TX	5590	10107401
Benzo(k)fluoranthene	TX	5600	10107401
bis(2-Chloroethoxy)methane	TX	5760	10107401
bis(2-Chloroethyl) ether	TX	5765	10107401
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	TX	6065	10107401
Butyl benzyl phthalate	TX	5670	10107401
Chrysene	TX	5855	10107401
Dibenz(a,h) anthracene	TX	5895	10107401
Diethyl phthalate	TX	6070	10107401

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Dimethyl phthalate	TX	6135	10107401
Di-n-butyl phthalate	TX	5925	10107401
Di-n-octyl phthalate	TX	6200	10107401
Fluoranthene	TX	6265	10107401
Fluorene	TX	6270	10107401
Hexachlorobenzene	TX	6275	10107401
Hexachlorobutadiene	TX	4835	10107401
Hexachlorocyclopentadiene	TX	6285	10107401
Hexachloroethane	TX	4840	10107401
Indeno(1,2,3-cd) pyrene	TX	6315	10107401
Isophorone	TX	6320	10107401
Naphthalene	TX	5005	10107401
Nitrobenzene	TX	5015	10107401
n-Nitrosodiethylamine	TX	6525	10107401
n-Nitrosodimethylamine	TX	6530	10107401
n-Nitrosodi-n-butylamine	TX	5025	10107401
n-Nitrosodi-n-propylamine	TX	6545	10107401
n-Nitrosodiphenylamine	TX	6535	10107401
Pentachlorobenzene	TX	6590	10107401
Pentachlorophenol	TX	6605	10107401
Phenanthrene	TX	6615	10107401
Phenol	TX	6625	10107401
Pyrene	TX	6665	10107401
Pyridine	TX	5095	10107401

Method EPA 7196

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	TX	1045	10162206

Method EPA 7470

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10165603

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 8011

Analyte	AB	Analyte ID	Method ID
1,2,3-Trichloropropane	TX	5180	10173009
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10173009
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10173009

Method EPA 8015

Analyte	AB	Analyte ID	Method ID
Diesel range organics (DRO)	TX	9369	10173203
Ethanol	TX	4750	10173203
Ethylene glycol	TX	4785	10173203
Gasoline range organics (GRO)	TX	9408	10173203
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10173203
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10173203
Methanol	TX	4930	10173203
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10173203
n-Propanol (1-Propanol)	TX	5055	10173203
Propylene Glycol	TX	6657	10173203
tert-Butyl alcohol	TX	4420	10173203

Method EPA 8021

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

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	TX	7355	10178402
4,4'-DDE	TX	7360	10178402

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

4,4'-DDT	TX	7365	10178402
Aldrin	TX	7025	10178402
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10178402
alpha-Chlordane	TX	7240	10178402
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10178402
Chlordane (tech.)	TX	7250	10178402
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10178402
Dieldrin	TX	7470	10178402
Endosulfan I	TX	7510	10178402
Endosulfan II	TX	7515	10178402
Endosulfan sulfate	TX	7520	10178402
Endrin	TX	7540	10178402
Endrin aldehyde	TX	7530	10178402
Endrin ketone	TX	7535	10178402
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10178402
gamma-Chlordane	TX	7245	10178402
Heptachlor	TX	7685	10178402
Heptachlor epoxide	TX	7690	10178402
Hexachlorobenzene	TX	6275	10178402
Methoxychlor	TX	7810	10178402
Mirex	TX	7870	10178402
Toxaphene (Chlorinated camphene)	TX	8250	10178402

Method EPA 8082

Analyte	**AB**	**Analyte ID**	**Method ID**
Aroclor-1016 (PCB-1016)	TX	8880	10179201
Aroclor-1221 (PCB-1221)	TX	8885	10179201
Aroclor-1232 (PCB-1232)	TX	8890	10179201
Aroclor-1242 (PCB-1242)	TX	8895	10179201
Aroclor-1248 (PCB-1248)	TX	8900	10179201
Aroclor-1254 (PCB-1254)	TX	8905	10179201

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Aroclor-1260 (PCB-1260)	TX	8910	10179201
PCBs (total)	TX	8870	10179201

Method EPA 8151

Analyte	AB	Analyte ID	Method ID
2,4,5-T	TX	8655	10183003
2,4-D	TX	8545	10183003
2,4-DB	TX	8560	10183003
Dalapon	TX	8555	10183003
Dicamba	TX	8595	10183003
Dichloroprop (Dichlorprop, Weedone)	TX	8605	10183003
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10183003
MCPA	TX	7775	10183003
MCPP	TX	7780	10183003
Silvex (2,4,5-TP)	TX	8650	10183003

Method EPA 8260

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

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10184404
1,2-Dichloropropane	TX	4655	10184404
1,3,5-Trimethylbenzene	TX	5215	10184404
1,3-Dichlorobenzene	TX	4615	10184404
1,3-Dichloropropane	TX	4660	10184404
1,4-Dichlorobenzene	TX	4620	10184404
1,4-Dioxane (1,4-Diethyleneoxide)	TX	4735	10184404
1-Chlorohexane	TX	4510	10184404
1-Propanol	TX	5060	10184404
2,2-Dichloropropane	TX	4665	10184404
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10184404
2-Chloroethyl vinyl ether	TX	4500	10184404
2-Chlorotoluene	TX	4535	10184404
2-Hexanone (MBK)	TX	4860	10184404
2-Pentanone	TX	5045	10184404
4-Chlorotoluene	TX	4540	10184404
4-Isopropyltoluene (p-Cymene)	TX	4915	10184404
4-Methyl-2-pentanone (MIBK)	TX	4995	10184404
Acetone (2-Propanone)	TX	4315	10184404
Acetonitrile	TX	4320	10184404
Acrolein (Propenal)	TX	4325	10184404
Acrylonitrile	TX	4340	10184404
Allyl alcohol	TX	4350	10184404
Allyl chloride (3-Chloropropene)	TX	4355	10184404
Benzene	TX	4375	10184404
Benzyl chloride	TX	5635	10184404
Bromobenzene	TX	4385	10184404
Bromochloromethane	TX	4390	10184404
Bromodichloromethane	TX	4395	10184404
Bromoform	TX	4400	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Carbon disulfide	TX	4450	10184404
Carbon tetrachloride	TX	4455	10184404
Chlorobenzene	TX	4475	10184404
Chlorodibromomethane	TX	4575	10184404
Chloroethane (Ethyl chloride)	TX	4485	10184404
Chloroform	TX	4505	10184404
Chloroprene (2-Chloro-1,3-butadiene)	TX	4525	10184404
cis-1,2-Dichloroethylene	TX	4645	10184404
cis-1,3-Dichloropropene	TX	4680	10184404
Dibromofluoromethane	TX	4590	10184404
Dibromomethane (Methylene bromide)	TX	4595	10184404
Dichlorodifluoromethane (Freon-12)	TX	4625	10184404
Diethyl ether	TX	4725	10184404
Di-isopropylether (DIPE)	TX	9375	10184404
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	TX	4745	10184404
Ethanol	TX	4750	10184404
Ethyl acetate	TX	4755	10184404
Ethyl methacrylate	TX	4810	10184404
Ethylbenzene	TX	4765	10184404
Ethylene oxide	TX	4795	10184404
Ethyl-t-butylether (ETBE) (2-Ethoxy-2-methylpropane)	TX	4770	10184404
Hexachlorobutadiene	TX	4835	10184404
Iodomethane (Methyl iodide)	TX	4870	10184404
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10184404
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10184404
Isopropylbenzene (Cumene)	TX	4900	10184404
m+p-xylene	TX	5240	10184404
Methacrylonitrile	TX	4925	10184404
Methyl acetate	TX	4940	10184404
Methyl acrylate	TX	4945	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Methyl bromide (Bromomethane)	TX	4950	10184404
Methyl chloride (Chloromethane)	TX	4960	10184404
Methyl methacrylate	TX	4990	10184404
Methyl tert-butyl ether (MTBE)	TX	5000	10184404
Methylcyclohexane	TX	4965	10184404
Methylene chloride (Dichloromethane)	TX	4975	10184404
Naphthalene	TX	5005	10184404
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10184404
n-Butylbenzene	TX	4435	10184404
n-Propylbenzene	TX	5090	10184404
o-Xylene	TX	5250	10184404
Pentachloroethane	TX	5035	10184404
Propionitrile (Ethyl cyanide)	TX	5080	10184404
Pyridine	TX	5095	10184404
sec-Butylbenzene	TX	4440	10184404
Styrene	TX	5100	10184404
T-amylmethylether (TAME)	TX	4370	10184404
tert-Butyl alcohol	TX	4420	10184404
tert-Butylbenzene	TX	4445	10184404
Tetrachloroethylene (Perchloroethylene)	TX	5115	10184404
Toluene	TX	5140	10184404
trans-1,2-Dichloroethylene	TX	4700	10184404
trans-1,3-Dichloropropylene	TX	4685	10184404
trans-1,4-Dichloro-2-butene	TX	4605	10184404
Trichloroethene (Trichloroethylene)	TX	5170	10184404
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10184404
Vinyl acetate	TX	5225	10184404
Vinyl chloride	TX	5235	10184404
Xylene (total)	TX	5260	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
1,2,4,5-Tetrachlorobenzene	TX	6715	10185203
1,2,4-Trichlorobenzene	TX	5155	10185203
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10185203
1,2-Dichlorobenzene	TX	4610	10185203
1,2-Dinitrobenzene	TX	6155	10185203
1,2-Diphenylhydrazine	TX	6220	10185203
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10185203
1,3-Dichlorobenzene	TX	4615	10185203
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10185203
1,4-Dichlorobenzene	TX	4620	10185203
1,4-Dinitrobenzene	TX	6165	10185203
1,4-Naphthoquinone	TX	6420	10185203
1,4-Phenylenediamine	TX	6630	10185203
1-Chloronaphthalene	TX	5790	10185203
1-Naphthylamine	TX	6425	10185203
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	TX	4659	10185203
2,3,4,6-Tetrachlorophenol	TX	6735	10185203
2,4,5-Trichlorophenol	TX	6835	10185203
2,4,5-Trimethylaniline	TX	6880	10185203
2,4,6-Trichlorophenol	TX	6840	10185203
2,4-Diaminotoluene	TX	5880	10185203
2,4-Dichlorophenol	TX	6000	10185203
2,4-Dimethylphenol	TX	6130	10185203
2,4-Dinitrophenol	TX	6175	10185203
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10185203
2,6-Dichlorophenol	TX	6005	10185203
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10185203
2-Acetylaminofluorene	TX	5515	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

2-Chloronaphthalene	TX	5795	10185203
2-Chlorophenol	TX	5800	10185203
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	TX	6360	10185203
2-Methylaniline (o-Toluidine)	TX	5145	10185203
2-Methylnaphthalene	TX	6385	10185203
2-Methylphenol (o-Cresol)	TX	6400	10185203
2-Naphthylamine	TX	6430	10185203
2-Nitroaniline	TX	6460	10185203
2-Nitrophenol	TX	6490	10185203
2-Picoline (2-Methylpyridine)	TX	5050	10185203
3,3'-Dichlorobenzidine	TX	5945	10185203
3,3'-Dimethylbenzidine	TX	6120	10185203
3-Methylcholanthrene	TX	6355	10185203
3-Methylphenol (m-Cresol)	TX	6405	10185203
3-Nitroaniline	TX	6465	10185203
4-Aminobiphenyl	TX	5540	10185203
4-Bromophenyl phenyl ether (BDE-3)	TX	5660	10185203
4-Chloro-3-methylphenol	TX	5700	10185203
4-Chloroaniline	TX	5745	10185203
4-Chlorophenyl phenylether	TX	5825	10185203
4-Dimethyl aminoazobenzene	TX	6105	10185203
4-Methylphenol (p-Cresol)	TX	6410	10185203
4-Nitroaniline	TX	6470	10185203
4-Nitrobiphenyl	TX	6480	10185203
4-Nitrophenol	TX	6500	10185203
4-Nitroquinoline-1-oxide	TX	6510	10185203
5-Chloro-2-methylaniline	TX	5695	10185203
5-Nitro-o-toluidine	TX	6570	10185203
7,12-Dimethylbenz(a) anthracene	TX	6115	10185203
a-a-Dimethylphenethylamine	TX	6125	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Acenaphthene	TX	5500	10185203
Acenaphthylene	TX	5505	10185203
Acetophenone	TX	5510	10185203
Aniline	TX	5545	10185203
Anthracene	TX	5555	10185203
Aramite	TX	5560	10185203
Atrazine	TX	7065	10185203
Azinphos-methyl (Guthion)	TX	7075	10185203
Azobenzene	TX	5562	10185203
Benzenethiol (Thiophenol)	TX	6750	10185203
Benzidine	TX	5595	10185203
Benzo(a)anthracene	TX	5575	10185203
Benzo(a)pyrene	TX	5580	10185203
Benzo(b)fluoranthene	TX	5585	10185203
Benzo(e)pyrene	TX	5605	10185203
Benzo(g,h,i)perylene	TX	5590	10185203
Benzo(k)fluoranthene	TX	5600	10185203
Benzoic acid	TX	5610	10185203
Benzyl alcohol	TX	5630	10185203
Biphenyl	TX	5640	10185203
bis(2-Chloroethoxy)methane	TX	5760	10185203
bis(2-Chloroethyl) ether	TX	5765	10185203
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	TX	6065	10185203
Butyl benzyl phthalate	TX	5670	10185203
Caprolactam	TX	7180	10185203
Captan	TX	7190	10185203
Carbaryl (Sevin)	TX	7195	10185203
Carbazole	TX	5680	10185203
Carbophenothion	TX	7220	10185203
Chlorobenzilate	TX	7260	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Chrysene	TX	5855	10185203
Coumaphos	TX	7315	10185203
Demeton	TX	7390	10185203
Demeton	TX	7390	10185203
Demeton-o	TX	7395	10185203
Demeton-s	TX	7385	10185203
Diallate	TX	7405	10185203
Dibenz(a,h) anthracene	TX	5895	10185203
Dibenz(a,j) acridine	TX	5900	10185203
Dibenzofuran	TX	5905	10185203
Dichlorovos (DDVP, Dichlorvos)	TX	8610	10185203
Diethyl phthalate	TX	6070	10185203
Dimethoate	TX	7475	10185203
Dimethoate	TX	7475	10185203
Dimethyl phthalate	TX	6135	10185203
Di-n-butyl phthalate	TX	5925	10185203
Di-n-octyl phthalate	TX	6200	10185203
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10185203
Dioxathion	TX	7495	10185203
Diphenylamine	TX	6205	10185203
Disulfoton	TX	8625	10185203
Ethion	TX	7565	10185203
Ethyl methanesulfonate	TX	6260	10185203
Famphur	TX	7580	10185203
Fluoranthene	TX	6265	10185203
Fluorene	TX	6270	10185203
Hexachlorobenzene	TX	6275	10185203
Hexachlorobutadiene	TX	4835	10185203
Hexachlorocyclopentadiene	TX	6285	10185203
Hexachloroethane	TX	4840	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Hexachlorophene	TX	6290	10185203
Hexachloropropene	TX	6295	10185203
Indeno(1,2,3-cd) pyrene	TX	6315	10185203
Isodrin	TX	7725	10185203
Isophorone	TX	6320	10185203
Isosafrole	TX	6325	10185203
Kepone	TX	7740	10185203
Maleic anhydride	TX	6335	10185203
Methapyrilene	TX	6345	10185203
Methyl methanesulfonate	TX	6375	10185203
Methyl parathion (Parathion, methyl)	TX	7825	10185203
Mevinphos	TX	7850	10185203
Naled	TX	7905	10185203
Naphthalene	TX	5005	10185203
Nitrobenzene	TX	5015	10185203
n-Nitrosodiethylamine	TX	6525	10185203
n-Nitrosodimethylamine	TX	6530	10185203
n-Nitrosodi-n-butylamine	TX	5025	10185203
n-Nitrosodi-n-propylamine	TX	6545	10185203
n-Nitrosodiphenylamine	TX	6535	10185203
n-Nitrosomethylethylamine	TX	6550	10185203
n-Nitrosomorpholine	TX	6555	10185203
n-Nitrosopiperidine	TX	6560	10185203
n-Nitrosopyrrolidine	TX	6565	10185203
o,o,o-Triethyl phosphorothioate	TX	8290	10185203
o-Anisidine	TX	5550	10185203
Parathion, ethyl	TX	7955	10185203
p-Cresidine	TX	5860	10185203
Pentachlorobenzene	TX	6590	10185203
Pentachloronitrobenzene (PCNB)	TX	6600	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Pentachlorophenol	TX	6605	10185203
Phenacetin	TX	6610	10185203
Phenanthrene	TX	6615	10185203
Phenol	TX	6625	10185203
Phorate	TX	7985	10185203
Phosmet (Imidan)	TX	8000	10185203
Phthalic anhydride	TX	6640	10185203
Pronamide (Kerb)	TX	6650	10185203
Pyrene	TX	6665	10185203
Pyridine	TX	5095	10185203
Quinoline	TX	6670	10185203
Resorcinol	TX	6680	10185203
Safrole	TX	6685	10185203
Sulfotepp	TX	8155	10185203
Terbufos	TX	8185	10185203
Tetrachlorvinphos (Stirophos, Gardona)	TX	8197	10185203
Thionazin (Zinophos)	TX	8235	10185203
Toluene diisocyanate	TX	6775	10185203
Trifluralin (Treflan)	TX	8295	10185203

Method EPA 8290

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	TX	9516	10187209
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	TX	9519	10187209
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	TX	9420	10187209
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	TX	9426	10187209
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	TX	9423	10187209
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	TX	9471	10187209
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	TX	9453	10187209
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	TX	9474	10187209
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	TX	9456	10187209

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	TX	9477	10187209
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	TX	9459	10187209
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	TX	9543	10187209
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	TX	9540	10187209
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	TX	9480	10187209
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	TX	9549	10187209
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	TX	9612	10187209
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10187209
Total Heptachlorodibenzofuran (Total HpCDF)	TX	9444	10187209
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	TX	9438	10187209
Total Hexachlorodibenzofuran (Total HxCDF)	TX	9483	10187209
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	TX	9468	10187209
Total Pentachlorodibenzofuran (Total PeCDF)	TX	9552	10187209
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	TX	9555	10187209
Total Tetrachlorodibenzofuran (Total TCDF)	TX	9615	10187209
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	TX	9609	10187209

Method EPA 8316

Analyte	**AB**	**Analyte ID**	**Method ID**
Acrylamide	TX	4330	10188202

Method EPA 8330

Analyte	**AB**	**Analyte ID**	**Method ID**
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10189807
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10189807
2,4,6-Trinitrotoluene (2,4,6-TNT)	TX	9651	10189807
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10189807
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10189807
2-Amino-4,6-dinitrotoluene (2-am-dnt)	TX	9303	10189807
2-Nitrotoluene	TX	9507	10189807
3-Nitrotoluene	TX	9510	10189807
4-Amino-2,6-dinitrotoluene (4-am-dnt)	TX	9306	10189807
4-Nitrotoluene	TX	9513	10189807

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Methyl-2,4,6-trinitrophenylnitramine (tetryl)	TX	6415	10189807
Nitrobenzene	TX	5015	10189807
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	TX	9522	10189807
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	TX	9432	10189807

Method EPA 9014

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	TX	1510	10193803
Total cyanide	TX	1645	10193803

Method EPA 9038

Analyte	**AB**	**Analyte ID**	**Method ID**
Sulfate	TX	2000	10196608

Method EPA 9040

Analyte	**AB**	**Analyte ID**	**Method ID**
pH	TX	1900	10196802

Method EPA 9050

Analyte	**AB**	**Analyte ID**	**Method ID**
Conductivity	TX	1610	10198604

Method EPA 9056

Analyte	**AB**	**Analyte ID**	**Method ID**
Bromide	TX	1540	10199209
Chloride	TX	1575	10199209
Fluoride	TX	1730	10199209
Nitrate as N	TX	1810	10199209
Nitrate-nitrite	TX	1820	10199209
Nitrite as N	TX	1840	10199209
Orthophosphate as P	TX	1870	10199209
Sulfate	TX	2000	10199209

Method EPA 9060

Analyte	**AB**	**Analyte ID**	**Method ID**
Total Organic Carbon (TOC)	TX	2040	10200201

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 9065

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10200405

Method EPA 9066

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10200609

Method EPA 9250

Analyte	AB	Analyte ID	Method ID
Chloride	TX	1575	10207202

Method EPA RSK 175

Analyte	AB	Analyte ID	Method ID
2-methylpropane (Isobutane)	TX	4942	10212905
Ethane	TX	4747	10212905
Ethene	TX	4752	10212905
Methane	TX	4926	10212905
n-Butane	TX	5007	10212905
n-Propane	TX	5029	10212905

Method HACH 8000

Analyte	AB	Analyte ID	Method ID
Chemical oxygen demand (COD)	TX	1565	60003001

Method SM 2120 B

Analyte	AB	Analyte ID	Method ID
Color	TX	1605	20223807

Method SM 2310 B (4a)

Analyte	AB	Analyte ID	Method ID
Acidity, as CaCO3	TX	1500	20002806

Method SM 2320 B

Analyte	AB	Analyte ID	Method ID
Alkalinity as CaCO3	TX	1505	20045005

Method SM 2340 B

Analyte	AB	Analyte ID	Method ID

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Total hardness as CaCO3	TX	1755	20046008

Method SM 2510 B

Analyte	**AB**	**Analyte ID**	**Method ID**
Conductivity	TX	1610	20048004

Method SM 2540 B

Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-total (total solids)	TX	1950	20004608

Method SM 2540 C

Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-filterable (TDS)	TX	1955	20049803

Method SM 2540 D

Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-nonfilterable (TSS)	TX	1960	20004802

Method SM 3500-Cr B

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	TX	1045	20065809

Method SM 4500-Cl F

Analyte	**AB**	**Analyte ID**	**Method ID**
Total residual chlorine	TX	1940	20080482

Method SM 4500-Cl^- E

Analyte	**AB**	**Analyte ID**	**Method ID**
Chloride	TX	1575	20019209

Method SM 4500-CN^- C

Analyte	**AB**	**Analyte ID**	**Method ID**
Total cyanide	TX	1645	20020808

Method SM 4500-CN^- E

Analyte	**AB**	**Analyte ID**	**Method ID**
Total cyanide	TX	1645	20021209

Method SM 4500-CN^- G

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	TX	1510	20021607

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method SM 4500-H+ B

Analyte	AB	Analyte ID	Method ID
pH	TX	1900	20104603

Method SM 4500-NH3 D

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	20108809
Kjeldahl Nitrogen (Total Kjeldahl Nitrogen-TKN)	TX	1790	20108809

Method SM 4500-NH3 F

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	20023001

Method SM 4500-O G

Analyte	AB	Analyte ID	Method ID
Oxygen, dissolved	TX	1880	20025405

Method SM 4500-P E

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	TX	1870	20025803
Phosphorus	TX	1910	20025803

Method SM 4500-$S2^{-}$ F

Analyte	AB	Analyte ID	Method ID
Sulfide	TX	2005	20126209

Method SM 4500-SiO2 D

Analyte	AB	Analyte ID	Method ID
Silica as SiO2	TX	1990	20127202

Method SM 4500-$SO3^{-}$ B

Analyte	AB	Analyte ID	Method ID
Sulfite	TX	2015	20026806

Method SM 5210 B

Analyte	AB	Analyte ID	Method ID
Biochemical oxygen demand (BOD)	TX	1530	20027401
Carbonaceous BOD, CBOD	TX	1555	20027401

Method SM 5310 B

Analyte	AB	Analyte ID	Method ID

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Total Organic Carbon (TOC)	TX	2040	20137206

Method SM 5310 C

Analyte	**AB**	**Analyte ID**	**Method ID**
Total Organic Carbon (TOC)	TX	2040	20138209

Method SM 5540 C

Analyte	**AB**	**Analyte ID**	**Method ID**
Surfactants - MBAS	TX	2025	20144405

Method TCEQ 1005

Analyte	**AB**	**Analyte ID**	**Method ID**
Total Petroleum Hydrocarbons (TPH)	TX	2050	90019208

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Method ASTM D2216

Analyte	AB	Analyte ID	Method ID
Moisture	TX	10337	ASTM D2216-05

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	TX	1780	10116606

Method EPA 1030

Analyte	AB	Analyte ID	Method ID
Ignitability	TX	1780	10117201

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	TX	849	10118806

Method EPA 1312

Analyte	AB	Analyte ID	Method ID
SPLP	TX	850	10119003

Method EPA 1668

Analyte	AB	Analyte ID	Method ID
Decachlorobiphenyls	TX	10332	10262007
Dichlorobiphenyls	TX	464	10262007
Heptachlorobiphenyls	TX	486	10262007
Hexachlorobiphenyls	TX	487	10262007
Monochlorobiphenyls	TX	501	10262007
Nonachlorobiphenyls	TX	507	10262007
Octachlorobiphenyls	TX	508	10262007
Pentachlorobiphenyls	TX	515	10262007
Tetrachlorobiphenyls	TX	528	10262007
Trichlorobiphenyls	TX	541	10262007

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Uranium	TX	3035	10014605

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Method EPA 300.0

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

Method EPA 310.1

Analyte	AB	Analyte ID	Method ID
Alkalinity as CaCO3	TX	1505	10054805

Method EPA 350.3

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	10064401

Method EPA 365.3

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	TX	1870	10070801
Phosphorus	TX	1910	10070801

Method EPA 6020

Analyte	AB	Analyte ID	Method ID
Aluminum	TX	1000	10156204
Antimony	TX	1005	10156204
Arsenic	TX	1010	10156204
Barium	TX	1015	10156204
Beryllium	TX	1020	10156204
Boron	TX	1025	10156204
Cadmium	TX	1030	10156204
Calcium	TX	1035	10156204
Chromium	TX	1040	10156204

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Cobalt	TX	1050	10156204
Copper	TX	1055	10156204
Iron	TX	1070	10156204
Lead	TX	1075	10156204
Lithium	TX	1080	10156204
Magnesium	TX	1085	10156204
Manganese	TX	1090	10156204
Molybdenum	TX	1100	10156204
Nickel	TX	1105	10156204
Potassium	TX	1125	10156204
Selenium	TX	1140	10156204
Silver	TX	1150	10156204
Sodium	TX	1155	10156204
Strontium	TX	1160	10156204
Thallium	TX	1165	10156204
Tin	TX	1175	10156204
Titanium	TX	1180	10156204
Vanadium	TX	1185	10156204
Zinc	TX	1190	10156204

Method EPA 7196

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	TX	1045	10162206

Method EPA 7470

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10165603

Method EPA 7471

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10166004

Method EPA 8015

Analyte	**AB**	**Analyte ID**	**Method ID**
Diesel range organics (DRO)	TX	9369	10173203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Ethanol	TX	4750	10173203
Ethylene glycol	TX	4785	10173203
Gasoline range organics (GRO)	TX	9408	10173203
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10173203
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10173203
Methanol	TX	4930	10173203
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10173203
n-Propanol (1-Propanol)	TX	5055	10173203
Propylene Glycol	TX	6657	10173203
tert-Butyl alcohol	TX	4420	10173203

Method EPA 8021

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

Method EPA 8081

Analyte	**AB**	**Analyte ID**	**Method ID**
4,4'-DDD	TX	7355	10178402
4,4'-DDE	TX	7360	10178402
4,4'-DDT	TX	7365	10178402
Aldrin	TX	7025	10178402
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10178402
alpha-Chlordane	TX	7240	10178402
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10178402
Chlordane (tech.)	TX	7250	10178402
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10178402
Dieldrin	TX	7470	10178402

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Endosulfan I	TX	7510	10178402
Endosulfan II	TX	7515	10178402
Endosulfan sulfate	TX	7520	10178402
Endrin	TX	7540	10178402
Endrin aldehyde	TX	7530	10178402
Endrin ketone	TX	7535	10178402
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10178402
gamma-Chlordane	TX	7245	10178402
Heptachlor	TX	7685	10178402
Heptachlor epoxide	TX	7690	10178402
Methoxychlor	TX	7810	10178402
Mirex	TX	7870	10178402
Toxaphene (Chlorinated camphene)	TX	8250	10178402

Method EPA 8082

Analyte	**AB**	**Analyte ID**	**Method ID**
Aroclor-1016 (PCB-1016)	TX	8880	10179201
Aroclor-1221 (PCB-1221)	TX	8885	10179201
Aroclor-1232 (PCB-1232)	TX	8890	10179201
Aroclor-1242 (PCB-1242)	TX	8895	10179201
Aroclor-1248 (PCB-1248)	TX	8900	10179201
Aroclor-1254 (PCB-1254)	TX	8905	10179201
Aroclor-1260 (PCB-1260)	TX	8910	10179201
PCBs (total)	TX	8870	10179201

Method EPA 8260

Analyte	**AB**	**Analyte ID**	**Method ID**
1,1,1,2-Tetrachloroethane	TX	5105	10184404
1,1,1-Trichloroethane	TX	5160	10184404
1,1,2,2-Tetrachloroethane	TX	5110	10184404
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	TX	5195	10184404
1,1,2-Trichloroethane	TX	5165	10184404
1,1-Dichloroethane	TX	4630	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

1,1-Dichloroethylene	TX	4640	10184404
1,1-Dichloropropene	TX	4670	10184404
1,2,3-Trichlorobenzene	TX	5150	10184404
1,2,3-Trichloropropane	TX	5180	10184404
1,2,4-Trichlorobenzene	TX	5155	10184404
1,2,4-Trimethylbenzene	TX	5210	10184404
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10184404
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10184404
1,2-Dichlorobenzene	TX	4610	10184404
1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10184404
1,2-Dichloropropane	TX	4655	10184404
1,3,5-Trimethylbenzene	TX	5215	10184404
1,3-Dichlorobenzene	TX	4615	10184404
1,3-Dichloropropane	TX	4660	10184404
1,4-Dichlorobenzene	TX	4620	10184404
1,4-Dioxane (1,4-Diethyleneoxide)	TX	4735	10184404
1-Chlorohexane	TX	4510	10184404
1-Propanol	TX	5060	10184404
2,2-Dichloropropane	TX	4665	10184404
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10184404
2-Chloroethyl vinyl ether	TX	4500	10184404
2-Chlorotoluene	TX	4535	10184404
2-Hexanone (MBK)	TX	4860	10184404
4-Chlorotoluene	TX	4540	10184404
4-Isopropyltoluene (p-Cymene)	TX	4915	10184404
4-Methyl-2-pentanone (MIBK)	TX	4995	10184404
Acetone (2-Propanone)	TX	4315	10184404
Acetonitrile	TX	4320	10184404
Acrolein (Propenal)	TX	4325	10184404
Acrylonitrile	TX	4340	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Allyl chloride (3-Chloropropene)	TX	4355	10184404
Benzene	TX	4375	10184404
Benzyl chloride	TX	5635	10184404
Bromobenzene	TX	4385	10184404
Bromochloromethane	TX	4390	10184404
Bromodichloromethane	TX	4395	10184404
Bromoform	TX	4400	10184404
Carbon disulfide	TX	4450	10184404
Carbon tetrachloride	TX	4455	10184404
Chlorobenzene	TX	4475	10184404
Chlorodibromomethane	TX	4575	10184404
Chloroethane (Ethyl chloride)	TX	4485	10184404
Chloroform	TX	4505	10184404
Chloroprene (2-Chloro-1,3-butadiene)	TX	4525	10184404
cis-1,2-Dichloroethylene	TX	4645	10184404
cis-1,3-Dichloropropene	TX	4680	10184404
Dibromofluoromethane	TX	4590	10184404
Dibromomethane (Methylene bromide)	TX	4595	10184404
Dichlorodifluoromethane (Freon-12)	TX	4625	10184404
Diethyl ether	TX	4725	10184404
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	TX	4745	10184404
Ethanol	TX	4750	10184404
Ethyl acetate	TX	4755	10184404
Ethyl methacrylate	TX	4810	10184404
Ethylbenzene	TX	4765	10184404
Ethylene oxide	TX	4795	10184404
Hexachlorobutadiene	TX	4835	10184404
Iodomethane (Methyl iodide)	TX	4870	10184404
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10184404
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Isopropylbenzene (Cumene)	TX	4900	10184404
m+p-xylene	TX	5240	10184404
Methacrylonitrile	TX	4925	10184404
Methyl acetate	TX	4940	10184404
Methyl acrylate	TX	4945	10184404
Methyl bromide (Bromomethane)	TX	4950	10184404
Methyl chloride (Chloromethane)	TX	4960	10184404
Methyl methacrylate	TX	4990	10184404
Methyl tert-butyl ether (MTBE)	TX	5000	10184404
Methylcyclohexane	TX	4965	10184404
Methylene chloride (Dichloromethane)	TX	4975	10184404
Naphthalene	TX	5005	10184404
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10184404
n-Butylbenzene	TX	4435	10184404
n-Propylbenzene	TX	5090	10184404
o-Xylene	TX	5250	10184404
Pentachloroethane	TX	5035	10184404
Propionitrile (Ethyl cyanide)	TX	5080	10184404
Pyridine	TX	5095	10184404
sec-Butylbenzene	TX	4440	10184404
Styrene	TX	5100	10184404
tert-Butyl alcohol	TX	4420	10184404
tert-Butylbenzene	TX	4445	10184404
Tetrachloroethylene (Perchloroethylene)	TX	5115	10184404
Toluene	TX	5140	10184404
trans-1,2-Dichloroethylene	TX	4700	10184404
trans-1,3-Dichloropropylene	TX	4685	10184404
trans-1,4-Dichloro-2-butene	TX	4605	10184404
Trichloroethene (Trichloroethylene)	TX	5170	10184404
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Vinyl acetate	TX	5225	10184404
Vinyl chloride	TX	5235	10184404
Xylene (total)	TX	5260	10184404

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
1,2,4,5-Tetrachlorobenzene	TX	6715	10185203
1,2,4-Trichlorobenzene	TX	5155	10185203
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10185203
1,2-Dichlorobenzene	TX	4610	10185203
1,2-Dinitrobenzene	TX	6155	10185203
1,2-Diphenylhydrazine	TX	6220	10185203
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10185203
1,3-Dichlorobenzene	TX	4615	10185203
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10185203
1,4-Dichlorobenzene	TX	4620	10185203
1,4-Dinitrobenzene	TX	6165	10185203
1,4-Naphthoquinone	TX	6420	10185203
1,4-Phenylenediamine	TX	6630	10185203
1-Chloronaphthalene	TX	5790	10185203
1-Naphthylamine	TX	6425	10185203
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	TX	4659	10185203
2,3,4,6-Tetrachlorophenol	TX	6735	10185203
2,4,5-Trichlorophenol	TX	6835	10185203
2,4,5-Trimethylaniline	TX	6880	10185203
2,4,6-Trichlorophenol	TX	6840	10185203
2,4-Diaminotoluene	TX	5880	10185203
2,4-Dichlorophenol	TX	6000	10185203
2,4-Dimethylphenol	TX	6130	10185203
2,4-Dinitrophenol	TX	6175	10185203
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

2,6-Dichlorophenol	TX	6005	10185203
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10185203
2-Acetylaminofluorene	TX	5515	10185203
2-Chloronaphthalene	TX	5795	10185203
2-Chlorophenol	TX	5800	10185203
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	TX	6360	10185203
2-Methylaniline (o-Toluidine)	TX	5145	10185203
2-Methylnaphthalene	TX	6385	10185203
2-Methylphenol (o-Cresol)	TX	6400	10185203
2-Naphthylamine	TX	6430	10185203
2-Nitroaniline	TX	6460	10185203
2-Nitrophenol	TX	6490	10185203
2-Picoline (2-Methylpyridine)	TX	5050	10185203
3,3'-Dichlorobenzidine	TX	5945	10185203
3,3'-Dimethylbenzidine	TX	6120	10185203
3-Methylcholanthrene	TX	6355	10185203
3-Methylphenol (m-Cresol)	TX	6405	10185203
3-Nitroaniline	TX	6465	10185203
4-Aminobiphenyl	TX	5540	10185203
4-Bromophenyl phenyl ether (BDE-3)	TX	5660	10185203
4-Chloro-3-methylphenol	TX	5700	10185203
4-Chloroaniline	TX	5745	10185203
4-Chlorophenyl phenylether	TX	5825	10185203
4-Methylphenol (p-Cresol)	TX	6410	10185203
4-Nitroaniline	TX	6470	10185203
4-Nitrophenol	TX	6500	10185203
4-Nitroquinoline-1-oxide	TX	6510	10185203
5-Nitro-o-toluidine	TX	6570	10185203
7,12-Dimethylbenz(a) anthracene	TX	6115	10185203
a-a-Dimethylphenethylamine	TX	6125	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Acenaphthene	TX	5500	10185203
Acenaphthylene	TX	5505	10185203
Acetophenone	TX	5510	10185203
Aniline	TX	5545	10185203
Anthracene	TX	5555	10185203
Aramite	TX	5560	10185203
Atrazine	TX	7065	10185203
Azinphos-methyl (Guthion)	TX	7075	10185203
Azobenzene	TX	5562	10185203
Benzenethiol (Thiophenol)	TX	6750	10185203
Benzidine	TX	5595	10185203
Benzo(a)anthracene	TX	5575	10185203
Benzo(a)pyrene	TX	5580	10185203
Benzo(b)fluoranthene	TX	5585	10185203
Benzo(e)pyrene	TX	5605	10185203
Benzo(g,h,i)perylene	TX	5590	10185203
Benzo(k)fluoranthene	TX	5600	10185203
Benzoic acid	TX	5610	10185203
Benzyl alcohol	TX	5630	10185203
Biphenyl	TX	5640	10185203
bis(2-Chloroethoxy)methane	TX	5760	10185203
bis(2-Chloroethyl) ether	TX	5765	10185203
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	TX	6065	10185203
Butyl benzyl phthalate	TX	5670	10185203
Caprolactam	TX	7180	10185203
Carbaryl (Sevin)	TX	7195	10185203
Carbazole	TX	5680	10185203
Carbophenothion	TX	7220	10185203
Chlorobenzilate	TX	7260	10185203
Chrysene	TX	5855	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Demeton	TX	7390	10185203
Demeton-o	TX	7395	10185203
Demeton-s	TX	7385	10185203
Diallate	TX	7405	10185203
Dibenz(a,h) anthracene	TX	5895	10185203
Dibenz(a,j) acridine	TX	5900	10185203
Dibenzo(a,e) pyrene	TX	5890	10185203
Dibenzofuran	TX	5905	10185203
Dichlorovos (DDVP, Dichlorvos)	TX	8610	10185203
Diethyl phthalate	TX	6070	10185203
Dimethoate	TX	7475	10185203
Dimethyl phthalate	TX	6135	10185203
Di-n-butyl phthalate	TX	5925	10185203
Di-n-octyl phthalate	TX	6200	10185203
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10185203
Diphenylamine	TX	6205	10185203
Disulfoton	TX	8625	10185203
Ethyl methanesulfonate	TX	6260	10185203
Fluoranthene	TX	6265	10185203
Fluorene	TX	6270	10185203
Hexachlorobenzene	TX	6275	10185203
Hexachlorobutadiene	TX	4835	10185203
Hexachlorocyclopentadiene	TX	6285	10185203
Hexachloroethane	TX	4840	10185203
Hexachlorophene	TX	6290	10185203
Hexachloropropene	TX	6295	10185203
Indeno(1,2,3-cd) pyrene	TX	6315	10185203
Isodrin	TX	7725	10185203
Isophorone	TX	6320	10185203
Isosafrole	TX	6325	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Kepone	TX	7740	10185203
Malathion	TX	7770	10185203
Methapyrilene	TX	6345	10185203
Methyl methanesulfonate	TX	6375	10185203
Methyl parathion (Parathion, methyl)	TX	7825	10185203
Mevinphos	TX	7850	10185203
Naphthalene	TX	5005	10185203
Nitrobenzene	TX	5015	10185203
n-Nitrosodiethylamine	TX	6525	10185203
n-Nitrosodimethylamine	TX	6530	10185203
n-Nitrosodi-n-butylamine	TX	5025	10185203
n-Nitrosodi-n-propylamine	TX	6545	10185203
n-Nitrosodiphenylamine	TX	6535	10185203
n-Nitrosomethylethylamine	TX	6550	10185203
n-Nitrosomorpholine	TX	6555	10185203
n-Nitrosopiperidine	TX	6560	10185203
n-Nitrosopyrrolidine	TX	6565	10185203
o,o,o-Triethyl phosphorothioate	TX	8290	10185203
o-Anisidine	TX	5550	10185203
Parathion, ethyl	TX	7955	10185203
p-Cresidine	TX	5860	10185203
Pentachlorobenzene	TX	6590	10185203
Pentachloronitrobenzene (PCNB)	TX	6600	10185203
Pentachlorophenol	TX	6605	10185203
Phenacetin	TX	6610	10185203
Phenanthrene	TX	6615	10185203
Phenol	TX	6625	10185203
Phorate	TX	7985	10185203
Pronamide (Kerb)	TX	6650	10185203
Pyrene	TX	6665	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Pyridine	TX	5095	10185203
Quinoline	TX	6670	10185203
Safrole	TX	6685	10185203
Sulfotepp	TX	8155	10185203
Terbufos	TX	8185	10185203
Tetrachlorvinphos (Stirophos, Gardona)	TX	8197	10185203
Thionazin (Zinophos)	TX	8235	10185203
Toluene diisocyanate	TX	6775	10185203

Method EPA 8290

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	TX	9516	10187209
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	TX	9519	10187209
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	TX	9420	10187209
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	TX	9426	10187209
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	TX	9423	10187209
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	TX	9471	10187209
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	TX	9453	10187209
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	TX	9474	10187209
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	TX	9456	10187209
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	TX	9477	10187209
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	TX	9459	10187209
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	TX	9543	10187209
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	TX	9540	10187209
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	TX	9480	10187209
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	TX	9549	10187209
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	TX	9612	10187209
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10187209
Total Heptachlorodibenzofuran (Total HpCDF)	TX	9444	10187209
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	TX	9438	10187209
Total Hexachlorodibenzofuran (Total HxCDF)	TX	9483	10187209

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	TX	9468	10187209
Total Pentachlorodibenzofuran (Total PeCDF)	TX	9552	10187209
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	TX	9555	10187209
Total Tetrachlorodibenzofuran (Total TCDF)	TX	9615	10187209
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	TX	9609	10187209

Method EPA 8316

Analyte	**AB**	**Analyte ID**	**Method ID**
Acrylamide	TX	4330	10188202

Method EPA 8330

Analyte	**AB**	**Analyte ID**	**Method ID**
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10189807
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10189807
2,4,6-Trinitrotoluene (2,4,6-TNT)	TX	9651	10189807
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10189807
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10189807
2-Amino-4,6-dinitrotoluene (2-am-dnt)	TX	9303	10189807
2-Nitrotoluene	TX	9507	10189807
3-Nitrotoluene	TX	9510	10189807
4-Amino-2,6-dinitrotoluene (4-am-dnt)	TX	9306	10189807
4-Nitrotoluene	TX	9513	10189807
Methyl-2,4,6-trinitrophenylnitramine (tetryl)	TX	6415	10189807
Nitrobenzene	TX	5015	10189807
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	TX	9522	10189807
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	TX	9432	10189807

Method EPA 9014

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	TX	1510	10193803
Total cyanide	TX	1645	10193803

Method EPA 9038

Analyte	**AB**	**Analyte ID**	**Method ID**
Sulfate	TX	2000	10196608

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Method EPA 9040

Analyte	AB	Analyte ID	Method ID
Corrosivity	TX	1615	10197203
pH	TX	1900	10196802

Method EPA 9045

Analyte	AB	Analyte ID	Method ID
Corrosivity	TX	1615	10197805
pH	TX	1900	10197805

Method EPA 9050

Analyte	AB	Analyte ID	Method ID
Conductivity	TX	1610	10198604

Method EPA 9056

Analyte	AB	Analyte ID	Method ID
Bromide	TX	1540	10199209
Chloride	TX	1575	10199209
Fluoride	TX	1730	10199209
Nitrate as N	TX	1810	10199209
Nitrate-nitrite	TX	1820	10199209
Nitrite as N	TX	1840	10199209
Orthophosphate as P	TX	1870	10199209
Sulfate	TX	2000	10199209

Method EPA 9060

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	10200201

Method EPA 9065

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10200405

Method EPA 9071

Analyte	AB	Analyte ID	Method ID
n-Hexane Extractable Material (HEM) (O&G)	TX	1803	10201204

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Method	Analyte	AB	Analyte ID	Method ID
EPA 9095	Paint Filter Liquids Test	TX	10312	10204009
EPA 9250	Chloride	TX	1575	10207202
SM 2320 B	Alkalinity as CaCO3	TX	1505	20045005
SM 2510 B	Conductivity	TX	1610	20048004
SM 2540 G	Residue-total (total solids)	TX	1950	20005203
SSA/ASA Part 3:34	Carbon, organic (Walkley-Black)	TX	10340	SSA/ASA Pt 3:34
TCEQ 1005	Total Petroleum Hydrocarbons (TPH)	TX	2050	90019208

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

January 23, 2020

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS20010618**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 13 sample(s) on Jan 15, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20010618**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	**HS20010618**

TRRP Laboratory Data Package Cover Page

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 01/23/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20010618				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 149789				
#[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				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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 SW-846 Method 5035?			X		
		If required for the project, 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			1
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 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				
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				
		Were MS/MSD RPDs within laboratory QC limits?		X			2
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		
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				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 01/23/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20010618				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 149789				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group		LRC Date: 01/23/2020
Project Name: Houston TX-Wood Preserving Works		Laboratory Job Number: HS20010618
Reviewer Name: Dane Wacasey		Prep Batch Number(s): 149789
ER#[5]	**Description**	
1	Semivolatile Organics Method SW3510/8270, sample WG-1620-FD01-20200114, surrogate 4-Terphenyl-d14 recovered above the control limit due to possible matrix interference.	
1,2	Batch 149789, Semivolatile Organics Method 8270, sample WG-1620-P12-20200113, MS/MSD RPD recovered above the RPD limits for surrogates 2,4,6-Tribromophenol and 2-Fluorobiphenyl. The individual recoveries met acceptance criteria.	

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20010618

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20010618-01	WG-1620-P12-20200113	Groundwater		13-Jan-2020 10:30	15-Jan-2020 11:50	☐
HS20010618-02	WG-1620-FB01-20200113	Water		13-Jan-2020 11:30	15-Jan-2020 11:50	☐
HS20010618-03	WG-1620-MW08-20200113	Groundwater		13-Jan-2020 11:30	15-Jan-2020 11:50	☐
HS20010618-04	WG-1620-MW07-20200113	Groundwater		13-Jan-2020 13:15	15-Jan-2020 11:50	☐
HS20010618-05	WG-1620-P10-20200113	Groundwater		13-Jan-2020 14:20	15-Jan-2020 11:50	☐
HS20010618-06	WG-1620-MW11B-20200114	Groundwater		14-Jan-2020 09:25	15-Jan-2020 11:50	☐
HS20010618-07	WG-1620-MW11A-20200114	Groundwater		14-Jan-2020 10:35	15-Jan-2020 11:50	☐
HS20010618-08	WG-1620-MW10B-20200114	Groundwater		14-Jan-2020 11:35	15-Jan-2020 11:50	☐
HS20010618-09	WG-1620-MW10A-20200114	Groundwater		14-Jan-2020 12:25	15-Jan-2020 11:50	☐
HS20010618-10	WG-1620-MW02-20200114	Groundwater		14-Jan-2020 13:30	15-Jan-2020 11:50	☐
HS20010618-11	WG-1620-MW01A-20200114	Groundwater		14-Jan-2020 14:35	15-Jan-2020 11:50	☐
HS20010618-12	WG-1620-FD01-20200114	Groundwater		14-Jan-2020 14:35	15-Jan-2020 11:50	☐
HS20010618-13	WG-1620-FB02-20200114	Water		14-Jan-2020 15:00	15-Jan-2020 11:50	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-P12-20200113
Collection Date: 13-Jan-2020 10:30

ANALYTICAL REPORT
WorkOrder:HS20010618
Lab ID:HS20010618-01
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jan-2020		Analyst: LG
Acenaphthene	U		0.000027	0.00010	mg/L	1	20-Jan-2020 18:20
Acenaphthylene	U		0.000015	0.00010	mg/L	1	20-Jan-2020 18:20
Anthracene	**0.00010**		**0.000014**	**0.00010**	**mg/L**	1	20-Jan-2020 18:20
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	20-Jan-2020 18:20
Dibenzofuran	U		0.000020	0.00010	mg/L	1	20-Jan-2020 18:20
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	20-Jan-2020 18:20
Fluoranthene	U		0.000010	0.00010	mg/L	1	20-Jan-2020 18:20
Fluorene	U		0.000030	0.00010	mg/L	1	20-Jan-2020 18:20
Naphthalene	**0.00016**		**0.000020**	**0.00010**	**mg/L**	1	20-Jan-2020 18:20
Phenol	U		0.000035	0.00020	mg/L	1	20-Jan-2020 18:20
Pyrene	**0.00063**		**0.000019**	**0.00010**	**mg/L**	1	20-Jan-2020 18:20
Surr: 2,4,6-Tribromophenol	*67.8*			*34-129*	*%REC*	*1*	*20-Jan-2020 18:20*
Surr: 2-Fluorobiphenyl	*84.8*			*40-125*	*%REC*	*1*	*20-Jan-2020 18:20*
Surr: 2-Fluorophenol	*68.2*			*20-120*	*%REC*	*1*	*20-Jan-2020 18:20*
Surr: 4-Terphenyl-d14	*92.9*			*40-135*	*%REC*	*1*	*20-Jan-2020 18:20*
Surr: Nitrobenzene-d5	*59.2*			*41-120*	*%REC*	*1*	*20-Jan-2020 18:20*
Surr: Phenol-d6	*66.1*			*20-120*	*%REC*	*1*	*20-Jan-2020 18:20*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB01-20200113
Collection Date: 13-Jan-2020 11:30

ANALYTICAL REPORT
WorkOrder:HS20010618
Lab ID:HS20010618-02
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jan-2020		Analyst: LG
2-Methylnaphthalene		U	0.000019	0.00010	mg/L	1	21-Jan-2020 16:43
Acenaphthene		U	0.000027	0.00010	mg/L	1	21-Jan-2020 16:43
Acenaphthylene		U	0.000015	0.00010	mg/L	1	21-Jan-2020 16:43
Anthracene		U	0.000014	0.00010	mg/L	1	21-Jan-2020 16:43
Bis(2-ethylhexyl)phthalate		U	0.000037	0.00020	mg/L	1	21-Jan-2020 16:43
Dibenzofuran		U	0.000020	0.00010	mg/L	1	21-Jan-2020 16:43
Di-n-butyl phthalate		U	0.000020	0.00020	mg/L	1	21-Jan-2020 16:43
Fluoranthene		U	0.000010	0.00010	mg/L	1	21-Jan-2020 16:43
Fluorene		U	0.000030	0.00010	mg/L	1	21-Jan-2020 16:43
Naphthalene		U	0.000020	0.00010	mg/L	1	21-Jan-2020 16:43
Phenanthrene		U	0.000021	0.00010	mg/L	1	21-Jan-2020 16:43
Phenol		U	0.000035	0.00020	mg/L	1	21-Jan-2020 16:43
Pyrene		U	0.000019	0.00010	mg/L	1	21-Jan-2020 16:43
Surr: 2,4,6-Tribromophenol	*73.7*			*34-129*	*%REC*	*1*	*21-Jan-2020 16:43*
Surr: 2-Fluorobiphenyl	*91.9*			*40-125*	*%REC*	*1*	*21-Jan-2020 16:43*
Surr: 2-Fluorophenol	*70.8*			*20-120*	*%REC*	*1*	*21-Jan-2020 16:43*
Surr: 4-Terphenyl-d14	*97.3*			*40-135*	*%REC*	*1*	*21-Jan-2020 16:43*
Surr: Nitrobenzene-d5	*80.7*			*41-120*	*%REC*	*1*	*21-Jan-2020 16:43*
Surr: Phenol-d6	*78.3*			*20-120*	*%REC*	*1*	*21-Jan-2020 16:43*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW08-20200113
Collection Date: 13-Jan-2020 11:30

ANALYTICAL REPORT
WorkOrder:HS20010618
Lab ID:HS20010618-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jan-2020		Analyst: LG
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 17:02
Acenaphthene	U		0.000027	0.00010	mg/L	1	21-Jan-2020 17:02
Acenaphthylene	U		0.000015	0.00010	mg/L	1	21-Jan-2020 17:02
Anthracene	U		0.000014	0.00010	mg/L	1	21-Jan-2020 17:02
Bis(2-ethylhexyl)phthalate	**0.00021**		**0.000037**	**0.00020**	**mg/L**	1	21-Jan-2020 17:02
Dibenzofuran	U		0.000020	0.00010	mg/L	1	21-Jan-2020 17:02
Fluoranthene	U		0.000010	0.00010	mg/L	1	21-Jan-2020 17:02
Fluorene	U		0.000030	0.00010	mg/L	1	21-Jan-2020 17:02
Naphthalene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 17:02
Phenanthrene	**0.000046**	J	**0.000021**	**0.00010**	**mg/L**	1	21-Jan-2020 17:02
Pyrene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 17:02
Surr: 2,4,6-Tribromophenol	*63.9*			*34-129*	*%REC*	*1*	*21-Jan-2020 17:02*
Surr: 2-Fluorobiphenyl	*70.0*			*40-125*	*%REC*	*1*	*21-Jan-2020 17:02*
Surr: 2-Fluorophenol	*55.9*			*20-120*	*%REC*	*1*	*21-Jan-2020 17:02*
Surr: 4-Terphenyl-d14	*96.0*			*40-135*	*%REC*	*1*	*21-Jan-2020 17:02*
Surr: Nitrobenzene-d5	*62.1*			*41-120*	*%REC*	*1*	*21-Jan-2020 17:02*
Surr: Phenol-d6	*60.3*			*20-120*	*%REC*	*1*	*21-Jan-2020 17:02*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW07-20200113
Collection Date: 13-Jan-2020 13:15

ANALYTICAL REPORT
WorkOrder:HS20010618
Lab ID:HS20010618-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jan-2020		Analyst: LG
2-Methylnaphthalene	**0.000066**	J	**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 17:21
Acenaphthene	U		0.000027	0.00010	mg/L	1	21-Jan-2020 17:21
Acenaphthylene	U		0.000015	0.00010	mg/L	1	21-Jan-2020 17:21
Anthracene	U		0.000014	0.00010	mg/L	1	21-Jan-2020 17:21
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	21-Jan-2020 17:21
Dibenzofuran	**0.000057**	J	**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 17:21
Fluoranthene	**0.00010**		**0.000010**	**0.00010**	**mg/L**	1	21-Jan-2020 17:21
Fluorene	U		0.000030	0.00010	mg/L	1	21-Jan-2020 17:21
Naphthalene	**0.00017**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 17:21
Phenanthrene	**0.00014**		**0.000021**	**0.00010**	**mg/L**	1	21-Jan-2020 17:21
Pyrene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 17:21
Surr: 2,4,6-Tribromophenol	*74.6*			*34-129*	*%REC*	*1*	*21-Jan-2020 17:21*
Surr: 2-Fluorobiphenyl	*80.0*			*40-125*	*%REC*	*1*	*21-Jan-2020 17:21*
Surr: 2-Fluorophenol	*59.7*			*20-120*	*%REC*	*1*	*21-Jan-2020 17:21*
Surr: 4-Terphenyl-d14	*85.6*			*40-135*	*%REC*	*1*	*21-Jan-2020 17:21*
Surr: Nitrobenzene-d5	*66.6*			*41-120*	*%REC*	*1*	*21-Jan-2020 17:21*
Surr: Phenol-d6	*71.0*			*20-120*	*%REC*	*1*	*21-Jan-2020 17:21*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-P10-20200113
Collection Date: 13-Jan-2020 14:20

ANALYTICAL REPORT
WorkOrder:HS20010618
Lab ID:HS20010618-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jan-2020		Analyst: LG
Acenaphthene	U		0.000027	0.00010	mg/L	1	21-Jan-2020 17:40
Acenaphthylene	U		0.000015	0.00010	mg/L	1	21-Jan-2020 17:40
Anthracene	U		0.000014	0.00010	mg/L	1	21-Jan-2020 17:40
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	21-Jan-2020 17:40
Dibenzofuran	U		0.000020	0.00010	mg/L	1	21-Jan-2020 17:40
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2020 17:40
Fluoranthene	U		0.000010	0.00010	mg/L	1	21-Jan-2020 17:40
Fluorene	U		0.000030	0.00010	mg/L	1	21-Jan-2020 17:40
Naphthalene	**0.00017**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 17:40
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 17:40
Pyrene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 17:40
Surr: 2,4,6-Tribromophenol	*79.3*			*34-129*	*%REC*	*1*	*21-Jan-2020 17:40*
Surr: 2-Fluorobiphenyl	*93.5*			*40-125*	*%REC*	*1*	*21-Jan-2020 17:40*
Surr: 2-Fluorophenol	*78.0*			*20-120*	*%REC*	*1*	*21-Jan-2020 17:40*
Surr: 4-Terphenyl-d14	*99.0*			*40-135*	*%REC*	*1*	*21-Jan-2020 17:40*
Surr: Nitrobenzene-d5	*82.6*			*41-120*	*%REC*	*1*	*21-Jan-2020 17:40*
Surr: Phenol-d6	*78.2*			*20-120*	*%REC*	*1*	*21-Jan-2020 17:40*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW11B-20200114
Collection Date: 14-Jan-2020 09:25

ANALYTICAL REPORT
WorkOrder:HS20010618
Lab ID:HS20010618-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jan-2020		Analyst: LG
Acenaphthene	**0.033**		**0.00014**	**0.00050**	**mg/L**	5	22-Jan-2020 12:03
Acenaphthylene	**0.0016**		**0.000015**	**0.00010**	**mg/L**	1	21-Jan-2020 18:00
Anthracene	U		0.000014	0.00010	mg/L	1	21-Jan-2020 18:00
Bis(2-ethylhexyl)phthalate	**0.000095**	J	**0.000037**	**0.00020**	**mg/L**	1	21-Jan-2020 18:00
Dibenzofuran	U		0.000020	0.00010	mg/L	1	21-Jan-2020 18:00
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2020 18:00
Fluoranthene	**0.0024**		**0.000010**	**0.00010**	**mg/L**	1	21-Jan-2020 18:00
Fluorene	**0.00035**		**0.000030**	**0.00010**	**mg/L**	1	21-Jan-2020 18:00
Naphthalene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 18:00
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 18:00
Pyrene	**0.0023**		**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 18:00
Surr: 2,4,6-Tribromophenol	*81.4*			*34-129*	*%REC*	*1*	*21-Jan-2020 18:00*
Surr: 2,4,6-Tribromophenol	*101*			*34-129*	*%REC*	*5*	*22-Jan-2020 12:03*
Surr: 2-Fluorobiphenyl	*90.1*			*40-125*	*%REC*	*5*	*22-Jan-2020 12:03*
Surr: 2-Fluorobiphenyl	*72.9*			*40-125*	*%REC*	*1*	*21-Jan-2020 18:00*
Surr: 2-Fluorophenol	*74.1*			*20-120*	*%REC*	*5*	*22-Jan-2020 12:03*
Surr: 2-Fluorophenol	*56.2*			*20-120*	*%REC*	*1*	*21-Jan-2020 18:00*
Surr: 4-Terphenyl-d14	*92.8*			*40-135*	*%REC*	*1*	*21-Jan-2020 18:00*
Surr: 4-Terphenyl-d14	*123*			*40-135*	*%REC*	*5*	*22-Jan-2020 12:03*
Surr: Nitrobenzene-d5	*80.4*			*41-120*	*%REC*	*5*	*22-Jan-2020 12:03*
Surr: Nitrobenzene-d5	*61.3*			*41-120*	*%REC*	*1*	*21-Jan-2020 18:00*
Surr: Phenol-d6	*60.8*			*20-120*	*%REC*	*1*	*21-Jan-2020 18:00*
Surr: Phenol-d6	*77.3*			*20-120*	*%REC*	*5*	*22-Jan-2020 12:03*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW11A-20200114
Collection Date: 14-Jan-2020 10:35

ANALYTICAL REPORT
WorkOrder:HS20010618
Lab ID:HS20010618-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jan-2020		Analyst: LG
2-Methylnaphthalene		U	0.000019	0.00010	mg/L	1	21-Jan-2020 18:19
Acenaphthene		U	0.000027	0.00010	mg/L	1	21-Jan-2020 18:19
Acenaphthylene		U	0.000015	0.00010	mg/L	1	21-Jan-2020 18:19
Anthracene		U	0.000014	0.00010	mg/L	1	21-Jan-2020 18:19
Bis(2-ethylhexyl)phthalate		U	0.000037	0.00020	mg/L	1	21-Jan-2020 18:19
Dibenzofuran		U	0.000020	0.00010	mg/L	1	21-Jan-2020 18:19
Fluoranthene		U	0.000010	0.00010	mg/L	1	21-Jan-2020 18:19
Fluorene		U	0.000030	0.00010	mg/L	1	21-Jan-2020 18:19
Naphthalene		U	0.000020	0.00010	mg/L	1	21-Jan-2020 18:19
Phenanthrene		U	0.000021	0.00010	mg/L	1	21-Jan-2020 18:19
Pyrene		U	0.000019	0.00010	mg/L	1	21-Jan-2020 18:19
Surr: 2,4,6-Tribromophenol	*78.8*			*34-129*	*%REC*	*1*	*21-Jan-2020 18:19*
Surr: 2-Fluorobiphenyl	*80.3*			*40-125*	*%REC*	*1*	*21-Jan-2020 18:19*
Surr: 2-Fluorophenol	*56.8*			*20-120*	*%REC*	*1*	*21-Jan-2020 18:19*
Surr: 4-Terphenyl-d14	*92.1*			*40-135*	*%REC*	*1*	*21-Jan-2020 18:19*
Surr: Nitrobenzene-d5	*63.9*			*41-120*	*%REC*	*1*	*21-Jan-2020 18:19*
Surr: Phenol-d6	*65.0*			*20-120*	*%REC*	*1*	*21-Jan-2020 18:19*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW10B-20200114
Collection Date: 14-Jan-2020 11:35

ANALYTICAL REPORT
WorkOrder:HS20010618
Lab ID:HS20010618-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jan-2020		Analyst: LG
Acenaphthene	**0.069**		**0.00027**	**0.0010**	**mg/L**	10	22-Jan-2020 12:22
Acenaphthylene	**0.00066**		**0.000015**	**0.00010**	**mg/L**	1	21-Jan-2020 18:38
Anthracene	**0.0028**		**0.000014**	**0.00010**	**mg/L**	1	21-Jan-2020 18:38
Bis(2-ethylhexyl)phthalate	**0.00020**		**0.000037**	**0.00020**	**mg/L**	1	21-Jan-2020 18:38
Dibenzofuran	**0.022**		**0.00020**	**0.0010**	**mg/L**	10	22-Jan-2020 12:22
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2020 18:38
Fluoranthene	**0.0029**		**0.000010**	**0.00010**	**mg/L**	1	21-Jan-2020 18:38
Fluorene	**0.036**		**0.00030**	**0.0010**	**mg/L**	10	22-Jan-2020 12:22
Naphthalene	**0.0021**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 18:38
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2020 18:38
Pyrene	**0.0013**		**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 18:38
Surr: 2,4,6-Tribromophenol	*70.8*			*34-129*	*%REC*	*10*	*22-Jan-2020 12:22*
Surr: 2,4,6-Tribromophenol	*80.7*			*34-129*	*%REC*	*1*	*21-Jan-2020 18:38*
Surr: 2-Fluorobiphenyl	*77.4*			*40-125*	*%REC*	*1*	*21-Jan-2020 18:38*
Surr: 2-Fluorobiphenyl	*85.2*			*40-125*	*%REC*	*10*	*22-Jan-2020 12:22*
Surr: 2-Fluorophenol	*60.1*			*20-120*	*%REC*	*10*	*22-Jan-2020 12:22*
Surr: 2-Fluorophenol	*62.8*			*20-120*	*%REC*	*1*	*21-Jan-2020 18:38*
Surr: 4-Terphenyl-d14	*103*			*40-135*	*%REC*	*10*	*22-Jan-2020 12:22*
Surr: 4-Terphenyl-d14	*89.0*			*40-135*	*%REC*	*1*	*21-Jan-2020 18:38*
Surr: Nitrobenzene-d5	*75.6*			*41-120*	*%REC*	*10*	*22-Jan-2020 12:22*
Surr: Nitrobenzene-d5	*68.2*			*41-120*	*%REC*	*1*	*21-Jan-2020 18:38*
Surr: Phenol-d6	*69.2*			*20-120*	*%REC*	*1*	*21-Jan-2020 18:38*
Surr: Phenol-d6	*74.4*			*20-120*	*%REC*	*10*	*22-Jan-2020 12:22*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW10A-20200114
Collection Date: 14-Jan-2020 12:25

ANALYTICAL REPORT
WorkOrder:HS20010618
Lab ID:HS20010618-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jan-2020		Analyst: LG
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 18:57
Acenaphthene	**0.00011**		**0.000027**	**0.00010**	**mg/L**	1	21-Jan-2020 18:57
Acenaphthylene	U		0.000015	0.00010	mg/L	1	21-Jan-2020 18:57
Anthracene	U		0.000014	0.00010	mg/L	1	21-Jan-2020 18:57
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	21-Jan-2020 18:57
Dibenzofuran	U		0.000020	0.00010	mg/L	1	21-Jan-2020 18:57
Fluoranthene	U		0.000010	0.00010	mg/L	1	21-Jan-2020 18:57
Fluorene	U		0.000030	0.00010	mg/L	1	21-Jan-2020 18:57
Naphthalene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 18:57
Phenanthrene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 18:57
Pyrene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 18:57
Surr: 2,4,6-Tribromophenol	*60.3*			*34-129*	*%REC*	*1*	*21-Jan-2020 18:57*
Surr: 2-Fluorobiphenyl	*77.4*			*40-125*	*%REC*	*1*	*21-Jan-2020 18:57*
Surr: 2-Fluorophenol	*64.6*			*20-120*	*%REC*	*1*	*21-Jan-2020 18:57*
Surr: 4-Terphenyl-d14	*110*			*40-135*	*%REC*	*1*	*21-Jan-2020 18:57*
Surr: Nitrobenzene-d5	*68.5*			*41-120*	*%REC*	*1*	*21-Jan-2020 18:57*
Surr: Phenol-d6	*64.7*			*20-120*	*%REC*	*1*	*21-Jan-2020 18:57*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW02-20200114
Collection Date: 14-Jan-2020 13:30

ANALYTICAL REPORT
WorkOrder:HS20010618
Lab ID:HS20010618-10
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jan-2020		Analyst: LG
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 19:16
Acenaphthene	**0.0030**		**0.000027**	**0.00010**	**mg/L**	1	21-Jan-2020 19:16
Acenaphthylene	U		0.000015	0.00010	mg/L	1	21-Jan-2020 19:16
Anthracene	**0.00011**		**0.000014**	**0.00010**	**mg/L**	1	21-Jan-2020 19:16
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	21-Jan-2020 19:16
Dibenzofuran	**0.00039**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 19:16
Fluoranthene	**0.00024**		**0.000010**	**0.00010**	**mg/L**	1	21-Jan-2020 19:16
Fluorene	**0.0017**		**0.000030**	**0.00010**	**mg/L**	1	21-Jan-2020 19:16
Naphthalene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 19:16
Phenanthrene	**0.00011**		**0.000021**	**0.00010**	**mg/L**	1	21-Jan-2020 19:16
Pyrene	**0.00011**		**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 19:16
Surr: 2,4,6-Tribromophenol	*64.5*			*34-129*	*%REC*	*1*	*21-Jan-2020 19:16*
Surr: 2-Fluorobiphenyl	*83.6*			*40-125*	*%REC*	*1*	*21-Jan-2020 19:16*
Surr: 2-Fluorophenol	*62.6*			*20-120*	*%REC*	*1*	*21-Jan-2020 19:16*
Surr: 4-Terphenyl-d14	*99.3*			*40-135*	*%REC*	*1*	*21-Jan-2020 19:16*
Surr: Nitrobenzene-d5	*70.1*			*41-120*	*%REC*	*1*	*21-Jan-2020 19:16*
Surr: Phenol-d6	*66.9*			*20-120*	*%REC*	*1*	*21-Jan-2020 19:16*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW01A-20200114
Collection Date: 14-Jan-2020 14:35

ANALYTICAL REPORT
WorkOrder:HS20010618
Lab ID:HS20010618-11
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jan-2020		Analyst: LG
2-Methylnaphthalene	**0.00019**		**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 19:35
Acenaphthene	**0.024**		**0.00014**	**0.00050**	**mg/L**	5	22-Jan-2020 12:41
Acenaphthylene	**0.00084**		**0.000015**	**0.00010**	**mg/L**	1	21-Jan-2020 19:35
Anthracene	U		0.000014	0.00010	mg/L	1	21-Jan-2020 19:35
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	21-Jan-2020 19:35
Dibenzofuran	**0.0036**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 19:35
Fluoranthene	**0.0011**		**0.000010**	**0.00010**	**mg/L**	1	21-Jan-2020 19:35
Fluorene	**0.0064**		**0.000030**	**0.00010**	**mg/L**	1	21-Jan-2020 19:35
Naphthalene	**0.00052**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 19:35
Phenanthrene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 19:35
Pyrene	**0.00052**		**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 19:35
Surr: 2,4,6-Tribromophenol	*81.3*			*34-129*	*%REC*	*1*	*21-Jan-2020 19:35*
Surr: 2,4,6-Tribromophenol	*82.2*			*34-129*	*%REC*	*5*	*22-Jan-2020 12:41*
Surr: 2-Fluorobiphenyl	*95.4*			*40-125*	*%REC*	*5*	*22-Jan-2020 12:41*
Surr: 2-Fluorobiphenyl	*90.6*			*40-125*	*%REC*	*1*	*21-Jan-2020 19:35*
Surr: 2-Fluorophenol	*68.6*			*20-120*	*%REC*	*1*	*21-Jan-2020 19:35*
Surr: 2-Fluorophenol	*77.7*			*20-120*	*%REC*	*5*	*22-Jan-2020 12:41*
Surr: 4-Terphenyl-d14	*103*			*40-135*	*%REC*	*5*	*22-Jan-2020 12:41*
Surr: 4-Terphenyl-d14	*94.4*			*40-135*	*%REC*	*1*	*21-Jan-2020 19:35*
Surr: Nitrobenzene-d5	*88.0*			*41-120*	*%REC*	*5*	*22-Jan-2020 12:41*
Surr: Nitrobenzene-d5	*80.0*			*41-120*	*%REC*	*1*	*21-Jan-2020 19:35*
Surr: Phenol-d6	*75.8*			*20-120*	*%REC*	*1*	*21-Jan-2020 19:35*
Surr: Phenol-d6	*77.6*			*20-120*	*%REC*	*5*	*22-Jan-2020 12:41*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD01-20200114
Collection Date: 14-Jan-2020 14:35

ANALYTICAL REPORT
WorkOrder:HS20010618
Lab ID:HS20010618-12
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Jan-2020		Analyst: LG
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	21-Jan-2020 19:54
Acenaphthene	**0.018**		**0.00011**	**0.00040**	**mg/L**	4	22-Jan-2020 13:00
Acenaphthylene	**0.00066**		**0.000015**	**0.00010**	**mg/L**	1	21-Jan-2020 19:54
Anthracene	U		0.000014	0.00010	mg/L	1	21-Jan-2020 19:54
Bis(2-ethylhexyl)phthalate	**0.000074**	J	**0.000037**	**0.00020**	**mg/L**	1	21-Jan-2020 19:54
Dibenzofuran	**0.0021**		**0.000020**	**0.00010**	**mg/L**	1	21-Jan-2020 19:54
Fluoranthene	**0.0012**		**0.000010**	**0.00010**	**mg/L**	1	21-Jan-2020 19:54
Fluorene	**0.0038**		**0.000030**	**0.00010**	**mg/L**	1	21-Jan-2020 19:54
Naphthalene	U		0.000020	0.00010	mg/L	1	21-Jan-2020 19:54
Phenanthrene	U		0.000021	0.00010	mg/L	1	21-Jan-2020 19:54
Pyrene	**0.00059**		**0.000019**	**0.00010**	**mg/L**	1	21-Jan-2020 19:54
Surr: 2,4,6-Tribromophenol	*107*			*34-129*	*%REC*	*1*	*21-Jan-2020 19:54*
Surr: 2,4,6-Tribromophenol	*117*			*34-129*	*%REC*	*4*	*22-Jan-2020 13:00*
Surr: 2-Fluorobiphenyl	*98.7*			*40-125*	*%REC*	*4*	*22-Jan-2020 13:00*
Surr: 2-Fluorobiphenyl	*88.3*			*40-125*	*%REC*	*1*	*21-Jan-2020 19:54*
Surr: 2-Fluorophenol	*59.0*			*20-120*	*%REC*	*1*	*21-Jan-2020 19:54*
Surr: 2-Fluorophenol	*66.0*			*20-120*	*%REC*	*4*	*22-Jan-2020 13:00*
Surr: 4-Terphenyl-d14	*142*	*S*		*40-135*	*%REC*	*4*	*22-Jan-2020 13:00*
Surr: 4-Terphenyl-d14	*129*			*40-135*	*%REC*	*1*	*21-Jan-2020 19:54*
Surr: Nitrobenzene-d5	*63.6*			*41-120*	*%REC*	*1*	*21-Jan-2020 19:54*
Surr: Nitrobenzene-d5	*71.5*			*41-120*	*%REC*	*4*	*22-Jan-2020 13:00*
Surr: Phenol-d6	*80.1*			*20-120*	*%REC*	*4*	*22-Jan-2020 13:00*
Surr: Phenol-d6	*67.3*			*20-120*	*%REC*	*1*	*21-Jan-2020 19:54*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FB02-20200114
Collection Date: 14-Jan-2020 15:00

ANALYTICAL REPORT
WorkOrder:HS20010618
Lab ID:HS20010618-13
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Jan-2020		Analyst: LG
2-Methylnaphthalene		U	0.000019	0.00010	mg/L	1	21-Jan-2020 20:13
Acenaphthene		U	0.000027	0.00010	mg/L	1	21-Jan-2020 20:13
Acenaphthylene		U	0.000015	0.00010	mg/L	1	21-Jan-2020 20:13
Anthracene		U	0.000014	0.00010	mg/L	1	21-Jan-2020 20:13
Bis(2-ethylhexyl)phthalate		U	0.000037	0.00020	mg/L	1	21-Jan-2020 20:13
Dibenzofuran		U	0.000020	0.00010	mg/L	1	21-Jan-2020 20:13
Di-n-butyl phthalate		U	0.000020	0.00020	mg/L	1	21-Jan-2020 20:13
Fluoranthene		U	0.000010	0.00010	mg/L	1	21-Jan-2020 20:13
Fluorene		U	0.000030	0.00010	mg/L	1	21-Jan-2020 20:13
Naphthalene		U	0.000020	0.00010	mg/L	1	21-Jan-2020 20:13
Phenanthrene		U	0.000021	0.00010	mg/L	1	21-Jan-2020 20:13
Phenol		U	0.000035	0.00020	mg/L	1	21-Jan-2020 20:13
Pyrene		U	0.000019	0.00010	mg/L	1	21-Jan-2020 20:13
Surr: 2,4,6-Tribromophenol	*61.9*			*34-129*	*%REC*	*1*	*21-Jan-2020 20:13*
Surr: 2-Fluorobiphenyl	*109*			*40-125*	*%REC*	*1*	*21-Jan-2020 20:13*
Surr: 2-Fluorophenol	*79.0*			*20-120*	*%REC*	*1*	*21-Jan-2020 20:13*
Surr: 4-Terphenyl-d14	*100*			*40-135*	*%REC*	*1*	*21-Jan-2020 20:13*
Surr: Nitrobenzene-d5	*91.2*			*41-120*	*%REC*	*1*	*21-Jan-2020 20:13*
Surr: Phenol-d6	*88.1*			*20-120*	*%REC*	*1*	*21-Jan-2020 20:13*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010618

Batch ID: 149789 **Start Date:** 19 Jan 2020 07:30 **End Date:** 19 Jan 2020 16:00
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20010618-01	1	1000 (mL)	1 (mL)	0.001
HS20010618-02	1	1000 (mL)	1 (mL)	0.001
HS20010618-03	1	1000 (mL)	1 (mL)	0.001
HS20010618-04	1	1000 (mL)	1 (mL)	0.001
HS20010618-05	1	1000 (mL)	1 (mL)	0.001
HS20010618-06	1	1000 (mL)	1 (mL)	0.001
HS20010618-07	1	1000 (mL)	1 (mL)	0.001
HS20010618-08	1	1000 (mL)	1 (mL)	0.001
HS20010618-09	1	1000 (mL)	1 (mL)	0.001
HS20010618-10	1	1000 (mL)	1 (mL)	0.001
HS20010618-11	1	1000 (mL)	1 (mL)	0.001
HS20010618-12	1	1000 (mL)	1 (mL)	0.001
HS20010618-13	1	1000 (mL)	1 (mL)	0.001

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010618

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 149789 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Water	
HS20010618-02	WG-1620-FB01-20200113	13 Jan 2020 11:30		19 Jan 2020 15:02	21 Jan 2020 16:43	1
HS20010618-13	WG-1620-FB02-20200114	14 Jan 2020 15:00		19 Jan 2020 15:02	21 Jan 2020 20:13	1
Batch ID: 149789 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Groundwater	
HS20010618-01	WG-1620-P12-20200113	13 Jan 2020 10:30		19 Jan 2020 15:02	20 Jan 2020 18:20	1
HS20010618-03	WG-1620-MW08-20200113	13 Jan 2020 11:30		19 Jan 2020 15:02	21 Jan 2020 17:02	1
HS20010618-04	WG-1620-MW07-20200113	13 Jan 2020 13:15		19 Jan 2020 15:02	21 Jan 2020 17:21	1
HS20010618-05	WG-1620-P10-20200113	13 Jan 2020 14:20		19 Jan 2020 15:02	21 Jan 2020 17:40	1
HS20010618-06	WG-1620-MW11B-20200114	14 Jan 2020 09:25		19 Jan 2020 15:02	22 Jan 2020 12:03	5
HS20010618-06	WG-1620-MW11B-20200114	14 Jan 2020 09:25		19 Jan 2020 15:02	21 Jan 2020 18:00	1
HS20010618-07	WG-1620-MW11A-20200114	14 Jan 2020 10:35		19 Jan 2020 15:02	21 Jan 2020 18:19	1
HS20010618-08	WG-1620-MW10B-20200114	14 Jan 2020 11:35		19 Jan 2020 15:02	22 Jan 2020 12:22	10
HS20010618-08	WG-1620-MW10B-20200114	14 Jan 2020 11:35		19 Jan 2020 15:02	21 Jan 2020 18:38	1
HS20010618-09	WG-1620-MW10A-20200114	14 Jan 2020 12:25		19 Jan 2020 15:02	21 Jan 2020 18:57	1
HS20010618-10	WG-1620-MW02-20200114	14 Jan 2020 13:30		19 Jan 2020 15:02	21 Jan 2020 19:16	1
HS20010618-11	WG-1620-MW01A-20200114	14 Jan 2020 14:35		19 Jan 2020 15:02	22 Jan 2020 12:41	5
HS20010618-11	WG-1620-MW01A-20200114	14 Jan 2020 14:35		19 Jan 2020 15:02	21 Jan 2020 19:35	1
HS20010618-12	WG-1620-FD01-20200114	14 Jan 2020 14:35		19 Jan 2020 15:02	22 Jan 2020 13:00	4
HS20010618-12	WG-1620-FD01-20200114	14 Jan 2020 14:35		19 Jan 2020 15:02	21 Jan 2020 19:54	1

WorkOrder: HS20010618
InstrumentID: SV-6
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	2-Methylnaphthalene	91-57-6	0.000050	0.000060	0.000019	0.00010
A	Acenaphthene	83-32-9	0.000050	0.000059	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000050	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000047	0.000014	0.00010
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00012	0.000037	0.00020
A	Dibenzofuran	132-64-9	0.000050	0.000050	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.00011	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000049	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000053	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000049	0.000020	0.00010
A	Phenanthrene	85-01-8	0.000050	0.000049	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000096	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000047	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010618

QC BATCH REPORT

Batch ID: 149789 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-149789** Units: **ug/L** Analysis Date: **20-Jan-2020 14:13**
Client ID: Run ID: **SV-6_354667** SeqNo: **5441804** PrepDate: **19-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	U	0.10								
Acenaphthene	U	0.10								
Acenaphthylene	U	0.10								
Anthracene	U	0.10								
Bis(2-ethylhexyl)phthalate	U	0.20								
Dibenzofuran	U	0.10								
Di-n-butyl phthalate	U	0.20								
Fluoranthene	U	0.10								
Fluorene	U	0.10								
Naphthalene	U	0.10								
Phenanthrene	U	0.10								
Phenol	U	0.20								
Pyrene	U	0.10								
Surr: 2,4,6-Tribromophenol	*3.413*	*0.20*	*5*	*0*	*68.3*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.677*	*0.20*	*5*	*0*	*93.5*	*40 - 125*				
Surr: 2-Fluorophenol	*3.815*	*0.20*	*5*	*0*	*76.3*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.529*	*0.20*	*5*	*0*	*90.6*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.693*	*0.20*	*5*	*0*	*73.9*	*41 - 120*				
Surr: Phenol-d6	*3.844*	*0.20*	*5*	*0*	*76.9*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010618

QC BATCH REPORT

Batch ID: 149789 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-149789** Units: **ug/L** Analysis Date: **20-Jan-2020 14:32**
Client ID: Run ID: **SV-6_354667** SeqNo: **5441805** PrepDate: **19-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	4.12	0.10	5	0	82.4	50 - 120				
Acenaphthene	4.616	0.10	5	0	92.3	45 - 120				
Acenaphthylene	4.438	0.10	5	0	88.8	47 - 120				
Anthracene	4.793	0.10	5	0	95.9	45 - 120				
Bis(2-ethylhexyl)phthalate	5.208	0.20	5	0	104	40 - 139				
Dibenzofuran	4.382	0.10	5	0	87.6	50 - 120				
Di-n-butyl phthalate	5.327	0.20	5	0	107	45 - 123				
Fluoranthene	4.608	0.10	5	0	92.2	45 - 125				
Fluorene	4.509	0.10	5	0	90.2	49 - 120				
Naphthalene	4.352	0.10	5	0	87.0	45 - 120				
Phenanthrene	4.579	0.10	5	0	91.6	45 - 121				
Phenol	4.045	0.20	5	0	80.9	20 - 124				
Pyrene	4.543	0.10	5	0	90.9	40 - 130				
Surr: 2,4,6-Tribromophenol	*3.728*	*0.20*	*5*	*0*	*74.6*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.553*	*0.20*	*5*	*0*	*91.1*	*40 - 125*				
Surr: 2-Fluorophenol	*3.92*	*0.20*	*5*	*0*	*78.4*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.553*	*0.20*	*5*	*0*	*91.1*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.663*	*0.20*	*5*	*0*	*73.3*	*41 - 120*				
Surr: Phenol-d6	*3.85*	*0.20*	*5*	*0*	*77.0*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010618

QC BATCH REPORT

Batch ID: 149789 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MS Sample ID: **HS20010618-01MS** Units: **ug/L** Analysis Date: **20-Jan-2020 18:40**
Client ID: **WG-1620-P12-20200113** Run ID: **SV-6_354667** SeqNo: **5441807** PrepDate: **19-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	4.077	0.10	5	0	81.5	50 - 120				
Acenaphthene	4.554	0.10	5	0	91.1	45 - 120				
Acenaphthylene	4.432	0.10	5	0	88.6	47 - 120				
Anthracene	5.422	0.10	5	0.1005	106	45 - 120				
Bis(2-ethylhexyl)phthalate	5.953	0.20	5	0	119	40 - 139				
Dibenzofuran	4.513	0.10	5	0	90.3	50 - 120				
Di-n-butyl phthalate	5.9	0.20	5	0	118	45 - 123				
Fluoranthene	5.303	0.10	5	0	106	45 - 125				
Fluorene	4.678	0.10	5	0	93.6	49 - 120				
Naphthalene	4.398	0.10	5	0.1605	84.8	45 - 120				
Phenanthrene	5.217	0.10	5	0.0662	103	45 - 121				
Phenol	3.858	0.20	5	0	77.2	20 - 124				
Pyrene	5.985	0.10	5	0.6322	107	40 - 130				
Surr: 2,4,6-Tribromophenol	*4.348*	*0.20*	*5*	*0*	*87.0*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*4.593*	*0.20*	*5*	*0*	*91.9*	*40 - 125*				
Surr: 2-Fluorophenol	*3.499*	*0.20*	*5*	*0*	*70.0*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.237*	*0.20*	*5*	*0*	*105*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.192*	*0.20*	*5*	*0*	*63.8*	*41 - 120*				
Surr: Phenol-d6	*3.6*	*0.20*	*5*	*0*	*72.0*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20010618

QC BATCH REPORT

Batch ID: 149789 (0) **Instrument: SV-6** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MSD Sample ID: **HS20010618-01MSD** Units: **ug/L** Analysis Date: **20-Jan-2020 18:59**
Client ID: **WG-1620-P12-20200113** Run ID: **SV-6_354667** SeqNo: **5441808** PrepDate: **19-Jan-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
2-Methylnaphthalene	3.617	0.10	5	0	72.3	50 - 120	4.077	12	20	
Acenaphthene	3.858	0.10	5	0	77.2	45 - 120	4.554	16.6	20	
Acenaphthylene	3.761	0.10	5	0	75.2	47 - 120	4.432	16.4	20	
Anthracene	4.577	0.10	5	0.1005	89.5	45 - 120	5.422	16.9	20	
Bis(2-ethylhexyl)phthalate	5.317	0.20	5	0	106	40 - 139	5.953	11.3	20	
Dibenzofuran	3.783	0.10	5	0	75.7	50 - 120	4.513	17.6	20	
Di-n-butyl phthalate	5.105	0.20	5	0	102	45 - 123	5.9	14.5	20	
Fluoranthene	4.616	0.10	5	0	92.3	45 - 125	5.303	13.8	20	
Fluorene	4	0.10	5	0	80.0	49 - 120	4.678	15.6	20	
Naphthalene	3.832	0.10	5	0.1605	73.4	45 - 120	4.398	13.8	20	
Phenanthrene	4.366	0.10	5	0.0662	86.0	45 - 121	5.217	17.8	20	
Phenol	3.371	0.20	5	0	67.4	20 - 124	3.858	13.5	20	
Pyrene	5.245	0.10	5	0.6322	92.2	40 - 130	5.985	13.2	20	
Surr: 2,4,6-Tribromophenol	*3.502*	*0.20*	*5*	*0*	*70.0*	*34 - 129*	*4.348*	*21.5*	*20*	R
Surr: 2-Fluorobiphenyl	*3.715*	*0.20*	*5*	*0*	*74.3*	*40 - 125*	*4.593*	*21.1*	*20*	R
Surr: 2-Fluorophenol	*2.97*	*0.20*	*5*	*0*	*59.4*	*20 - 120*	*3.499*	*16.3*	*20*	
Surr: 4-Terphenyl-d14	*4.522*	*0.20*	*5*	*0*	*90.4*	*40 - 135*	*5.237*	*14.7*	*20*	
Surr: Nitrobenzene-d5	*2.709*	*0.20*	*5*	*0*	*54.2*	*41 - 120*	*3.192*	*16.4*	*20*	
Surr: Phenol-d6	*3.121*	*0.20*	*5*	*0*	*62.4*	*20 - 120*	*3.6*	*14.3*	*20*	

The following samples were analyzed in this batch:

HS20010618-01	HS20010618-02	HS20010618-03	HS20010618-04
HS20010618-05	HS20010618-06	HS20010618-07	HS20010618-08
HS20010618-09	HS20010618-10	HS20010618-11	HS20010618-12
HS20010618-13			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS20010618**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231	20-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	T104704231-19-25	30-Apr-2020

Sample Receipt Checklist

Client Name: PBW
Work Order: HS20010618

Date/Time Received: **15-Jan-2020 11:50**
Received by: **AC**

Checklist completed by: *Paris Frazier* 15-Jan-2020
eSignature | Date

Reviewed by: *Dane J. Wacasey* 15-Jan-2020
eSignature | Date

Matrices: **WATER**

Carrier name: **Client**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:215992/215990
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.3C/2.3C,2.1C/2.1C. 1.2C/1.2C UC/C	IR25	
Cooler(s)/Kit(s):	44307/45460/BLUE		
Date/Time sample(s) sent to storage:	01.15.2020 17:00		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Fc

Page 1 of 2

COC ID: 215992

HS20010618

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-08-Rev0 SR 92688 SWMU1
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	eric_matzner@golder.com	e-Mail Address	

A: 8270_LOW_W (5632532 ATZ SemiVolatiles)
B: 8270_LOW_W (5632532 BTZ SemiVolatiles)
C: 8270_LOW_W (5632532 ATZ & BTZ SemiVolatiles)
D
E
F
G
H
I
J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WG-1620-P12-20200113	1-13-20	1030	Groundwa	8	2		X									
2	WG-1620-P12MS-20200113		1030	W		2		X									
3	WG-1620-P12MSD-20200113		1030	W		2		X									
4	WG-1620-FB01-20200113		1130	W		2		X									
5	WG-1620-MW08-20200113		1130	W		2	X										
6	WG-1620-MW07-20200113		1315	W		2	X										
7	WG-1620-P10-20200113		1420	W		2		X									
8	WG-1620-MW11B-20200114	1-14-20	0925	W		2		X									
9	WG-1620-MW11A-20200114		1035	W		2	X										
10	WG-1620-MW10B-20200114		1135	W		2		X									

Sampler(s) Please Print & Sign: JOHN BRAYTON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results Due Date:

Relinquished by: [signature]
Date: 1-15-20 Time: 1150
Received by:

Relinquished by:
Date: 1-15-2020 11:50
Time:
Received by (Laboratory): AC

Logged by (Laboratory):
Date:
Time:
Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.
	J/K
44507	2.3
45460	2.1
BLUE	1.2
IR#25	ofline

QC Package: (Check One Box Below)
[ ] Level II Std QC
[ ] Level III Std QC/Raw Data
[ ] Level IV SW846/CLP
[ ] Other
[X] TRRP Checklist
[ ] TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page 2 of 2

COC ID: 215990

HS20010618

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-08-Rev0 SR 92688 SWMU1
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	eric_matzner@golder.com	e-Mail Address	

A 8270_LOW_W (5632532 ATZ SemiVolatiles)
B 8270_LOW_W (5632532 BTZ SemiVolatiles)
C 8270_LOW_W (5632532 ATZ & BTZ SemiVolatiles)
D
E
F
G
H
I
J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WG-1620-MW10A-20200114	1-14-20	1225	Groundwa	8	2	X										
2	WG-1620-MW02-20200114		1330	W		2	X										
3	WG-1620-MW01A-20200114		1435	W		2	X										
4	WG-1620-FD01-20200114		1435	W		2	X										
5	WG-1620-FB02-20200114		1500	W		2	X										
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: JOHN BRAYTON

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) ☒ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by: | Date: 1-15-20 | Time: 1150 | Received by:

Relinquished by: | Date: 1-15-2020 | Time: 11:50 | Received by (Laboratory): AC

Logged by (Laboratory): | Date: | Time: | Checked by (Laboratory):

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)

☐ Level II Std QC
☐ Level III Std QC/Raw Data
☐ Level IV SW846/CLP
☐ Other
☒ TRRP Checklist
☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Memorandum

April 6, 2020

To:	Eric Matzner	Ref. No.:	11183954-1620
From:	Chris G. Knight/eew/585-NF	Tel:	512-506-8803
cc:	Jesse Orth, Jon Lang; Julie Lidstone		

Subject: **Data Usability Summary**
HWPW - Groundwater Monitoring (New Wells)
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
March 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 - Groundwater Monitoring (New Wells) at the Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works site during March 2020. Samples were submitted to ALS Environmental (ALS), located in Houston, Texas and are reported in data packages HS20030619, HS20030819, and HS20030961. The intended use of the data is to support the HWPW - Groundwater Monitoring (New Wells) 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, field quality assurance/quality control (QA/QC) samples, the laboratory review checklists (LRC), and the laboratory exception reports (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 # TX104704231 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 trip blank samples, field duplicate sample sets, and 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 properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

The sample chain of custody documents and the analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

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 packages.

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 packages.

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.

4.5 Internal Standard and Surrogate Spike Recoveries

Recoveries of internal standards are addressed in the LRC of the data packages. 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), semi-volatile organic compounds (SVOCs), and total petroleum hydrocarbons (TPH) 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. Samples analyzed at elevated sample dilutions (five times or greater) were not assessed.

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/or 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 TPH (C6-C12). The associated sample result was non-detect and would not be 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/matrix spike duplicate (MSD) samples. The RPD between the MS and MSD is used to assess analytical precision.

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

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

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 for arsenic analysis. The RPD established by the laboratory are adopted as the acceptance criteria for the project.

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

4.9 Field QA/QC Samples

The field QA/QC consisted of three trip blank sample and two field duplicate sample sets.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, one trip blank sample was submitted to the laboratory for VOCs analysis. All results were non-detect for the compounds of interest.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, two field duplicate sample sets were collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than thirty percent for water samples. The RPDs are only used when sample concentrations are above the estimated regions of detection.

Field duplicate summary data are presented in Table 2. All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision with the following exceptions (see Table 4):

i) WG-1620-MW70C-20200312 and WG-1620-FD01-20200312 did show some variability in SVOCs results and were qualified as estimated.

4.10 Field Procedures

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

4.11 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 otherwise 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 - Groundwater Monitoring (New Wells) at the site by providing current concentration of chemicals of concern with the specific qualifications noted herein.

Table 1

Sample Collection and Analysis Summary
HWPW - Groundwater Monitoring (New Wells)
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
March 2020

					Analysis/Parameters				
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**TPH**	**Arsenic**	**Comments**
WG-1620-MW54B-20200311	MW-54B	Water	03/11/2020	14:20	X	X		X	
WQ-1620-MW99C-20200311	MW-99C	Water	03/11/2020	15:35	X	X		X	MS/MSD-P
WG-1620-MW91A-20200312	MW-91A	Water	03/12/2020	09:20	X	X		X	
WG-1620-MW70C-20200312	MW-70C	Water	03/12/2020	10:35	X	X		X	
WG-1620-FD01-20200312	MW-70C	Water	03/12/2020	10:35	X	X		X	Field duplicate of MW70C
WG-1620-MW76B-20200312	MW-76B	Water	03/12/2020	10:35	X	X	X	X	
WG-1620-MW97A-20200312	MW-97A	Water	03/12/2020	11:47	X	X	X	X	MS/MSD-P
WG-1620-MW84A-20200312	MW-84A	Water	03/12/2020	12:15	X	X		X	MS/MSD-P
WG-1620-MW98A-20200312	MW-98A	Water	03/12/2020	12:54	X	X	X	X	
WG-1620-MW92B-20200312	MW-92B	Water	03/12/2020	13:20	X	X		X	
WG-1620-MW98B-20200312	MW-98B	Water	03/12/2020	13:53	X	X	X	X	
WG-1620-MW93B-20200312	MW-93B	Water	03/12/2020	14:35	X	X		X	
WG-1620-MW50B-20200312	MW-50B	Water	03/12/2020	15:20	X	X	X	X	
WG-1620-MW94A-20200312	MW-94A	Water	03/12/2020	15:45	X	X		X	
WQ-1620-TB01-20200312	-	Water	03/12/2020	-	X				Trip Blank
WQ-1620-TB02-20200312	-	Water	03/12/2020	-	X				Trip Blank
WG-1620-MW95A-20200317	MW-95A	Water	03/17/2020	09:10	X	X		X	
WG-1620-MW96B-20200317	MW-96B	Water	03/17/2020	10:25	X	X		X	

Table 1

Sample Collection and Analysis Summary
HWPW - Groundwater Monitoring (New Wells)
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
March 2020

					Analysis/Parameters				
Sample Identification	**Location**	**Matrix**	**Collection Date (mm/dd/yyyy)**	**Collection Time (hr:min)**	**VOCs**	**SVOCs**	**TPH**	**Arsenic**	**Comments**
WG-1620-FD02-20200317	MW-96B	Water	03/17/2020	10:25	X	X		X	Field duplicate of MW96B
WG-1620-MW61B-20200317	MW61B	Water	03/17/2020	11:45	X	X		X	
WG-1620-MW88A-20200317	MW-88A	Water	03/17/2020	12:55	X	X		X	MS/MSD-P
WG-1620-MW88B-20200317	MW-88B	Water	03/17/2020	13:50	X	X		X	
WG-1620-MW60B-20200317	MW60B	Water	03/17/2020	15:15	X	X		X	
WQ-1620-TB01-20200317	-	Water	03/17/2020	-	X				Trip Blank
WG-1620-MW60AR-20200320	MW-60AR	Water	03/20/2020	08:55	X	X		X	
WG-1620-MW47A-20200320	MW-47A	Water	03/20/2020	10:30	X	X		X	
WQ-1620-TB01-20200320	-	Water	03/20/2020	-	X				Trip Blank

Notes:

VOCs - Volatile Organic Compounds
SVOCs - Semi-volatile Organic Compounds
TPH - Total Petroleum Hydrocarbons
MS/MSD-P - Matrix Spike/ Matrix Spike Duplicate (partial parameters)
"-" - Not Applicable

Table 2

Analytical Results Summary
HWPW - Groundwater Monitoring (New Wells)
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
March 2020

	Location ID:	MW-47A	MW-50B	MW-54B	MW-60AR
	Sample Name:	WG-1620-MW47A-20200320	WG-1620-MW50B-20200312	WG-1620-MW54B-20200311	WG-1620-MW60AR-20200320
	Sample Date:	03/20/2020	03/12/2020	03/11/2020	03/20/2020
Parameters	**Unit**				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	0.00043 J	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	0.0068	0.0011	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	0.0033	<0.00020	<0.00020
Xylenes (total)	mg/L	<0.00030	0.0056	0.0018	<0.00030
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000022	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000042	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000060	<0.000059	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000044	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000022	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	0.016	0.00011	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000021	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000049	<0.000047	<0.000047
Acenaphthene	mg/L	<0.000027	0.020	0.0093	<0.000027
Acenaphthylene	mg/L	<0.000015	0.00028	0.000087 J	<0.000015
Anthracene	mg/L	<0.000014	0.0016	0.00017	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000052	<0.000051	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000021	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000031	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.00011 J	<0.000039	0.000089 J	0.000063 J
Chrysene	mg/L	<0.000021	<0.000022	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	0.000076 J	0.000038 J	0.000033 J	<0.000020
Dibenzofuran	mg/L	<0.000020	0.015	0.000076 J	<0.000020

Table 2

Analytical Results Summary
HWPW - Groundwater Monitoring (New Wells)
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
March 2020

Location ID:		MW-47A	MW-50B	MW-54B	MW-60AR
Sample Name:		WG-1620-MW47A-20200320	WG-1620-MW50B-20200312	WG-1620-MW54B-20200311	WG-1620-MW60AR-20200320
Sample Date:		03/20/2020	03/12/2020	03/11/2020	03/20/2020
Parameters	**Unit**				
Semi-volatile Organic Compounds (Continued)					
Fluoranthene	mg/L	<0.000010	0.0011	0.000022 J	<0.000010
Fluorene	mg/L	<0.000030	0.011	0.00015	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000026	<0.000025	<0.000025
Naphthalene	mg/L	<0.000020	0.31	0.0021	<0.000020
Nitrobenzene	mg/L	<0.000024	<0.000025	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000082	<0.000080	<0.000079
Phenanthrene	mg/L	<0.000021	0.016	0.0028	<0.000021
Phenol	mg/L	<0.000035	<0.000036	<0.000035	<0.000035
Pyrene	mg/L	<0.000019	0.00059	<0.000019	<0.000019
Total Petroleum Hydrocarbons					
Total Petroleum Hydrocarbons	mg/L	--	2.10	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	1.1	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	<0.19	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	1.0	--	--
Metals					
Arsenic	mg/L	0.000566 J	0.00372	0.00117 J	0.00189 J

Table 2

Analytical Results Summary
HWPW - Groundwater Monitoring (New Wells)
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
March 2020

	Location ID:	MW-70C	MW-70C	MW-76B	MW-84A
	Sample Name:	WG-1620-MW70C-20200312	WG-1620-FD01-20200312	WG-1620-MW76B-20200312	WG-1620-MW84A-20200312
	Sample Date:	03/12/2020	03/12/2020 Duplicate	03/12/2020	03/12/2020
Parameters	**Unit**				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	0.010	0.0089	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	0.057	0.052	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.034	0.032	<0.00020	<0.00020
Xylenes (total)	mg/L	0.064	0.061	<0.00030	<0.00030
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000022	<0.000022	<0.000022	<0.000021
2,4-Dimethylphenol	mg/L	0.00041	<0.000041	<0.000042	<0.000041
2,4-Dinitrotoluene	mg/L	<0.000060	<0.000060	<0.000060	<0.000059
2,6-Dinitrotoluene	mg/L	<0.000044	<0.000043	<0.000044	<0.000043
2-Chloronaphthalene	mg/L	<0.000022	<0.000022	<0.000022	<0.000021
2-Methylnaphthalene	mg/L	0.067 J	0.098 J	<0.000020	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000021	<0.000021	<0.000021	<0.000020
4-Nitrophenol	mg/L	<0.000049	<0.000048	<0.000049	<0.000048
Acenaphthene	mg/L	0.059 J	0.087 J	<0.000028	<0.000028
Acenaphthylene	mg/L	<0.000016	0.00074	<0.000016	<0.000015
Anthracene	mg/L	0.0049 J	0.0082 J	<0.000015	<0.000014
Benzo(a)anthracene	mg/L	<0.000052	0.000079 J	<0.000052	<0.000051
Benzo(a)pyrene	mg/L	<0.000021	<0.000021	<0.000021	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000031	<0.000031	<0.000031	<0.000031
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000039	0.000052 J	<0.000039	<0.000038
Chrysene	mg/L	<0.000022	0.000061 J	<0.000022	<0.000021
Di-n-butylphthalate (DBP)	mg/L	0.000061 J	0.00010 J	0.000025 J	<0.000020
Dibenzofuran	mg/L	0.055 J	0.078 J	<0.000021	<0.000020

Analytical Results Summary
HWPW - Groundwater Monitoring (New Wells)
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
March 2020

Location ID:		MW-70C	MW-70C	MW-76B	MW-84A
Sample Name:		WG-1620-MW70C-20200312	WG-1620-FD01-20200312	WG-1620-MW76B-20200312	WG-1620-MW84A-20200312
Sample Date:		03/12/2020	03/12/2020 Duplicate	03/12/2020	03/12/2020
Parameters	**Unit**				
Semi-volatile Organic Compounds (Continued)					
Fluoranthene	mg/L	0.0030 J	0.0053 J	<0.000010	<0.000010
Fluorene	mg/L	0.028 J	0.038 J	<0.000031	<0.000031
N-Nitrosodiphenylamine	mg/L	<0.000026	<0.000026	<0.000026	<0.000026
Naphthalene	mg/L	1.6 J	2.5 J	0.000096 J	0.000023 J
Nitrobenzene	mg/L	<0.000025	<0.000025	<0.000025	<0.000024
Pentachlorophenol	mg/L	<0.000082	<0.000081	<0.000082	<0.000081
Phenanthrene	mg/L	0.040	0.054	<0.000022	<0.000021
Phenol	mg/L	<0.000036	<0.000036	<0.000036	<0.000036
Pyrene	mg/L	0.0017 J	0.0029 J	<0.000020	<0.000019
Total Petroleum Hydrocarbons					
Total Petroleum Hydrocarbons	mg/L	--	--	<0.19	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	<0.19	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	<0.19	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	<0.19	--
Metals					
Arsenic	mg/L	0.00598	0.00470	0.00115 J	0.00464

Table 2

Analytical Results Summary
HWPW - Groundwater Monitoring (New Wells)
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
March 2020

Location ID:		MW-88A	MW-88B	MW-91A	MW-92B
Sample Name:		WG-1620-MW88A-20200317	WG-1620-MW88B-20200317	WG-1620-MW91A-20200312	WG-1620-MW92B-20200312
Sample Date:		03/17/2020	03/17/2020	03/12/2020	03/12/2020
Parameters	**Unit**				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	0.00049 J
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000022	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.000042	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000061	<0.000059
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000044	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000022	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	<0.000019	<0.000020	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000021	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000049	<0.000047
Acenaphthene	mg/L	0.0015	<0.000027	<0.000028	<0.000027
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000016	<0.000015
Anthracene	mg/L	<0.000014	<0.000014	<0.000015	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000053	<0.000051
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000021	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000032	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.00010 J	<0.000037	<0.000039	<0.000037
Chrysene	mg/L	<0.000021	<0.000021	<0.000022	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	0.000031 J	<0.000020
Dibenzofuran	mg/L	<0.000020	<0.000020	<0.000021	<0.000020

Table 2

Analytical Results Summary
HWPW - Groundwater Monitoring (New Wells)
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
March 2020

Location ID:		MW-88A	MW-88B	MW-91A	MW-92B
Sample Name:		WG-1620-MW88A-20200317	WG-1620-MW88B-20200317	WG-1620-MW91A-20200312	WG-1620-MW92B-20200312
Sample Date:		03/17/2020	03/17/2020	03/12/2020	03/12/2020
Parameters	**Unit**				
Semi-volatile Organic Compounds (Continued)					
Fluoranthene	mg/L	0.00025	<0.000010	<0.000011	<0.000010
Fluorene	mg/L	0.00026	<0.000030	<0.000032	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000026	<0.000025
Naphthalene	mg/L	<0.000020	<0.000020	0.000083 J	<0.000020
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000025	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000083	<0.000080
Phenanthrene	mg/L	<0.000021	<0.000021	<0.000022	<0.000021
Phenol	mg/L	<0.000035	<0.000035	<0.000037	<0.000035
Pyrene	mg/L	0.00053	<0.000019	<0.000020	<0.000019
Total Petroleum Hydrocarbons					
Total Petroleum Hydrocarbons	mg/L	--	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--	--
Metals					
Arsenic	mg/L	0.00355	0.00166 J	0.00989	0.00201

Table 2

Analytical Results Summary
HWPW - Groundwater Monitoring (New Wells)
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
March 2020

Location ID:		MW-93B	MW-94A	MW-95A	MW-96B
Sample Name:		WG-1620-MW93B-20200312	WG-1620-MW94A-20200312	WG-1620-MW95A-20200317	WG-1620-MW96B-20200317
Sample Date:		03/12/2020	03/12/2020	03/17/2020	03/17/2020
Parameters	**Unit**				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.00092 J	<0.00020	<0.00020	<0.00020
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000022	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000041	<0.000041	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000059	<0.000060	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000043	<0.000043	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000022	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	<0.000020	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000021	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000048	<0.000048	<0.000047	<0.000047
Acenaphthene	mg/L	0.000039 J	<0.000028	<0.000027	<0.000027
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	mg/L	<0.000014	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	mg/L	<0.000051	<0.000052	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000021	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000031	<0.000031	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000038	0.000056 J	<0.000037	0.00035
Chrysene	mg/L	<0.000021	<0.000022	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000021	<0.000020	<0.000020
Dibenzofuran	mg/L	0.000071 J	<0.000021	<0.000020	<0.000020

Table 2

Analytical Results Summary
HWPW - Groundwater Monitoring (New Wells)
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
March 2020

Location ID:		MW-93B	MW-94A	MW-95A	MW-96B
Sample Name:		WG-1620-MW93B-20200312	WG-1620-MW94A-20200312	WG-1620-MW95A-20200317	WG-1620-MW96B-20200317
Sample Date:		03/12/2020	03/12/2020	03/17/2020	03/17/2020
Parameters	**Unit**				
Semi-volatile Organic Compounds (Continued)					
Fluoranthene	mg/L	<0.000010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.000058 J	<0.000031	<0.000030	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000026	<0.000026	<0.000025	<0.000025
Naphthalene	mg/L	<0.000020	<0.000021	<0.000020	<0.000020
Nitrobenzene	mg/L	<0.000024	<0.000025	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000081	<0.000081	<0.000079	<0.000079
Phenanthrene	mg/L	0.00016	<0.000022	<0.000021	<0.000021
Phenol	mg/L	<0.000036	<0.000036	<0.000035	<0.000035
Pyrene	mg/L	<0.000019	<0.000020	<0.000019	<0.000019
Total Petroleum Hydrocarbons					
Total Petroleum Hydrocarbons	mg/L	--	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--	--
Metals					
Arsenic	mg/L	0.00455	0.00540	0.000977 J	0.00312

Table 2

Analytical Results Summary
HWPW - Groundwater Monitoring (New Wells)
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
March 2020

Location ID:		MW-96B	MW-97A	MW-98A	MW-98B
Sample Name:		WG-1620-FD02-20200317	WG-1620-MW97A-20200312	WG-1620-MW98A-20200312	WG-1620-MW98B-20200312
Sample Date:		03/17/2020	03/12/2020	03/12/2020	03/12/2020
		Duplicate			
Parameters	**Unit**				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	0.00065 J	0.0020
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	0.000078 J	<0.000041
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000059	<0.000059	<0.000059
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000043	<0.000043
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000048	<0.000048
Acenaphthene	mg/L	<0.000027	<0.000027	0.000040 J	<0.000028
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	mg/L	<0.000014	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000051	<0.000051	<0.000051
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000031	<0.000031
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.00013 J	<0.000037	<0.000038	<0.000038
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	<0.000020	<0.000020	<0.000020	<0.000020

Analytical Results Summary
HWPW - Groundwater Monitoring (New Wells)
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
March 2020

Location ID:		MW-96B	MW-97A	MW-98A	MW-98B
Sample Name:		WG-1620-FD02-20200317	WG-1620-MW97A-20200312	WG-1620-MW98A-20200312	WG-1620-MW98B-20200312
Sample Date:		03/17/2020	03/12/2020	03/12/2020	03/12/2020
		Duplicate			
Parameters	**Unit**				
Semi-volatile Organic Compounds (Continued)					
Fluoranthene	mg/L	<0.000010	<0.000010	0.000018 J	<0.000010
Fluorene	mg/L	<0.000030	<0.000030	<0.000031	<0.000031
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000026	<0.000026
Naphthalene	mg/L	<0.000020	<0.000020	0.000042 J	0.000036 J
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000080	<0.000081	<0.000081
Phenanthrene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
Phenol	mg/L	<0.000035	<0.000035	<0.000036	<0.000036
Pyrene	mg/L	<0.000019	<0.000019	<0.000019	<0.000019
Total Petroleum Hydrocarbons					
Total Petroleum Hydrocarbons	mg/L	--	<0.19	1.00	0.380 J
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	<0.19	1.0	0.38 J
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	<0.19	<0.19	<0.19
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	<0.19	<0.19	<0.19
Metals					
Arsenic	mg/L	0.00311	0.00121 J	0.00963	0.00165 J

Table 2

Analytical Results Summary
HWPW - Groundwater Monitoring (New Wells)
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
March 2020

	Location ID:	MW-99C	MW60B	MW61B
	Sample Name:	WQ-1620-MW99C-20200311	WG-1620-MW60B-20200317	WG-1620-MW61B-20200317
	Sample Date:	03/11/2020	03/17/2020	03/17/2020
Parameters	**Unit**			
Volatile Organic Compounds				
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.00078 J	<0.00020	<0.00020
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds				
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000041	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000059	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000043	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.000086 J	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.000048	<0.000047	<0.000047
Acenaphthene	mg/L	<0.000028	<0.000027	<0.000027
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015
Anthracene	mg/L	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	mg/L	<0.000051	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000031	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.000070 J	0.00092	0.00015 J
Chrysene	mg/L	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	0.000047 J	<0.000020
Dibenzofuran	mg/L	<0.000020	<0.000020	<0.000020

Table 2

Analytical Results Summary
HWPW - Groundwater Monitoring (New Wells)
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
March 2020

Location ID:		**MW-99C**	**MW60B**	**MW61B**
Sample Name:		**WQ-1620-MW99C-20200311**	**WG-1620-MW60B-20200317**	**WG-1620-MW61B-20200317**
Sample Date:		**03/11/2020**	**03/17/2020**	**03/17/2020**
Parameters	**Unit**			
Semi-volatile Organic Compounds (Continued)				
Fluoranthene	mg/L	<0.000010	0.000015 J	<0.000010
Fluorene	mg/L	<0.000031	<0.000030	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000026	<0.000025	<0.000025
Naphthalene	mg/L	0.00018	<0.000020	<0.000020
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000081	<0.000079	<0.000079
Phenanthrene	mg/L	0.000053 J	<0.000021	<0.000021
Phenol	mg/L	<0.000036	<0.000035	<0.000035
Pyrene	mg/L	<0.000019	<0.000019	<0.000019
Total Petroleum Hydrocarbons				
Total Petroleum Hydrocarbons	mg/L	--	--	--
Total Petroleum Hydrocarbons (>C12-C28)	mg/L	--	--	--
Total Petroleum Hydrocarbons (>C28-C35)	mg/L	--	--	--
Total Petroleum Hydrocarbons (C6-C12)	mg/L	--	--	--
Metals				
Arsenic	mg/L	0.000866 J	0.00234	0.00461

Notes:

< - Not detected at the associated reporting limit
J - Estimated concentration
"--" - Not analyzed

Table 3

Analytical Methods
HWPW - Groundwater Monitoring (New Wells)
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
March 2020

			Holding Time	
Parameter	**Method**	**Matrix**	**Collection to Extraction (Days)**	**Extraction to Analysis (Days)**
VOCs	SW-846 8260C	Water	-	14
SVOCs	SW-846 8270D	Water	7	40
TPH	TX1005	Water	14	40
Arsenic	SW-846 6020A	Water	-	180

Notes:

VOCs - Volatile Organic Compounds
SVOCs - Semi-volatile Organic Compounds
TPH - Total Petroleum Hydrocarbons
"-" - Not Applicable

Method References:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

Table 4

Qualified Sample Data Due to Variability in Field Duplicate Results
HWPW - Groundwater Monitoring (New Wells)
Union Pacific Railroad (UPRR)/Houston, TX-Wood Preserving Works
Houston, Texas
March 2020

Parameter	Analyte	RPD	Sample ID	Qualified Result	Field Duplicate Sample ID	Qualified Result	Units
SVOCs	2-Methylnaphthalene	37.6	WG-1620-MW70C-20200312	0.067 J	WG-1620-FD01-20200312	0.098 J	mg/L
	Acenaphthene	38.4		0.059 J		0.087 J	mg/L
	Anthracene	50.4		0.0049 J		0.0082 J	mg/L
	Dibenzofuran	34.6		0.055 J		0.078 J	mg/L
	Di-n-butylphthalate (DBP)	48.4		0.000061 J		0.00010 J	mg/L
	Fluoranthene	55.4		0.0030 J		0.0053 J	mg/L
	Fluorene	30.3		0.028 J		0.038 J	mg/L
	Naphthalene	43.9		1.6 J		2.5 J	mg/L
	Pyrene	52.2		0.0017 J		0.0029 J	mg/L

Notes:

RPD - Relative Percent Difference
SVOCs - Semi-volatile Organic Compounds
J - Estimated concentration

Attachment A
Laboratory NELAP Certificate

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Drinking Water***

Method EPA 1613

Analyte	AB	Analyte ID	Method ID
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10120408

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Copper	TX	1055	10014605
Lead	TX	1075	10014605

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	TX	1780	10116606

Method EPA 120.1

Analyte	AB	Analyte ID	Method ID
Conductivity	TX	1610	10006403

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	TX	849	10118806

Method EPA 1312

Analyte	AB	Analyte ID	Method ID
SPLP	TX	850	10119003

Method EPA 160.4

Analyte	AB	Analyte ID	Method ID
Residue-volatile	TX	1970	10010409

Method EPA 1613

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	TX	9516	10120408
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	TX	9519	10120408
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	TX	9420	10120408
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	TX	9426	10120408
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	TX	9423	10120408
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	TX	9471	10120408
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	TX	9453	10120408
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	TX	9474	10120408
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	TX	9456	10120408
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	TX	9477	10120408
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	TX	9459	10120408
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	TX	9543	10120408
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	TX	9540	10120408
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	TX	9480	10120408

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	TX	9549	10120408
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	TX	9612	10120408
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10120408
Total Heptachlorodibenzofuran (Total HpCDF)	TX	9444	10120408
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	TX	9438	10120408
Total Hexachlorodibenzofuran (Total HxCDF)	TX	9483	10120408
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	TX	9468	10120408
Total Pentachlorodibenzofuran (Total PeCDF)	TX	9552	10120408
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	TX	9555	10120408
Total Tetrachlorodibenzofuran (Total TCDF)	TX	9615	10120408
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	TX	9609	10120408

Method EPA 1664

Analyte	**AB**	**Analyte ID**	**Method ID**
n-Hexane Extractable Material (HEM) (O&G)	TX	1803	10127807

Method EPA 180.1

Analyte	**AB**	**Analyte ID**	**Method ID**
Turbidity	TX	2055	10011606

Method EPA 200.8

Analyte	**AB**	**Analyte ID**	**Method ID**
Aluminum	TX	1000	10014605
Antimony	TX	1005	10014605
Arsenic	TX	1010	10014605
Barium	TX	1015	10014605
Beryllium	TX	1020	10014605
Boron	TX	1025	10014605
Cadmium	TX	1030	10014605
Calcium	TX	1035	10014605
Chromium	TX	1040	10014605
Cobalt	TX	1050	10014605
Copper	TX	1055	10014605
Iron	TX	1070	10014605

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Lead	TX	1075	10014605
Magnesium	TX	1085	10014605
Manganese	TX	1090	10014605
Molybdenum	TX	1100	10014605
Nickel	TX	1105	10014605
Potassium	TX	1125	10014605
Selenium	TX	1140	10014605
Silver	TX	1150	10014605
Sodium	TX	1155	10014605
Strontium	TX	1160	10014605
Thallium	TX	1165	10014605
Tin	TX	1175	10014605
Titanium	TX	1180	10014605
Uranium	TX	3035	10014605
Vanadium	TX	1185	10014605
Zinc	TX	1190	10014605

Method EPA 245.1

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10036609

Method EPA 300.0

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

Method EPA 325.1

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

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Chloride	TX	1575	10056801

Method EPA 335.1

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	TX	1510	10060001

Method EPA 335.2

Analyte	AB	Analyte ID	Method ID
Total cyanide	TX	1645	10278203

Method EPA 335.4

Analyte	AB	Analyte ID	Method ID
Total cyanide	TX	1645	10061402

Method EPA 350.3

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	10064401

Method EPA 365.3

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	TX	1870	10070801
Phosphorus	TX	1910	10070801

Method EPA 375.4

Analyte	AB	Analyte ID	Method ID
Sulfate	TX	2000	10073800

Method EPA 376.1

Analyte	AB	Analyte ID	Method ID
Sulfide	TX	2005	10074201

Method EPA 410.4

Analyte	AB	Analyte ID	Method ID
Chemical oxygen demand (COD)	TX	1565	10077404

Method EPA 415.1

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	10078407

Method EPA 420.1

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10079400

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 420.4

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10080203

Method EPA 6020

Analyte	AB	Analyte ID	Method ID
Aluminum	TX	1000	10156419
Antimony	TX	1005	10156419
Arsenic	TX	1010	10156419
Barium	TX	1015	10156419
Beryllium	TX	1020	10156419
Boron	TX	1025	10156419
Cadmium	TX	1030	10156419
Calcium	TX	1035	10156419
Chromium	TX	1040	10156419
Cobalt	TX	1050	10156419
Copper	TX	1055	10156419
Iron	TX	1070	10156419
Lead	TX	1075	10156419
Lithium	TX	1080	10156419
Magnesium	TX	1085	10156419
Manganese	TX	1090	10156419
Molybdenum	TX	1100	10156419
Nickel	TX	1105	10156419
Potassium	TX	1125	10156419
Selenium	TX	1140	10156419
Silver	TX	1150	10156419
Sodium	TX	1155	10156419
Strontium	TX	1160	10156419
Thallium	TX	1165	10156419
Tin	TX	1175	10156419
Titanium	TX	1180	10156419

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Vanadium	TX	1185	10156419
Zinc	TX	1190	10156419

Method EPA 608

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	TX	7355	10103603
4,4'-DDE	TX	7360	10103603
4,4'-DDT	TX	7365	10103603
Aldrin	TX	7025	10103603
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10103603
alpha-Chlordane	TX	7240	10103603
Aroclor-1016 (PCB-1016)	TX	8880	10103603
Aroclor-1221 (PCB-1221)	TX	8885	10103603
Aroclor-1232 (PCB-1232)	TX	8890	10103603
Aroclor-1242 (PCB-1242)	TX	8895	10103603
Aroclor-1248 (PCB-1248)	TX	8900	10103603
Aroclor-1254 (PCB-1254)	TX	8905	10103603
Aroclor-1260 (PCB-1260)	TX	8910	10103603
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10103603
Chlordane (tech.)	TX	7250	10103603
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10103603
Dieldrin	TX	7470	10103603
Endosulfan I	TX	7510	10103603
Endosulfan II	TX	7515	10103603
Endosulfan sulfate	TX	7520	10103603
Endrin	TX	7540	10103603
Endrin aldehyde	TX	7530	10103603
Endrin ketone	TX	7535	10103603
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10103603
gamma-Chlordane	TX	7245	10103603
Heptachlor	TX	7685	10103603

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Heptachlor epoxide	TX	7690	10103603
Methoxychlor	TX	7810	10103603
Toxaphene (Chlorinated camphene)	TX	8250	10103603

Method EPA 624

Analyte	AB	Analyte ID	Method ID
1,1,1-Trichloroethane	TX	5160	10107207
1,1,2,2-Tetrachloroethane	TX	5110	10107207
1,1,2-Trichloroethane	TX	5165	10107207
1,1-Dichloroethane	TX	4630	10107207
1,1-Dichloroethylene	TX	4640	10107207
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10107207
1,2-Dichlorobenzene	TX	4610	10107207
1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10107207
1,2-Dichloropropane	TX	4655	10107207
1,3-Dichlorobenzene	TX	4615	10107207
1,4-Dichlorobenzene	TX	4620	10107207
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10107207
2-Chloroethyl vinyl ether	TX	4500	10107207
Acetone (2-Propanone)	TX	4315	10107207
Acrolein (Propenal)	TX	4325	10107207
Acrylonitrile	TX	4340	10107207
Benzene	TX	4375	10107207
Bromodichloromethane	TX	4395	10107207
Bromoform	TX	4400	10107207
Carbon tetrachloride	TX	4455	10107207
Chlorobenzene	TX	4475	10107207
Chlorodibromomethane	TX	4575	10107207
Chloroethane (Ethyl chloride)	TX	4485	10107207
Chloroform	TX	4505	10107207
cis-1,2-Dichloroethylene	TX	4645	10107207

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

cis-1,3-Dichloropropene	TX	4680	10107207
Ethylbenzene	TX	4765	10107207
m+p-xylene	TX	5240	10107207
Methyl bromide (Bromomethane)	TX	4950	10107207
Methyl chloride (Chloromethane)	TX	4960	10107207
Methyl tert-butyl ether (MTBE)	TX	5000	10107207
Methylene chloride (Dichloromethane)	TX	4975	10107207
Naphthalene	TX	5005	10107207
o-Xylene	TX	5250	10107207
Tetrachloroethylene (Perchloroethylene)	TX	5115	10107207
Toluene	TX	5140	10107207
trans-1,2-Dichloroethylene	TX	4700	10107207
trans-1,3-Dichloropropylene	TX	4685	10107207
Trichloroethene (Trichloroethylene)	TX	5170	10107207
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10107207
Vinyl chloride	TX	5235	10107207
Xylene (total)	TX	5260	10107207

Method EPA 625

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,4,5-Tetrachlorobenzene	TX	6715	10107401
1,2,4-Trichlorobenzene	TX	5155	10107401
1,2-Dichlorobenzene	TX	4610	10107401
1,2-Diphenylhydrazine	TX	6220	10107401
1,3-Dichlorobenzene	TX	4615	10107401
1,4-Dichlorobenzene	TX	4620	10107401
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	TX	4659	10107401
2,4,5-Trichlorophenol	TX	6835	10107401
2,4,6-Trichlorophenol	TX	6840	10107401
2,4-Dichlorophenol	TX	6000	10107401
2,4-Dimethylphenol	TX	6130	10107401

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

2,4-Dinitrophenol	TX	6175	10107401
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10107401
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10107401
2-Chloronaphthalene	TX	5795	10107401
2-Chlorophenol	TX	5800	10107401
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	TX	6360	10107401
2-Methylphenol (o-Cresol)	TX	6400	10107401
2-Nitrophenol	TX	6490	10107401
3,3'-Dichlorobenzidine	TX	5945	10107401
4-Bromophenyl phenyl ether (BDE-3)	TX	5660	10107401
4-Chloro-3-methylphenol	TX	5700	10107401
4-Chlorophenyl phenylether	TX	5825	10107401
4-Methylphenol (p-Cresol)	TX	6410	10107401
4-Nitrophenol	TX	6500	10107401
Acenaphthene	TX	5500	10107401
Acenaphthylene	TX	5505	10107401
Anthracene	TX	5555	10107401
Benzidine	TX	5595	10107401
Benzo(a)anthracene	TX	5575	10107401
Benzo(a)pyrene	TX	5580	10107401
Benzo(b)fluoranthene	TX	5585	10107401
Benzo(g,h,i)perylene	TX	5590	10107401
Benzo(k)fluoranthene	TX	5600	10107401
bis(2-Chloroethoxy)methane	TX	5760	10107401
bis(2-Chloroethyl) ether	TX	5765	10107401
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	TX	6065	10107401
Butyl benzyl phthalate	TX	5670	10107401
Chrysene	TX	5855	10107401
Dibenz(a,h) anthracene	TX	5895	10107401
Diethyl phthalate	TX	6070	10107401

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Dimethyl phthalate	TX	6135	10107401
Di-n-butyl phthalate	TX	5925	10107401
Di-n-octyl phthalate	TX	6200	10107401
Fluoranthene	TX	6265	10107401
Fluorene	TX	6270	10107401
Hexachlorobenzene	TX	6275	10107401
Hexachlorobutadiene	TX	4835	10107401
Hexachlorocyclopentadiene	TX	6285	10107401
Hexachloroethane	TX	4840	10107401
Indeno(1,2,3-cd) pyrene	TX	6315	10107401
Isophorone	TX	6320	10107401
Naphthalene	TX	5005	10107401
Nitrobenzene	TX	5015	10107401
n-Nitrosodiethylamine	TX	6525	10107401
n-Nitrosodimethylamine	TX	6530	10107401
n-Nitrosodi-n-butylamine	TX	5025	10107401
n-Nitrosodi-n-propylamine	TX	6545	10107401
n-Nitrosodiphenylamine	TX	6535	10107401
Pentachlorobenzene	TX	6590	10107401
Pentachlorophenol	TX	6605	10107401
Phenanthrene	TX	6615	10107401
Phenol	TX	6625	10107401
Pyrene	TX	6665	10107401
Pyridine	TX	5095	10107401

Method EPA 7196

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	TX	1045	10162206

Method EPA 7470

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10165603

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 8011

Analyte	AB	Analyte ID	Method ID
1,2,3-Trichloropropane	TX	5180	10173009
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10173009
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10173009

Method EPA 8015

Analyte	AB	Analyte ID	Method ID
Diesel range organics (DRO)	TX	9369	10173203
Ethanol	TX	4750	10173203
Ethylene glycol	TX	4785	10173203
Gasoline range organics (GRO)	TX	9408	10173203
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10173203
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10173203
Methanol	TX	4930	10173203
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10173203
n-Propanol (1-Propanol)	TX	5055	10173203
Propylene Glycol	TX	6657	10173203
tert-Butyl alcohol	TX	4420	10173203

Method EPA 8021

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

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	TX	7355	10178402
4,4'-DDE	TX	7360	10178402

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

4,4'-DDT	TX	7365	10178402
Aldrin	TX	7025	10178402
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10178402
alpha-Chlordane	TX	7240	10178402
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10178402
Chlordane (tech.)	TX	7250	10178402
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10178402
Dieldrin	TX	7470	10178402
Endosulfan I	TX	7510	10178402
Endosulfan II	TX	7515	10178402
Endosulfan sulfate	TX	7520	10178402
Endrin	TX	7540	10178402
Endrin aldehyde	TX	7530	10178402
Endrin ketone	TX	7535	10178402
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10178402
gamma-Chlordane	TX	7245	10178402
Heptachlor	TX	7685	10178402
Heptachlor epoxide	TX	7690	10178402
Hexachlorobenzene	TX	6275	10178402
Methoxychlor	TX	7810	10178402
Mirex	TX	7870	10178402
Toxaphene (Chlorinated camphene)	TX	8250	10178402

Method EPA 8082

Analyte	**AB**	**Analyte ID**	**Method ID**
Aroclor-1016 (PCB-1016)	TX	8880	10179201
Aroclor-1221 (PCB-1221)	TX	8885	10179201
Aroclor-1232 (PCB-1232)	TX	8890	10179201
Aroclor-1242 (PCB-1242)	TX	8895	10179201
Aroclor-1248 (PCB-1248)	TX	8900	10179201
Aroclor-1254 (PCB-1254)	TX	8905	10179201

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Aroclor-1260 (PCB-1260)	TX	8910	10179201
PCBs (total)	TX	8870	10179201

Method EPA 8151

Analyte	AB	Analyte ID	Method ID
2,4,5-T	TX	8655	10183003
2,4-D	TX	8545	10183003
2,4-DB	TX	8560	10183003
Dalapon	TX	8555	10183003
Dicamba	TX	8595	10183003
Dichloroprop (Dichlorprop, Weedone)	TX	8605	10183003
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10183003
MCPA	TX	7775	10183003
MCPP	TX	7780	10183003
Silvex (2,4,5-TP)	TX	8650	10183003

Method EPA 8260

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

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10184404
1,2-Dichloropropane	TX	4655	10184404
1,3,5-Trimethylbenzene	TX	5215	10184404
1,3-Dichlorobenzene	TX	4615	10184404
1,3-Dichloropropane	TX	4660	10184404
1,4-Dichlorobenzene	TX	4620	10184404
1,4-Dioxane (1,4-Diethyleneoxide)	TX	4735	10184404
1-Chlorohexane	TX	4510	10184404
1-Propanol	TX	5060	10184404
2,2-Dichloropropane	TX	4665	10184404
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10184404
2-Chloroethyl vinyl ether	TX	4500	10184404
2-Chlorotoluene	TX	4535	10184404
2-Hexanone (MBK)	TX	4860	10184404
2-Pentanone	TX	5045	10184404
4-Chlorotoluene	TX	4540	10184404
4-Isopropyltoluene (p-Cymene)	TX	4915	10184404
4-Methyl-2-pentanone (MIBK)	TX	4995	10184404
Acetone (2-Propanone)	TX	4315	10184404
Acetonitrile	TX	4320	10184404
Acrolein (Propenal)	TX	4325	10184404
Acrylonitrile	TX	4340	10184404
Allyl alcohol	TX	4350	10184404
Allyl chloride (3-Chloropropene)	TX	4355	10184404
Benzene	TX	4375	10184404
Benzyl chloride	TX	5635	10184404
Bromobenzene	TX	4385	10184404
Bromochloromethane	TX	4390	10184404
Bromodichloromethane	TX	4395	10184404
Bromoform	TX	4400	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Carbon disulfide	TX	4450	10184404
Carbon tetrachloride	TX	4455	10184404
Chlorobenzene	TX	4475	10184404
Chlorodibromomethane	TX	4575	10184404
Chloroethane (Ethyl chloride)	TX	4485	10184404
Chloroform	TX	4505	10184404
Chloroprene (2-Chloro-1,3-butadiene)	TX	4525	10184404
cis-1,2-Dichloroethylene	TX	4645	10184404
cis-1,3-Dichloropropene	TX	4680	10184404
Dibromofluoromethane	TX	4590	10184404
Dibromomethane (Methylene bromide)	TX	4595	10184404
Dichlorodifluoromethane (Freon-12)	TX	4625	10184404
Diethyl ether	TX	4725	10184404
Di-isopropylether (DIPE)	TX	9375	10184404
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	TX	4745	10184404
Ethanol	TX	4750	10184404
Ethyl acetate	TX	4755	10184404
Ethyl methacrylate	TX	4810	10184404
Ethylbenzene	TX	4765	10184404
Ethylene oxide	TX	4795	10184404
Ethyl-t-butylether (ETBE) (2-Ethoxy-2-methylpropane)	TX	4770	10184404
Hexachlorobutadiene	TX	4835	10184404
Iodomethane (Methyl iodide)	TX	4870	10184404
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10184404
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10184404
Isopropylbenzene (Cumene)	TX	4900	10184404
m+p-xylene	TX	5240	10184404
Methacrylonitrile	TX	4925	10184404
Methyl acetate	TX	4940	10184404
Methyl acrylate	TX	4945	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Methyl bromide (Bromomethane)	TX	4950	10184404
Methyl chloride (Chloromethane)	TX	4960	10184404
Methyl methacrylate	TX	4990	10184404
Methyl tert-butyl ether (MTBE)	TX	5000	10184404
Methylcyclohexane	TX	4965	10184404
Methylene chloride (Dichloromethane)	TX	4975	10184404
Naphthalene	TX	5005	10184404
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10184404
n-Butylbenzene	TX	4435	10184404
n-Propylbenzene	TX	5090	10184404
o-Xylene	TX	5250	10184404
Pentachloroethane	TX	5035	10184404
Propionitrile (Ethyl cyanide)	TX	5080	10184404
Pyridine	TX	5095	10184404
sec-Butylbenzene	TX	4440	10184404
Styrene	TX	5100	10184404
T-amylmethylether (TAME)	TX	4370	10184404
tert-Butyl alcohol	TX	4420	10184404
tert-Butylbenzene	TX	4445	10184404
Tetrachloroethylene (Perchloroethylene)	TX	5115	10184404
Toluene	TX	5140	10184404
trans-1,2-Dichloroethylene	TX	4700	10184404
trans-1,3-Dichloropropylene	TX	4685	10184404
trans-1,4-Dichloro-2-butene	TX	4605	10184404
Trichloroethene (Trichloroethylene)	TX	5170	10184404
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10184404
Vinyl acetate	TX	5225	10184404
Vinyl chloride	TX	5235	10184404
Xylene (total)	TX	5260	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
1,2,4,5-Tetrachlorobenzene	TX	6715	10185203
1,2,4-Trichlorobenzene	TX	5155	10185203
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10185203
1,2-Dichlorobenzene	TX	4610	10185203
1,2-Dinitrobenzene	TX	6155	10185203
1,2-Diphenylhydrazine	TX	6220	10185203
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10185203
1,3-Dichlorobenzene	TX	4615	10185203
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10185203
1,4-Dichlorobenzene	TX	4620	10185203
1,4-Dinitrobenzene	TX	6165	10185203
1,4-Naphthoquinone	TX	6420	10185203
1,4-Phenylenediamine	TX	6630	10185203
1-Chloronaphthalene	TX	5790	10185203
1-Naphthylamine	TX	6425	10185203
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	TX	4659	10185203
2,3,4,6-Tetrachlorophenol	TX	6735	10185203
2,4,5-Trichlorophenol	TX	6835	10185203
2,4,5-Trimethylaniline	TX	6880	10185203
2,4,6-Trichlorophenol	TX	6840	10185203
2,4-Diaminotoluene	TX	5880	10185203
2,4-Dichlorophenol	TX	6000	10185203
2,4-Dimethylphenol	TX	6130	10185203
2,4-Dinitrophenol	TX	6175	10185203
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10185203
2,6-Dichlorophenol	TX	6005	10185203
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10185203
2-Acetylaminofluorene	TX	5515	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

2-Chloronaphthalene	TX	5795	10185203
2-Chlorophenol	TX	5800	10185203
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	TX	6360	10185203
2-Methylaniline (o-Toluidine)	TX	5145	10185203
2-Methylnaphthalene	TX	6385	10185203
2-Methylphenol (o-Cresol)	TX	6400	10185203
2-Naphthylamine	TX	6430	10185203
2-Nitroaniline	TX	6460	10185203
2-Nitrophenol	TX	6490	10185203
2-Picoline (2-Methylpyridine)	TX	5050	10185203
3,3'-Dichlorobenzidine	TX	5945	10185203
3,3'-Dimethylbenzidine	TX	6120	10185203
3-Methylcholanthrene	TX	6355	10185203
3-Methylphenol (m-Cresol)	TX	6405	10185203
3-Nitroaniline	TX	6465	10185203
4-Aminobiphenyl	TX	5540	10185203
4-Bromophenyl phenyl ether (BDE-3)	TX	5660	10185203
4-Chloro-3-methylphenol	TX	5700	10185203
4-Chloroaniline	TX	5745	10185203
4-Chlorophenyl phenylether	TX	5825	10185203
4-Dimethyl aminoazobenzene	TX	6105	10185203
4-Methylphenol (p-Cresol)	TX	6410	10185203
4-Nitroaniline	TX	6470	10185203
4-Nitrobiphenyl	TX	6480	10185203
4-Nitrophenol	TX	6500	10185203
4-Nitroquinoline-1-oxide	TX	6510	10185203
5-Chloro-2-methylaniline	TX	5695	10185203
5-Nitro-o-toluidine	TX	6570	10185203
7,12-Dimethylbenz(a) anthracene	TX	6115	10185203
a-a-Dimethylphenethylamine	TX	6125	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Acenaphthene	TX	5500	10185203
Acenaphthylene	TX	5505	10185203
Acetophenone	TX	5510	10185203
Aniline	TX	5545	10185203
Anthracene	TX	5555	10185203
Aramite	TX	5560	10185203
Atrazine	TX	7065	10185203
Azinphos-methyl (Guthion)	TX	7075	10185203
Azobenzene	TX	5562	10185203
Benzenethiol (Thiophenol)	TX	6750	10185203
Benzidine	TX	5595	10185203
Benzo(a)anthracene	TX	5575	10185203
Benzo(a)pyrene	TX	5580	10185203
Benzo(b)fluoranthene	TX	5585	10185203
Benzo(e)pyrene	TX	5605	10185203
Benzo(g,h,i)perylene	TX	5590	10185203
Benzo(k)fluoranthene	TX	5600	10185203
Benzoic acid	TX	5610	10185203
Benzyl alcohol	TX	5630	10185203
Biphenyl	TX	5640	10185203
bis(2-Chloroethoxy)methane	TX	5760	10185203
bis(2-Chloroethyl) ether	TX	5765	10185203
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	TX	6065	10185203
Butyl benzyl phthalate	TX	5670	10185203
Caprolactam	TX	7180	10185203
Captan	TX	7190	10185203
Carbaryl (Sevin)	TX	7195	10185203
Carbazole	TX	5680	10185203
Carbophenothion	TX	7220	10185203
Chlorobenzilate	TX	7260	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Chrysene	TX	5855	10185203
Coumaphos	TX	7315	10185203
Demeton	TX	7390	10185203
Demeton	TX	7390	10185203
Demeton-o	TX	7395	10185203
Demeton-s	TX	7385	10185203
Diallate	TX	7405	10185203
Dibenz(a,h) anthracene	TX	5895	10185203
Dibenz(a,j) acridine	TX	5900	10185203
Dibenzofuran	TX	5905	10185203
Dichlorovos (DDVP, Dichlorvos)	TX	8610	10185203
Diethyl phthalate	TX	6070	10185203
Dimethoate	TX	7475	10185203
Dimethoate	TX	7475	10185203
Dimethyl phthalate	TX	6135	10185203
Di-n-butyl phthalate	TX	5925	10185203
Di-n-octyl phthalate	TX	6200	10185203
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10185203
Dioxathion	TX	7495	10185203
Diphenylamine	TX	6205	10185203
Disulfoton	TX	8625	10185203
Ethion	TX	7565	10185203
Ethyl methanesulfonate	TX	6260	10185203
Famphur	TX	7580	10185203
Fluoranthene	TX	6265	10185203
Fluorene	TX	6270	10185203
Hexachlorobenzene	TX	6275	10185203
Hexachlorobutadiene	TX	4835	10185203
Hexachlorocyclopentadiene	TX	6285	10185203
Hexachloroethane	TX	4840	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Hexachlorophene	TX	6290	10185203
Hexachloropropene	TX	6295	10185203
Indeno(1,2,3-cd) pyrene	TX	6315	10185203
Isodrin	TX	7725	10185203
Isophorone	TX	6320	10185203
Isosafrole	TX	6325	10185203
Kepone	TX	7740	10185203
Maleic anhydride	TX	6335	10185203
Methapyrilene	TX	6345	10185203
Methyl methanesulfonate	TX	6375	10185203
Methyl parathion (Parathion, methyl)	TX	7825	10185203
Mevinphos	TX	7850	10185203
Naled	TX	7905	10185203
Naphthalene	TX	5005	10185203
Nitrobenzene	TX	5015	10185203
n-Nitrosodiethylamine	TX	6525	10185203
n-Nitrosodimethylamine	TX	6530	10185203
n-Nitrosodi-n-butylamine	TX	5025	10185203
n-Nitrosodi-n-propylamine	TX	6545	10185203
n-Nitrosodiphenylamine	TX	6535	10185203
n-Nitrosomethylethylamine	TX	6550	10185203
n-Nitrosomorpholine	TX	6555	10185203
n-Nitrosopiperidine	TX	6560	10185203
n-Nitrosopyrrolidine	TX	6565	10185203
o,o,o-Triethyl phosphorothioate	TX	8290	10185203
o-Anisidine	TX	5550	10185203
Parathion, ethyl	TX	7955	10185203
p-Cresidine	TX	5860	10185203
Pentachlorobenzene	TX	6590	10185203
Pentachloronitrobenzene (PCNB)	TX	6600	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Pentachlorophenol	TX	6605	10185203
Phenacetin	TX	6610	10185203
Phenanthrene	TX	6615	10185203
Phenol	TX	6625	10185203
Phorate	TX	7985	10185203
Phosmet (Imidan)	TX	8000	10185203
Phthalic anhydride	TX	6640	10185203
Pronamide (Kerb)	TX	6650	10185203
Pyrene	TX	6665	10185203
Pyridine	TX	5095	10185203
Quinoline	TX	6670	10185203
Resorcinol	TX	6680	10185203
Safrole	TX	6685	10185203
Sulfotepp	TX	8155	10185203
Terbufos	TX	8185	10185203
Tetrachlorvinphos (Stirophos, Gardona)	TX	8197	10185203
Thionazin (Zinophos)	TX	8235	10185203
Toluene diisocyanate	TX	6775	10185203
Trifluralin (Treflan)	TX	8295	10185203

Method EPA 8290

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	TX	9516	10187209
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	TX	9519	10187209
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	TX	9420	10187209
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	TX	9426	10187209
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	TX	9423	10187209
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	TX	9471	10187209
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	TX	9453	10187209
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	TX	9474	10187209
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	TX	9456	10187209

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	TX	9477	10187209
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	TX	9459	10187209
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	TX	9543	10187209
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	TX	9540	10187209
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	TX	9480	10187209
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	TX	9549	10187209
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	TX	9612	10187209
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10187209
Total Heptachlorodibenzofuran (Total HpCDF)	TX	9444	10187209
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	TX	9438	10187209
Total Hexachlorodibenzofuran (Total HxCDF)	TX	9483	10187209
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	TX	9468	10187209
Total Pentachlorodibenzofuran (Total PeCDF)	TX	9552	10187209
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	TX	9555	10187209
Total Tetrachlorodibenzofuran (Total TCDF)	TX	9615	10187209
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	TX	9609	10187209

Method EPA 8316

Analyte	**AB**	**Analyte ID**	**Method ID**
Acrylamide	TX	4330	10188202

Method EPA 8330

Analyte	**AB**	**Analyte ID**	**Method ID**
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10189807
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10189807
2,4,6-Trinitrotoluene (2,4,6-TNT)	TX	9651	10189807
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10189807
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10189807
2-Amino-4,6-dinitrotoluene (2-am-dnt)	TX	9303	10189807
2-Nitrotoluene	TX	9507	10189807
3-Nitrotoluene	TX	9510	10189807
4-Amino-2,6-dinitrotoluene (4-am-dnt)	TX	9306	10189807
4-Nitrotoluene	TX	9513	10189807

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Methyl-2,4,6-trinitrophenylnitramine (tetryl)	TX	6415	10189807
Nitrobenzene	TX	5015	10189807
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	TX	9522	10189807
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	TX	9432	10189807

Method EPA 9014

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	TX	1510	10193803
Total cyanide	TX	1645	10193803

Method EPA 9038

Analyte	**AB**	**Analyte ID**	**Method ID**
Sulfate	TX	2000	10196608

Method EPA 9040

Analyte	**AB**	**Analyte ID**	**Method ID**
pH	TX	1900	10196802

Method EPA 9050

Analyte	**AB**	**Analyte ID**	**Method ID**
Conductivity	TX	1610	10198604

Method EPA 9056

Analyte	**AB**	**Analyte ID**	**Method ID**
Bromide	TX	1540	10199209
Chloride	TX	1575	10199209
Fluoride	TX	1730	10199209
Nitrate as N	TX	1810	10199209
Nitrate-nitrite	TX	1820	10199209
Nitrite as N	TX	1840	10199209
Orthophosphate as P	TX	1870	10199209
Sulfate	TX	2000	10199209

Method EPA 9060

Analyte	**AB**	**Analyte ID**	**Method ID**
Total Organic Carbon (TOC)	TX	2040	10200201

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method EPA 9065

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10200405

Method EPA 9066

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10200609

Method EPA 9250

Analyte	AB	Analyte ID	Method ID
Chloride	TX	1575	10207202

Method EPA RSK 175

Analyte	AB	Analyte ID	Method ID
2-methylpropane (Isobutane)	TX	4942	10212905
Ethane	TX	4747	10212905
Ethene	TX	4752	10212905
Methane	TX	4926	10212905
n-Butane	TX	5007	10212905
n-Propane	TX	5029	10212905

Method HACH 8000

Analyte	AB	Analyte ID	Method ID
Chemical oxygen demand (COD)	TX	1565	60003001

Method SM 2120 B

Analyte	AB	Analyte ID	Method ID
Color	TX	1605	20223807

Method SM 2310 B (4a)

Analyte	AB	Analyte ID	Method ID
Acidity, as CaCO3	TX	1500	20002806

Method SM 2320 B

Analyte	AB	Analyte ID	Method ID
Alkalinity as CaCO3	TX	1505	20045005

Method SM 2340 B

Analyte	AB	Analyte ID	Method ID

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Total hardness as CaCO3	TX	1755	20046008

Method SM 2510 B

Analyte	**AB**	**Analyte ID**	**Method ID**
Conductivity	TX	1610	20048004

Method SM 2540 B

Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-total (total solids)	TX	1950	20004608

Method SM 2540 C

Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-filterable (TDS)	TX	1955	20049803

Method SM 2540 D

Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-nonfilterable (TSS)	TX	1960	20004802

Method SM 3500-Cr B

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	TX	1045	20065809

Method SM 4500-Cl F

Analyte	**AB**	**Analyte ID**	**Method ID**
Total residual chlorine	TX	1940	20080482

Method SM 4500-Cl^- E

Analyte	**AB**	**Analyte ID**	**Method ID**
Chloride	TX	1575	20019209

Method SM 4500-CN^- C

Analyte	**AB**	**Analyte ID**	**Method ID**
Total cyanide	TX	1645	20020808

Method SM 4500-CN^- E

Analyte	**AB**	**Analyte ID**	**Method ID**
Total cyanide	TX	1645	20021209

Method SM 4500-CN^- G

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	TX	1510	20021607

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Method SM 4500-H+ B

Analyte	AB	Analyte ID	Method ID
pH	TX	1900	20104603

Method SM 4500-NH3 D

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	20108809
Kjeldahl Nitrogen (Total Kjeldahl Nitrogen-TKN)	TX	1790	20108809

Method SM 4500-NH3 F

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	20023001

Method SM 4500-O G

Analyte	AB	Analyte ID	Method ID
Oxygen, dissolved	TX	1880	20025405

Method SM 4500-P E

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	TX	1870	20025803
Phosphorus	TX	1910	20025803

Method SM 4500-$S2^{-}$ F

Analyte	AB	Analyte ID	Method ID
Sulfide	TX	2005	20126209

Method SM 4500-SiO2 D

Analyte	AB	Analyte ID	Method ID
Silica as SiO2	TX	1990	20127202

Method SM 4500-$SO3^{-}$ B

Analyte	AB	Analyte ID	Method ID
Sulfite	TX	2015	20026806

Method SM 5210 B

Analyte	AB	Analyte ID	Method ID
Biochemical oxygen demand (BOD)	TX	1530	20027401
Carbonaceous BOD, CBOD	TX	1555	20027401

Method SM 5310 B

Analyte	AB	Analyte ID	Method ID

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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***

Total Organic Carbon (TOC)	TX	2040	20137206

Method SM 5310 C

Analyte	**AB**	**Analyte ID**	**Method ID**
Total Organic Carbon (TOC)	TX	2040	20138209

Method SM 5540 C

Analyte	**AB**	**Analyte ID**	**Method ID**
Surfactants - MBAS	TX	2025	20144405

Method TCEQ 1005

Analyte	**AB**	**Analyte ID**	**Method ID**
Total Petroleum Hydrocarbons (TPH)	TX	2050	90019208

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Method ASTM D2216

Analyte	AB	Analyte ID	Method ID
Moisture	TX	10337	ASTM D2216-05

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	TX	1780	10116606

Method EPA 1030

Analyte	AB	Analyte ID	Method ID
Ignitability	TX	1780	10117201

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	TX	849	10118806

Method EPA 1312

Analyte	AB	Analyte ID	Method ID
SPLP	TX	850	10119003

Method EPA 1668

Analyte	AB	Analyte ID	Method ID
Decachlorobiphenyls	TX	10332	10262007
Dichlorobiphenyls	TX	464	10262007
Heptachlorobiphenyls	TX	486	10262007
Hexachlorobiphenyls	TX	487	10262007
Monochlorobiphenyls	TX	501	10262007
Nonachlorobiphenyls	TX	507	10262007
Octachlorobiphenyls	TX	508	10262007
Pentachlorobiphenyls	TX	515	10262007
Tetrachlorobiphenyls	TX	528	10262007
Trichlorobiphenyls	TX	541	10262007

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Uranium	TX	3035	10014605

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Method EPA 300.0

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

Method EPA 310.1

Analyte	AB	Analyte ID	Method ID
Alkalinity as CaCO3	TX	1505	10054805

Method EPA 350.3

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	10064401

Method EPA 365.3

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	TX	1870	10070801
Phosphorus	TX	1910	10070801

Method EPA 6020

Analyte	AB	Analyte ID	Method ID
Aluminum	TX	1000	10156204
Antimony	TX	1005	10156204
Arsenic	TX	1010	10156204
Barium	TX	1015	10156204
Beryllium	TX	1020	10156204
Boron	TX	1025	10156204
Cadmium	TX	1030	10156204
Calcium	TX	1035	10156204
Chromium	TX	1040	10156204

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Cobalt	TX	1050	10156204
Copper	TX	1055	10156204
Iron	TX	1070	10156204
Lead	TX	1075	10156204
Lithium	TX	1080	10156204
Magnesium	TX	1085	10156204
Manganese	TX	1090	10156204
Molybdenum	TX	1100	10156204
Nickel	TX	1105	10156204
Potassium	TX	1125	10156204
Selenium	TX	1140	10156204
Silver	TX	1150	10156204
Sodium	TX	1155	10156204
Strontium	TX	1160	10156204
Thallium	TX	1165	10156204
Tin	TX	1175	10156204
Titanium	TX	1180	10156204
Vanadium	TX	1185	10156204
Zinc	TX	1190	10156204

Method EPA 7196

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	TX	1045	10162206

Method EPA 7470

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10165603

Method EPA 7471

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10166004

Method EPA 8015

Analyte	**AB**	**Analyte ID**	**Method ID**
Diesel range organics (DRO)	TX	9369	10173203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Ethanol	TX	4750	10173203
Ethylene glycol	TX	4785	10173203
Gasoline range organics (GRO)	TX	9408	10173203
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10173203
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10173203
Methanol	TX	4930	10173203
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10173203
n-Propanol (1-Propanol)	TX	5055	10173203
Propylene Glycol	TX	6657	10173203
tert-Butyl alcohol	TX	4420	10173203

Method EPA 8021

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

Method EPA 8081

Analyte	**AB**	**Analyte ID**	**Method ID**
4,4'-DDD	TX	7355	10178402
4,4'-DDE	TX	7360	10178402
4,4'-DDT	TX	7365	10178402
Aldrin	TX	7025	10178402
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10178402
alpha-Chlordane	TX	7240	10178402
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10178402
Chlordane (tech.)	TX	7250	10178402
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10178402
Dieldrin	TX	7470	10178402

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Endosulfan I	TX	7510	10178402
Endosulfan II	TX	7515	10178402
Endosulfan sulfate	TX	7520	10178402
Endrin	TX	7540	10178402
Endrin aldehyde	TX	7530	10178402
Endrin ketone	TX	7535	10178402
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10178402
gamma-Chlordane	TX	7245	10178402
Heptachlor	TX	7685	10178402
Heptachlor epoxide	TX	7690	10178402
Methoxychlor	TX	7810	10178402
Mirex	TX	7870	10178402
Toxaphene (Chlorinated camphene)	TX	8250	10178402

Method EPA 8082

Analyte	**AB**	**Analyte ID**	**Method ID**
Aroclor-1016 (PCB-1016)	TX	8880	10179201
Aroclor-1221 (PCB-1221)	TX	8885	10179201
Aroclor-1232 (PCB-1232)	TX	8890	10179201
Aroclor-1242 (PCB-1242)	TX	8895	10179201
Aroclor-1248 (PCB-1248)	TX	8900	10179201
Aroclor-1254 (PCB-1254)	TX	8905	10179201
Aroclor-1260 (PCB-1260)	TX	8910	10179201
PCBs (total)	TX	8870	10179201

Method EPA 8260

Analyte	**AB**	**Analyte ID**	**Method ID**
1,1,1,2-Tetrachloroethane	TX	5105	10184404
1,1,1-Trichloroethane	TX	5160	10184404
1,1,2,2-Tetrachloroethane	TX	5110	10184404
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	TX	5195	10184404
1,1,2-Trichloroethane	TX	5165	10184404
1,1-Dichloroethane	TX	4630	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

1,1-Dichloroethylene	TX	4640	10184404
1,1-Dichloropropene	TX	4670	10184404
1,2,3-Trichlorobenzene	TX	5150	10184404
1,2,3-Trichloropropane	TX	5180	10184404
1,2,4-Trichlorobenzene	TX	5155	10184404
1,2,4-Trimethylbenzene	TX	5210	10184404
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10184404
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10184404
1,2-Dichlorobenzene	TX	4610	10184404
1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10184404
1,2-Dichloropropane	TX	4655	10184404
1,3,5-Trimethylbenzene	TX	5215	10184404
1,3-Dichlorobenzene	TX	4615	10184404
1,3-Dichloropropane	TX	4660	10184404
1,4-Dichlorobenzene	TX	4620	10184404
1,4-Dioxane (1,4-Diethyleneoxide)	TX	4735	10184404
1-Chlorohexane	TX	4510	10184404
1-Propanol	TX	5060	10184404
2,2-Dichloropropane	TX	4665	10184404
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10184404
2-Chloroethyl vinyl ether	TX	4500	10184404
2-Chlorotoluene	TX	4535	10184404
2-Hexanone (MBK)	TX	4860	10184404
4-Chlorotoluene	TX	4540	10184404
4-Isopropyltoluene (p-Cymene)	TX	4915	10184404
4-Methyl-2-pentanone (MIBK)	TX	4995	10184404
Acetone (2-Propanone)	TX	4315	10184404
Acetonitrile	TX	4320	10184404
Acrolein (Propenal)	TX	4325	10184404
Acrylonitrile	TX	4340	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Allyl chloride (3-Chloropropene)	TX	4355	10184404
Benzene	TX	4375	10184404
Benzyl chloride	TX	5635	10184404
Bromobenzene	TX	4385	10184404
Bromochloromethane	TX	4390	10184404
Bromodichloromethane	TX	4395	10184404
Bromoform	TX	4400	10184404
Carbon disulfide	TX	4450	10184404
Carbon tetrachloride	TX	4455	10184404
Chlorobenzene	TX	4475	10184404
Chlorodibromomethane	TX	4575	10184404
Chloroethane (Ethyl chloride)	TX	4485	10184404
Chloroform	TX	4505	10184404
Chloroprene (2-Chloro-1,3-butadiene)	TX	4525	10184404
cis-1,2-Dichloroethylene	TX	4645	10184404
cis-1,3-Dichloropropene	TX	4680	10184404
Dibromofluoromethane	TX	4590	10184404
Dibromomethane (Methylene bromide)	TX	4595	10184404
Dichlorodifluoromethane (Freon-12)	TX	4625	10184404
Diethyl ether	TX	4725	10184404
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	TX	4745	10184404
Ethanol	TX	4750	10184404
Ethyl acetate	TX	4755	10184404
Ethyl methacrylate	TX	4810	10184404
Ethylbenzene	TX	4765	10184404
Ethylene oxide	TX	4795	10184404
Hexachlorobutadiene	TX	4835	10184404
Iodomethane (Methyl iodide)	TX	4870	10184404
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10184404
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Isopropylbenzene (Cumene)	TX	4900	10184404
m+p-xylene	TX	5240	10184404
Methacrylonitrile	TX	4925	10184404
Methyl acetate	TX	4940	10184404
Methyl acrylate	TX	4945	10184404
Methyl bromide (Bromomethane)	TX	4950	10184404
Methyl chloride (Chloromethane)	TX	4960	10184404
Methyl methacrylate	TX	4990	10184404
Methyl tert-butyl ether (MTBE)	TX	5000	10184404
Methylcyclohexane	TX	4965	10184404
Methylene chloride (Dichloromethane)	TX	4975	10184404
Naphthalene	TX	5005	10184404
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10184404
n-Butylbenzene	TX	4435	10184404
n-Propylbenzene	TX	5090	10184404
o-Xylene	TX	5250	10184404
Pentachloroethane	TX	5035	10184404
Propionitrile (Ethyl cyanide)	TX	5080	10184404
Pyridine	TX	5095	10184404
sec-Butylbenzene	TX	4440	10184404
Styrene	TX	5100	10184404
tert-Butyl alcohol	TX	4420	10184404
tert-Butylbenzene	TX	4445	10184404
Tetrachloroethylene (Perchloroethylene)	TX	5115	10184404
Toluene	TX	5140	10184404
trans-1,2-Dichloroethylene	TX	4700	10184404
trans-1,3-Dichloropropylene	TX	4685	10184404
trans-1,4-Dichloro-2-butene	TX	4605	10184404
Trichloroethene (Trichloroethylene)	TX	5170	10184404
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10184404

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Vinyl acetate	TX	5225	10184404
Vinyl chloride	TX	5235	10184404
Xylene (total)	TX	5260	10184404

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
1,2,4,5-Tetrachlorobenzene	TX	6715	10185203
1,2,4-Trichlorobenzene	TX	5155	10185203
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10185203
1,2-Dichlorobenzene	TX	4610	10185203
1,2-Dinitrobenzene	TX	6155	10185203
1,2-Diphenylhydrazine	TX	6220	10185203
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10185203
1,3-Dichlorobenzene	TX	4615	10185203
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10185203
1,4-Dichlorobenzene	TX	4620	10185203
1,4-Dinitrobenzene	TX	6165	10185203
1,4-Naphthoquinone	TX	6420	10185203
1,4-Phenylenediamine	TX	6630	10185203
1-Chloronaphthalene	TX	5790	10185203
1-Naphthylamine	TX	6425	10185203
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	TX	4659	10185203
2,3,4,6-Tetrachlorophenol	TX	6735	10185203
2,4,5-Trichlorophenol	TX	6835	10185203
2,4,5-Trimethylaniline	TX	6880	10185203
2,4,6-Trichlorophenol	TX	6840	10185203
2,4-Diaminotoluene	TX	5880	10185203
2,4-Dichlorophenol	TX	6000	10185203
2,4-Dimethylphenol	TX	6130	10185203
2,4-Dinitrophenol	TX	6175	10185203
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

2,6-Dichlorophenol	TX	6005	10185203
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10185203
2-Acetylaminofluorene	TX	5515	10185203
2-Chloronaphthalene	TX	5795	10185203
2-Chlorophenol	TX	5800	10185203
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	TX	6360	10185203
2-Methylaniline (o-Toluidine)	TX	5145	10185203
2-Methylnaphthalene	TX	6385	10185203
2-Methylphenol (o-Cresol)	TX	6400	10185203
2-Naphthylamine	TX	6430	10185203
2-Nitroaniline	TX	6460	10185203
2-Nitrophenol	TX	6490	10185203
2-Picoline (2-Methylpyridine)	TX	5050	10185203
3,3'-Dichlorobenzidine	TX	5945	10185203
3,3'-Dimethylbenzidine	TX	6120	10185203
3-Methylcholanthrene	TX	6355	10185203
3-Methylphenol (m-Cresol)	TX	6405	10185203
3-Nitroaniline	TX	6465	10185203
4-Aminobiphenyl	TX	5540	10185203
4-Bromophenyl phenyl ether (BDE-3)	TX	5660	10185203
4-Chloro-3-methylphenol	TX	5700	10185203
4-Chloroaniline	TX	5745	10185203
4-Chlorophenyl phenylether	TX	5825	10185203
4-Methylphenol (p-Cresol)	TX	6410	10185203
4-Nitroaniline	TX	6470	10185203
4-Nitrophenol	TX	6500	10185203
4-Nitroquinoline-1-oxide	TX	6510	10185203
5-Nitro-o-toluidine	TX	6570	10185203
7,12-Dimethylbenz(a) anthracene	TX	6115	10185203
a-a-Dimethylphenethylamine	TX	6125	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Acenaphthene	TX	5500	10185203
Acenaphthylene	TX	5505	10185203
Acetophenone	TX	5510	10185203
Aniline	TX	5545	10185203
Anthracene	TX	5555	10185203
Aramite	TX	5560	10185203
Atrazine	TX	7065	10185203
Azinphos-methyl (Guthion)	TX	7075	10185203
Azobenzene	TX	5562	10185203
Benzenethiol (Thiophenol)	TX	6750	10185203
Benzidine	TX	5595	10185203
Benzo(a)anthracene	TX	5575	10185203
Benzo(a)pyrene	TX	5580	10185203
Benzo(b)fluoranthene	TX	5585	10185203
Benzo(e)pyrene	TX	5605	10185203
Benzo(g,h,i)perylene	TX	5590	10185203
Benzo(k)fluoranthene	TX	5600	10185203
Benzoic acid	TX	5610	10185203
Benzyl alcohol	TX	5630	10185203
Biphenyl	TX	5640	10185203
bis(2-Chloroethoxy)methane	TX	5760	10185203
bis(2-Chloroethyl) ether	TX	5765	10185203
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	TX	6065	10185203
Butyl benzyl phthalate	TX	5670	10185203
Caprolactam	TX	7180	10185203
Carbaryl (Sevin)	TX	7195	10185203
Carbazole	TX	5680	10185203
Carbophenothion	TX	7220	10185203
Chlorobenzilate	TX	7260	10185203
Chrysene	TX	5855	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Demeton	TX	7390	10185203
Demeton-o	TX	7395	10185203
Demeton-s	TX	7385	10185203
Diallate	TX	7405	10185203
Dibenz(a,h) anthracene	TX	5895	10185203
Dibenz(a,j) acridine	TX	5900	10185203
Dibenzo(a,e) pyrene	TX	5890	10185203
Dibenzofuran	TX	5905	10185203
Dichlorovos (DDVP, Dichlorvos)	TX	8610	10185203
Diethyl phthalate	TX	6070	10185203
Dimethoate	TX	7475	10185203
Dimethyl phthalate	TX	6135	10185203
Di-n-butyl phthalate	TX	5925	10185203
Di-n-octyl phthalate	TX	6200	10185203
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10185203
Diphenylamine	TX	6205	10185203
Disulfoton	TX	8625	10185203
Ethyl methanesulfonate	TX	6260	10185203
Fluoranthene	TX	6265	10185203
Fluorene	TX	6270	10185203
Hexachlorobenzene	TX	6275	10185203
Hexachlorobutadiene	TX	4835	10185203
Hexachlorocyclopentadiene	TX	6285	10185203
Hexachloroethane	TX	4840	10185203
Hexachlorophene	TX	6290	10185203
Hexachloropropene	TX	6295	10185203
Indeno(1,2,3-cd) pyrene	TX	6315	10185203
Isodrin	TX	7725	10185203
Isophorone	TX	6320	10185203
Isosafrole	TX	6325	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Kepone	TX	7740	10185203
Malathion	TX	7770	10185203
Methapyrilene	TX	6345	10185203
Methyl methanesulfonate	TX	6375	10185203
Methyl parathion (Parathion, methyl)	TX	7825	10185203
Mevinphos	TX	7850	10185203
Naphthalene	TX	5005	10185203
Nitrobenzene	TX	5015	10185203
n-Nitrosodiethylamine	TX	6525	10185203
n-Nitrosodimethylamine	TX	6530	10185203
n-Nitrosodi-n-butylamine	TX	5025	10185203
n-Nitrosodi-n-propylamine	TX	6545	10185203
n-Nitrosodiphenylamine	TX	6535	10185203
n-Nitrosomethylethylamine	TX	6550	10185203
n-Nitrosomorpholine	TX	6555	10185203
n-Nitrosopiperidine	TX	6560	10185203
n-Nitrosopyrrolidine	TX	6565	10185203
o,o,o-Triethyl phosphorothioate	TX	8290	10185203
o-Anisidine	TX	5550	10185203
Parathion, ethyl	TX	7955	10185203
p-Cresidine	TX	5860	10185203
Pentachlorobenzene	TX	6590	10185203
Pentachloronitrobenzene (PCNB)	TX	6600	10185203
Pentachlorophenol	TX	6605	10185203
Phenacetin	TX	6610	10185203
Phenanthrene	TX	6615	10185203
Phenol	TX	6625	10185203
Phorate	TX	7985	10185203
Pronamide (Kerb)	TX	6650	10185203
Pyrene	TX	6665	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Pyridine	TX	5095	10185203
Quinoline	TX	6670	10185203
Safrole	TX	6685	10185203
Sulfotepp	TX	8155	10185203
Terbufos	TX	8185	10185203
Tetrachlorvinphos (Stirophos, Gardona)	TX	8197	10185203
Thionazin (Zinophos)	TX	8235	10185203
Toluene diisocyanate	TX	6775	10185203

Method EPA 8290

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	TX	9516	10187209
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	TX	9519	10187209
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	TX	9420	10187209
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	TX	9426	10187209
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	TX	9423	10187209
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	TX	9471	10187209
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	TX	9453	10187209
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	TX	9474	10187209
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	TX	9456	10187209
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	TX	9477	10187209
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	TX	9459	10187209
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	TX	9543	10187209
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	TX	9540	10187209
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	TX	9480	10187209
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	TX	9549	10187209
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	TX	9612	10187209
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10187209
Total Heptachlorodibenzofuran (Total HpCDF)	TX	9444	10187209
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	TX	9438	10187209
Total Hexachlorodibenzofuran (Total HxCDF)	TX	9483	10187209

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	TX	9468	10187209
Total Pentachlorodibenzofuran (Total PeCDF)	TX	9552	10187209
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	TX	9555	10187209
Total Tetrachlorodibenzofuran (Total TCDF)	TX	9615	10187209
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	TX	9609	10187209

Method EPA 8316

Analyte	**AB**	**Analyte ID**	**Method ID**
Acrylamide	TX	4330	10188202

Method EPA 8330

Analyte	**AB**	**Analyte ID**	**Method ID**
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10189807
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10189807
2,4,6-Trinitrotoluene (2,4,6-TNT)	TX	9651	10189807
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10189807
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10189807
2-Amino-4,6-dinitrotoluene (2-am-dnt)	TX	9303	10189807
2-Nitrotoluene	TX	9507	10189807
3-Nitrotoluene	TX	9510	10189807
4-Amino-2,6-dinitrotoluene (4-am-dnt)	TX	9306	10189807
4-Nitrotoluene	TX	9513	10189807
Methyl-2,4,6-trinitrophenylnitramine (tetryl)	TX	6415	10189807
Nitrobenzene	TX	5015	10189807
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	TX	9522	10189807
RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine)	TX	9432	10189807

Method EPA 9014

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	TX	1510	10193803
Total cyanide	TX	1645	10193803

Method EPA 9038

Analyte	**AB**	**Analyte ID**	**Method ID**
Sulfate	TX	2000	10196608

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Method EPA 9040

Analyte	AB	Analyte ID	Method ID
Corrosivity	TX	1615	10197203
pH	TX	1900	10196802

Method EPA 9045

Analyte	AB	Analyte ID	Method ID
Corrosivity	TX	1615	10197805
pH	TX	1900	10197805

Method EPA 9050

Analyte	AB	Analyte ID	Method ID
Conductivity	TX	1610	10198604

Method EPA 9056

Analyte	AB	Analyte ID	Method ID
Bromide	TX	1540	10199209
Chloride	TX	1575	10199209
Fluoride	TX	1730	10199209
Nitrate as N	TX	1810	10199209
Nitrate-nitrite	TX	1820	10199209
Nitrite as N	TX	1840	10199209
Orthophosphate as P	TX	1870	10199209
Sulfate	TX	2000	10199209

Method EPA 9060

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	10200201

Method EPA 9065

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10200405

Method EPA 9071

Analyte	AB	Analyte ID	Method ID
n-Hexane Extractable Material (HEM) (O&G)	TX	1803	10201204

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704231-19-23

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

Expiration Date: 4/30/2020

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Issue Date: 5/1/2019

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: ***Solid & Chemical Materials***

Method	Analyte	AB	Analyte ID	Method ID
EPA 9095	Paint Filter Liquids Test	TX	10312	10204009
EPA 9250	Chloride	TX	1575	10207202
SM 2320 B	Alkalinity as CaCO3	TX	1505	20045005
SM 2510 B	Conductivity	TX	1610	20048004
SM 2540 G	Residue-total (total solids)	TX	1950	20005203
SSA/ASA Part 3:34	Carbon, organic (Walkley-Black)	TX	10340	SSA/ASA Pt 3:34
TCEQ 1005	Total Petroleum Hydrocarbons (TPH)	TX	2050	90019208

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

March 23, 2020

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS20030619**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 16 sample(s) on Mar 13, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20030619**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	**HS20030619**

TRRP Laboratory Data Package Cover Page

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data								
Laboratory Name: ALS Laboratory Group			LRC Date: 03/23/2020					
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20030619					
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 151716, 151763, 151785, 151787, 151813, R358243, R358244					
#[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					
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X					
		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 SW-846 Method 5035?			X			
		If required for the project, 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			1	
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 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			2	
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			3	
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X					
		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					
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					
		Were all necessary corrective actions performed for the reported data?	X					
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X					

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 03/23/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20030619				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 151716, 151763, 151785, 151787, 151813, R358243, R358244				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group	LRC Date: 03/23/2020
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS20030619
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 151716, 151763, 151785, 151787, 151813, R358243, R358244

ER#[5]	Description
1	Semivolatile Organics Method SW8270, samples WG-1620-MW70C-20200312, WG-1620-FD01-20200312, the surrogates could not be determined due to dilution below the calibration range in the 1000x run. Semivolatile Organics Method SW8270, sample WG-1620-MW50B-20200312, the surrogates could not be determined due to dilution below the calibration range in the 100x run.
2	Batch 151785, Texas TPH by TX 1005, LCS/LCSD RPD was above the RPD limit for nC6 to nC12. The individual recoveries met acceptance criteria.
3	Batch 151716, Semivolatile Organics Method SW8270, LCS/LCSD were analyzed and reported in lieu of an MS/MSD for this batch.

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20030619

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20030619-01	WQ-1620-TB01-20200312	Water		12-Mar-2020 16:30	13-Mar-2020 14:00	☐
HS20030619-02	WQ-1620-MW99C-20200311	Groundwater		11-Mar-2020 15:35	13-Mar-2020 14:00	☐
HS20030619-03	WG-1620-MW54B-20200311	Groundwater		11-Mar-2020 14:20	13-Mar-2020 14:00	☐
HS20030619-04	WG-1620-MW94A-20200312	Groundwater		12-Mar-2020 15:45	13-Mar-2020 14:00	☐
HS20030619-05	WG-1620-MW93B-20200312	Groundwater		12-Mar-2020 14:35	13-Mar-2020 14:00	☐
HS20030619-06	WG-1620-MW92B-20200312	Groundwater		12-Mar-2020 13:20	13-Mar-2020 14:00	☐
HS20030619-07	WG-1620-MW84A-20200312	Groundwater		12-Mar-2020 12:15	13-Mar-2020 14:00	☐
HS20030619-08	WG-1620-MW70C-20200312	Groundwater		12-Mar-2020 10:35	13-Mar-2020 14:00	☐
HS20030619-09	WG-1620-MW91A-20200312	Groundwater		12-Mar-2020 09:20	13-Mar-2020 14:00	☐
HS20030619-10	WG-1620-FD01-20200312	Groundwater		12-Mar-2020 00:00	13-Mar-2020 14:00	☐
HS20030619-11	WQ-1620-TB02-20200312	Water		12-Mar-2020 12:36	13-Mar-2020 14:00	☐
HS20030619-12	WG-1620-MW76B-20200312	Groundwater		12-Mar-2020 10:35	13-Mar-2020 14:00	☐
HS20030619-13	WG-1620-MW97A-20200312	Groundwater		12-Mar-2020 11:47	13-Mar-2020 14:00	☐
HS20030619-14	WG-1620-MW98A-20200312	Groundwater		12-Mar-2020 12:54	13-Mar-2020 14:00	☐
HS20030619-15	WG-1620-MW98B-20200312	Groundwater		12-Mar-2020 13:53	13-Mar-2020 14:00	☐
HS20030619-16	WG-1620-MW50B-20200312	Groundwater		12-Mar-2020 15:20	13-Mar-2020 14:00	☐

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20030619
Sample ID: WQ-1620-TB01-20200312
Lab ID:HS20030619-01
Collection Date: 12-Mar-2020 16:30
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 06:28
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 06:28
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 06:28
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 06:28
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	15-Mar-2020 06:28
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 06:28
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 06:28
Surr: 1,2-Dichloroethane-d4	*104*			*70-126*	*%REC*	*1*	*15-Mar-2020 06:28*
Surr: 4-Bromofluorobenzene	*97.0*			*81-113*	*%REC*	*1*	*15-Mar-2020 06:28*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*15-Mar-2020 06:28*
Surr: Toluene-d8	*100.0*			*82-127*	*%REC*	*1*	*15-Mar-2020 06:28*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WQ-1620-MW99C-20200311
Collection Date: 11-Mar-2020 15:35

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	14-Mar-2020 18:05
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	14-Mar-2020 18:05
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	14-Mar-2020 18:05
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	14-Mar-2020 18:05
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	14-Mar-2020 18:05
Toluene	**0.00078**	J	**0.00020**	**0.0010**	**mg/L**	1	14-Mar-2020 18:05
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	14-Mar-2020 18:05
Surr: 1,2-Dichloroethane-d4	*104*			*70-126*	*%REC*	*1*	*14-Mar-2020 18:05*
Surr: 4-Bromofluorobenzene	*95.9*			*81-113*	*%REC*	*1*	*14-Mar-2020 18:05*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*14-Mar-2020 18:05*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*14-Mar-2020 18:05*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WQ-1620-MW99C-20200311
Collection Date: 11-Mar-2020 15:35

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	16-Mar-2020 17:59
2,4-Dimethylphenol	< 0.000041		0.000041	0.00020	mg/L	1	16-Mar-2020 17:59
2,4-Dinitrotoluene	< 0.000059		0.000059	0.00020	mg/L	1	16-Mar-2020 17:59
2,6-Dinitrotoluene	< 0.000043		0.000043	0.00020	mg/L	1	16-Mar-2020 17:59
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	16-Mar-2020 17:59
2-Methylnaphthalene	**0.000086**	J	**0.000019**	**0.00010**	**mg/L**	1	16-Mar-2020 17:59
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	16-Mar-2020 17:59
4-Nitrophenol	< 0.000048		0.000048	0.0010	mg/L	1	16-Mar-2020 17:59
Acenaphthene	< 0.000028		0.000028	0.00010	mg/L	1	16-Mar-2020 17:59
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	16-Mar-2020 17:59
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	16-Mar-2020 17:59
Benz(a)anthracene	< 0.000051		0.000051	0.00010	mg/L	1	16-Mar-2020 17:59
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	16-Mar-2020 17:59
Bis(2-chloroethoxy)methane	< 0.000031		0.000031	0.00020	mg/L	1	16-Mar-2020 17:59
Bis(2-ethylhexyl)phthalate	**0.000070**	J	**0.000038**	**0.00020**	**mg/L**	1	16-Mar-2020 17:59
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	16-Mar-2020 17:59
Dibenzofuran	< 0.000020		0.000020	0.00010	mg/L	1	16-Mar-2020 17:59
Di-n-butyl phthalate	< 0.000020		0.000020	0.00020	mg/L	1	16-Mar-2020 17:59
Fluoranthene	< 0.000010		0.000010	0.00010	mg/L	1	16-Mar-2020 17:59
Fluorene	< 0.000031		0.000031	0.00010	mg/L	1	16-Mar-2020 17:59
Naphthalene	**0.00018**		**0.000020**	**0.00010**	**mg/L**	1	16-Mar-2020 17:59
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	16-Mar-2020 17:59
N-Nitrosodiphenylamine	< 0.000026		0.000026	0.00020	mg/L	1	16-Mar-2020 17:59
Pentachlorophenol	< 0.000081		0.000081	0.00020	mg/L	1	16-Mar-2020 17:59
Phenanthrene	**0.000053**	J	**0.000021**	**0.00010**	**mg/L**	1	16-Mar-2020 17:59
Phenol	< 0.000036		0.000036	0.00020	mg/L	1	16-Mar-2020 17:59
Pyrene	< 0.000019		0.000019	0.00010	mg/L	1	16-Mar-2020 17:59
Surr: 2,4,6-Tribromophenol	*77.1*			*34-129*	*%REC*	*1*	*16-Mar-2020 17:59*
Surr: 2-Fluorobiphenyl	*57.1*			*40-125*	*%REC*	*1*	*16-Mar-2020 17:59*
Surr: 2-Fluorophenol	*57.1*			*20-120*	*%REC*	*1*	*16-Mar-2020 17:59*
Surr: 4-Terphenyl-d14	*65.4*			*40-135*	*%REC*	*1*	*16-Mar-2020 17:59*
Surr: Nitrobenzene-d5	*47.5*			*41-120*	*%REC*	*1*	*16-Mar-2020 17:59*
Surr: Phenol-d6	*51.3*			*20-120*	*%REC*	*1*	*16-Mar-2020 17:59*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 17-Mar-2020		Analyst: JC
Arsenic	**0.000866**	J	**0.000400**	**0.00200**	**mg/L**	1	18-Mar-2020 18:20

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW54B-20200311
Collection Date: 11-Mar-2020 14:20

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	14-Mar-2020 18:30
Benzene	**0.00043**	J	**0.00020**	**0.0010**	**mg/L**	1	14-Mar-2020 18:30
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	14-Mar-2020 18:30
Ethylbenzene	**0.0011**		**0.00030**	**0.0010**	**mg/L**	1	14-Mar-2020 18:30
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	14-Mar-2020 18:30
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	14-Mar-2020 18:30
Xylenes, Total	**0.0018**		**0.00030**	**0.0010**	**mg/L**	1	14-Mar-2020 18:30
Surr: 1,2-Dichloroethane-d4	*106*			*70-126*	*%REC*	*1*	*14-Mar-2020 18:30*
Surr: 4-Bromofluorobenzene	*96.0*			*81-113*	*%REC*	*1*	*14-Mar-2020 18:30*
Surr: Dibromofluoromethane	*98.1*			*77-123*	*%REC*	*1*	*14-Mar-2020 18:30*
Surr: Toluene-d8	*99.6*			*82-127*	*%REC*	*1*	*14-Mar-2020 18:30*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW54B-20200311
Collection Date: 11-Mar-2020 14:20

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	16-Mar-2020 18:18
2,4-Dimethylphenol	< 0.000040		0.000040	0.00020	mg/L	1	16-Mar-2020 18:18
2,4-Dinitrotoluene	< 0.000059		0.000059	0.00020	mg/L	1	16-Mar-2020 18:18
2,6-Dinitrotoluene	< 0.000042		0.000042	0.00020	mg/L	1	16-Mar-2020 18:18
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	16-Mar-2020 18:18
2-Methylnaphthalene	**0.00011**		**0.000019**	**0.00010**	**mg/L**	1	16-Mar-2020 18:18
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	16-Mar-2020 18:18
4-Nitrophenol	< 0.000047		0.000047	0.0010	mg/L	1	16-Mar-2020 18:18
Acenaphthene	**0.0093**		**0.000027**	**0.00010**	**mg/L**	1	16-Mar-2020 18:18
Acenaphthylene	**0.000087**	J	**0.000015**	**0.00010**	**mg/L**	1	16-Mar-2020 18:18
Anthracene	**0.00017**		**0.000014**	**0.00010**	**mg/L**	1	16-Mar-2020 18:18
Benz(a)anthracene	< 0.000051		0.000051	0.00010	mg/L	1	16-Mar-2020 18:18
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	16-Mar-2020 18:18
Bis(2-chloroethoxy)methane	< 0.000030		0.000030	0.00020	mg/L	1	16-Mar-2020 18:18
Bis(2-ethylhexyl)phthalate	**0.000089**	J	**0.000037**	**0.00020**	**mg/L**	1	16-Mar-2020 18:18
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	16-Mar-2020 18:18
Dibenzofuran	**0.000076**	J	**0.000020**	**0.00010**	**mg/L**	1	16-Mar-2020 18:18
Di-n-butyl phthalate	**0.000033**	J	**0.000020**	**0.00020**	**mg/L**	1	16-Mar-2020 18:18
Fluoranthene	**0.000022**	J	**0.000010**	**0.00010**	**mg/L**	1	16-Mar-2020 18:18
Fluorene	**0.00015**		**0.000030**	**0.00010**	**mg/L**	1	16-Mar-2020 18:18
Naphthalene	**0.0021**		**0.000020**	**0.00010**	**mg/L**	1	16-Mar-2020 18:18
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	16-Mar-2020 18:18
N-Nitrosodiphenylamine	< 0.000025		0.000025	0.00020	mg/L	1	16-Mar-2020 18:18
Pentachlorophenol	< 0.000080		0.000080	0.00020	mg/L	1	16-Mar-2020 18:18
Phenanthrene	**0.0028**		**0.000021**	**0.00010**	**mg/L**	1	16-Mar-2020 18:18
Phenol	< 0.000035		0.000035	0.00020	mg/L	1	16-Mar-2020 18:18
Pyrene	< 0.000019		0.000019	0.00010	mg/L	1	16-Mar-2020 18:18
Surr: 2,4,6-Tribromophenol	*86.7*			*34-129*	*%REC*	*1*	*16-Mar-2020 18:18*
Surr: 2-Fluorobiphenyl	*52.5*			*40-125*	*%REC*	*1*	*16-Mar-2020 18:18*
Surr: 2-Fluorophenol	*54.7*			*20-120*	*%REC*	*1*	*16-Mar-2020 18:18*
Surr: 4-Terphenyl-d14	*88.2*			*40-135*	*%REC*	*1*	*16-Mar-2020 18:18*
Surr: Nitrobenzene-d5	*49.7*			*41-120*	*%REC*	*1*	*16-Mar-2020 18:18*
Surr: Phenol-d6	*54.3*			*20-120*	*%REC*	*1*	*16-Mar-2020 18:18*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 17-Mar-2020		Analyst: JC
Arsenic	**0.00117**	J	**0.000400**	**0.00200**	**mg/L**	1	18-Mar-2020 18:23

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW94A-20200312
Collection Date: 12-Mar-2020 15:45

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	14-Mar-2020 18:54
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	14-Mar-2020 18:54
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	14-Mar-2020 18:54
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	14-Mar-2020 18:54
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	14-Mar-2020 18:54
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	14-Mar-2020 18:54
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	14-Mar-2020 18:54
Surr: 1,2-Dichloroethane-d4	*105*			*70-126*	*%REC*	*1*	*14-Mar-2020 18:54*
Surr: 4-Bromofluorobenzene	*97.2*			*81-113*	*%REC*	*1*	*14-Mar-2020 18:54*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*14-Mar-2020 18:54*
Surr: Toluene-d8	*95.7*			*82-127*	*%REC*	*1*	*14-Mar-2020 18:54*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW94A-20200312
Collection Date: 12-Mar-2020 15:45

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000022		0.000022	0.00021	mg/L	1	16-Mar-2020 18:37
2,4-Dimethylphenol	< 0.000041		0.000041	0.00021	mg/L	1	16-Mar-2020 18:37
2,4-Dinitrotoluene	< 0.000060		0.000060	0.00021	mg/L	1	16-Mar-2020 18:37
2,6-Dinitrotoluene	< 0.000043		0.000043	0.00021	mg/L	1	16-Mar-2020 18:37
2-Chloronaphthalene	< 0.000022		0.000022	0.00021	mg/L	1	16-Mar-2020 18:37
2-Methylnaphthalene	< 0.000020		0.000020	0.00010	mg/L	1	16-Mar-2020 18:37
4,6-Dinitro-2-methylphenol	< 0.000021		0.000021	0.00021	mg/L	1	16-Mar-2020 18:37
4-Nitrophenol	< 0.000048		0.000048	0.0010	mg/L	1	16-Mar-2020 18:37
Acenaphthene	< 0.000028		0.000028	0.00010	mg/L	1	16-Mar-2020 18:37
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	16-Mar-2020 18:37
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	16-Mar-2020 18:37
Benz(a)anthracene	< 0.000052		0.000052	0.00010	mg/L	1	16-Mar-2020 18:37
Benzo(a)pyrene	< 0.000021		0.000021	0.00010	mg/L	1	16-Mar-2020 18:37
Bis(2-chloroethoxy)methane	< 0.000031		0.000031	0.00021	mg/L	1	16-Mar-2020 18:37
Bis(2-ethylhexyl)phthalate	**0.000056**	J	**0.000038**	**0.00021**	**mg/L**	1	16-Mar-2020 18:37
Chrysene	< 0.000022		0.000022	0.00010	mg/L	1	16-Mar-2020 18:37
Dibenzofuran	< 0.000021		0.000021	0.00010	mg/L	1	16-Mar-2020 18:37
Di-n-butyl phthalate	< 0.000021		0.000021	0.00021	mg/L	1	16-Mar-2020 18:37
Fluoranthene	< 0.000010		0.000010	0.00010	mg/L	1	16-Mar-2020 18:37
Fluorene	< 0.000031		0.000031	0.00010	mg/L	1	16-Mar-2020 18:37
Naphthalene	< 0.000021		0.000021	0.00010	mg/L	1	16-Mar-2020 18:37
Nitrobenzene	< 0.000025		0.000025	0.00021	mg/L	1	16-Mar-2020 18:37
N-Nitrosodiphenylamine	< 0.000026		0.000026	0.00021	mg/L	1	16-Mar-2020 18:37
Pentachlorophenol	< 0.000081		0.000081	0.00021	mg/L	1	16-Mar-2020 18:37
Phenanthrene	< 0.000022		0.000022	0.00010	mg/L	1	16-Mar-2020 18:37
Phenol	< 0.000036		0.000036	0.00021	mg/L	1	16-Mar-2020 18:37
Pyrene	< 0.000020		0.000020	0.00010	mg/L	1	16-Mar-2020 18:37
Surr: 2,4,6-Tribromophenol	*94.2*			*34-129*	*%REC*	*1*	*16-Mar-2020 18:37*
Surr: 2-Fluorobiphenyl	*62.9*			*40-125*	*%REC*	*1*	*16-Mar-2020 18:37*
Surr: 2-Fluorophenol	*65.9*			*20-120*	*%REC*	*1*	*16-Mar-2020 18:37*
Surr: 4-Terphenyl-d14	*92.0*			*40-135*	*%REC*	*1*	*16-Mar-2020 18:37*
Surr: Nitrobenzene-d5	*63.1*			*41-120*	*%REC*	*1*	*16-Mar-2020 18:37*
Surr: Phenol-d6	*76.1*			*20-120*	*%REC*	*1*	*16-Mar-2020 18:37*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Mar-2020		Analyst: JC
Arsenic	**0.00540**		**0.000400**	**0.00200**	**mg/L**	1	18-Mar-2020 18:25

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW93B-20200312
Collection Date: 12-Mar-2020 14:35

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	14-Mar-2020 19:19
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	14-Mar-2020 19:19
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	14-Mar-2020 19:19
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	14-Mar-2020 19:19
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	14-Mar-2020 19:19
Toluene	**0.00092**	J	**0.00020**	**0.0010**	**mg/L**	1	14-Mar-2020 19:19
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	14-Mar-2020 19:19
Surr: 1,2-Dichloroethane-d4	*104*			*70-126*	*%REC*	*1*	*14-Mar-2020 19:19*
Surr: 4-Bromofluorobenzene	*95.8*			*81-113*	*%REC*	*1*	*14-Mar-2020 19:19*
Surr: Dibromofluoromethane	*99.5*			*77-123*	*%REC*	*1*	*14-Mar-2020 19:19*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*14-Mar-2020 19:19*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW93B-20200312
Collection Date: 12-Mar-2020 14:35

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	16-Mar-2020 18:56
2,4-Dimethylphenol	< 0.000041		0.000041	0.00020	mg/L	1	16-Mar-2020 18:56
2,4-Dinitrotoluene	< 0.000059		0.000059	0.00020	mg/L	1	16-Mar-2020 18:56
2,6-Dinitrotoluene	< 0.000043		0.000043	0.00020	mg/L	1	16-Mar-2020 18:56
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	16-Mar-2020 18:56
2-Methylnaphthalene	< 0.000019		0.000019	0.00010	mg/L	1	16-Mar-2020 18:56
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	16-Mar-2020 18:56
4-Nitrophenol	< 0.000048		0.000048	0.0010	mg/L	1	16-Mar-2020 18:56
Acenaphthene	**0.000039**	J	**0.000028**	**0.00010**	**mg/L**	1	16-Mar-2020 18:56
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	16-Mar-2020 18:56
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	16-Mar-2020 18:56
Benz(a)anthracene	< 0.000051		0.000051	0.00010	mg/L	1	16-Mar-2020 18:56
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	16-Mar-2020 18:56
Bis(2-chloroethoxy)methane	< 0.000031		0.000031	0.00020	mg/L	1	16-Mar-2020 18:56
Bis(2-ethylhexyl)phthalate	< 0.000038		0.000038	0.00020	mg/L	1	16-Mar-2020 18:56
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	16-Mar-2020 18:56
Dibenzofuran	**0.000071**	J	**0.000020**	**0.00010**	**mg/L**	1	16-Mar-2020 18:56
Di-n-butyl phthalate	< 0.000020		0.000020	0.00020	mg/L	1	16-Mar-2020 18:56
Fluoranthene	< 0.000010		0.000010	0.00010	mg/L	1	16-Mar-2020 18:56
Fluorene	**0.000058**	J	**0.000031**	**0.00010**	**mg/L**	1	16-Mar-2020 18:56
Naphthalene	< 0.000020		0.000020	0.00010	mg/L	1	16-Mar-2020 18:56
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	16-Mar-2020 18:56
N-Nitrosodiphenylamine	< 0.000026		0.000026	0.00020	mg/L	1	16-Mar-2020 18:56
Pentachlorophenol	< 0.000081		0.000081	0.00020	mg/L	1	16-Mar-2020 18:56
Phenanthrene	**0.00016**		**0.000021**	**0.00010**	**mg/L**	1	16-Mar-2020 18:56
Phenol	< 0.000036		0.000036	0.00020	mg/L	1	16-Mar-2020 18:56
Pyrene	< 0.000019		0.000019	0.00010	mg/L	1	16-Mar-2020 18:56
Surr: 2,4,6-Tribromophenol	*83.6*			*34-129*	*%REC*	*1*	*16-Mar-2020 18:56*
Surr: 2-Fluorobiphenyl	*73.6*			*40-125*	*%REC*	*1*	*16-Mar-2020 18:56*
Surr: 2-Fluorophenol	*29.5*			*20-120*	*%REC*	*1*	*16-Mar-2020 18:56*
Surr: 4-Terphenyl-d14	*65.6*			*40-135*	*%REC*	*1*	*16-Mar-2020 18:56*
Surr: Nitrobenzene-d5	*61.4*			*41-120*	*%REC*	*1*	*16-Mar-2020 18:56*
Surr: Phenol-d6	*69.7*			*20-120*	*%REC*	*1*	*16-Mar-2020 18:56*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 17-Mar-2020		Analyst: JC
Arsenic	**0.00455**		**0.000400**	**0.00200**	**mg/L**	1	18-Mar-2020 18:34

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW92B-20200312
Collection Date: 12-Mar-2020 13:20

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	14-Mar-2020 19:44
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	14-Mar-2020 19:44
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	14-Mar-2020 19:44
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	14-Mar-2020 19:44
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	14-Mar-2020 19:44
Toluene	**0.00049**	J	**0.00020**	**0.0010**	**mg/L**	1	14-Mar-2020 19:44
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	14-Mar-2020 19:44
Surr: 1,2-Dichloroethane-d4	*105*			*70-126*	*%REC*	*1*	*14-Mar-2020 19:44*
Surr: 4-Bromofluorobenzene	*96.1*			*81-113*	*%REC*	*1*	*14-Mar-2020 19:44*
Surr: Dibromofluoromethane	*98.9*			*77-123*	*%REC*	*1*	*14-Mar-2020 19:44*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*14-Mar-2020 19:44*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW92B-20200312
Collection Date: 12-Mar-2020 13:20

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	16-Mar-2020 19:15
2,4-Dimethylphenol	< 0.000040		0.000040	0.00020	mg/L	1	16-Mar-2020 19:15
2,4-Dinitrotoluene	< 0.000059		0.000059	0.00020	mg/L	1	16-Mar-2020 19:15
2,6-Dinitrotoluene	< 0.000042		0.000042	0.00020	mg/L	1	16-Mar-2020 19:15
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	16-Mar-2020 19:15
2-Methylnaphthalene	< 0.000019		0.000019	0.00010	mg/L	1	16-Mar-2020 19:15
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	16-Mar-2020 19:15
4-Nitrophenol	< 0.000047		0.000047	0.0010	mg/L	1	16-Mar-2020 19:15
Acenaphthene	< 0.000027		0.000027	0.00010	mg/L	1	16-Mar-2020 19:15
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	16-Mar-2020 19:15
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	16-Mar-2020 19:15
Benz(a)anthracene	< 0.000051		0.000051	0.00010	mg/L	1	16-Mar-2020 19:15
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	16-Mar-2020 19:15
Bis(2-chloroethoxy)methane	< 0.000030		0.000030	0.00020	mg/L	1	16-Mar-2020 19:15
Bis(2-ethylhexyl)phthalate	< 0.000037		0.000037	0.00020	mg/L	1	16-Mar-2020 19:15
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	16-Mar-2020 19:15
Dibenzofuran	< 0.000020		0.000020	0.00010	mg/L	1	16-Mar-2020 19:15
Di-n-butyl phthalate	< 0.000020		0.000020	0.00020	mg/L	1	16-Mar-2020 19:15
Fluoranthene	< 0.000010		0.000010	0.00010	mg/L	1	16-Mar-2020 19:15
Fluorene	< 0.000030		0.000030	0.00010	mg/L	1	16-Mar-2020 19:15
Naphthalene	< 0.000020		0.000020	0.00010	mg/L	1	16-Mar-2020 19:15
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	16-Mar-2020 19:15
N-Nitrosodiphenylamine	< 0.000025		0.000025	0.00020	mg/L	1	16-Mar-2020 19:15
Pentachlorophenol	< 0.000080		0.000080	0.00020	mg/L	1	16-Mar-2020 19:15
Phenanthrene	< 0.000021		0.000021	0.00010	mg/L	1	16-Mar-2020 19:15
Phenol	< 0.000035		0.000035	0.00020	mg/L	1	16-Mar-2020 19:15
Pyrene	< 0.000019		0.000019	0.00010	mg/L	1	16-Mar-2020 19:15
Surr: 2,4,6-Tribromophenol	*90.6*			*34-129*	*%REC*	*1*	*16-Mar-2020 19:15*
Surr: 2-Fluorobiphenyl	*62.5*			*40-125*	*%REC*	*1*	*16-Mar-2020 19:15*
Surr: 2-Fluorophenol	*60.4*			*20-120*	*%REC*	*1*	*16-Mar-2020 19:15*
Surr: 4-Terphenyl-d14	*88.7*			*40-135*	*%REC*	*1*	*16-Mar-2020 19:15*
Surr: Nitrobenzene-d5	*57.7*			*41-120*	*%REC*	*1*	*16-Mar-2020 19:15*
Surr: Phenol-d6	*70.9*			*20-120*	*%REC*	*1*	*16-Mar-2020 19:15*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 17-Mar-2020		Analyst: JC
Arsenic	**0.00201**		**0.000400**	**0.00200**	**mg/L**	1	18-Mar-2020 18:37

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20030619
Sample ID: WG-1620-MW84A-20200312
Lab ID:HS20030619-07
Collection Date: 12-Mar-2020 12:15
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 00:13
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 00:13
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 00:13
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 00:13
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	15-Mar-2020 00:13
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 00:13
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 00:13
Surr: 1,2-Dichloroethane-d4	*104*			*70-126*	*%REC*	*1*	*15-Mar-2020 00:13*
Surr: 4-Bromofluorobenzene	*96.1*			*81-113*	*%REC*	*1*	*15-Mar-2020 00:13*
Surr: Dibromofluoromethane	*100.0*			*77-123*	*%REC*	*1*	*15-Mar-2020 00:13*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*15-Mar-2020 00:13*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW84A-20200312
Collection Date: 12-Mar-2020 12:15

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	17-Mar-2020 17:59
2,4-Dimethylphenol	< 0.000041		0.000041	0.00020	mg/L	1	17-Mar-2020 17:59
2,4-Dinitrotoluene	< 0.000059		0.000059	0.00020	mg/L	1	17-Mar-2020 17:59
2,6-Dinitrotoluene	< 0.000043		0.000043	0.00020	mg/L	1	17-Mar-2020 17:59
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	17-Mar-2020 17:59
2-Methylnaphthalene	< 0.000019		0.000019	0.00010	mg/L	1	17-Mar-2020 17:59
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	17-Mar-2020 17:59
4-Nitrophenol	< 0.000048		0.000048	0.0010	mg/L	1	17-Mar-2020 17:59
Acenaphthene	< 0.000028		0.000028	0.00010	mg/L	1	17-Mar-2020 17:59
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	17-Mar-2020 17:59
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	17-Mar-2020 17:59
Benz(a)anthracene	< 0.000051		0.000051	0.00010	mg/L	1	17-Mar-2020 17:59
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	17-Mar-2020 17:59
Bis(2-chloroethoxy)methane	< 0.000031		0.000031	0.00020	mg/L	1	17-Mar-2020 17:59
Bis(2-ethylhexyl)phthalate	< 0.000038		0.000038	0.00020	mg/L	1	17-Mar-2020 17:59
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	17-Mar-2020 17:59
Dibenzofuran	< 0.000020		0.000020	0.00010	mg/L	1	17-Mar-2020 17:59
Di-n-butyl phthalate	< 0.000020		0.000020	0.00020	mg/L	1	17-Mar-2020 17:59
Fluoranthene	< 0.000010		0.000010	0.00010	mg/L	1	17-Mar-2020 17:59
Fluorene	< 0.000031		0.000031	0.00010	mg/L	1	17-Mar-2020 17:59
Naphthalene	**0.000023**	J	**0.000020**	**0.00010**	**mg/L**	1	17-Mar-2020 17:59
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	17-Mar-2020 17:59
N-Nitrosodiphenylamine	< 0.000026		0.000026	0.00020	mg/L	1	17-Mar-2020 17:59
Pentachlorophenol	< 0.000081		0.000081	0.00020	mg/L	1	17-Mar-2020 17:59
Phenanthrene	< 0.000021		0.000021	0.00010	mg/L	1	17-Mar-2020 17:59
Phenol	< 0.000036		0.000036	0.00020	mg/L	1	17-Mar-2020 17:59
Pyrene	< 0.000019		0.000019	0.00010	mg/L	1	17-Mar-2020 17:59
Surr: 2,4,6-Tribromophenol	*88.2*			*34-129*	*%REC*	*1*	*17-Mar-2020 17:59*
Surr: 2-Fluorobiphenyl	*70.1*			*40-125*	*%REC*	*1*	*17-Mar-2020 17:59*
Surr: 2-Fluorophenol	*66.6*			*20-120*	*%REC*	*1*	*17-Mar-2020 17:59*
Surr: 4-Terphenyl-d14	*91.2*			*40-135*	*%REC*	*1*	*17-Mar-2020 17:59*
Surr: Nitrobenzene-d5	*62.3*			*41-120*	*%REC*	*1*	*17-Mar-2020 17:59*
Surr: Phenol-d6	*69.0*			*20-120*	*%REC*	*1*	*17-Mar-2020 17:59*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 18-Mar-2020		Analyst: JHD
Arsenic	**0.00464**		**0.000400**	**0.00200**	**mg/L**	1	20-Mar-2020 16:51

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW70C-20200312
Collection Date: 12-Mar-2020 10:35

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 01:50
Benzene	**0.010**		**0.00020**	**0.0010**	**mg/L**	1	15-Mar-2020 01:50
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 01:50
Ethylbenzene	**0.057**		**0.00030**	**0.0010**	**mg/L**	1	15-Mar-2020 01:50
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	15-Mar-2020 01:50
Toluene	**0.034**		**0.00020**	**0.0010**	**mg/L**	1	15-Mar-2020 01:50
Xylenes, Total	**0.064**		**0.00030**	**0.0010**	**mg/L**	1	15-Mar-2020 01:50
Surr: 1,2-Dichloroethane-d4	*102*			*70-126*	*%REC*	*1*	*15-Mar-2020 01:50*
Surr: 4-Bromofluorobenzene	*101*			*81-113*	*%REC*	*1*	*15-Mar-2020 01:50*
Surr: Dibromofluoromethane	*102*			*77-123*	*%REC*	*1*	*15-Mar-2020 01:50*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*15-Mar-2020 01:50*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW70C-20200312
Collection Date: 12-Mar-2020 10:35

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000022		0.000022	0.00021	mg/L	1	17-Mar-2020 18:18
2,4-Dimethylphenol	**0.00041**		**0.000042**	**0.00021**	**mg/L**	1	17-Mar-2020 18:18
2,4-Dinitrotoluene	< 0.000060		0.000060	0.00021	mg/L	1	17-Mar-2020 18:18
2,6-Dinitrotoluene	< 0.000044		0.000044	0.00021	mg/L	1	17-Mar-2020 18:18
2-Chloronaphthalene	< 0.000022		0.000022	0.00021	mg/L	1	17-Mar-2020 18:18
2-Methylnaphthalene	**0.067**		**0.00020**	**0.0010**	**mg/L**	10	18-Mar-2020 12:22
4,6-Dinitro-2-methylphenol	< 0.000021		0.000021	0.00021	mg/L	1	17-Mar-2020 18:18
4-Nitrophenol	< 0.000049		0.000049	0.0010	mg/L	1	17-Mar-2020 18:18
Acenaphthene	**0.059**		**0.00028**	**0.0010**	**mg/L**	10	18-Mar-2020 12:22
Acenaphthylene	< 0.000016		0.000016	0.00010	mg/L	1	17-Mar-2020 18:18
Anthracene	**0.0049**		**0.000015**	**0.00010**	**mg/L**	1	17-Mar-2020 18:18
Benz(a)anthracene	< 0.000052		0.000052	0.00010	mg/L	1	17-Mar-2020 18:18
Benzo(a)pyrene	< 0.000021		0.000021	0.00010	mg/L	1	17-Mar-2020 18:18
Bis(2-chloroethoxy)methane	< 0.000031		0.000031	0.00021	mg/L	1	17-Mar-2020 18:18
Bis(2-ethylhexyl)phthalate	< 0.000039		0.000039	0.00021	mg/L	1	17-Mar-2020 18:18
Chrysene	< 0.000022		0.000022	0.00010	mg/L	1	17-Mar-2020 18:18
Dibenzofuran	**0.055**		**0.00021**	**0.0010**	**mg/L**	10	18-Mar-2020 12:22
Di-n-butyl phthalate	**0.000061**	J	**0.000021**	**0.00021**	**mg/L**	1	17-Mar-2020 18:18
Fluoranthene	**0.0030**		**0.000010**	**0.00010**	**mg/L**	1	17-Mar-2020 18:18
Fluorene	**0.028**		**0.00031**	**0.0010**	**mg/L**	10	18-Mar-2020 12:22
Naphthalene	**1.6**		**0.021**	**0.10**	**mg/L**	1000	18-Mar-2020 18:26
Nitrobenzene	< 0.000025		0.000025	0.00021	mg/L	1	17-Mar-2020 18:18
N-Nitrosodiphenylamine	< 0.000026		0.000026	0.00021	mg/L	1	17-Mar-2020 18:18
Pentachlorophenol	< 0.000082		0.000082	0.00021	mg/L	1	17-Mar-2020 18:18
Phenanthrene	**0.040**		**0.00022**	**0.0010**	**mg/L**	10	18-Mar-2020 12:22
Phenol	< 0.000036		0.000036	0.00021	mg/L	1	17-Mar-2020 18:18
Pyrene	**0.0017**		**0.000020**	**0.00010**	**mg/L**	1	17-Mar-2020 18:18
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*1000*	*18-Mar-2020 18:26*
Surr: 2,4,6-Tribromophenol	*86.3*			*34-129*	*%REC*	*10*	*18-Mar-2020 12:22*
Surr: 2,4,6-Tribromophenol	*85.5*			*34-129*	*%REC*	*1*	*17-Mar-2020 18:18*
Surr: 2-Fluorobiphenyl	*48.0*			*40-125*	*%REC*	*1*	*17-Mar-2020 18:18*
Surr: 2-Fluorobiphenyl	*54.8*			*40-125*	*%REC*	*10*	*18-Mar-2020 12:22*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*1000*	*18-Mar-2020 18:26*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*1000*	*18-Mar-2020 18:26*
Surr: 2-Fluorophenol	*52.4*			*20-120*	*%REC*	*10*	*18-Mar-2020 12:22*
Surr: 2-Fluorophenol	*62.1*			*20-120*	*%REC*	*1*	*17-Mar-2020 18:18*
Surr: 4-Terphenyl-d14	*85.5*			*40-135*	*%REC*	*1*	*17-Mar-2020 18:18*
Surr: 4-Terphenyl-d14	*87.7*			*40-135*	*%REC*	*10*	*18-Mar-2020 12:22*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*1000*	*18-Mar-2020 18:26*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW70C-20200312
Collection Date: 12-Mar-2020 10:35

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Mar-2020		Analyst: GEY
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*1000*	*18-Mar-2020 18:26*
Surr: Nitrobenzene-d5	*56.1*			*41-120*	*%REC*	*1*	*17-Mar-2020 18:18*
Surr: Nitrobenzene-d5	*49.1*			*41-120*	*%REC*	*10*	*18-Mar-2020 12:22*
Surr: Phenol-d6	*57.0*			*20-120*	*%REC*	*10*	*18-Mar-2020 12:22*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*1000*	*18-Mar-2020 18:26*
Surr: Phenol-d6	*51.4*			*20-120*	*%REC*	*1*	*17-Mar-2020 18:18*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 18-Mar-2020		Analyst: JHD
Arsenic	**0.00598**		**0.000400**	**0.00200**	**mg/L**	1	20-Mar-2020 16:53

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20030619
Sample ID: WG-1620-MW91A-20200312
Lab ID:HS20030619-09
Collection Date: 12-Mar-2020 09:20
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 03:14
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 03:14
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 03:14
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 03:14
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	15-Mar-2020 03:14
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 03:14
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 03:14
Surr: 1,2-Dichloroethane-d4	*102*			*70-126*	*%REC*	*1*	*15-Mar-2020 03:14*
Surr: 4-Bromofluorobenzene	*98.6*			*81-113*	*%REC*	*1*	*15-Mar-2020 03:14*
Surr: Dibromofluoromethane	*97.9*			*77-123*	*%REC*	*1*	*15-Mar-2020 03:14*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*15-Mar-2020 03:14*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW91A-20200312
Collection Date: 12-Mar-2020 09:20

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-09
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000022		0.000022	0.00021	mg/L	1	17-Mar-2020 18:37
2,4-Dimethylphenol	< 0.000042		0.000042	0.00021	mg/L	1	17-Mar-2020 18:37
2,4-Dinitrotoluene	< 0.000061		0.000061	0.00021	mg/L	1	17-Mar-2020 18:37
2,6-Dinitrotoluene	< 0.000044		0.000044	0.00021	mg/L	1	17-Mar-2020 18:37
2-Chloronaphthalene	< 0.000022		0.000022	0.00021	mg/L	1	17-Mar-2020 18:37
2-Methylnaphthalene	< 0.000020		0.000020	0.00011	mg/L	1	17-Mar-2020 18:37
4,6-Dinitro-2-methylphenol	< 0.000021		0.000021	0.00021	mg/L	1	17-Mar-2020 18:37
4-Nitrophenol	< 0.000049		0.000049	0.0011	mg/L	1	17-Mar-2020 18:37
Acenaphthene	< 0.000028		0.000028	0.00011	mg/L	1	17-Mar-2020 18:37
Acenaphthylene	< 0.000016		0.000016	0.00011	mg/L	1	17-Mar-2020 18:37
Anthracene	< 0.000015		0.000015	0.00011	mg/L	1	17-Mar-2020 18:37
Benz(a)anthracene	< 0.000053		0.000053	0.00011	mg/L	1	17-Mar-2020 18:37
Benzo(a)pyrene	< 0.000021		0.000021	0.00011	mg/L	1	17-Mar-2020 18:37
Bis(2-chloroethoxy)methane	< 0.000032		0.000032	0.00021	mg/L	1	17-Mar-2020 18:37
Bis(2-ethylhexyl)phthalate	< 0.000039		0.000039	0.00021	mg/L	1	17-Mar-2020 18:37
Chrysene	< 0.000022		0.000022	0.00011	mg/L	1	17-Mar-2020 18:37
Dibenzofuran	< 0.000021		0.000021	0.00011	mg/L	1	17-Mar-2020 18:37
Di-n-butyl phthalate	**0.000031**	J	**0.000021**	**0.00021**	**mg/L**	1	17-Mar-2020 18:37
Fluoranthene	< 0.000011		0.000011	0.00011	mg/L	1	17-Mar-2020 18:37
Fluorene	< 0.000032		0.000032	0.00011	mg/L	1	17-Mar-2020 18:37
Naphthalene	**0.000083**	J	**0.000021**	**0.00011**	**mg/L**	1	17-Mar-2020 18:37
Nitrobenzene	< 0.000025		0.000025	0.00021	mg/L	1	17-Mar-2020 18:37
N-Nitrosodiphenylamine	< 0.000026		0.000026	0.00021	mg/L	1	17-Mar-2020 18:37
Pentachlorophenol	< 0.000083		0.000083	0.00021	mg/L	1	17-Mar-2020 18:37
Phenanthrene	< 0.000022		0.000022	0.00011	mg/L	1	17-Mar-2020 18:37
Phenol	< 0.000037		0.000037	0.00021	mg/L	1	17-Mar-2020 18:37
Pyrene	< 0.000020		0.000020	0.00011	mg/L	1	17-Mar-2020 18:37
Surr: 2,4,6-Tribromophenol	*99.1*			*34-129*	*%REC*	*1*	*17-Mar-2020 18:37*
Surr: 2-Fluorobiphenyl	*69.9*			*40-125*	*%REC*	*1*	*17-Mar-2020 18:37*
Surr: 2-Fluorophenol	*67.9*			*20-120*	*%REC*	*1*	*17-Mar-2020 18:37*
Surr: 4-Terphenyl-d14	*100.0*			*40-135*	*%REC*	*1*	*17-Mar-2020 18:37*
Surr: Nitrobenzene-d5	*62.1*			*41-120*	*%REC*	*1*	*17-Mar-2020 18:37*
Surr: Phenol-d6	*68.6*			*20-120*	*%REC*	*1*	*17-Mar-2020 18:37*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 18-Mar-2020		Analyst: JHD
Arsenic	**0.00989**		**0.000400**	**0.00200**	**mg/L**	1	20-Mar-2020 18:32

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD01-20200312
Collection Date: 12-Mar-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-10
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 03:39
Benzene	**0.0089**		**0.00020**	**0.0010**	**mg/L**	1	15-Mar-2020 03:39
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 03:39
Ethylbenzene	**0.052**		**0.00030**	**0.0010**	**mg/L**	1	15-Mar-2020 03:39
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	15-Mar-2020 03:39
Toluene	**0.032**		**0.00020**	**0.0010**	**mg/L**	1	15-Mar-2020 03:39
Xylenes, Total	**0.061**		**0.00030**	**0.0010**	**mg/L**	1	15-Mar-2020 03:39
Surr: 1,2-Dichloroethane-d4	*103*			*70-126*	*%REC*	*1*	*15-Mar-2020 03:39*
Surr: 4-Bromofluorobenzene	*102*			*81-113*	*%REC*	*1*	*15-Mar-2020 03:39*
Surr: Dibromofluoromethane	*98.7*			*77-123*	*%REC*	*1*	*15-Mar-2020 03:39*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*15-Mar-2020 03:39*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD01-20200312
Collection Date: 12-Mar-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-10
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000022		0.000022	0.00021	mg/L	1	17-Mar-2020 18:56
2,4-Dimethylphenol	< 0.000041		0.000041	0.00021	mg/L	1	17-Mar-2020 18:56
2,4-Dinitrotoluene	< 0.000060		0.000060	0.00021	mg/L	1	17-Mar-2020 18:56
2,6-Dinitrotoluene	< 0.000043		0.000043	0.00021	mg/L	1	17-Mar-2020 18:56
2-Chloronaphthalene	< 0.000022		0.000022	0.00021	mg/L	1	17-Mar-2020 18:56
2-Methylnaphthalene	**0.098**		**0.00020**	**0.0010**	**mg/L**	10	18-Mar-2020 13:00
4,6-Dinitro-2-methylphenol	< 0.000021		0.000021	0.00021	mg/L	1	17-Mar-2020 18:56
4-Nitrophenol	< 0.000048		0.000048	0.0010	mg/L	1	17-Mar-2020 18:56
Acenaphthene	**0.087**		**0.00028**	**0.0010**	**mg/L**	10	18-Mar-2020 13:00
Acenaphthylene	**0.00074**		**0.000015**	**0.00010**	**mg/L**	1	17-Mar-2020 18:56
Anthracene	**0.0082**		**0.000014**	**0.00010**	**mg/L**	1	17-Mar-2020 18:56
Benz(a)anthracene	**0.000079**	J	**0.000052**	**0.00010**	**mg/L**	1	17-Mar-2020 18:56
Benzo(a)pyrene	< 0.000021		0.000021	0.00010	mg/L	1	17-Mar-2020 18:56
Bis(2-chloroethoxy)methane	< 0.000031		0.000031	0.00021	mg/L	1	17-Mar-2020 18:56
Bis(2-ethylhexyl)phthalate	**0.000052**	J	**0.000038**	**0.00021**	**mg/L**	1	17-Mar-2020 18:56
Chrysene	**0.000061**	J	**0.000022**	**0.00010**	**mg/L**	1	17-Mar-2020 18:56
Dibenzofuran	**0.078**		**0.00021**	**0.0010**	**mg/L**	10	18-Mar-2020 13:00
Di-n-butyl phthalate	**0.00010**	J	**0.000021**	**0.00021**	**mg/L**	1	17-Mar-2020 18:56
Fluoranthene	**0.0053**		**0.000010**	**0.00010**	**mg/L**	1	17-Mar-2020 18:56
Fluorene	**0.038**		**0.00031**	**0.0010**	**mg/L**	10	18-Mar-2020 13:00
Naphthalene	**2.5**		**0.021**	**0.10**	**mg/L**	1000	18-Mar-2020 18:45
Nitrobenzene	< 0.000025		0.000025	0.00021	mg/L	1	17-Mar-2020 18:56
N-Nitrosodiphenylamine	< 0.000026		0.000026	0.00021	mg/L	1	17-Mar-2020 18:56
Pentachlorophenol	< 0.000081		0.000081	0.00021	mg/L	1	17-Mar-2020 18:56
Phenanthrene	**0.054**		**0.00022**	**0.0010**	**mg/L**	10	18-Mar-2020 13:00
Phenol	< 0.000036		0.000036	0.00021	mg/L	1	17-Mar-2020 18:56
Pyrene	**0.0029**		**0.000020**	**0.00010**	**mg/L**	1	17-Mar-2020 18:56
Surr: 2,4,6-Tribromophenol	*79.3*			*34-129*	*%REC*	*10*	*18-Mar-2020 13:00*
Surr: 2,4,6-Tribromophenol	*89.9*			*34-129*	*%REC*	*1*	*17-Mar-2020 18:56*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*1000*	*18-Mar-2020 18:45*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*1000*	*18-Mar-2020 18:45*
Surr: 2-Fluorobiphenyl	*57.7*			*40-125*	*%REC*	*1*	*17-Mar-2020 18:56*
Surr: 2-Fluorobiphenyl	*54.1*			*40-125*	*%REC*	*10*	*18-Mar-2020 13:00*
Surr: 2-Fluorophenol	*62.7*			*20-120*	*%REC*	*10*	*18-Mar-2020 13:00*
Surr: 2-Fluorophenol	*68.7*			*20-120*	*%REC*	*1*	*17-Mar-2020 18:56*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*1000*	*18-Mar-2020 18:45*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*1000*	*18-Mar-2020 18:45*
Surr: 4-Terphenyl-d14	*89.9*			*40-135*	*%REC*	*1*	*17-Mar-2020 18:56*
Surr: 4-Terphenyl-d14	*79.6*			*40-135*	*%REC*	*10*	*18-Mar-2020 13:00*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD01-20200312
Collection Date: 12-Mar-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-10
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Mar-2020		Analyst: GEY
Surr: Nitrobenzene-d5	*55.8*			*41-120*	*%REC*	*10*	*18-Mar-2020 13:00*
Surr: Nitrobenzene-d5	*44.9*			*41-120*	*%REC*	*1*	*17-Mar-2020 18:56*
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*1000*	*18-Mar-2020 18:45*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*1000*	*18-Mar-2020 18:45*
Surr: Phenol-d6	*62.1*			*20-120*	*%REC*	*1*	*17-Mar-2020 18:56*
Surr: Phenol-d6	*57.1*			*20-120*	*%REC*	*10*	*18-Mar-2020 13:00*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 18-Mar-2020		Analyst: JHD
Arsenic	**0.00470**		**0.000400**	**0.00200**	**mg/L**	1	20-Mar-2020 18:35

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WQ-1620-TB02-20200312
Collection Date: 12-Mar-2020 12:36

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-11
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	14-Mar-2020 23:48
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	14-Mar-2020 23:48
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	14-Mar-2020 23:48
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	14-Mar-2020 23:48
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	14-Mar-2020 23:48
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	14-Mar-2020 23:48
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	14-Mar-2020 23:48
Surr: 1,2-Dichloroethane-d4	*103*			*70-126*	*%REC*	*1*	*14-Mar-2020 23:48*
Surr: 4-Bromofluorobenzene	*95.8*			*81-113*	*%REC*	*1*	*14-Mar-2020 23:48*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*14-Mar-2020 23:48*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*14-Mar-2020 23:48*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW76B-20200312
Collection Date: 12-Mar-2020 10:35

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-12
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 04:03
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 04:03
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 04:03
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 04:03
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	15-Mar-2020 04:03
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 04:03
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 04:03
Surr: 1,2-Dichloroethane-d4	*102*			*70-126*	*%REC*	*1*	*15-Mar-2020 04:03*
Surr: 4-Bromofluorobenzene	*100*			*81-113*	*%REC*	*1*	*15-Mar-2020 04:03*
Surr: Dibromofluoromethane	*98.1*			*77-123*	*%REC*	*1*	*15-Mar-2020 04:03*
Surr: Toluene-d8	*98.9*			*82-127*	*%REC*	*1*	*15-Mar-2020 04:03*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW76B-20200312
Collection Date: 12-Mar-2020 10:35

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-12
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000022		0.000022	0.00021	mg/L	1	17-Mar-2020 19:16
2,4-Dimethylphenol	< 0.000042		0.000042	0.00021	mg/L	1	17-Mar-2020 19:16
2,4-Dinitrotoluene	< 0.000060		0.000060	0.00021	mg/L	1	17-Mar-2020 19:16
2,6-Dinitrotoluene	< 0.000044		0.000044	0.00021	mg/L	1	17-Mar-2020 19:16
2-Chloronaphthalene	< 0.000022		0.000022	0.00021	mg/L	1	17-Mar-2020 19:16
2-Methylnaphthalene	< 0.000020		0.000020	0.00010	mg/L	1	17-Mar-2020 19:16
4,6-Dinitro-2-methylphenol	< 0.000021		0.000021	0.00021	mg/L	1	17-Mar-2020 19:16
4-Nitrophenol	< 0.000049		0.000049	0.0010	mg/L	1	17-Mar-2020 19:16
Acenaphthene	< 0.000028		0.000028	0.00010	mg/L	1	17-Mar-2020 19:16
Acenaphthylene	< 0.000016		0.000016	0.00010	mg/L	1	17-Mar-2020 19:16
Anthracene	< 0.000015		0.000015	0.00010	mg/L	1	17-Mar-2020 19:16
Benz(a)anthracene	< 0.000052		0.000052	0.00010	mg/L	1	17-Mar-2020 19:16
Benzo(a)pyrene	< 0.000021		0.000021	0.00010	mg/L	1	17-Mar-2020 19:16
Bis(2-chloroethoxy)methane	< 0.000031		0.000031	0.00021	mg/L	1	17-Mar-2020 19:16
Bis(2-ethylhexyl)phthalate	< 0.000039		0.000039	0.00021	mg/L	1	17-Mar-2020 19:16
Chrysene	< 0.000022		0.000022	0.00010	mg/L	1	17-Mar-2020 19:16
Dibenzofuran	< 0.000021		0.000021	0.00010	mg/L	1	17-Mar-2020 19:16
Di-n-butyl phthalate	**0.000025**	J	**0.000021**	**0.00021**	**mg/L**	1	17-Mar-2020 19:16
Fluoranthene	< 0.000010		0.000010	0.00010	mg/L	1	17-Mar-2020 19:16
Fluorene	< 0.000031		0.000031	0.00010	mg/L	1	17-Mar-2020 19:16
Naphthalene	**0.000096**	J	**0.000021**	**0.00010**	**mg/L**	1	17-Mar-2020 19:16
Nitrobenzene	< 0.000025		0.000025	0.00021	mg/L	1	17-Mar-2020 19:16
N-Nitrosodiphenylamine	< 0.000026		0.000026	0.00021	mg/L	1	17-Mar-2020 19:16
Pentachlorophenol	< 0.000082		0.000082	0.00021	mg/L	1	17-Mar-2020 19:16
Phenanthrene	< 0.000022		0.000022	0.00010	mg/L	1	17-Mar-2020 19:16
Phenol	< 0.000036		0.000036	0.00021	mg/L	1	17-Mar-2020 19:16
Pyrene	< 0.000020		0.000020	0.00010	mg/L	1	17-Mar-2020 19:16
Surr: 2,4,6-Tribromophenol	*81.4*			*34-129*	*%REC*	*1*	*17-Mar-2020 19:16*
Surr: 2-Fluorobiphenyl	*63.8*			*40-125*	*%REC*	*1*	*17-Mar-2020 19:16*
Surr: 2-Fluorophenol	*60.0*			*20-120*	*%REC*	*1*	*17-Mar-2020 19:16*
Surr: 4-Terphenyl-d14	*91.0*			*40-135*	*%REC*	*1*	*17-Mar-2020 19:16*
Surr: Nitrobenzene-d5	*55.6*			*41-120*	*%REC*	*1*	*17-Mar-2020 19:16*
Surr: Phenol-d6	*63.4*			*20-120*	*%REC*	*1*	*17-Mar-2020 19:16*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW76B-20200312
Collection Date: 12-Mar-2020 10:35

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-12
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 17-Mar-2020		Analyst: MBG
nC6 to nC12	< 0.19		0.19	0.48	mg/L	1	18-Mar-2020 09:42
>nC12 to nC28	< 0.19		0.19	0.48	mg/L	1	18-Mar-2020 09:42
>nC28 to nC35	< 0.19		0.19	0.48	mg/L	1	18-Mar-2020 09:42
Total Petroleum Hydrocarbon	< 0.19		0.19	0.48	mg/L	1	18-Mar-2020 09:42
Surr: 2-Fluorobiphenyl	*82.2*			*70-130*	*%REC*	*1*	*18-Mar-2020 09:42*
Surr: Trifluoromethyl benzene	*96.2*			*70-130*	*%REC*	*1*	*18-Mar-2020 09:42*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 18-Mar-2020		Analyst: JHD
Arsenic	**0.00115**	J	**0.000400**	**0.00200**	**mg/L**	1	20-Mar-2020 18:37

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW97A-20200312
Collection Date: 12-Mar-2020 11:47

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-13
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 04:27
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 04:27
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 04:27
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 04:27
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	15-Mar-2020 04:27
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 04:27
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 04:27
Surr: 1,2-Dichloroethane-d4	*101*			*70-126*	*%REC*	*1*	*15-Mar-2020 04:27*
Surr: 4-Bromofluorobenzene	*94.3*			*81-113*	*%REC*	*1*	*15-Mar-2020 04:27*
Surr: Dibromofluoromethane	*98.7*			*77-123*	*%REC*	*1*	*15-Mar-2020 04:27*
Surr: Toluene-d8	*99.4*			*82-127*	*%REC*	*1*	*15-Mar-2020 04:27*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW97A-20200312
Collection Date: 12-Mar-2020 11:47

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-13
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	17-Mar-2020 19:35
2,4-Dimethylphenol	< 0.000040		0.000040	0.00020	mg/L	1	17-Mar-2020 19:35
2,4-Dinitrotoluene	< 0.000059		0.000059	0.00020	mg/L	1	17-Mar-2020 19:35
2,6-Dinitrotoluene	< 0.000042		0.000042	0.00020	mg/L	1	17-Mar-2020 19:35
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	17-Mar-2020 19:35
2-Methylnaphthalene	< 0.000019		0.000019	0.00010	mg/L	1	17-Mar-2020 19:35
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	17-Mar-2020 19:35
4-Nitrophenol	< 0.000047		0.000047	0.0010	mg/L	1	17-Mar-2020 19:35
Acenaphthene	< 0.000027		0.000027	0.00010	mg/L	1	17-Mar-2020 19:35
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	17-Mar-2020 19:35
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	17-Mar-2020 19:35
Benz(a)anthracene	< 0.000051		0.000051	0.00010	mg/L	1	17-Mar-2020 19:35
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	17-Mar-2020 19:35
Bis(2-chloroethoxy)methane	< 0.000030		0.000030	0.00020	mg/L	1	17-Mar-2020 19:35
Bis(2-ethylhexyl)phthalate	< 0.000037		0.000037	0.00020	mg/L	1	17-Mar-2020 19:35
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	17-Mar-2020 19:35
Dibenzofuran	< 0.000020		0.000020	0.00010	mg/L	1	17-Mar-2020 19:35
Di-n-butyl phthalate	< 0.000020		0.000020	0.00020	mg/L	1	17-Mar-2020 19:35
Fluoranthene	< 0.000010		0.000010	0.00010	mg/L	1	17-Mar-2020 19:35
Fluorene	< 0.000030		0.000030	0.00010	mg/L	1	17-Mar-2020 19:35
Naphthalene	< 0.000020		0.000020	0.00010	mg/L	1	17-Mar-2020 19:35
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	17-Mar-2020 19:35
N-Nitrosodiphenylamine	< 0.000025		0.000025	0.00020	mg/L	1	17-Mar-2020 19:35
Pentachlorophenol	< 0.000080		0.000080	0.00020	mg/L	1	17-Mar-2020 19:35
Phenanthrene	< 0.000021		0.000021	0.00010	mg/L	1	17-Mar-2020 19:35
Phenol	< 0.000035		0.000035	0.00020	mg/L	1	17-Mar-2020 19:35
Pyrene	< 0.000019		0.000019	0.00010	mg/L	1	17-Mar-2020 19:35
Surr: 2,4,6-Tribromophenol	*87.0*			*34-129*	*%REC*	*1*	*17-Mar-2020 19:35*
Surr: 2-Fluorobiphenyl	*64.0*			*40-125*	*%REC*	*1*	*17-Mar-2020 19:35*
Surr: 2-Fluorophenol	*60.8*			*20-120*	*%REC*	*1*	*17-Mar-2020 19:35*
Surr: 4-Terphenyl-d14	*86.3*			*40-135*	*%REC*	*1*	*17-Mar-2020 19:35*
Surr: Nitrobenzene-d5	*54.5*			*41-120*	*%REC*	*1*	*17-Mar-2020 19:35*
Surr: Phenol-d6	*59.3*			*20-120*	*%REC*	*1*	*17-Mar-2020 19:35*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW97A-20200312
Collection Date: 12-Mar-2020 11:47

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-13
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005	**Method:TX1005**				Prep:TX1005PR / 17-Mar-2020		Analyst: PVL
nC6 to nC12	< 0.19		0.19	0.48	mg/L	1	18-Mar-2020 18:40
>nC12 to nC28	< 0.19		0.19	0.48	mg/L	1	18-Mar-2020 18:40
>nC28 to nC35	< 0.19		0.19	0.48	mg/L	1	18-Mar-2020 18:40
Total Petroleum Hydrocarbon	< 0.19		0.19	0.48	mg/L	1	18-Mar-2020 18:40
Surr: 2-Fluorobiphenyl	*80.6*			*70-130*	*%REC*	*1*	*18-Mar-2020 18:40*
Surr: Trifluoromethyl benzene	*92.4*			*70-130*	*%REC*	*1*	*18-Mar-2020 18:40*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 18-Mar-2020		Analyst: JHD
Arsenic	**0.00121**	J	**0.000400**	**0.00200**	**mg/L**	1	20-Mar-2020 18:39

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW98A-20200312
Collection Date: 12-Mar-2020 12:54

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-14
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 04:51
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 04:51
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 04:51
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 04:51
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	15-Mar-2020 04:51
Toluene	**0.00065**	J	**0.00020**	**0.0010**	**mg/L**	1	15-Mar-2020 04:51
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 04:51
Surr: 1,2-Dichloroethane-d4	*100.0*			*70-126*	*%REC*	*1*	*15-Mar-2020 04:51*
Surr: 4-Bromofluorobenzene	*95.1*			*81-113*	*%REC*	*1*	*15-Mar-2020 04:51*
Surr: Dibromofluoromethane	*98.3*			*77-123*	*%REC*	*1*	*15-Mar-2020 04:51*
Surr: Toluene-d8	*98.9*			*82-127*	*%REC*	*1*	*15-Mar-2020 04:51*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW98A-20200312
Collection Date: 12-Mar-2020 12:54

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-14
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	17-Mar-2020 19:54
2,4-Dimethylphenol	**0.000078**	J	**0.000041**	**0.00020**	**mg/L**	1	17-Mar-2020 19:54
2,4-Dinitrotoluene	< 0.000059		0.000059	0.00020	mg/L	1	17-Mar-2020 19:54
2,6-Dinitrotoluene	< 0.000043		0.000043	0.00020	mg/L	1	17-Mar-2020 19:54
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	17-Mar-2020 19:54
2-Methylnaphthalene	< 0.000019		0.000019	0.00010	mg/L	1	17-Mar-2020 19:54
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	17-Mar-2020 19:54
4-Nitrophenol	< 0.000048		0.000048	0.0010	mg/L	1	17-Mar-2020 19:54
Acenaphthene	**0.000040**	J	**0.000028**	**0.00010**	**mg/L**	1	17-Mar-2020 19:54
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	17-Mar-2020 19:54
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	17-Mar-2020 19:54
Benz(a)anthracene	< 0.000051		0.000051	0.00010	mg/L	1	17-Mar-2020 19:54
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	17-Mar-2020 19:54
Bis(2-chloroethoxy)methane	< 0.000031		0.000031	0.00020	mg/L	1	17-Mar-2020 19:54
Bis(2-ethylhexyl)phthalate	< 0.000038		0.000038	0.00020	mg/L	1	17-Mar-2020 19:54
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	17-Mar-2020 19:54
Dibenzofuran	< 0.000020		0.000020	0.00010	mg/L	1	17-Mar-2020 19:54
Di-n-butyl phthalate	< 0.000020		0.000020	0.00020	mg/L	1	17-Mar-2020 19:54
Fluoranthene	**0.000018**	J	**0.000010**	**0.00010**	**mg/L**	1	17-Mar-2020 19:54
Fluorene	< 0.000031		0.000031	0.00010	mg/L	1	17-Mar-2020 19:54
Naphthalene	**0.000042**	J	**0.000020**	**0.00010**	**mg/L**	1	17-Mar-2020 19:54
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	17-Mar-2020 19:54
N-Nitrosodiphenylamine	< 0.000026		0.000026	0.00020	mg/L	1	17-Mar-2020 19:54
Pentachlorophenol	< 0.000081		0.000081	0.00020	mg/L	1	17-Mar-2020 19:54
Phenanthrene	< 0.000021		0.000021	0.00010	mg/L	1	17-Mar-2020 19:54
Phenol	< 0.000036		0.000036	0.00020	mg/L	1	17-Mar-2020 19:54
Pyrene	< 0.000019		0.000019	0.00010	mg/L	1	17-Mar-2020 19:54
Surr: 2,4,6-Tribromophenol	*98.8*			*34-129*	*%REC*	*1*	*17-Mar-2020 19:54*
Surr: 2-Fluorobiphenyl	*51.5*			*40-125*	*%REC*	*1*	*17-Mar-2020 19:54*
Surr: 2-Fluorophenol	*54.6*			*20-120*	*%REC*	*1*	*17-Mar-2020 19:54*
Surr: 4-Terphenyl-d14	*99.4*			*40-135*	*%REC*	*1*	*17-Mar-2020 19:54*
Surr: Nitrobenzene-d5	*52.1*			*41-120*	*%REC*	*1*	*17-Mar-2020 19:54*
Surr: Phenol-d6	*56.8*			*20-120*	*%REC*	*1*	*17-Mar-2020 19:54*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW98A-20200312
Collection Date: 12-Mar-2020 12:54

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-14
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 17-Mar-2020		Analyst: PVL
nC6 to nC12	< 0.19		0.19	0.48	mg/L	1	18-Mar-2020 20:10
>nC12 to nC28	**1.0**		**0.19**	**0.48**	**mg/L**	1	18-Mar-2020 20:10
>nC28 to nC35	< 0.19		0.19	0.48	mg/L	1	18-Mar-2020 20:10
Total Petroleum Hydrocarbon	**1.00**		**0.19**	**0.48**	**mg/L**	1	18-Mar-2020 20:10
Surr: 2-Fluorobiphenyl	*93.3*			*70-130*	*%REC*	*1*	*18-Mar-2020 20:10*
Surr: Trifluoromethyl benzene	*92.4*			*70-130*	*%REC*	*1*	*18-Mar-2020 20:10*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 18-Mar-2020		Analyst: JHD
Arsenic	**0.00963**		**0.000400**	**0.00200**	**mg/L**	1	20-Mar-2020 18:50

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20030619
Sample ID: WG-1620-MW98B-20200312
Lab ID:HS20030619-15
Collection Date: 12-Mar-2020 13:53
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 05:15
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 05:15
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 05:15
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 05:15
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	15-Mar-2020 05:15
Toluene	**0.0020**		**0.00020**	**0.0010**	**mg/L**	1	15-Mar-2020 05:15
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 05:15
Surr: 1,2-Dichloroethane-d4	*101*			*70-126*	*%REC*	*1*	*15-Mar-2020 05:15*
Surr: 4-Bromofluorobenzene	*97.2*			*81-113*	*%REC*	*1*	*15-Mar-2020 05:15*
Surr: Dibromofluoromethane	*98.3*			*77-123*	*%REC*	*1*	*15-Mar-2020 05:15*
Surr: Toluene-d8	*99.2*			*82-127*	*%REC*	*1*	*15-Mar-2020 05:15*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW98B-20200312
Collection Date: 12-Mar-2020 13:53

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-15
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	17-Mar-2020 20:13
2,4-Dimethylphenol	< 0.000041		0.000041	0.00020	mg/L	1	17-Mar-2020 20:13
2,4-Dinitrotoluene	< 0.000059		0.000059	0.00020	mg/L	1	17-Mar-2020 20:13
2,6-Dinitrotoluene	< 0.000043		0.000043	0.00020	mg/L	1	17-Mar-2020 20:13
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	17-Mar-2020 20:13
2-Methylnaphthalene	< 0.000019		0.000019	0.00010	mg/L	1	17-Mar-2020 20:13
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	17-Mar-2020 20:13
4-Nitrophenol	< 0.000048		0.000048	0.0010	mg/L	1	17-Mar-2020 20:13
Acenaphthene	< 0.000028		0.000028	0.00010	mg/L	1	17-Mar-2020 20:13
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	17-Mar-2020 20:13
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	17-Mar-2020 20:13
Benz(a)anthracene	< 0.000051		0.000051	0.00010	mg/L	1	17-Mar-2020 20:13
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	17-Mar-2020 20:13
Bis(2-chloroethoxy)methane	< 0.000031		0.000031	0.00020	mg/L	1	17-Mar-2020 20:13
Bis(2-ethylhexyl)phthalate	< 0.000038		0.000038	0.00020	mg/L	1	17-Mar-2020 20:13
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	17-Mar-2020 20:13
Dibenzofuran	< 0.000020		0.000020	0.00010	mg/L	1	17-Mar-2020 20:13
Di-n-butyl phthalate	< 0.000020		0.000020	0.00020	mg/L	1	17-Mar-2020 20:13
Fluoranthene	< 0.000010		0.000010	0.00010	mg/L	1	17-Mar-2020 20:13
Fluorene	< 0.000031		0.000031	0.00010	mg/L	1	17-Mar-2020 20:13
Naphthalene	**0.000036**	J	**0.000020**	**0.00010**	**mg/L**	1	17-Mar-2020 20:13
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	17-Mar-2020 20:13
N-Nitrosodiphenylamine	< 0.000026		0.000026	0.00020	mg/L	1	17-Mar-2020 20:13
Pentachlorophenol	< 0.000081		0.000081	0.00020	mg/L	1	17-Mar-2020 20:13
Phenanthrene	< 0.000021		0.000021	0.00010	mg/L	1	17-Mar-2020 20:13
Phenol	< 0.000036		0.000036	0.00020	mg/L	1	17-Mar-2020 20:13
Pyrene	< 0.000019		0.000019	0.00010	mg/L	1	17-Mar-2020 20:13
Surr: 2,4,6-Tribromophenol	*67.8*			*34-129*	*%REC*	*1*	*17-Mar-2020 20:13*
Surr: 2-Fluorobiphenyl	*50.4*			*40-125*	*%REC*	*1*	*17-Mar-2020 20:13*
Surr: 2-Fluorophenol	*50.4*			*20-120*	*%REC*	*1*	*17-Mar-2020 20:13*
Surr: 4-Terphenyl-d14	*87.1*			*40-135*	*%REC*	*1*	*17-Mar-2020 20:13*
Surr: Nitrobenzene-d5	*46.7*			*41-120*	*%REC*	*1*	*17-Mar-2020 20:13*
Surr: Phenol-d6	*52.5*			*20-120*	*%REC*	*1*	*17-Mar-2020 20:13*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW98B-20200312
Collection Date: 12-Mar-2020 13:53

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-15
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL TEXAS TPH BY TX1005	**Method:TX1005**				Prep:TX1005PR / 17-Mar-2020		Analyst: PVL
nC6 to nC12	< 0.19		0.19	0.48	mg/L	1	18-Mar-2020 20:39
>nC12 to nC28	**0.38**	J	**0.19**	**0.48**	**mg/L**	1	18-Mar-2020 20:39
>nC28 to nC35	< 0.19		0.19	0.48	mg/L	1	18-Mar-2020 20:39
Total Petroleum Hydrocarbon	**0.380**	J	**0.19**	**0.48**	**mg/L**	1	18-Mar-2020 20:39
Surr: 2-Fluorobiphenyl	*86.1*			*70-130*	*%REC*	*1*	*18-Mar-2020 20:39*
Surr: Trifluoromethyl benzene	*95.2*			*70-130*	*%REC*	*1*	*18-Mar-2020 20:39*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 18-Mar-2020		Analyst: JHD
Arsenic	**0.00165**	J	**0.000400**	**0.00200**	**mg/L**	1	20-Mar-2020 18:52

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20030619
Sample ID: WG-1620-MW50B-20200312
Lab ID:HS20030619-16
Collection Date: 12-Mar-2020 15:20
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 05:39
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	15-Mar-2020 05:39
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	15-Mar-2020 05:39
Ethylbenzene	**0.0068**		**0.00030**	**0.0010**	**mg/L**	1	15-Mar-2020 05:39
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	15-Mar-2020 05:39
Toluene	**0.0033**		**0.00020**	**0.0010**	**mg/L**	1	15-Mar-2020 05:39
Xylenes, Total	**0.0056**		**0.00030**	**0.0010**	**mg/L**	1	15-Mar-2020 05:39
Surr: 1,2-Dichloroethane-d4	*102*			*70-126*	*%REC*	*1*	*15-Mar-2020 05:39*
Surr: 4-Bromofluorobenzene	*96.9*			*81-113*	*%REC*	*1*	*15-Mar-2020 05:39*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*15-Mar-2020 05:39*
Surr: Toluene-d8	*98.9*			*82-127*	*%REC*	*1*	*15-Mar-2020 05:39*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW50B-20200312
Collection Date: 12-Mar-2020 15:20

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-16
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 16-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000022		0.000022	0.00021	mg/L	1	18-Mar-2020 17:09
2,4-Dimethylphenol	< 0.000042		0.000042	0.00021	mg/L	1	18-Mar-2020 17:09
2,4-Dinitrotoluene	< 0.000060		0.000060	0.00021	mg/L	1	18-Mar-2020 17:09
2,6-Dinitrotoluene	< 0.000044		0.000044	0.00021	mg/L	1	18-Mar-2020 17:09
2-Chloronaphthalene	< 0.000022		0.000022	0.00021	mg/L	1	18-Mar-2020 17:09
2-Methylnaphthalene	**0.016**		**0.00020**	**0.0010**	**mg/L**	10	18-Mar-2020 17:29
4,6-Dinitro-2-methylphenol	< 0.000021		0.000021	0.00021	mg/L	1	18-Mar-2020 17:09
4-Nitrophenol	< 0.000049		0.000049	0.0010	mg/L	1	18-Mar-2020 17:09
Acenaphthene	**0.020**		**0.00028**	**0.0010**	**mg/L**	10	18-Mar-2020 17:29
Acenaphthylene	**0.00028**		**0.000016**	**0.00010**	**mg/L**	1	18-Mar-2020 17:09
Anthracene	**0.0016**		**0.000015**	**0.00010**	**mg/L**	1	18-Mar-2020 17:09
Benz(a)anthracene	< 0.000052		0.000052	0.00010	mg/L	1	18-Mar-2020 17:09
Benzo(a)pyrene	< 0.000021		0.000021	0.00010	mg/L	1	18-Mar-2020 17:09
Bis(2-chloroethoxy)methane	< 0.000031		0.000031	0.00021	mg/L	1	18-Mar-2020 17:09
Bis(2-ethylhexyl)phthalate	< 0.000039		0.000039	0.00021	mg/L	1	18-Mar-2020 17:09
Chrysene	< 0.000022		0.000022	0.00010	mg/L	1	18-Mar-2020 17:09
Dibenzofuran	**0.015**		**0.00021**	**0.0010**	**mg/L**	10	18-Mar-2020 17:29
Di-n-butyl phthalate	**0.000038**	J	**0.000021**	**0.00021**	**mg/L**	1	18-Mar-2020 17:09
Fluoranthene	**0.0011**		**0.000010**	**0.00010**	**mg/L**	1	18-Mar-2020 17:09
Fluorene	**0.011**		**0.00031**	**0.0010**	**mg/L**	10	18-Mar-2020 17:29
Naphthalene	**0.31**		**0.0021**	**0.010**	**mg/L**	100	18-Mar-2020 17:48
Nitrobenzene	< 0.000025		0.000025	0.00021	mg/L	1	18-Mar-2020 17:09
N-Nitrosodiphenylamine	< 0.000026		0.000026	0.00021	mg/L	1	18-Mar-2020 17:09
Pentachlorophenol	< 0.000082		0.000082	0.00021	mg/L	1	18-Mar-2020 17:09
Phenanthrene	**0.016**		**0.00022**	**0.0010**	**mg/L**	10	18-Mar-2020 17:29
Phenol	< 0.000036		0.000036	0.00021	mg/L	1	18-Mar-2020 17:09
Pyrene	**0.00059**		**0.000020**	**0.00010**	**mg/L**	1	18-Mar-2020 17:09
Surr: 2,4,6-Tribromophenol	*84.4*			*34-129*	*%REC*	*1*	*18-Mar-2020 17:09*
Surr: 2,4,6-Tribromophenol	*71.2*			*34-129*	*%REC*	*10*	*18-Mar-2020 17:29*
Surr: 2,4,6-Tribromophenol	*0*	*JS*		*34-129*	*%REC*	*100*	*18-Mar-2020 17:48*
Surr: 2-Fluorobiphenyl	*44.0*			*40-125*	*%REC*	*1*	*18-Mar-2020 17:09*
Surr: 2-Fluorobiphenyl	*47.0*			*40-125*	*%REC*	*10*	*18-Mar-2020 17:29*
Surr: 2-Fluorobiphenyl	*0*	*JS*		*40-125*	*%REC*	*100*	*18-Mar-2020 17:48*
Surr: 2-Fluorophenol	*47.4*			*20-120*	*%REC*	*1*	*18-Mar-2020 17:09*
Surr: 2-Fluorophenol	*49.0*			*20-120*	*%REC*	*10*	*18-Mar-2020 17:29*
Surr: 2-Fluorophenol	*0*	*JS*		*20-120*	*%REC*	*100*	*18-Mar-2020 17:48*
Surr: 4-Terphenyl-d14	*80.2*			*40-135*	*%REC*	*1*	*18-Mar-2020 17:09*
Surr: 4-Terphenyl-d14	*73.5*			*40-135*	*%REC*	*10*	*18-Mar-2020 17:29*
Surr: 4-Terphenyl-d14	*0*	*JS*		*40-135*	*%REC*	*100*	*18-Mar-2020 17:48*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW50B-20200312
Collection Date: 12-Mar-2020 15:20

ANALYTICAL REPORT
WorkOrder:HS20030619
Lab ID:HS20030619-16
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 16-Mar-2020		Analyst: GEY
Surr: Nitrobenzene-d5	*0*	*JS*		*41-120*	*%REC*	*100*	*18-Mar-2020 17:48*
Surr: Nitrobenzene-d5	*45.0*			*41-120*	*%REC*	*1*	*18-Mar-2020 17:09*
Surr: Nitrobenzene-d5	*43.1*			*41-120*	*%REC*	*10*	*18-Mar-2020 17:29*
Surr: Phenol-d6	*48.9*			*20-120*	*%REC*	*1*	*18-Mar-2020 17:09*
Surr: Phenol-d6	*52.5*			*20-120*	*%REC*	*10*	*18-Mar-2020 17:29*
Surr: Phenol-d6	*0*	*JS*		*20-120*	*%REC*	*100*	*18-Mar-2020 17:48*
LOW-LEVEL TEXAS TPH BY TX1005		**Method:TX1005**			Prep:TX1005PR / 17-Mar-2020		Analyst: PVL
nC6 to nC12	**1.0**		**0.19**	**0.48**	**mg/L**	1	18-Mar-2020 21:09
>nC12 to nC28	**1.1**		**0.19**	**0.48**	**mg/L**	1	18-Mar-2020 21:09
>nC28 to nC35	< 0.19		0.19	0.48	mg/L	1	18-Mar-2020 21:09
Total Petroleum Hydrocarbon	**2.10**		**0.19**	**0.48**	**mg/L**	1	18-Mar-2020 21:09
Surr: 2-Fluorobiphenyl	*101*			*70-130*	*%REC*	*1*	*18-Mar-2020 21:09*
Surr: Trifluoromethyl benzene	*95.2*			*70-130*	*%REC*	*1*	*18-Mar-2020 21:09*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 18-Mar-2020		Analyst: JHD
Arsenic	**0.00372**		**0.000400**	**0.00200**	**mg/L**	1	20-Mar-2020 18:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030619

Batch ID: 151716 **Start Date:** 16 Mar 2020 07:00 **End Date:** 16 Mar 2020 12:30
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20030619-02	1	980 (mL)	1 (mL)	0.00102
HS20030619-03	1	990 (mL)	1 (mL)	0.00101
HS20030619-04	1	970 (mL)	1 (mL)	0.001031
HS20030619-05	1	980 (mL)	1 (mL)	0.00102
HS20030619-06	1	990 (mL)	1 (mL)	0.00101
HS20030619-07	1	980 (mL)	1 (mL)	0.00102
HS20030619-08	1	960 (mL)	1 (mL)	0.001042
HS20030619-09	1	950 (mL)	1 (mL)	0.001053
HS20030619-10	1	970 (mL)	1 (mL)	0.001031
HS20030619-12	1	960 (mL)	1 (mL)	0.001042
HS20030619-13	1	990 (mL)	1 (mL)	0.00101
HS20030619-14	1	980 (mL)	1 (mL)	0.00102
HS20030619-15	1	980 (mL)	1 (mL)	0.00102
HS20030619-16	1	960 (mL)	1 (mL)	0.001042

Batch ID: 151763 **Start Date:** 17 Mar 2020 10:00 **End Date:** 17 Mar 2020 14:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20030619-02		10 (mL)	10 (mL)	1
HS20030619-03		10 (mL)	10 (mL)	1
HS20030619-04		10 (mL)	10 (mL)	1
HS20030619-05		10 (mL)	10 (mL)	1
HS20030619-06		10 (mL)	10 (mL)	1

Batch ID: 151785 **Start Date:** 17 Mar 2020 11:00 **End Date:** 17 Mar 2020 14:30
Method: TX 1005 PREP **Prep Code:** TX 1005_W PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20030619-12	1	31.11 (g)	3 (mL)	0.09643

Batch ID: 151787 **Start Date:** 17 Mar 2020 12:00 **End Date:** 17 Mar 2020 15:30
Method: TX 1005 PREP **Prep Code:** TX 1005_W PR

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20030619-13	1	31.15 (g)	3 (mL)	0.09631
HS20030619-14	1	31.19 (g)	3 (mL)	0.09618
HS20030619-15	1	31.11 (g)	3 (mL)	0.09643
HS20030619-16	1	31.04 (g)	3 (mL)	0.09665

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030619

Batch ID: 151813 **Start Date:** 18 Mar 2020 10:30 **End Date:** 18 Mar 2020 14:30
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20030619-07		10 (mL)	10 (mL)	1
HS20030619-08		10 (mL)	10 (mL)	1
HS20030619-09		10 (mL)	10 (mL)	1
HS20030619-10		10 (mL)	10 (mL)	1
HS20030619-12		10 (mL)	10 (mL)	1
HS20030619-13		10 (mL)	10 (mL)	1
HS20030619-14		10 (mL)	10 (mL)	1
HS20030619-15		10 (mL)	10 (mL)	1
HS20030619-16		10 (mL)	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030619

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 151716 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Groundwater	
HS20030619-02	WQ-1620-MW99C-20200311	11 Mar 2020 15:35		16 Mar 2020 11:48	16 Mar 2020 17:59	1
HS20030619-03	WG-1620-MW54B-20200311	11 Mar 2020 14:20		16 Mar 2020 11:48	16 Mar 2020 18:18	1
HS20030619-04	WG-1620-MW94A-20200312	12 Mar 2020 15:45		16 Mar 2020 11:48	16 Mar 2020 18:37	1
HS20030619-05	WG-1620-MW93B-20200312	12 Mar 2020 14:35		16 Mar 2020 11:48	16 Mar 2020 18:56	1
HS20030619-06	WG-1620-MW92B-20200312	12 Mar 2020 13:20		16 Mar 2020 11:48	16 Mar 2020 19:15	1
HS20030619-07	WG-1620-MW84A-20200312	12 Mar 2020 12:15		16 Mar 2020 11:48	17 Mar 2020 17:59	1
HS20030619-08	WG-1620-MW70C-20200312	12 Mar 2020 10:35		16 Mar 2020 11:48	18 Mar 2020 18:26	1000
HS20030619-08	WG-1620-MW70C-20200312	12 Mar 2020 10:35		16 Mar 2020 11:48	18 Mar 2020 12:22	10
HS20030619-08	WG-1620-MW70C-20200312	12 Mar 2020 10:35		16 Mar 2020 11:48	17 Mar 2020 18:18	1
HS20030619-09	WG-1620-MW91A-20200312	12 Mar 2020 09:20		16 Mar 2020 11:48	17 Mar 2020 18:37	1
HS20030619-10	WG-1620-FD01-20200312	12 Mar 2020 00:00		16 Mar 2020 11:48	18 Mar 2020 18:45	1000
HS20030619-10	WG-1620-FD01-20200312	12 Mar 2020 00:00		16 Mar 2020 11:48	18 Mar 2020 13:00	10
HS20030619-10	WG-1620-FD01-20200312	12 Mar 2020 00:00		16 Mar 2020 11:48	17 Mar 2020 18:56	1
HS20030619-12	WG-1620-MW76B-20200312	12 Mar 2020 10:35		16 Mar 2020 11:48	17 Mar 2020 19:16	1
HS20030619-13	WG-1620-MW97A-20200312	12 Mar 2020 11:47		16 Mar 2020 11:48	17 Mar 2020 19:35	1
HS20030619-14	WG-1620-MW98A-20200312	12 Mar 2020 12:54		16 Mar 2020 07:00	17 Mar 2020 19:54	1
HS20030619-15	WG-1620-MW98B-20200312	12 Mar 2020 13:53		16 Mar 2020 11:48	17 Mar 2020 20:13	1
HS20030619-16	WG-1620-MW50B-20200312	12 Mar 2020 15:20		16 Mar 2020 11:48	18 Mar 2020 17:48	100
HS20030619-16	WG-1620-MW50B-20200312	12 Mar 2020 15:20		16 Mar 2020 11:48	18 Mar 2020 17:29	10
HS20030619-16	WG-1620-MW50B-20200312	12 Mar 2020 15:20		16 Mar 2020 11:48	18 Mar 2020 17:09	1
Batch ID: 151763 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Groundwater	
HS20030619-02	WQ-1620-MW99C-20200311	11 Mar 2020 15:35		17 Mar 2020 14:00	18 Mar 2020 18:20	1
HS20030619-03	WG-1620-MW54B-20200311	11 Mar 2020 14:20		17 Mar 2020 14:00	18 Mar 2020 18:23	1
HS20030619-04	WG-1620-MW94A-20200312	12 Mar 2020 15:45		17 Mar 2020 14:00	18 Mar 2020 18:25	1
HS20030619-05	WG-1620-MW93B-20200312	12 Mar 2020 14:35		17 Mar 2020 14:00	18 Mar 2020 18:34	1
HS20030619-06	WG-1620-MW92B-20200312	12 Mar 2020 13:20		17 Mar 2020 14:00	18 Mar 2020 18:37	1
Batch ID: 151785 (0)	**Test Name :** LOW-LEVEL TEXAS TPH BY TX1005				**Matrix:** Groundwater	
HS20030619-12	WG-1620-MW76B-20200312	12 Mar 2020 10:35		17 Mar 2020 11:00	18 Mar 2020 09:42	1
Batch ID: 151787 (0)	**Test Name :** LOW-LEVEL TEXAS TPH BY TX1005				**Matrix:** Groundwater	
HS20030619-13	WG-1620-MW97A-20200312	12 Mar 2020 11:47		17 Mar 2020 12:00	18 Mar 2020 18:40	1
HS20030619-14	WG-1620-MW98A-20200312	12 Mar 2020 12:54		17 Mar 2020 12:00	18 Mar 2020 20:10	1
HS20030619-15	WG-1620-MW98B-20200312	12 Mar 2020 13:53		17 Mar 2020 12:00	18 Mar 2020 20:39	1
HS20030619-16	WG-1620-MW50B-20200312	12 Mar 2020 15:20		17 Mar 2020 12:00	18 Mar 2020 21:09	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030619

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 151813 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Groundwater	
HS20030619-07	WG-1620-MW84A-20200312	12 Mar 2020 12:15		18 Mar 2020 14:30	20 Mar 2020 16:51	1
HS20030619-08	WG-1620-MW70C-20200312	12 Mar 2020 10:35		18 Mar 2020 14:30	20 Mar 2020 16:53	1
HS20030619-09	WG-1620-MW91A-20200312	12 Mar 2020 09:20		18 Mar 2020 14:30	20 Mar 2020 18:32	1
HS20030619-10	WG-1620-FD01-20200312	12 Mar 2020 00:00		18 Mar 2020 14:30	20 Mar 2020 18:35	1
HS20030619-12	WG-1620-MW76B-20200312	12 Mar 2020 10:35		18 Mar 2020 14:30	20 Mar 2020 18:37	1
HS20030619-13	WG-1620-MW97A-20200312	12 Mar 2020 11:47		18 Mar 2020 14:30	20 Mar 2020 18:39	1
HS20030619-14	WG-1620-MW98A-20200312	12 Mar 2020 12:54		18 Mar 2020 14:30	20 Mar 2020 18:50	1
HS20030619-15	WG-1620-MW98B-20200312	12 Mar 2020 13:53		18 Mar 2020 14:30	20 Mar 2020 18:52	1
HS20030619-16	WG-1620-MW50B-20200312	12 Mar 2020 15:20		18 Mar 2020 14:30	20 Mar 2020 18:55	1
Batch ID: R358243 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Groundwater	
HS20030619-02	WQ-1620-MW99C-20200311	11 Mar 2020 15:35			14 Mar 2020 18:05	1
HS20030619-03	WG-1620-MW54B-20200311	11 Mar 2020 14:20			14 Mar 2020 18:30	1
HS20030619-04	WG-1620-MW94A-20200312	12 Mar 2020 15:45			14 Mar 2020 18:54	1
HS20030619-05	WG-1620-MW93B-20200312	12 Mar 2020 14:35			14 Mar 2020 19:19	1
HS20030619-06	WG-1620-MW92B-20200312	12 Mar 2020 13:20			14 Mar 2020 19:44	1
Batch ID: R358244 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Groundwater	
HS20030619-07	WG-1620-MW84A-20200312	12 Mar 2020 12:15			15 Mar 2020 00:13	1
HS20030619-08	WG-1620-MW70C-20200312	12 Mar 2020 10:35			15 Mar 2020 01:50	1
HS20030619-09	WG-1620-MW91A-20200312	12 Mar 2020 09:20			15 Mar 2020 03:14	1
HS20030619-10	WG-1620-FD01-20200312	12 Mar 2020 00:00			15 Mar 2020 03:39	1
HS20030619-12	WG-1620-MW76B-20200312	12 Mar 2020 10:35			15 Mar 2020 04:03	1
HS20030619-13	WG-1620-MW97A-20200312	12 Mar 2020 11:47			15 Mar 2020 04:27	1
HS20030619-14	WG-1620-MW98A-20200312	12 Mar 2020 12:54			15 Mar 2020 04:51	1
HS20030619-15	WG-1620-MW98B-20200312	12 Mar 2020 13:53			15 Mar 2020 05:15	1
HS20030619-16	WG-1620-MW50B-20200312	12 Mar 2020 15:20			15 Mar 2020 05:39	1
Batch ID: R358244 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20030619-01	WQ-1620-TB01-20200312	12 Mar 2020 16:30			15 Mar 2020 06:28	1
HS20030619-11	WQ-1620-TB02-20200312	12 Mar 2020 12:36			14 Mar 2020 23:48	1

WorkOrder: HS20030619
InstrumentID: FID-12
Test Code: TX1005_W_Low
Test Number: TX1005
Test Name: Low-level Texas TPH by TX1005

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	nC6 to nC12	TPH-1005-1	0.25	0.28	0.20	0.50
A	>nC12 to nC28	TPH-1005-2	0.25	0.29	0.20	0.50
A	>nC28 to nC35	TPH-1005-4	0.25	0.28	0.20	0.50
A	Total Petroleum Hydrocarbon	TPH	0.25	0.28	0.20	0.50
S	2-Fluorobiphenyl	321-60-8	0	0	0	0
S	Trifluoromethyl benzene	98-08-8	0	0	0	0

WorkOrder: HS20030619
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000499	0.000400	0.00200

WorkOrder: HS20030619
InstrumentID: SV-7
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.00013	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000081	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.00010	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.00010	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.00012	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000052	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000060	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000069	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000050	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000046	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000046	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000057	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000047	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.00012	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00014	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000049	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000050	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.00012	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000053	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000050	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000048	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00014	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00012	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000057	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000047	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.00012	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000051	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS20030619
InstrumentID: VOA4
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00061	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00057	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00058	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00048	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00070	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00050	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00070	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030619

QC BATCH REPORT

Batch ID: 151785 (0) **Instrument: FID-12** **Method: LOW-LEVEL TEXAS TPH BY TX1005**

MBLK Sample ID: **MBLK-151785** Units: **mg/L** Analysis Date: **18-Mar-2020 08:26**
Client ID: Run ID: **FID-12_358444** SeqNo: **5519192** PrepDate: **17-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	< 0.20	0.50								
>nC12 to nC28	< 0.20	0.50								
>nC28 to nC35	< 0.20	0.50								
Total Petroleum Hydrocarbon	< 0.20	0.50								
Surr: 2-Fluorobiphenyl	*2.33*	*0*	*2.5*	*0*	*93.2*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.515*	*0*	*2.5*	*0*	*101*	*70 - 130*				

LCS Sample ID: **LCS-151785** Units: **mg/L** Analysis Date: **18-Mar-2020 09:42**
Client ID: Run ID: **FID-12_358444** SeqNo: **5519193** PrepDate: **17-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	25.3	0.50	25	0	101	75 - 125				
>nC12 to nC28	26.67	0.50	25	0	107	75 - 125				
Surr: 2-Fluorobiphenyl	*2.381*	*0*	*2.5*	*0*	*95.3*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.604*	*0*	*2.5*	*0*	*104*	*70 - 130*				

LCSD Sample ID: **LCSD-151785** Units: **mg/L** Analysis Date: **18-Mar-2020 10:11**
Client ID: Run ID: **FID-12_358444** SeqNo: **5519194** PrepDate: **17-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	20.14	0.50	25	0	80.6	75 - 125	25.3	22.7	20	R
>nC12 to nC28	22.75	0.50	25	0	91.0	75 - 125	26.67	15.9	20	
Surr: 2-Fluorobiphenyl	*2.285*	*0*	*2.5*	*0*	*91.4*	*70 - 130*	*2.381*	*4.13*	*20*	
Surr: Trifluoromethyl benzene	*2.419*	*0*	*2.5*	*0*	*96.8*	*70 - 130*	*2.604*	*7.37*	*20*	

MS Sample ID: **HS20030619-02MS** Units: **mg/L** Analysis Date: **18-Mar-2020 11:10**
Client ID: **WQ-1620-MW99C-20200311** Run ID: **FID-12_358444** SeqNo: **5519196** PrepDate: **17-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	24.63	0.48	24.19	0	102	75 - 125				
>nC12 to nC28	27.56	0.48	24.19	0	114	75 - 125				
Surr: 2-Fluorobiphenyl	*2.389*	*0*	*2.419*	*0*	*98.8*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.553*	*0*	*2.419*	*0*	*106*	*70 - 130*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030619

QC BATCH REPORT

Batch ID: 151785 (0) **Instrument: FID-12** **Method: LOW-LEVEL TEXAS TPH BY TX1005**

MSD Sample ID: **HS20030619-02MSD** Units: **mg/L** Analysis Date: **18-Mar-2020 11:39**
Client ID: **WQ-1620-MW99C-20200311** Run ID: **FID-12_358444** SeqNo: **5519197** PrepDate: **17-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	22.43	0.48	24.15	0	92.9	75 - 125	24.63	9.36	20	
>nC12 to nC28	26.75	0.48	24.15	0	111	75 - 125	27.56	2.99	20	
Surr: 2-Fluorobiphenyl	*2.43*	*0*	*2.415*	*0*	*101*	*70 - 130*	*2.389*	*1.67*	*20*	
Surr: Trifluoromethyl benzene	*2.55*	*0*	*2.415*	*0*	*106*	*70 - 130*	*2.553*	*0.118*	*20*	

The following samples were analyzed in this batch: HS20030619-02, HS20030619-03, HS20030619-04, HS20030619-05, HS20030619-06, HS20030619-07, HS20030619-08, HS20030619-09, HS20030619-10, HS20030619-12

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030619

QC BATCH REPORT

Batch ID: 151787 (0) **Instrument: FID-12** **Method: LOW-LEVEL TEXAS TPH BY TX1005**

MBLK Sample ID: **MBLK-151787** Units: **mg/L** Analysis Date: **18-Mar-2020 17:10**
Client ID: Run ID: **FID-12_358504** SeqNo: **5520592** PrepDate: **17-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	< 0.20	0.50								
>nC12 to nC28	< 0.20	0.50								
>nC28 to nC35	< 0.20	0.50								
Total Petroleum Hydrocarbon	< 0.20	0.50								
Surr: 2-Fluorobiphenyl	*1.936*	*0*	*2.5*	*0*	*77.5*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.31*	*0*	*2.5*	*0*	*92.4*	*70 - 130*				

LCS Sample ID: **LCS-151787** Units: **mg/L** Analysis Date: **18-Mar-2020 17:40**
Client ID: Run ID: **FID-12_358504** SeqNo: **5520593** PrepDate: **17-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	20.43	0.50	25	0	81.7	75 - 125				
>nC12 to nC28	24.35	0.50	25	0	97.4	75 - 125				
Surr: 2-Fluorobiphenyl	*2.281*	*0*	*2.5*	*0*	*91.2*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.412*	*0*	*2.5*	*0*	*96.5*	*70 - 130*				

LCSD Sample ID: **LCSD-151787** Units: **mg/L** Analysis Date: **18-Mar-2020 18:10**
Client ID: Run ID: **FID-12_358504** SeqNo: **5520594** PrepDate: **17-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	19.96	0.50	25	0	79.9	75 - 125	20.43	2.3	20	
>nC12 to nC28	23.88	0.50	25	0	95.5	75 - 125	24.35	1.96	20	
Surr: 2-Fluorobiphenyl	*2.28*	*0*	*2.5*	*0*	*91.2*	*70 - 130*	*2.281*	*0.0255*	*20*	
Surr: Trifluoromethyl benzene	*2.401*	*0*	*2.5*	*0*	*96.0*	*70 - 130*	*2.412*	*0.47*	*20*	

MS Sample ID: **HS20030619-13MS** Units: **mg/L** Analysis Date: **18-Mar-2020 19:10**
Client ID: **WG-1620-MW97A-20200312** Run ID: **FID-12_358504** SeqNo: **5520615** PrepDate: **17-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	19.86	0.49	24.4	0	81.4	75 - 125				
>nC12 to nC28	22.87	0.49	24.4	0	93.7	75 - 125				
Surr: 2-Fluorobiphenyl	*2.002*	*0*	*2.44*	*0*	*82.1*	*70 - 130*				
Surr: Trifluoromethyl benzene	*2.177*	*0*	*2.44*	*0*	*89.2*	*70 - 130*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030619

QC BATCH REPORT

Batch ID: 151787 (0) **Instrument: FID-12** **Method: LOW-LEVEL TEXAS TPH BY TX1005**

MSD Sample ID: **HS20030619-13MSD** Units: **mg/L** Analysis Date: **18-Mar-2020 19:40**
Client ID: **WG-1620-MW97A-20200312** Run ID: **FID-12_358504** SeqNo: **5520616** PrepDate: **17-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
nC6 to nC12	21.86	0.49	24.54	0	89.1	75 - 125	19.86	9.62	20	
>nC12 to nC28	26.03	0.49	24.54	0	106	75 - 125	22.87	12.9	20	
Surr: 2-Fluorobiphenyl	*2.344*	*0*	*2.454*	*0*	*95.5*	*70 - 130*	*2.002*	*15.7*	*20*	
Surr: Trifluoromethyl benzene	*2.479*	*0*	*2.454*	*0*	*101*	*70 - 130*	*2.177*	*13*	*20*	

The following samples were analyzed in this batch: HS20030619-13 HS20030619-14 HS20030619-15 HS20030619-16

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030619

QC BATCH REPORT

Batch ID: 151763 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-151763** Units: **mg/L** Analysis Date: **18-Mar-2020 17:32**
Client ID: Run ID: **ICPMS05_358398** SeqNo: **5519290** PrepDate: **17-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	< 0.000400	0.00200								

LCS Sample ID: **LCS-151763** Units: **mg/L** Analysis Date: **18-Mar-2020 17:34**
Client ID: Run ID: **ICPMS05_358398** SeqNo: **5519291** PrepDate: **17-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04791	0.00200	0.05	0	95.8	80 - 120				

MS Sample ID: **HS20030614-05MS** Units: **mg/L** Analysis Date: **18-Mar-2020 18:13**
Client ID: Run ID: **ICPMS05_358398** SeqNo: **5519307** PrepDate: **17-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04448	0.00200	0.05	0.000142	88.7	80 - 120				

MSD Sample ID: **HS20030614-05MSD** Units: **mg/L** Analysis Date: **18-Mar-2020 18:16**
Client ID: Run ID: **ICPMS05_358398** SeqNo: **5519308** PrepDate: **17-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04389	0.00200	0.05	0.000142	87.5	80 - 120	0.04448	1.33	20	

PDS Sample ID: **HS20030614-05PDS** Units: **mg/L** Analysis Date: **18-Mar-2020 18:18**
Client ID: Run ID: **ICPMS05_358398** SeqNo: **5519309** PrepDate: **17-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1094	0.00200	0.1	0.000142	109	75 - 125				

SD Sample ID: **HS20030614-05SD** Units: **mg/L** Analysis Date: **18-Mar-2020 18:11**
Client ID: Run ID: **ICPMS05_358398** SeqNo: **5519306** PrepDate: **17-Mar-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	< 0.00200	0.0100					0.000142	0	10	

The following samples were analyzed in this batch: HS20030619-02 HS20030619-03 HS20030619-04 HS20030619-05 HS20030619-06

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030619

QC BATCH REPORT

Batch ID: 151813 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-151813** Units: **mg/L** Analysis Date: **20-Mar-2020 16:14**
Client ID: Run ID: **ICPMS05_358593** SeqNo: **5523720** PrepDate: **18-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	< 0.000400	0.00200								

LCS Sample ID: **LCS-151813** Units: **mg/L** Analysis Date: **20-Mar-2020 16:16**
Client ID: Run ID: **ICPMS05_358593** SeqNo: **5523721** PrepDate: **18-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04715	0.00200	0.05	0	94.3	80 - 120				

MS Sample ID: **HS20030654-04MS** Units: **mg/L** Analysis Date: **20-Mar-2020 17:49**
Client ID: Run ID: **ICPMS05_358593** SeqNo: **5523737** PrepDate: **18-Mar-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04826	0.0100	0.05	0.000622	95.3	80 - 120				

MSD Sample ID: **HS20030654-04MSD** Units: **mg/L** Analysis Date: **20-Mar-2020 17:51**
Client ID: Run ID: **ICPMS05_358593** SeqNo: **5523738** PrepDate: **18-Mar-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04948	0.0100	0.05	0.000622	97.7	80 - 120	0.04826	2.49	20	

PDS Sample ID: **HS20030654-04PDS** Units: **mg/L** Analysis Date: **20-Mar-2020 17:53**
Client ID: Run ID: **ICPMS05_358593** SeqNo: **5523739** PrepDate: **18-Mar-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.6009	0.0100	0.5	0	120	75 - 125				

SD Sample ID: **HS20030654-04SD** Units: **mg/L** Analysis Date: **20-Mar-2020 17:46**
Client ID: Run ID: **ICPMS05_358593** SeqNo: **5523736** PrepDate: **18-Mar-2020** DF: **25**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	< 0.0100	0.0500					0.000622	0	10	

The following samples were analyzed in this batch: HS20030619-07, HS20030619-08, HS20030619-09, HS20030619-10, HS20030619-12, HS20030619-13, HS20030619-14, HS20030619-15, HS20030619-16

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030619

QC BATCH REPORT

Batch ID: 151716 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-151716** Units: **ug/L** Analysis Date: **16-Mar-2020 13:32**
Client ID: Run ID: **SV-7_358216** SeqNo: **5515267** PrepDate: **16-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	< 0.021	0.20								
2,4-Dimethylphenol	< 0.040	0.20								
2,4-Dinitrotoluene	< 0.058	0.20								
2,6-Dinitrotoluene	< 0.042	0.20								
2-Chloronaphthalene	< 0.021	0.20								
2-Methylnaphthalene	< 0.019	0.10								
4,6-Dinitro-2-methylphenol	< 0.020	0.20								
4-Nitrophenol	< 0.047	1.0								
Acenaphthene	< 0.027	0.10								
Acenaphthylene	< 0.015	0.10								
Anthracene	< 0.014	0.10								
Benz(a)anthracene	< 0.050	0.10								
Benzo(a)pyrene	< 0.020	0.10								
Bis(2-chloroethoxy)methane	< 0.030	0.20								
Bis(2-ethylhexyl)phthalate	< 0.037	0.20								
Chrysene	< 0.021	0.10								
Dibenzofuran	< 0.020	0.10								
Di-n-butyl phthalate	< 0.020	0.20								
Fluoranthene	< 0.010	0.10								
Fluorene	< 0.030	0.10								
Naphthalene	< 0.020	0.10								
Nitrobenzene	< 0.024	0.20								
N-Nitrosodiphenylamine	< 0.025	0.20								
Pentachlorophenol	< 0.079	0.20								
Phenanthrene	< 0.021	0.10								
Phenol	< 0.035	0.20								
Pyrene	< 0.019	0.10								
Surr: 2,4,6-Tribromophenol	*4.07*	*0.20*	*5*	*0*	*81.4*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*3.367*	*0.20*	*5*	*0*	*67.3*	*40 - 125*				
Surr: 2-Fluorophenol	*3.058*	*0.20*	*5*	*0*	*61.2*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.326*	*0.20*	*5*	*0*	*86.5*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.169*	*0.20*	*5*	*0*	*63.4*	*41 - 120*				
Surr: Phenol-d6	*3.349*	*0.20*	*5*	*0*	*67.0*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030619

QC BATCH REPORT

Batch ID: 151716 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-151716** Units: **ug/L** Analysis Date: **16-Mar-2020 12:16**
Client ID: Run ID: **SV-7_358216** SeqNo: **5515265** PrepDate: **16-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.21	0.20	5	0	84.2	39 - 127				
2,4-Dimethylphenol	4.506	0.20	5	0	90.1	35 - 120				
2,4-Dinitrotoluene	5.519	0.20	5	0	110	50 - 122				
2,6-Dinitrotoluene	5.528	0.20	5	0	111	50 - 120				
2-Chloronaphthalene	5.308	0.20	5	0	106	50 - 120				
2-Methylnaphthalene	5.216	0.10	5	0	104	50 - 120				
4,6-Dinitro-2-methylphenol	4.232	0.20	5	0	84.6	25 - 121				
4-Nitrophenol	4.723	1.0	5	0	94.5	30 - 130				
Acenaphthene	4.719	0.10	5	0	94.4	45 - 120				
Acenaphthylene	4.688	0.10	5	0	93.8	47 - 120				
Anthracene	4.816	0.10	5	0	96.3	45 - 120				
Benz(a)anthracene	5.312	0.10	5	0	106	40 - 120				
Benzo(a)pyrene	5.285	0.10	5	0	106	45 - 120				
Bis(2-chloroethoxy)methane	5.043	0.20	5	0	101	45 - 120				
Bis(2-ethylhexyl)phthalate	6.344	0.20	5	0	127	40 - 139				
Chrysene	4.782	0.10	5	0	95.6	43 - 120				
Dibenzofuran	4.968	0.10	5	0	99.4	50 - 120				
Di-n-butyl phthalate	5.755	0.20	5	0	115	45 - 123				
Fluoranthene	5.205	0.10	5	0	104	45 - 125				
Fluorene	5.174	0.10	5	0	103	49 - 120				
Naphthalene	4.795	0.10	5	0	95.9	45 - 120				
Nitrobenzene	4.375	0.20	5	0	87.5	44 - 120				
N-Nitrosodiphenylamine	4.465	0.20	5	0	89.3	40 - 125				
Pentachlorophenol	4.311	0.20	5	0	86.2	19 - 121				
Phenanthrene	4.815	0.10	5	0	96.3	45 - 121				
Phenol	5.116	0.20	5	0	102	20 - 124				
Pyrene	5.307	0.10	5	0	106	40 - 130				
Surr: 2,4,6-Tribromophenol	*5.449*	*0.20*	*5*	*0*	*109*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*3.867*	*0.20*	*5*	*0*	*77.3*	*40 - 125*				
Surr: 2-Fluorophenol	*3.617*	*0.20*	*5*	*0*	*72.3*	*20 - 120*				
Surr: 4-Terphenyl-d14	*5.306*	*0.20*	*5*	*0*	*106*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.465*	*0.20*	*5*	*0*	*69.3*	*41 - 120*				
Surr: Phenol-d6	*4.106*	*0.20*	*5*	*0*	*82.1*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030619

QC BATCH REPORT

Batch ID: 151716 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-151716** Units: **ug/L** Analysis Date: **16-Mar-2020 12:35**
Client ID: Run ID: **SV-7_358216** SeqNo: **5515266** PrepDate: **16-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.205	0.20	5	0	84.1	39 - 127	4.21	0.114	20	
2,4-Dimethylphenol	4.426	0.20	5	0	88.5	35 - 120	4.506	1.8	20	
2,4-Dinitrotoluene	5.542	0.20	5	0	111	50 - 122	5.519	0.403	20	
2,6-Dinitrotoluene	5.689	0.20	5	0	114	50 - 120	5.528	2.87	20	
2-Chloronaphthalene	5.269	0.20	5	0	105	50 - 120	5.308	0.732	20	
2-Methylnaphthalene	5.229	0.10	5	0	105	50 - 120	5.216	0.249	20	
4,6-Dinitro-2-methylphenol	4.262	0.20	5	0	85.2	25 - 121	4.232	0.702	30	
4-Nitrophenol	4.721	1.0	5	0	94.4	30 - 130	4.723	0.0308	20	
Acenaphthene	4.724	0.10	5	0	94.5	45 - 120	4.719	0.102	20	
Acenaphthylene	4.75	0.10	5	0	95.0	47 - 120	4.688	1.31	20	
Anthracene	4.858	0.10	5	0	97.2	45 - 120	4.816	0.869	20	
Benz(a)anthracene	5.279	0.10	5	0	106	40 - 120	5.312	0.633	20	
Benzo(a)pyrene	5.402	0.10	5	0	108	45 - 120	5.285	2.19	20	
Bis(2-chloroethoxy)methane	4.997	0.20	5	0	99.9	45 - 120	5.043	0.922	20	
Bis(2-ethylhexyl)phthalate	6.297	0.20	5	0	126	40 - 139	6.344	0.747	20	
Chrysene	4.735	0.10	5	0	94.7	43 - 120	4.782	0.99	20	
Dibenzofuran	5.019	0.10	5	0	100	50 - 120	4.968	1.01	20	
Di-n-butyl phthalate	5.883	0.20	5	0	118	45 - 123	5.755	2.19	20	
Fluoranthene	5.237	0.10	5	0	105	45 - 125	5.205	0.616	20	
Fluorene	5.177	0.10	5	0	104	49 - 120	5.174	0.0563	20	
Naphthalene	4.761	0.10	5	0	95.2	45 - 120	4.795	0.718	20	
Nitrobenzene	4.464	0.20	5	0	89.3	44 - 120	4.375	2.02	20	
N-Nitrosodiphenylamine	4.485	0.20	5	0	89.7	40 - 125	4.465	0.452	20	
Pentachlorophenol	4.428	0.20	5	0	88.6	19 - 121	4.311	2.66	20	
Phenanthrene	4.88	0.10	5	0	97.6	45 - 121	4.815	1.35	20	
Phenol	5.144	0.20	5	0	103	20 - 124	5.116	0.544	20	
Pyrene	5.254	0.10	5	0	105	40 - 130	5.307	1.01	20	
Surr: 2,4,6-Tribromophenol	*5.379*	*0.20*	*5*	*0*	*108*	*34 - 129*	*5.449*	*1.3*	*20*	
Surr: 2-Fluorobiphenyl	*3.919*	*0.20*	*5*	*0*	*78.4*	*40 - 125*	*3.867*	*1.34*	*20*	
Surr: 2-Fluorophenol	*3.698*	*0.20*	*5*	*0*	*74.0*	*20 - 120*	*3.617*	*2.24*	*20*	
Surr: 4-Terphenyl-d14	*5.131*	*0.20*	*5*	*0*	*103*	*40 - 135*	*5.306*	*3.35*	*20*	
Surr: Nitrobenzene-d5	*3.449*	*0.20*	*5*	*0*	*69.0*	*41 - 120*	*3.465*	*0.452*	*20*	
Surr: Phenol-d6	*4.168*	*0.20*	*5*	*0*	*83.4*	*20 - 120*	*4.106*	*1.5*	*20*	

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	HS20030619

QC BATCH REPORT

Batch ID: 151716 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

The following samples were analyzed in this batch:

HS20030619-02	HS20030619-03	HS20030619-04	HS20030619-05
HS20030619-06	HS20030619-07	HS20030619-08	HS20030619-09
HS20030619-10	HS20030619-12	HS20030619-13	HS20030619-14
HS20030619-15	HS20030619-16		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030619

QC BATCH REPORT

Batch ID: R358243 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200314** Units: **ug/L** Analysis Date: **14-Mar-2020 11:00**
Client ID: Run ID: **VOA4_358243** SeqNo: **5514256** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	< 0.20	1.0								
Benzene	< 0.20	1.0								
Chlorobenzene	< 0.30	1.0								
Ethylbenzene	< 0.30	1.0								
Methylene chloride	< 1.0	2.0								
Toluene	< 0.20	1.0								
Xylenes, Total	< 0.30	1.0								
Surr: 1,2-Dichloroethane-d4	*52.52*	*1.0*	*50*	*0*	*105*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.01*	*1.0*	*50*	*0*	*94.0*	*82 - 115*				
Surr: Dibromofluoromethane	*50.2*	*1.0*	*50*	*0*	*100*	*73 - 126*				
Surr: Toluene-d8	*48.89*	*1.0*	*50*	*0*	*97.8*	*81 - 120*				

LCS Sample ID: **VLCSW-200314** Units: **ug/L** Analysis Date: **14-Mar-2020 10:11**
Client ID: Run ID: **VOA4_358243** SeqNo: **5514255** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	19.35	1.0	20	0	96.7	70 - 124				
Benzene	19.67	1.0	20	0	98.4	74 - 120				
Chlorobenzene	19.67	1.0	20	0	98.4	76 - 113				
Ethylbenzene	20.16	1.0	20	0	101	77 - 117				
Methylene chloride	19.96	2.0	20	0	99.8	70 - 127				
Toluene	19.96	1.0	20	0	99.8	77 - 118				
Xylenes, Total	61.63	1.0	60	0	103	75 - 122				
Surr: 1,2-Dichloroethane-d4	*49.34*	*1.0*	*50*	*0*	*98.7*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*49.66*	*1.0*	*50*	*0*	*99.3*	*82 - 115*				
Surr: Dibromofluoromethane	*50.66*	*1.0*	*50*	*0*	*101*	*73 - 126*				
Surr: Toluene-d8	*50.8*	*1.0*	*50*	*0*	*102*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030619

QC BATCH REPORT

Batch ID: R358243 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20030599-05MS** Units: **ug/L** Analysis Date: **14-Mar-2020 14:20**
Client ID: Run ID: **VOA4_358243** SeqNo: **5514264** PrepDate: DF: **100**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	2420	100	2000	632.1	89.4	70 - 127				
Benzene	2933	100	2000	969.3	98.2	70 - 127				
Chlorobenzene	1887	100	2000	0	94.4	70 - 114				
Ethylbenzene	1921	100	2000	0	96.0	70 - 124				
Methylene chloride	1828	200	2000	0	91.4	70 - 128				
Toluene	1960	100	2000	34.94	96.2	70 - 123				
Xylenes, Total	5878	100	6000	0	98.0	70 - 130				
Surr: 1,2-Dichloroethane-d4	*4941*	*100*	*5000*	*0*	*98.8*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*4950*	*100*	*5000*	*0*	*99.0*	*81 - 113*				
Surr: Dibromofluoromethane	*4933*	*100*	*5000*	*0*	*98.7*	*77 - 123*				
Surr: Toluene-d8	*4956*	*100*	*5000*	*0*	*99.1*	*82 - 127*				

MSD Sample ID: **HS20030599-05MSD** Units: **ug/L** Analysis Date: **14-Mar-2020 14:45**
Client ID: Run ID: **VOA4_358243** SeqNo: **5514265** PrepDate: DF: **100**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	2451	100	2000	632.1	91.0	70 - 127	2420	1.29	20	
Benzene	2824	100	2000	969.3	92.7	70 - 127	2933	3.78	20	
Chlorobenzene	1923	100	2000	0	96.1	70 - 114	1887	1.85	20	
Ethylbenzene	1956	100	2000	0	97.8	70 - 124	1921	1.85	20	
Methylene chloride	1790	200	2000	0	89.5	70 - 128	1828	2.13	20	
Toluene	1948	100	2000	34.94	95.6	70 - 123	1960	0.622	20	
Xylenes, Total	6166	100	6000	0	103	70 - 130	5878	4.78	20	
Surr: 1,2-Dichloroethane-d4	*4858*	*100*	*5000*	*0*	*97.2*	*70 - 126*	*4941*	*1.68*	*20*	
Surr: 4-Bromofluorobenzene	*5133*	*100*	*5000*	*0*	*103*	*81 - 113*	*4950*	*3.62*	*20*	
Surr: Dibromofluoromethane	*4820*	*100*	*5000*	*0*	*96.4*	*77 - 123*	*4933*	*2.31*	*20*	
Surr: Toluene-d8	*4990*	*100*	*5000*	*0*	*99.8*	*82 - 127*	*4956*	*0.691*	*20*	

The following samples were analyzed in this batch: HS20030619-02 HS20030619-03 HS20030619-04 HS20030619-05 HS20030619-06

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030619

QC BATCH REPORT

Batch ID: R358244 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200314** Units: **ug/L** Analysis Date: **14-Mar-2020 23:24**
Client ID: Run ID: **VOA4_358244** SeqNo: **5514283** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	< 0.20	1.0								
Benzene	< 0.20	1.0								
Chlorobenzene	< 0.30	1.0								
Ethylbenzene	< 0.30	1.0								
Methylene chloride	< 1.0	2.0								
Toluene	< 0.20	1.0								
Xylenes, Total	< 0.30	1.0								
Surr: 1,2-Dichloroethane-d4	*51.27*	*1.0*	*50*	*0*	*103*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.31*	*1.0*	*50*	*0*	*94.6*	*82 - 115*				
Surr: Dibromofluoromethane	*50.17*	*1.0*	*50*	*0*	*100*	*73 - 126*				
Surr: Toluene-d8	*51.08*	*1.0*	*50*	*0*	*102*	*81 - 120*				

LCS Sample ID: **VLCSW-200314** Units: **ug/L** Analysis Date: **14-Mar-2020 22:35**
Client ID: Run ID: **VOA4_358244** SeqNo: **5514282** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.47	1.0	20	0	92.4	70 - 124				
Benzene	19.05	1.0	20	0	95.3	74 - 120				
Chlorobenzene	19.21	1.0	20	0	96.1	76 - 113				
Ethylbenzene	19.21	1.0	20	0	96.1	77 - 117				
Methylene chloride	19.03	2.0	20	0	95.1	70 - 127				
Toluene	19.36	1.0	20	0	96.8	77 - 118				
Xylenes, Total	58.72	1.0	60	0	97.9	75 - 122				
Surr: 1,2-Dichloroethane-d4	*49.71*	*1.0*	*50*	*0*	*99.4*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*48.66*	*1.0*	*50*	*0*	*97.3*	*82 - 115*				
Surr: Dibromofluoromethane	*50.17*	*1.0*	*50*	*0*	*100*	*73 - 126*				
Surr: Toluene-d8	*50.4*	*1.0*	*50*	*0*	*101*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030619

QC BATCH REPORT

Batch ID: R358244 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20030619-07MS** Units: **ug/L** Analysis Date: **15-Mar-2020 00:37**
Client ID: **WG-1620-MW84A-20200312** Run ID: **VOA4_358244** SeqNo: **5514286** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.46	1.0	20	0	92.3	70 - 127				
Benzene	19.3	1.0	20	0	96.5	70 - 127				
Chlorobenzene	19.36	1.0	20	0	96.8	70 - 114				
Ethylbenzene	19.95	1.0	20	0	99.7	70 - 124				
Methylene chloride	18.37	2.0	20	0	91.8	70 - 128				
Toluene	19.89	1.0	20	0	99.4	70 - 123				
Xylenes, Total	60.5	1.0	60	0	101	70 - 130				
Surr: 1,2-Dichloroethane-d4	*48.72*	*1.0*	*50*	*0*	*97.4*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*48.9*	*1.0*	*50*	*0*	*97.8*	*81 - 113*				
Surr: Dibromofluoromethane	*48.95*	*1.0*	*50*	*0*	*97.9*	*77 - 123*				
Surr: Toluene-d8	*50.54*	*1.0*	*50*	*0*	*101*	*82 - 127*				

MSD Sample ID: **HS20030619-07MSD** Units: **ug/L** Analysis Date: **15-Mar-2020 01:01**
Client ID: **WG-1620-MW84A-20200312** Run ID: **VOA4_358244** SeqNo: **5514287** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.37	1.0	20	0	91.9	70 - 127	18.46	0.492	20	
Benzene	19.26	1.0	20	0	96.3	70 - 127	19.3	0.213	20	
Chlorobenzene	18.78	1.0	20	0	93.9	70 - 114	19.36	3.05	20	
Ethylbenzene	19.35	1.0	20	0	96.8	70 - 124	19.95	3.02	20	
Methylene chloride	17.61	2.0	20	0	88.1	70 - 128	18.37	4.2	20	
Toluene	18.89	1.0	20	0	94.4	70 - 123	19.89	5.16	20	
Xylenes, Total	60.07	1.0	60	0	100	70 - 130	60.5	0.704	20	
Surr: 1,2-Dichloroethane-d4	*48.82*	*1.0*	*50*	*0*	*97.6*	*70 - 126*	*48.72*	*0.19*	*20*	
Surr: 4-Bromofluorobenzene	*50.43*	*1.0*	*50*	*0*	*101*	*81 - 113*	*48.9*	*3.09*	*20*	
Surr: Dibromofluoromethane	*48.21*	*1.0*	*50*	*0*	*96.4*	*77 - 123*	*48.95*	*1.51*	*20*	
Surr: Toluene-d8	*49.43*	*1.0*	*50*	*0*	*98.9*	*82 - 127*	*50.54*	*2.23*	*20*	

The following samples were analyzed in this batch:

HS20030619-01	HS20030619-07	HS20030619-08	HS20030619-09
HS20030619-10	HS20030619-11	HS20030619-12	HS20030619-13
HS20030619-14	HS20030619-15	HS20030619-16	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS20030619**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	19-028-0	27-Mar-2020
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	T104704231-19-25	30-Apr-2020

Sample Receipt Checklist

Client Name: PBW
Work Order: HS20030619

Date/Time Received: **13-Mar-2020 14:00**
Received by: **PS**

Checklist completed by: *Asad Chaudhry* eSignature — 13-Mar-2020 Date

Reviewed by: *Dane J. Wacasey* eSignature — 17-Mar-2020 Date

Matrices: **GW, Water**

Carrier name: **ALS Courier**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	2 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:221279, 221277
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.2°C, 2.9°C, 1.7°C, 1.4°C UC/C	IR 25	
Cooler(s)/Kit(s):	45544, 45564, 45666, 433355		
Date/Time sample(s) sent to storage:	03/13/2020 17:20		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336 | Fort Collins, CO +1 970 490 1511 | Everett, WA +1 425 356 2600 | Holland, MI +1 616 399 6070

Chain of Custody For[m]

Page ____ of ____

COC ID: 221279

HS20030619

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632508 VOC Site Specific)
Work Order		Project Number	1620-14-Rev0 SR 92688	B	TX1005_W_Low (5643233 TPH TX1005)
Company Name	Golder Associates Inc.	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5636002 Metals - As)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	Eric_Matzner@golder.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WG-1620-TB (G021720-194 20200312	3-12-20	16:30	Water	1,8	2	X										
2	WG-1620-MW99C 20200311	3-11-20	1535	Groundwater	1,2,8	~~9~~ 9	X	X	X	X							
3	WG-1620 MW54B 20200311	3-11-20	1420	GW	1,2,8	9	X	X	X	X							
4	WG-1620 MW94A 20200312	3-12-20	1545	GW	1,2,8	9	X	X	X	X							
5	WG-1620 MW93B 20200312	3-12-20	14:35	GW	1,2,8	9	X	X	X	X							
6	WG-1620 MW92B 20200312	3-12-20	13:20	GW	1,2,8	9	X	X	X	X							
7	WG-1620 MW84A 20200312	3-12-20	12:15	GW	1,2,8	9	X	X	X	X							
8	WG-1620 MW70C 20200312	3-12-20	10:35	GW	1,2,8	9	X	X	X	X							
9	WG-1620 MW91A 20200312	3-12-20	9:20	GW	1,2,8	9	X	X	X	X							
10	WG-1620 FD01 20200312	3-12-20	—	GW	1,2,8	9	X	X	X	X							

Sampler(s) Please Print & Sign: Tim McFadden [signature]

Shipment Method:

Required Turnaround Time: (Check Box) [X] STD 10 Wk Days [ ] 5 Wk Days [ ] 2 Wk Days [ ] 24 Hour [ ] Other

Results Due Date:

Relinquished by: [signature] Date: 3-13-20 Time: 13:15 Received by: [signature]

Relinquished by: [signature] Date: 3-13-20 Time: 1400 Received by (Laboratory): [signature]

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR HWPW 1620-14

Cooler ID	Cooler Temp.
45544	1.2
45564	2.9
45660	1.7
43555	1.4

QC Package: (Check One Box Below) [ ] Level II Std QC [ ] Level III Std QC/Raw Data [ ] Level IV SW846/CLP [ ] Other [X] TRRP Checklist [ ] TRRP Level IV

IR #25 CF0.0

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Cincinnati, OH +1 513 733 5336
Everett, WA +1 425 356 2600
Fort Collins, CO +1 970 490 1511
Holland, MI +1 616 399 6070

Chain of Custody Form

Page ____ of ____

COC ID: 221277

HS20030619

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-14-Rev0 SR 92088
Company Name	Golder Associates Inc.	Bill To Company	Union Pacific Railroad- A/P
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	Eric_Matzner@golder.com	e-Mail Address	

A	8260_LL_W (5632526 VOC Site Specific)
B	TX1005_W_Low (5643233 TPH TX1005)
C	8270_LOW_W (5632532 SemiVolatiles Site specific)
D	ICP_TW (5635002 Metals - As)
E	
F	
G	
H	
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WG-1620-TB-GI-621720-[illegible]	3-12-20	12:36	Water	1,8	2	X										
2	WG-1620-MW76B-20200312	3-12-20	10:35	Groundwater	1,2,8	29	X	X	X	X							
3	" - MW97A - "	3-12-20	11:47														
4	" - MW98A - "	3-12-20	12:54														
5	" - MW98B - "	3-12-20	13:53														
6	" - MW50B - "	3-12-20	15:20														
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Sarah Balke

Shipment Method:

Required Turnaround Time: (Check Box) [X] STD NOW Days [ ] Other ____ [ ] 2 Work Days [ ] 3 Work Days

Results Due Date:

Relinquished by: [signature] Date: 3-15-20 Time: 13:15 Received by: [signature]

Relinquished by: [signature] Date: 3-13-20 Time: 1400 Received by (Laboratory): [signature]

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR HWPW 1620-14

Cooler ID	Cooler Temp.

QC Package: (Check One Box Below)

[ ] Level II (Std QC) [X] Tier I (Raw Data)
[ ] Level III (Std QC+Forms) [ ] Tier II (Validation)
[ ] Level IV (SW846 CLP) [ ] Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

March 27, 2020

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS20030961**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 3 sample(s) on Mar 20, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: JUMOKE.LAWAL
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20030961**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	**HS20030961**

TRRP Laboratory Data Package Cover Page

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 03/27/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20030961				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 152024,152161,R358905				
#[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				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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 SW-846 Method 5035?			X		
		If required for the project, 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 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				
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			1
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		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		
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				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 03/27/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20030961				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 152024,152161,R358905				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group	LRC Date: 03/27/2020
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS20030961
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 152024,152161,R358905

ER#[5]	Description
1	Batch 152024, Semivolatile Organics Method SW8270, LCS/LCSD were analyzed and reported in lieu of an MS/MSD for this batch.

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20030961

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20030961-01	WQ-1620-TB01-20200320	Water	CG-021720-183	20-Mar-2020 11:00	20-Mar-2020 11:50	☐
HS20030961-02	WG-1620-MW47A-20200320	Groundwater		20-Mar-2020 10:30	20-Mar-2020 11:50	☐
HS20030961-03	WG-1620-MW60AR-20200320	Groundwater		20-Mar-2020 08:55	20-Mar-2020 11:50	☐

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WQ-1620-TB01-20200320
Collection Date: 20-Mar-2020 11:00

ANALYTICAL REPORT
WorkOrder:HS20030961
Lab ID:HS20030961-01
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	24-Mar-2020 22:58
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	24-Mar-2020 22:58
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	24-Mar-2020 22:58
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	24-Mar-2020 22:58
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	24-Mar-2020 22:58
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	24-Mar-2020 22:58
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	24-Mar-2020 22:58
Surr: 1,2-Dichloroethane-d4	*104*			*70-126*	*%REC*	*1*	*24-Mar-2020 22:58*
Surr: 4-Bromofluorobenzene	*95.8*			*81-113*	*%REC*	*1*	*24-Mar-2020 22:58*
Surr: Dibromofluoromethane	*98.9*			*77-123*	*%REC*	*1*	*24-Mar-2020 22:58*
Surr: Toluene-d8	*104*			*82-127*	*%REC*	*1*	*24-Mar-2020 22:58*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW47A-20200320
Collection Date: 20-Mar-2020 10:30

ANALYTICAL REPORT
WorkOrder:HS20030961
Lab ID:HS20030961-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	25-Mar-2020 05:30
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	25-Mar-2020 05:30
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	25-Mar-2020 05:30
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	25-Mar-2020 05:30
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	25-Mar-2020 05:30
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	25-Mar-2020 05:30
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	25-Mar-2020 05:30
Surr: 1,2-Dichloroethane-d4	*103*			*70-126*	*%REC*	*1*	*25-Mar-2020 05:30*
Surr: 4-Bromofluorobenzene	*93.3*			*81-113*	*%REC*	*1*	*25-Mar-2020 05:30*
Surr: Dibromofluoromethane	*101*			*77-123*	*%REC*	*1*	*25-Mar-2020 05:30*
Surr: Toluene-d8	*105*			*82-127*	*%REC*	*1*	*25-Mar-2020 05:30*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW47A-20200320
Collection Date: 20-Mar-2020 10:30

ANALYTICAL REPORT
WorkOrder:HS20030961
Lab ID:HS20030961-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 23-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	24-Mar-2020 10:50
2,4-Dimethylphenol	< 0.000040		0.000040	0.00020	mg/L	1	24-Mar-2020 10:50
2,4-Dinitrotoluene	< 0.000058		0.000058	0.00020	mg/L	1	24-Mar-2020 10:50
2,6-Dinitrotoluene	< 0.000042		0.000042	0.00020	mg/L	1	24-Mar-2020 10:50
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	24-Mar-2020 10:50
2-Methylnaphthalene	< 0.000019		0.000019	0.00010	mg/L	1	24-Mar-2020 10:50
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	24-Mar-2020 10:50
4-Nitrophenol	< 0.000047		0.000047	0.0010	mg/L	1	24-Mar-2020 10:50
Acenaphthene	< 0.000027		0.000027	0.00010	mg/L	1	24-Mar-2020 10:50
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	24-Mar-2020 10:50
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	24-Mar-2020 10:50
Benz(a)anthracene	< 0.000050		0.000050	0.00010	mg/L	1	24-Mar-2020 10:50
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	24-Mar-2020 10:50
Bis(2-chloroethoxy)methane	< 0.000030		0.000030	0.00020	mg/L	1	24-Mar-2020 10:50
Bis(2-ethylhexyl)phthalate	**0.00011**	J	**0.000037**	**0.00020**	**mg/L**	1	24-Mar-2020 10:50
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	24-Mar-2020 10:50
Dibenzofuran	< 0.000020		0.000020	0.00010	mg/L	1	24-Mar-2020 10:50
Di-n-butyl phthalate	**0.000076**	J	**0.000020**	**0.00020**	**mg/L**	1	24-Mar-2020 10:50
Fluoranthene	< 0.000010		0.000010	0.00010	mg/L	1	24-Mar-2020 10:50
Fluorene	< 0.000030		0.000030	0.00010	mg/L	1	24-Mar-2020 10:50
Naphthalene	< 0.000020		0.000020	0.00010	mg/L	1	24-Mar-2020 10:50
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	24-Mar-2020 10:50
N-Nitrosodiphenylamine	< 0.000025		0.000025	0.00020	mg/L	1	24-Mar-2020 10:50
Pentachlorophenol	< 0.000079		0.000079	0.00020	mg/L	1	24-Mar-2020 10:50
Phenanthrene	< 0.000021		0.000021	0.00010	mg/L	1	24-Mar-2020 10:50
Phenol	< 0.000035		0.000035	0.00020	mg/L	1	24-Mar-2020 10:50
Pyrene	< 0.000019		0.000019	0.00010	mg/L	1	24-Mar-2020 10:50
Surr: 2,4,6-Tribromophenol	*96.9*			*34-129*	*%REC*	*1*	*24-Mar-2020 10:50*
Surr: 2-Fluorobiphenyl	*71.7*			*40-125*	*%REC*	*1*	*24-Mar-2020 10:50*
Surr: 2-Fluorophenol	*58.4*			*20-120*	*%REC*	*1*	*24-Mar-2020 10:50*
Surr: 4-Terphenyl-d14	*89.6*			*40-135*	*%REC*	*1*	*24-Mar-2020 10:50*
Surr: Nitrobenzene-d5	*56.7*			*41-120*	*%REC*	*1*	*24-Mar-2020 10:50*
Surr: Phenol-d6	*61.7*			*20-120*	*%REC*	*1*	*24-Mar-2020 10:50*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 26-Mar-2020		Analyst: JHD
Arsenic	**0.000566**	J	**0.000400**	**0.00200**	**mg/L**	1	26-Mar-2020 19:34

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW60AR-20200320
Collection Date: 20-Mar-2020 08:55

ANALYTICAL REPORT
WorkOrder:HS20030961
Lab ID:HS20030961-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	25-Mar-2020 05:54
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	25-Mar-2020 05:54
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	25-Mar-2020 05:54
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	25-Mar-2020 05:54
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	25-Mar-2020 05:54
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	25-Mar-2020 05:54
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	25-Mar-2020 05:54
Surr: 1,2-Dichloroethane-d4	*104*			*70-126*	*%REC*	*1*	*25-Mar-2020 05:54*
Surr: 4-Bromofluorobenzene	*95.3*			*81-113*	*%REC*	*1*	*25-Mar-2020 05:54*
Surr: Dibromofluoromethane	*96.9*			*77-123*	*%REC*	*1*	*25-Mar-2020 05:54*
Surr: Toluene-d8	*103*			*82-127*	*%REC*	*1*	*25-Mar-2020 05:54*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW60AR-20200320
Collection Date: 20-Mar-2020 08:55

ANALYTICAL REPORT
WorkOrder:HS20030961
Lab ID:HS20030961-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 23-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	24-Mar-2020 11:28
2,4-Dimethylphenol	< 0.000040		0.000040	0.00020	mg/L	1	24-Mar-2020 11:28
2,4-Dinitrotoluene	< 0.000058		0.000058	0.00020	mg/L	1	24-Mar-2020 11:28
2,6-Dinitrotoluene	< 0.000042		0.000042	0.00020	mg/L	1	24-Mar-2020 11:28
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	24-Mar-2020 11:28
2-Methylnaphthalene	< 0.000019		0.000019	0.00010	mg/L	1	24-Mar-2020 11:28
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	24-Mar-2020 11:28
4-Nitrophenol	< 0.000047		0.000047	0.0010	mg/L	1	24-Mar-2020 11:28
Acenaphthene	< 0.000027		0.000027	0.00010	mg/L	1	24-Mar-2020 11:28
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	24-Mar-2020 11:28
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	24-Mar-2020 11:28
Benz(a)anthracene	< 0.000050		0.000050	0.00010	mg/L	1	24-Mar-2020 11:28
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	24-Mar-2020 11:28
Bis(2-chloroethoxy)methane	< 0.000030		0.000030	0.00020	mg/L	1	24-Mar-2020 11:28
Bis(2-ethylhexyl)phthalate	**0.000063**	J	**0.000037**	**0.00020**	**mg/L**	1	24-Mar-2020 11:28
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	24-Mar-2020 11:28
Dibenzofuran	< 0.000020		0.000020	0.00010	mg/L	1	24-Mar-2020 11:28
Di-n-butyl phthalate	< 0.000020		0.000020	0.00020	mg/L	1	24-Mar-2020 11:28
Fluoranthene	< 0.000010		0.000010	0.00010	mg/L	1	24-Mar-2020 11:28
Fluorene	< 0.000030		0.000030	0.00010	mg/L	1	24-Mar-2020 11:28
Naphthalene	< 0.000020		0.000020	0.00010	mg/L	1	24-Mar-2020 11:28
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	24-Mar-2020 11:28
N-Nitrosodiphenylamine	< 0.000025		0.000025	0.00020	mg/L	1	24-Mar-2020 11:28
Pentachlorophenol	< 0.000079		0.000079	0.00020	mg/L	1	24-Mar-2020 11:28
Phenanthrene	< 0.000021		0.000021	0.00010	mg/L	1	24-Mar-2020 11:28
Phenol	< 0.000035		0.000035	0.00020	mg/L	1	24-Mar-2020 11:28
Pyrene	< 0.000019		0.000019	0.00010	mg/L	1	24-Mar-2020 11:28
Surr: 2,4,6-Tribromophenol	*89.1*			*34-129*	*%REC*	*1*	*24-Mar-2020 11:28*
Surr: 2-Fluorobiphenyl	*60.2*			*40-125*	*%REC*	*1*	*24-Mar-2020 11:28*
Surr: 2-Fluorophenol	*48.9*			*20-120*	*%REC*	*1*	*24-Mar-2020 11:28*
Surr: 4-Terphenyl-d14	*77.0*			*40-135*	*%REC*	*1*	*24-Mar-2020 11:28*
Surr: Nitrobenzene-d5	*48.7*			*41-120*	*%REC*	*1*	*24-Mar-2020 11:28*
Surr: Phenol-d6	*47.3*			*20-120*	*%REC*	*1*	*24-Mar-2020 11:28*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 26-Mar-2020		Analyst: JHD
Arsenic	**0.00189**	J	**0.000400**	**0.00200**	**mg/L**	1	26-Mar-2020 19:36

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030961

Batch ID: 152024 **Start Date:** 23 Mar 2020 14:30 **End Date:** 23 Mar 2020 17:30
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20030961-02		1000 (mL)	1 (mL)	0.001
HS20030961-03		1000 (mL)	1 (mL)	0.001

Batch ID: 152161 **Start Date:** 26 Mar 2020 08:47 **End Date:** 26 Mar 2020 13:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20030961-02		10 (mL)	10 (mL)	1
HS20030961-03		10 (mL)	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030961

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 152024 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Groundwater	
HS20030961-02	WG-1620-MW47A-20200320	20 Mar 2020 10:30		23 Mar 2020 15:37	24 Mar 2020 10:50	1
HS20030961-03	WG-1620-MW60AR-20200320	20 Mar 2020 08:55		23 Mar 2020 15:37	24 Mar 2020 11:28	1
Batch ID: 152161 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Groundwater	
HS20030961-02	WG-1620-MW47A-20200320	20 Mar 2020 10:30		26 Mar 2020 13:00	26 Mar 2020 19:34	1
HS20030961-03	WG-1620-MW60AR-20200320	20 Mar 2020 08:55		26 Mar 2020 13:00	26 Mar 2020 19:36	1
Batch ID: R358905 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Groundwater	
HS20030961-02	WG-1620-MW47A-20200320	20 Mar 2020 10:30			25 Mar 2020 05:30	1
HS20030961-03	WG-1620-MW60AR-20200320	20 Mar 2020 08:55			25 Mar 2020 05:54	1
Batch ID: R358905 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20030961-01	WQ-1620-TB01-20200320	20 Mar 2020 11:00			24 Mar 2020 22:58	1

WorkOrder: HS20030961
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000499	0.000400	0.00200

WorkOrder: HS20030961
InstrumentID: SV-7
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.00013	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000081	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.00010	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.00010	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.00012	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000052	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000060	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000069	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000050	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000046	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000046	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000057	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000047	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.00012	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00014	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000049	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000050	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.00012	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000053	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000050	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000048	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00014	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00012	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000057	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000047	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.00012	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000051	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS20030961
InstrumentID: VOA4
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00061	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00057	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00058	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00048	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00070	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00050	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00070	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030961

QC BATCH REPORT

Batch ID: 152161 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-152161** Units: **mg/L** Analysis Date: **26-Mar-2020 19:13**
Client ID: Run ID: **ICPMS05_358931** SeqNo: **5532745** PrepDate: **26-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	< 0.000400	0.00200								

LCS Sample ID: **LCS-152161** Units: **mg/L** Analysis Date: **26-Mar-2020 19:15**
Client ID: Run ID: **ICPMS05_358931** SeqNo: **5532746** PrepDate: **26-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.04894	0.00200	0.05	0	97.9	80 - 120				

MS Sample ID: **HS20030965-04MS** Units: **mg/L** Analysis Date: **26-Mar-2020 19:22**
Client ID: Run ID: **ICPMS05_358931** SeqNo: **5532749** PrepDate: **26-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05528	0.00200	0.05	0.004711	101	80 - 120				

MSD Sample ID: **HS20030965-04MSD** Units: **mg/L** Analysis Date: **26-Mar-2020 19:25**
Client ID: Run ID: **ICPMS05_358931** SeqNo: **5532750** PrepDate: **26-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05392	0.00200	0.05	0.004711	98.4	80 - 120	0.05528	2.48	20	

PDS Sample ID: **HS20030965-04PDS** Units: **mg/L** Analysis Date: **26-Mar-2020 19:27**
Client ID: Run ID: **ICPMS05_358931** SeqNo: **5532751** PrepDate: **26-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.106	0.00200	0.1	0.004711	101	75 - 125				

SD Sample ID: **HS20030965-04SD** Units: **mg/L** Analysis Date: **26-Mar-2020 19:20**
Client ID: Run ID: **ICPMS05_358931** SeqNo: **5532748** PrepDate: **26-Mar-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.004019	0.0100					0.004711	0	10	J

The following samples were analyzed in this batch: HS20030961-02 HS20030961-03

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030961

QC BATCH REPORT

Batch ID: 152024 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-152024** Units: **ug/L** Analysis Date: **24-Mar-2020 09:53**
Client ID: Run ID: **SV-7_358753** SeqNo: **5526601** PrepDate: **23-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	< 0.021	0.20								
2,4-Dimethylphenol	< 0.040	0.20								
2,4-Dinitrotoluene	< 0.058	0.20								
2,6-Dinitrotoluene	< 0.042	0.20								
2-Chloronaphthalene	< 0.021	0.20								
2-Methylnaphthalene	< 0.019	0.10								
4,6-Dinitro-2-methylphenol	< 0.020	0.20								
4-Nitrophenol	< 0.047	1.0								
Acenaphthene	< 0.027	0.10								
Acenaphthylene	< 0.015	0.10								
Anthracene	< 0.014	0.10								
Benz(a)anthracene	< 0.050	0.10								
Benzo(a)pyrene	< 0.020	0.10								
Bis(2-chloroethoxy)methane	< 0.030	0.20								
Bis(2-ethylhexyl)phthalate	< 0.037	0.20								
Chrysene	< 0.021	0.10								
Dibenzofuran	< 0.020	0.10								
Di-n-butyl phthalate	< 0.020	0.20								
Fluoranthene	< 0.010	0.10								
Fluorene	< 0.030	0.10								
Naphthalene	< 0.020	0.10								
Nitrobenzene	< 0.024	0.20								
N-Nitrosodiphenylamine	< 0.025	0.20								
Pentachlorophenol	< 0.079	0.20								
Phenanthrene	< 0.021	0.10								
Phenol	< 0.035	0.20								
Pyrene	< 0.019	0.10								
Surr: 2,4,6-Tribromophenol	*3.818*	*0.20*	*5*	*0*	*76.4*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*3.671*	*0.20*	*5*	*0*	*73.4*	*40 - 125*				
Surr: 2-Fluorophenol	*3.241*	*0.20*	*5*	*0*	*64.8*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.592*	*0.20*	*5*	*0*	*91.8*	*40 - 135*				
Surr: Nitrobenzene-d5	*3.079*	*0.20*	*5*	*0*	*61.6*	*41 - 120*				
Surr: Phenol-d6	*3.448*	*0.20*	*5*	*0*	*69.0*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030961

QC BATCH REPORT

Batch ID: 152024 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-152024** Units: **ug/L** Analysis Date: **24-Mar-2020 10:12**
Client ID: Run ID: **SV-7_358753** SeqNo: **5526602** PrepDate: **23-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.044	0.20	5	0	60.9	39 - 127				
2,4-Dimethylphenol	3.518	0.20	5	0	70.4	35 - 120				
2,4-Dinitrotoluene	4.266	0.20	5	0	85.3	50 - 122				
2,6-Dinitrotoluene	4.362	0.20	5	0	87.2	50 - 120				
2-Chloronaphthalene	4.343	0.20	5	0	86.9	50 - 120				
2-Methylnaphthalene	3.829	0.10	5	0	76.6	50 - 120				
4,6-Dinitro-2-methylphenol	3.498	0.20	5	0	70.0	25 - 121				
4-Nitrophenol	2.946	1.0	5	0	58.9	30 - 130				
Acenaphthene	3.623	0.10	5	0	72.5	45 - 120				
Acenaphthylene	3.667	0.10	5	0	73.3	47 - 120				
Anthracene	3.781	0.10	5	0	75.6	45 - 120				
Benz(a)anthracene	3.921	0.10	5	0	78.4	40 - 120				
Benzo(a)pyrene	3.898	0.10	5	0	78.0	45 - 120				
Bis(2-chloroethoxy)methane	3.614	0.20	5	0	72.3	45 - 120				
Bis(2-ethylhexyl)phthalate	3.616	0.20	5	0	72.3	40 - 139				
Chrysene	3.587	0.10	5	0	71.7	43 - 120				
Dibenzofuran	3.894	0.10	5	0	77.9	50 - 120				
Di-n-butyl phthalate	3.806	0.20	5	0	76.1	45 - 123				
Fluoranthene	3.938	0.10	5	0	78.8	45 - 125				
Fluorene	3.911	0.10	5	0	78.2	49 - 120				
Naphthalene	3.624	0.10	5	0	72.5	45 - 120				
Nitrobenzene	3.199	0.20	5	0	64.0	44 - 120				
N-Nitrosodiphenylamine	3.714	0.20	5	0	74.3	40 - 125				
Pentachlorophenol	1.418	0.20	5	0	28.4	19 - 121				
Phenanthrene	3.672	0.10	5	0	73.4	45 - 121				
Phenol	3.565	0.20	5	0	71.3	20 - 124				
Pyrene	4.122	0.10	5	0	82.4	40 - 130				
Surr: 2,4,6-Tribromophenol	*4.236*	*0.20*	*5*	*0*	*84.7*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*3.409*	*0.20*	*5*	*0*	*68.2*	*40 - 125*				
Surr: 2-Fluorophenol	*2.949*	*0.20*	*5*	*0*	*59.0*	*20 - 120*				
Surr: 4-Terphenyl-d14	*4.003*	*0.20*	*5*	*0*	*80.1*	*40 - 135*				
Surr: Nitrobenzene-d5	*2.711*	*0.20*	*5*	*0*	*54.2*	*41 - 120*				
Surr: Phenol-d6	*3.075*	*0.20*	*5*	*0*	*61.5*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030961

QC BATCH REPORT

Batch ID: 152024 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-152024** Units: **ug/L** Analysis Date: **24-Mar-2020 11:09**
Client ID: Run ID: **SV-7_358753** SeqNo: **5526759** PrepDate: **23-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.078	0.20	5	0	61.6	39 - 127	3.044	1.11	20	
2,4-Dimethylphenol	3.536	0.20	5	0	70.7	35 - 120	3.518	0.508	20	
2,4-Dinitrotoluene	4.103	0.20	5	0	82.1	50 - 122	4.266	3.91	20	
2,6-Dinitrotoluene	4.141	0.20	5	0	82.8	50 - 120	4.362	5.2	20	
2-Chloronaphthalene	4.317	0.20	5	0	86.3	50 - 120	4.343	0.588	20	
2-Methylnaphthalene	3.833	0.10	5	0	76.7	50 - 120	3.829	0.114	20	
4,6-Dinitro-2-methylphenol	3.767	0.20	5	0	75.3	25 - 121	3.498	7.42	30	
4-Nitrophenol	3.196	1.0	5	0	63.9	30 - 130	2.946	8.14	20	
Acenaphthene	3.518	0.10	5	0	70.4	45 - 120	3.623	2.94	20	
Acenaphthylene	3.588	0.10	5	0	71.8	47 - 120	3.667	2.18	20	
Anthracene	3.775	0.10	5	0	75.5	45 - 120	3.781	0.165	20	
Benz(a)anthracene	3.835	0.10	5	0	76.7	40 - 120	3.921	2.22	20	
Benzo(a)pyrene	3.734	0.10	5	0	74.7	45 - 120	3.898	4.3	20	
Bis(2-chloroethoxy)methane	3.687	0.20	5	0	73.7	45 - 120	3.614	2.01	20	
Bis(2-ethylhexyl)phthalate	3.596	0.20	5	0	71.9	40 - 139	3.616	0.554	20	
Chrysene	3.449	0.10	5	0	69.0	43 - 120	3.587	3.93	20	
Dibenzofuran	3.833	0.10	5	0	76.7	50 - 120	3.894	1.59	20	
Di-n-butyl phthalate	3.871	0.20	5	0	77.4	45 - 123	3.806	1.69	20	
Fluoranthene	4.045	0.10	5	0	80.9	45 - 125	3.938	2.67	20	
Fluorene	3.875	0.10	5	0	77.5	49 - 120	3.911	0.945	20	
Naphthalene	3.65	0.10	5	0	73.0	45 - 120	3.624	0.72	20	
Nitrobenzene	3.414	0.20	5	0	68.3	44 - 120	3.199	6.51	20	
N-Nitrosodiphenylamine	3.737	0.20	5	0	74.7	40 - 125	3.714	0.598	20	
Pentachlorophenol	1.54	0.20	5	0	30.8	19 - 121	1.418	8.25	20	
Phenanthrene	3.71	0.10	5	0	74.2	45 - 121	3.672	1.03	20	
Phenol	3.505	0.20	5	0	70.1	20 - 124	3.565	1.71	20	
Pyrene	3.879	0.10	5	0	77.6	40 - 130	4.122	6.05	20	
Surr: 2,4,6-Tribromophenol	*4.294*	*0.20*	*5*	*0*	*85.9*	*34 - 129*	*4.236*	*1.37*	*20*	
Surr: 2-Fluorobiphenyl	*3.184*	*0.20*	*5*	*0*	*63.7*	*40 - 125*	*3.409*	*6.83*	*20*	
Surr: 2-Fluorophenol	*2.98*	*0.20*	*5*	*0*	*59.6*	*20 - 120*	*2.949*	*1.05*	*20*	
Surr: 4-Terphenyl-d14	*3.844*	*0.20*	*5*	*0*	*76.9*	*40 - 135*	*4.003*	*4.06*	*20*	
Surr: Nitrobenzene-d5	*2.828*	*0.20*	*5*	*0*	*56.6*	*41 - 120*	*2.711*	*4.25*	*20*	
Surr: Phenol-d6	*3.023*	*0.20*	*5*	*0*	*60.5*	*20 - 120*	*3.075*	*1.71*	*20*	

The following samples were analyzed in this batch: HS20030961-02 HS20030961-03

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030961

QC BATCH REPORT

Batch ID: R358905 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200324** Units: **ug/L** Analysis Date: **24-Mar-2020 20:29**
Client ID: Run ID: **VOA4_358905** SeqNo: **5530354** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	< 0.20	1.0								
Benzene	< 0.20	1.0								
Chlorobenzene	< 0.30	1.0								
Ethylbenzene	< 0.30	1.0								
Methylene chloride	< 1.0	2.0								
Toluene	< 0.20	1.0								
Xylenes, Total	< 0.30	1.0								
Surr: 1,2-Dichloroethane-d4	*51.63*	*1.0*	*50*	*0*	*103*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*46.77*	*1.0*	*50*	*0*	*93.5*	*82 - 115*				
Surr: Dibromofluoromethane	*49.16*	*1.0*	*50*	*0*	*98.3*	*73 - 126*				
Surr: Toluene-d8	*51.52*	*1.0*	*50*	*0*	*103*	*81 - 120*				

LCS Sample ID: **VLCSW-200324** Units: **ug/L** Analysis Date: **24-Mar-2020 19:39**
Client ID: Run ID: **VOA4_358905** SeqNo: **5530353** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.16	1.0	20	0	90.8	70 - 124				
Benzene	18.54	1.0	20	0	92.7	74 - 120				
Chlorobenzene	19.29	1.0	20	0	96.5	76 - 113				
Ethylbenzene	19.8	1.0	20	0	99.0	77 - 117				
Methylene chloride	18.31	2.0	20	0	91.6	70 - 127				
Toluene	19.66	1.0	20	0	98.3	77 - 118				
Xylenes, Total	61.08	1.0	60	0	102	75 - 122				
Surr: 1,2-Dichloroethane-d4	*49.14*	*1.0*	*50*	*0*	*98.3*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*48.67*	*1.0*	*50*	*0*	*97.3*	*82 - 115*				
Surr: Dibromofluoromethane	*48.16*	*1.0*	*50*	*0*	*96.3*	*73 - 126*				
Surr: Toluene-d8	*51.1*	*1.0*	*50*	*0*	*102*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030961

QC BATCH REPORT

Batch ID: R358905 (0) **Instrument: VOA4** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20030969-04MS** Units: **ug/L** Analysis Date: **24-Mar-2020 23:47**
Client ID: Run ID: **VOA4_358905** SeqNo: **5530362** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.67	1.0	20	0	88.3	70 - 127				
Benzene	18.29	1.0	20	0	91.5	70 - 127				
Chlorobenzene	18.92	1.0	20	0	94.6	70 - 114				
Ethylbenzene	19.84	1.0	20	0	99.2	70 - 124				
Methylene chloride	16.71	2.0	20	0	83.6	70 - 128				
Toluene	19.19	1.0	20	0	95.9	70 - 123				
Xylenes, Total	60.72	1.0	60	0	101	70 - 130				
Surr: 1,2-Dichloroethane-d4	*48.88*	*1.0*	*50*	*0*	*97.8*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*49.61*	*1.0*	*50*	*0*	*99.2*	*81 - 113*				
Surr: Dibromofluoromethane	*47.63*	*1.0*	*50*	*0*	*95.3*	*77 - 123*				
Surr: Toluene-d8	*50.49*	*1.0*	*50*	*0*	*101*	*82 - 127*				

MSD Sample ID: **HS20030969-04MSD** Units: **ug/L** Analysis Date: **25-Mar-2020 00:11**
Client ID: Run ID: **VOA4_358905** SeqNo: **5530363** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.47	1.0	20	0	87.3	70 - 127	17.67	1.16	20	
Benzene	17.79	1.0	20	0	88.9	70 - 127	18.29	2.8	20	
Chlorobenzene	18.79	1.0	20	0	93.9	70 - 114	18.92	0.69	20	
Ethylbenzene	19.53	1.0	20	0	97.7	70 - 124	19.84	1.55	20	
Methylene chloride	16.28	2.0	20	0	81.4	70 - 128	16.71	2.63	20	
Toluene	19.09	1.0	20	0	95.4	70 - 123	19.19	0.533	20	
Xylenes, Total	59.99	1.0	60	0	100.0	70 - 130	60.72	1.22	20	
Surr: 1,2-Dichloroethane-d4	*49.88*	*1.0*	*50*	*0*	*99.8*	*70 - 126*	*48.88*	*2.01*	*20*	
Surr: 4-Bromofluorobenzene	*49.71*	*1.0*	*50*	*0*	*99.4*	*81 - 113*	*49.61*	*0.185*	*20*	
Surr: Dibromofluoromethane	*46.83*	*1.0*	*50*	*0*	*93.7*	*77 - 123*	*47.63*	*1.69*	*20*	
Surr: Toluene-d8	*50.32*	*1.0*	*50*	*0*	*101*	*82 - 127*	*50.49*	*0.333*	*20*	

The following samples were analyzed in this batch: HS20030961-01 HS20030961-02 HS20030961-03

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS20030961**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	T104704231-19-25	30-Apr-2020

Sample Receipt Checklist

Client Name: PBW
Work Order: HS20030961

Date/Time Received: **20-Mar-2020 11:50**
Received by: **PS**

Checklist completed by: *Jared R. Makan* eSignature — 20-Mar-2020 Date

Reviewed by: *Dane J. Wacasey* eSignature — 23-Mar-2020 Date

Matrices: **Water**

Carrier name: **ALS Courier**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:221276
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.0°C/1.0°C UC/C	IR11
Cooler(s)/Kit(s):	43906	
Date/Time sample(s) sent to storage:	03/20/2020 19:00	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070
Houston, TX +1 281 530 5656
Spring City, PA +1 610 948 4903
South Charleston, WV +1 304 356 3168
Middletown, PA +1 717 944 5541
Salt Lake City, UT +1 801 266 7700
York, PA +1 717 505 5280

Chain of Custody Form

Page ____ of ____

COC ID: 221276

ALS Project Manager: | ALS Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 VOC Site Specific)
Work Order		Project Number	1620-14-Rev0 SR 92282	B	~~TX1005_W_Low (5643233 TPH TX1005)~~ NO TPH
Company Name	Golder Associates Inc.	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632530 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5630002 Metals - As)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 681790750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-3446	Fax		I	
e-Mail Address	Eric_Matzner@golder.com	e-Mail Address		J	

HS20030961

Golder Associates Inc.

Houston TX-Wood Preserving Works

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WG-1620-TB CC-0217201B3	3-20-20	11:00	Water	1,8	2	X										
2	WG-1620-MW47A20200320	3-20-20	10:30	Groundwater	1,2,8	19	X	~~X~~	X	X							
3	WG-1620 MW60AR 20200320	3-20-20	8:55	GW	1,2,8	9	X		X	X							
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: T. McSpadden T. McSpadden

Shipment Method:

Required Turnaround Time: (Check Box) ☐ Other ☒ 5-8 Business Days ☐ 2-4 Days ☐ 1 Day

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
T. McSpadden	3-20-20	1125	
Relinquished by:	Date:	Time:	Received by (Laboratory):
	3-20-20	1150	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes: UPRR HWPW 1620-14

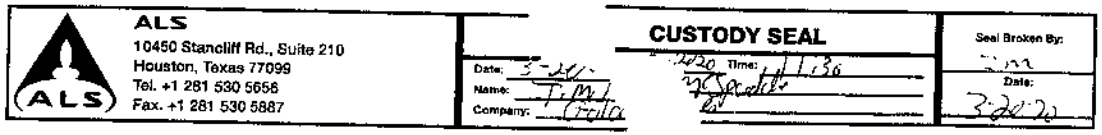
Cooler ID	Cooler Temp.
	uc
43906	1.0
	1.1
	0.0

QC Package: (Check One Box Below)

☐ Level II (Std QC)
☐ Level III Std QC+Raw Data
☐ Level IV (Full Data Pkg)
☐ Other
☒ TRRP Checklist
☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.


ALS
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887
Date:
Name:
Company:
CUSTODY SEAL
Time:
Seal Broken By:
Date:

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887

March 31, 2020

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS20030819**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 8 sample(s) on Mar 18, 2020 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: DANE.WACASEY
Dane J. Wacasey

Client:	Golder Associates Inc.	**TRRP Laboratory Data Package Cover Page**
Project:	Houston TX-Wood Preserving Works	
WorkOrder:	**HS20030819**	

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

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.
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Client:	Golder Associates Inc.
Project:	Houston TX-Wood Preserving Works
WorkOrder:	**HS20030819**

TRRP Laboratory Data Package Cover Page

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 attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory have been identified by the laboratory in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Check, if applicable: [NA] This laboratory meets an exception under 30 TAC §25.6 and was last inspected by [ ] TCEQ or [ ] _____ on (enter date of last inspection). Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Dane J. Wacasey

Laboratory Review Checklist: Reportable Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 03/30/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20030819				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 151876,152162,R358799				
#[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				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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 SW-846 Method 5035?			X		
		If required for the project, 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 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				
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			1
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		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		
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				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SDL and minimize the matrix interference affects on the sample results?	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Program for the analytes, matrices and methods associated with this laboratory data package?	X				

Laboratory Review Checklist: Supporting Data							
Laboratory Name: ALS Laboratory Group			LRC Date: 03/30/2020				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS20030819				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 151876,152162,R358799				
#[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 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section					
		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 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 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				

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = 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: ALS Laboratory Group	LRC Date: 03/30/2020
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS20030819
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 151876,152162,R358799

ER#[5]	Description
	Batch 151876, Semivolatile Organics Method SW8270, LCS/LCSD were analyzed and reported in lieu of an MS/MSD for this batch.

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.
O = Organic Analyses; I = Inorganic Analyses (and general chemistry, when applicable);
NA = Not Applicable;
NR = Not Reviewed;
R# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS20030819

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS20030819-01	WQ-1620-TB01-20200317	Water	CG 021720 -179	17-Mar-2020 15:59	18-Mar-2020 16:35	☐
HS20030819-02	WG-1620-MW88A-20200317	Groundwater		17-Mar-2020 12:55	18-Mar-2020 16:35	☐
HS20030819-03	WG-1620-MW61B-20200317	Groundwater		17-Mar-2020 11:45	18-Mar-2020 16:35	☐
HS20030819-04	WG-1620-MW96B-20200317	Groundwater		17-Mar-2020 10:25	18-Mar-2020 16:35	☐
HS20030819-05	WG-1620-MW95A-20200317	Groundwater		17-Mar-2020 09:10	18-Mar-2020 16:35	☐
HS20030819-06	WG-1620-MW60B-20200317	Groundwater		17-Mar-2020 15:15	18-Mar-2020 16:35	☐
HS20030819-07	WG-1620-MW88B-20200317	Groundwater		17-Mar-2020 13:50	18-Mar-2020 16:35	☐
HS20030819-08	WG-1620-FD02-20200317	Groundwater		17-Mar-2020 00:00	18-Mar-2020 16:35	☐

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20030819
Sample ID: WQ-1620-TB01-20200317
Lab ID:HS20030819-01
Collection Date: 17-Mar-2020 15:59
Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 19:53
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 19:53
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 19:53
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 19:53
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	23-Mar-2020 19:53
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 19:53
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 19:53
Surr: 1,2-Dichloroethane-d4	*100*			*70-126*	*%REC*	*1*	*23-Mar-2020 19:53*
Surr: 4-Bromofluorobenzene	*95.3*			*81-113*	*%REC*	*1*	*23-Mar-2020 19:53*
Surr: Dibromofluoromethane	*97.6*			*77-123*	*%REC*	*1*	*23-Mar-2020 19:53*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*23-Mar-2020 19:53*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW88A-20200317
Collection Date: 17-Mar-2020 12:55

ANALYTICAL REPORT
WorkOrder:HS20030819
Lab ID:HS20030819-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 20:39
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 20:39
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 20:39
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 20:39
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	23-Mar-2020 20:39
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 20:39
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 20:39
Surr: 1,2-Dichloroethane-d4	*100*			*70-126*	*%REC*	*1*	*23-Mar-2020 20:39*
Surr: 4-Bromofluorobenzene	*96.6*			*81-113*	*%REC*	*1*	*23-Mar-2020 20:39*
Surr: Dibromofluoromethane	*98.8*			*77-123*	*%REC*	*1*	*23-Mar-2020 20:39*
Surr: Toluene-d8	*102*			*82-127*	*%REC*	*1*	*23-Mar-2020 20:39*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW88A-20200317
Collection Date: 17-Mar-2020 12:55

ANALYTICAL REPORT
WorkOrder:HS20030819
Lab ID:HS20030819-02
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	19-Mar-2020 18:27
2,4-Dimethylphenol	< 0.000040		0.000040	0.00020	mg/L	1	19-Mar-2020 18:27
2,4-Dinitrotoluene	< 0.000058		0.000058	0.00020	mg/L	1	19-Mar-2020 18:27
2,6-Dinitrotoluene	< 0.000042		0.000042	0.00020	mg/L	1	19-Mar-2020 18:27
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	19-Mar-2020 18:27
2-Methylnaphthalene	< 0.000019		0.000019	0.00010	mg/L	1	19-Mar-2020 18:27
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	19-Mar-2020 18:27
4-Nitrophenol	< 0.000047		0.000047	0.0010	mg/L	1	19-Mar-2020 18:27
Acenaphthene	**0.0015**		**0.000027**	**0.00010**	**mg/L**	1	19-Mar-2020 18:27
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	19-Mar-2020 18:27
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	19-Mar-2020 18:27
Benz(a)anthracene	< 0.000050		0.000050	0.00010	mg/L	1	19-Mar-2020 18:27
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 18:27
Bis(2-chloroethoxy)methane	< 0.000030		0.000030	0.00020	mg/L	1	19-Mar-2020 18:27
Bis(2-ethylhexyl)phthalate	**0.00010**	J	**0.000037**	**0.00020**	**mg/L**	1	19-Mar-2020 18:27
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	19-Mar-2020 18:27
Dibenzofuran	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 18:27
Di-n-butyl phthalate	< 0.000020		0.000020	0.00020	mg/L	1	19-Mar-2020 18:27
Fluoranthene	**0.00025**		**0.000010**	**0.00010**	**mg/L**	1	19-Mar-2020 18:27
Fluorene	**0.00026**		**0.000030**	**0.00010**	**mg/L**	1	19-Mar-2020 18:27
Naphthalene	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 18:27
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	19-Mar-2020 18:27
N-Nitrosodiphenylamine	< 0.000025		0.000025	0.00020	mg/L	1	19-Mar-2020 18:27
Pentachlorophenol	< 0.000079		0.000079	0.00020	mg/L	1	19-Mar-2020 18:27
Phenanthrene	< 0.000021		0.000021	0.00010	mg/L	1	19-Mar-2020 18:27
Phenol	< 0.000035		0.000035	0.00020	mg/L	1	19-Mar-2020 18:27
Pyrene	**0.00053**		**0.000019**	**0.00010**	**mg/L**	1	19-Mar-2020 18:27
Surr: 2,4,6-Tribromophenol	*97.6*			*34-129*	*%REC*	*1*	*19-Mar-2020 18:27*
Surr: 2-Fluorobiphenyl	*68.6*			*40-125*	*%REC*	*1*	*19-Mar-2020 18:27*
Surr: 2-Fluorophenol	*64.7*			*20-120*	*%REC*	*1*	*19-Mar-2020 18:27*
Surr: 4-Terphenyl-d14	*104*			*40-135*	*%REC*	*1*	*19-Mar-2020 18:27*
Surr: Nitrobenzene-d5	*51.5*			*41-120*	*%REC*	*1*	*19-Mar-2020 18:27*
Surr: Phenol-d6	*58.4*			*20-120*	*%REC*	*1*	*19-Mar-2020 18:27*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 26-Mar-2020		Analyst: JHD
Arsenic	**0.00355**		**0.000400**	**0.00200**	**mg/L**	1	27-Mar-2020 13:41

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW61B-20200317
Collection Date: 17-Mar-2020 11:45

ANALYTICAL REPORT
WorkOrder:HS20030819
Lab ID:HS20030819-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 22:11
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 22:11
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 22:11
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 22:11
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	23-Mar-2020 22:11
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 22:11
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 22:11
Surr: 1,2-Dichloroethane-d4	*99.1*			*70-126*	*%REC*	*1*	*23-Mar-2020 22:11*
Surr: 4-Bromofluorobenzene	*96.5*			*81-113*	*%REC*	*1*	*23-Mar-2020 22:11*
Surr: Dibromofluoromethane	*98.8*			*77-123*	*%REC*	*1*	*23-Mar-2020 22:11*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*23-Mar-2020 22:11*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW61B-20200317
Collection Date: 17-Mar-2020 11:45

ANALYTICAL REPORT
WorkOrder:HS20030819
Lab ID:HS20030819-03
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	19-Mar-2020 18:46
2,4-Dimethylphenol	< 0.000040		0.000040	0.00020	mg/L	1	19-Mar-2020 18:46
2,4-Dinitrotoluene	< 0.000058		0.000058	0.00020	mg/L	1	19-Mar-2020 18:46
2,6-Dinitrotoluene	< 0.000042		0.000042	0.00020	mg/L	1	19-Mar-2020 18:46
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	19-Mar-2020 18:46
2-Methylnaphthalene	< 0.000019		0.000019	0.00010	mg/L	1	19-Mar-2020 18:46
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	19-Mar-2020 18:46
4-Nitrophenol	< 0.000047		0.000047	0.0010	mg/L	1	19-Mar-2020 18:46
Acenaphthene	< 0.000027		0.000027	0.00010	mg/L	1	19-Mar-2020 18:46
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	19-Mar-2020 18:46
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	19-Mar-2020 18:46
Benz(a)anthracene	< 0.000050		0.000050	0.00010	mg/L	1	19-Mar-2020 18:46
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 18:46
Bis(2-chloroethoxy)methane	< 0.000030		0.000030	0.00020	mg/L	1	19-Mar-2020 18:46
Bis(2-ethylhexyl)phthalate	**0.00015**	J	**0.000037**	**0.00020**	**mg/L**	1	19-Mar-2020 18:46
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	19-Mar-2020 18:46
Dibenzofuran	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 18:46
Di-n-butyl phthalate	< 0.000020		0.000020	0.00020	mg/L	1	19-Mar-2020 18:46
Fluoranthene	< 0.000010		0.000010	0.00010	mg/L	1	19-Mar-2020 18:46
Fluorene	< 0.000030		0.000030	0.00010	mg/L	1	19-Mar-2020 18:46
Naphthalene	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 18:46
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	19-Mar-2020 18:46
N-Nitrosodiphenylamine	< 0.000025		0.000025	0.00020	mg/L	1	19-Mar-2020 18:46
Pentachlorophenol	< 0.000079		0.000079	0.00020	mg/L	1	19-Mar-2020 18:46
Phenanthrene	< 0.000021		0.000021	0.00010	mg/L	1	19-Mar-2020 18:46
Phenol	< 0.000035		0.000035	0.00020	mg/L	1	19-Mar-2020 18:46
Pyrene	< 0.000019		0.000019	0.00010	mg/L	1	19-Mar-2020 18:46
Surr: 2,4,6-Tribromophenol	*64.0*			*34-129*	*%REC*	*1*	*19-Mar-2020 18:46*
Surr: 2-Fluorobiphenyl	*62.5*			*40-125*	*%REC*	*1*	*19-Mar-2020 18:46*
Surr: 2-Fluorophenol	*50.3*			*20-120*	*%REC*	*1*	*19-Mar-2020 18:46*
Surr: 4-Terphenyl-d14	*79.6*			*40-135*	*%REC*	*1*	*19-Mar-2020 18:46*
Surr: Nitrobenzene-d5	*46.3*			*41-120*	*%REC*	*1*	*19-Mar-2020 18:46*
Surr: Phenol-d6	*44.5*			*20-120*	*%REC*	*1*	*19-Mar-2020 18:46*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 26-Mar-2020		Analyst: JHD
Arsenic	**0.00461**		**0.000400**	**0.00200**	**mg/L**	1	27-Mar-2020 14:44

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW96B-20200317
Collection Date: 17-Mar-2020 10:25

ANALYTICAL REPORT
WorkOrder:HS20030819
Lab ID:HS20030819-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 22:34
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 22:34
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 22:34
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 22:34
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	23-Mar-2020 22:34
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 22:34
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 22:34
Surr: 1,2-Dichloroethane-d4	*101*			*70-126*	*%REC*	*1*	*23-Mar-2020 22:34*
Surr: 4-Bromofluorobenzene	*96.2*			*81-113*	*%REC*	*1*	*23-Mar-2020 22:34*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*23-Mar-2020 22:34*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*23-Mar-2020 22:34*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW96B-20200317
Collection Date: 17-Mar-2020 10:25

ANALYTICAL REPORT
WorkOrder:HS20030819
Lab ID:HS20030819-04
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		**Method:SW8270**			Prep:SW3510 / 19-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	19-Mar-2020 19:05
2,4-Dimethylphenol	< 0.000040		0.000040	0.00020	mg/L	1	19-Mar-2020 19:05
2,4-Dinitrotoluene	< 0.000058		0.000058	0.00020	mg/L	1	19-Mar-2020 19:05
2,6-Dinitrotoluene	< 0.000042		0.000042	0.00020	mg/L	1	19-Mar-2020 19:05
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	19-Mar-2020 19:05
2-Methylnaphthalene	< 0.000019		0.000019	0.00010	mg/L	1	19-Mar-2020 19:05
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	19-Mar-2020 19:05
4-Nitrophenol	< 0.000047		0.000047	0.0010	mg/L	1	19-Mar-2020 19:05
Acenaphthene	< 0.000027		0.000027	0.00010	mg/L	1	19-Mar-2020 19:05
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	19-Mar-2020 19:05
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	19-Mar-2020 19:05
Benz(a)anthracene	< 0.000050		0.000050	0.00010	mg/L	1	19-Mar-2020 19:05
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 19:05
Bis(2-chloroethoxy)methane	< 0.000030		0.000030	0.00020	mg/L	1	19-Mar-2020 19:05
Bis(2-ethylhexyl)phthalate	**0.00035**		**0.000037**	**0.00020**	**mg/L**	1	19-Mar-2020 19:05
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	19-Mar-2020 19:05
Dibenzofuran	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 19:05
Di-n-butyl phthalate	< 0.000020		0.000020	0.00020	mg/L	1	19-Mar-2020 19:05
Fluoranthene	< 0.000010		0.000010	0.00010	mg/L	1	19-Mar-2020 19:05
Fluorene	< 0.000030		0.000030	0.00010	mg/L	1	19-Mar-2020 19:05
Naphthalene	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 19:05
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	19-Mar-2020 19:05
N-Nitrosodiphenylamine	< 0.000025		0.000025	0.00020	mg/L	1	19-Mar-2020 19:05
Pentachlorophenol	< 0.000079		0.000079	0.00020	mg/L	1	19-Mar-2020 19:05
Phenanthrene	< 0.000021		0.000021	0.00010	mg/L	1	19-Mar-2020 19:05
Phenol	< 0.000035		0.000035	0.00020	mg/L	1	19-Mar-2020 19:05
Pyrene	< 0.000019		0.000019	0.00010	mg/L	1	19-Mar-2020 19:05
Surr: 2,4,6-Tribromophenol	*47.2*			*34-129*	*%REC*	*1*	*19-Mar-2020 19:05*
Surr: 2-Fluorobiphenyl	*62.3*			*40-125*	*%REC*	*1*	*19-Mar-2020 19:05*
Surr: 2-Fluorophenol	*48.8*			*20-120*	*%REC*	*1*	*19-Mar-2020 19:05*
Surr: 4-Terphenyl-d14	*86.2*			*40-135*	*%REC*	*1*	*19-Mar-2020 19:05*
Surr: Nitrobenzene-d5	*45.0*			*41-120*	*%REC*	*1*	*19-Mar-2020 19:05*
Surr: Phenol-d6	*41.8*			*20-120*	*%REC*	*1*	*19-Mar-2020 19:05*
ICP-MS METALS BY SW6020A		**Method:SW6020**			Prep:SW3010A / 26-Mar-2020		Analyst: JHD
Arsenic	**0.00312**		**0.000400**	**0.00200**	**mg/L**	1	27-Mar-2020 14:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20030819
Sample ID: WG-1620-MW95A-20200317
Lab ID:HS20030819-05
Collection Date: 17-Mar-2020 09:10
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 22:57
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 22:57
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 22:57
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 22:57
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	23-Mar-2020 22:57
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 22:57
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 22:57
Surr: 1,2-Dichloroethane-d4	*100*			*70-126*	*%REC*	*1*	*23-Mar-2020 22:57*
Surr: 4-Bromofluorobenzene	*95.9*			*81-113*	*%REC*	*1*	*23-Mar-2020 22:57*
Surr: Dibromofluoromethane	*98.6*			*77-123*	*%REC*	*1*	*23-Mar-2020 22:57*
Surr: Toluene-d8	*103*			*82-127*	*%REC*	*1*	*23-Mar-2020 22:57*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW95A-20200317
Collection Date: 17-Mar-2020 09:10

ANALYTICAL REPORT
WorkOrder:HS20030819
Lab ID:HS20030819-05
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	19-Mar-2020 19:24
2,4-Dimethylphenol	< 0.000040		0.000040	0.00020	mg/L	1	19-Mar-2020 19:24
2,4-Dinitrotoluene	< 0.000058		0.000058	0.00020	mg/L	1	19-Mar-2020 19:24
2,6-Dinitrotoluene	< 0.000042		0.000042	0.00020	mg/L	1	19-Mar-2020 19:24
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	19-Mar-2020 19:24
2-Methylnaphthalene	< 0.000019		0.000019	0.00010	mg/L	1	19-Mar-2020 19:24
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	19-Mar-2020 19:24
4-Nitrophenol	< 0.000047		0.000047	0.0010	mg/L	1	19-Mar-2020 19:24
Acenaphthene	< 0.000027		0.000027	0.00010	mg/L	1	19-Mar-2020 19:24
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	19-Mar-2020 19:24
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	19-Mar-2020 19:24
Benz(a)anthracene	< 0.000050		0.000050	0.00010	mg/L	1	19-Mar-2020 19:24
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 19:24
Bis(2-chloroethoxy)methane	< 0.000030		0.000030	0.00020	mg/L	1	19-Mar-2020 19:24
Bis(2-ethylhexyl)phthalate	< 0.000037		0.000037	0.00020	mg/L	1	19-Mar-2020 19:24
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	19-Mar-2020 19:24
Dibenzofuran	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 19:24
Di-n-butyl phthalate	< 0.000020		0.000020	0.00020	mg/L	1	19-Mar-2020 19:24
Fluoranthene	< 0.000010		0.000010	0.00010	mg/L	1	19-Mar-2020 19:24
Fluorene	< 0.000030		0.000030	0.00010	mg/L	1	19-Mar-2020 19:24
Naphthalene	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 19:24
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	19-Mar-2020 19:24
N-Nitrosodiphenylamine	< 0.000025		0.000025	0.00020	mg/L	1	19-Mar-2020 19:24
Pentachlorophenol	< 0.000079		0.000079	0.00020	mg/L	1	19-Mar-2020 19:24
Phenanthrene	< 0.000021		0.000021	0.00010	mg/L	1	19-Mar-2020 19:24
Phenol	< 0.000035		0.000035	0.00020	mg/L	1	19-Mar-2020 19:24
Pyrene	< 0.000019		0.000019	0.00010	mg/L	1	19-Mar-2020 19:24
Surr: 2,4,6-Tribromophenol	*60.4*			*34-129*	*%REC*	*1*	*19-Mar-2020 19:24*
Surr: 2-Fluorobiphenyl	*61.4*			*40-125*	*%REC*	*1*	*19-Mar-2020 19:24*
Surr: 2-Fluorophenol	*57.8*			*20-120*	*%REC*	*1*	*19-Mar-2020 19:24*
Surr: 4-Terphenyl-d14	*82.2*			*40-135*	*%REC*	*1*	*19-Mar-2020 19:24*
Surr: Nitrobenzene-d5	*48.9*			*41-120*	*%REC*	*1*	*19-Mar-2020 19:24*
Surr: Phenol-d6	*45.1*			*20-120*	*%REC*	*1*	*19-Mar-2020 19:24*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 26-Mar-2020		Analyst: JHD
Arsenic	**0.000977**	J	**0.000400**	**0.00200**	**mg/L**	1	27-Mar-2020 14:48

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
ANALYTICAL REPORT
Project: Houston TX-Wood Preserving Works
WorkOrder:HS20030819
Sample ID: WG-1620-MW60B-20200317
Lab ID:HS20030819-06
Collection Date: 17-Mar-2020 15:15
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 23:20
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 23:20
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 23:20
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 23:20
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	23-Mar-2020 23:20
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 23:20
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 23:20
Surr: 1,2-Dichloroethane-d4	*101*			*70-126*	*%REC*	*1*	*23-Mar-2020 23:20*
Surr: 4-Bromofluorobenzene	*96.0*			*81-113*	*%REC*	*1*	*23-Mar-2020 23:20*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*23-Mar-2020 23:20*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*23-Mar-2020 23:20*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW60B-20200317
Collection Date: 17-Mar-2020 15:15

ANALYTICAL REPORT
WorkOrder:HS20030819
Lab ID:HS20030819-06
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	19-Mar-2020 19:43
2,4-Dimethylphenol	< 0.000040		0.000040	0.00020	mg/L	1	19-Mar-2020 19:43
2,4-Dinitrotoluene	< 0.000058		0.000058	0.00020	mg/L	1	19-Mar-2020 19:43
2,6-Dinitrotoluene	< 0.000042		0.000042	0.00020	mg/L	1	19-Mar-2020 19:43
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	19-Mar-2020 19:43
2-Methylnaphthalene	< 0.000019		0.000019	0.00010	mg/L	1	19-Mar-2020 19:43
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	19-Mar-2020 19:43
4-Nitrophenol	< 0.000047		0.000047	0.0010	mg/L	1	19-Mar-2020 19:43
Acenaphthene	< 0.000027		0.000027	0.00010	mg/L	1	19-Mar-2020 19:43
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	19-Mar-2020 19:43
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	19-Mar-2020 19:43
Benz(a)anthracene	< 0.000050		0.000050	0.00010	mg/L	1	19-Mar-2020 19:43
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 19:43
Bis(2-chloroethoxy)methane	< 0.000030		0.000030	0.00020	mg/L	1	19-Mar-2020 19:43
Bis(2-ethylhexyl)phthalate	**0.00092**		**0.000037**	**0.00020**	**mg/L**	1	19-Mar-2020 19:43
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	19-Mar-2020 19:43
Dibenzofuran	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 19:43
Di-n-butyl phthalate	**0.000047**	J	**0.000020**	**0.00020**	**mg/L**	1	19-Mar-2020 19:43
Fluoranthene	**0.000015**	J	**0.000010**	**0.00010**	**mg/L**	1	19-Mar-2020 19:43
Fluorene	< 0.000030		0.000030	0.00010	mg/L	1	19-Mar-2020 19:43
Naphthalene	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 19:43
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	19-Mar-2020 19:43
N-Nitrosodiphenylamine	< 0.000025		0.000025	0.00020	mg/L	1	19-Mar-2020 19:43
Pentachlorophenol	< 0.000079		0.000079	0.00020	mg/L	1	19-Mar-2020 19:43
Phenanthrene	< 0.000021		0.000021	0.00010	mg/L	1	19-Mar-2020 19:43
Phenol	< 0.000035		0.000035	0.00020	mg/L	1	19-Mar-2020 19:43
Pyrene	< 0.000019		0.000019	0.00010	mg/L	1	19-Mar-2020 19:43
Surr: 2,4,6-Tribromophenol	*74.8*			*34-129*	*%REC*	*1*	*19-Mar-2020 19:43*
Surr: 2-Fluorobiphenyl	*50.1*			*40-125*	*%REC*	*1*	*19-Mar-2020 19:43*
Surr: 2-Fluorophenol	*47.8*			*20-120*	*%REC*	*1*	*19-Mar-2020 19:43*
Surr: 4-Terphenyl-d14	*82.6*			*40-135*	*%REC*	*1*	*19-Mar-2020 19:43*
Surr: Nitrobenzene-d5	*41.6*			*41-120*	*%REC*	*1*	*19-Mar-2020 19:43*
Surr: Phenol-d6	*43.0*			*20-120*	*%REC*	*1*	*19-Mar-2020 19:43*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 26-Mar-2020		Analyst: JHD
Arsenic	**0.00234**		**0.000400**	**0.00200**	**mg/L**	1	27-Mar-2020 14:51

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW88B-20200317
Collection Date: 17-Mar-2020 13:50

ANALYTICAL REPORT
WorkOrder:HS20030819
Lab ID:HS20030819-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 23:43
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 23:43
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 23:43
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 23:43
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	23-Mar-2020 23:43
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 23:43
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 23:43
Surr: 1,2-Dichloroethane-d4	*102*			*70-126*	*%REC*	*1*	*23-Mar-2020 23:43*
Surr: 4-Bromofluorobenzene	*97.0*			*81-113*	*%REC*	*1*	*23-Mar-2020 23:43*
Surr: Dibromofluoromethane	*100*			*77-123*	*%REC*	*1*	*23-Mar-2020 23:43*
Surr: Toluene-d8	*101*			*82-127*	*%REC*	*1*	*23-Mar-2020 23:43*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-MW88B-20200317
Collection Date: 17-Mar-2020 13:50

ANALYTICAL REPORT
WorkOrder:HS20030819
Lab ID:HS20030819-07
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	19-Mar-2020 20:02
2,4-Dimethylphenol	< 0.000040		0.000040	0.00020	mg/L	1	19-Mar-2020 20:02
2,4-Dinitrotoluene	< 0.000058		0.000058	0.00020	mg/L	1	19-Mar-2020 20:02
2,6-Dinitrotoluene	< 0.000042		0.000042	0.00020	mg/L	1	19-Mar-2020 20:02
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	19-Mar-2020 20:02
2-Methylnaphthalene	< 0.000019		0.000019	0.00010	mg/L	1	19-Mar-2020 20:02
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	19-Mar-2020 20:02
4-Nitrophenol	< 0.000047		0.000047	0.0010	mg/L	1	19-Mar-2020 20:02
Acenaphthene	< 0.000027		0.000027	0.00010	mg/L	1	19-Mar-2020 20:02
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	19-Mar-2020 20:02
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	19-Mar-2020 20:02
Benz(a)anthracene	< 0.000050		0.000050	0.00010	mg/L	1	19-Mar-2020 20:02
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 20:02
Bis(2-chloroethoxy)methane	< 0.000030		0.000030	0.00020	mg/L	1	19-Mar-2020 20:02
Bis(2-ethylhexyl)phthalate	< 0.000037		0.000037	0.00020	mg/L	1	19-Mar-2020 20:02
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	19-Mar-2020 20:02
Dibenzofuran	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 20:02
Di-n-butyl phthalate	< 0.000020		0.000020	0.00020	mg/L	1	19-Mar-2020 20:02
Fluoranthene	< 0.000010		0.000010	0.00010	mg/L	1	19-Mar-2020 20:02
Fluorene	< 0.000030		0.000030	0.00010	mg/L	1	19-Mar-2020 20:02
Naphthalene	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 20:02
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	19-Mar-2020 20:02
N-Nitrosodiphenylamine	< 0.000025		0.000025	0.00020	mg/L	1	19-Mar-2020 20:02
Pentachlorophenol	< 0.000079		0.000079	0.00020	mg/L	1	19-Mar-2020 20:02
Phenanthrene	< 0.000021		0.000021	0.00010	mg/L	1	19-Mar-2020 20:02
Phenol	< 0.000035		0.000035	0.00020	mg/L	1	19-Mar-2020 20:02
Pyrene	< 0.000019		0.000019	0.00010	mg/L	1	19-Mar-2020 20:02
Surr: 2,4,6-Tribromophenol	*59.9*			*34-129*	*%REC*	*1*	*19-Mar-2020 20:02*
Surr: 2-Fluorobiphenyl	*63.9*			*40-125*	*%REC*	*1*	*19-Mar-2020 20:02*
Surr: 2-Fluorophenol	*55.5*			*20-120*	*%REC*	*1*	*19-Mar-2020 20:02*
Surr: 4-Terphenyl-d14	*93.3*			*40-135*	*%REC*	*1*	*19-Mar-2020 20:02*
Surr: Nitrobenzene-d5	*52.0*			*41-120*	*%REC*	*1*	*19-Mar-2020 20:02*
Surr: Phenol-d6	*46.3*			*20-120*	*%REC*	*1*	*19-Mar-2020 20:02*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 26-Mar-2020		Analyst: JHD
Arsenic	**0.00166**	J	**0.000400**	**0.00200**	**mg/L**	1	27-Mar-2020 14:53

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD02-20200317
Collection Date: 17-Mar-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20030819
Lab ID:HS20030819-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**						Analyst: AKP
1,2-Dichloroethane	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 20:16
Benzene	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 20:16
Chlorobenzene	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 20:16
Ethylbenzene	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 20:16
Methylene chloride	< 0.0010		0.0010	0.0020	mg/L	1	23-Mar-2020 20:16
Toluene	< 0.00020		0.00020	0.0010	mg/L	1	23-Mar-2020 20:16
Xylenes, Total	< 0.00030		0.00030	0.0010	mg/L	1	23-Mar-2020 20:16
Surr: 1,2-Dichloroethane-d4	*101*			*70-126*	*%REC*	*1*	*23-Mar-2020 20:16*
Surr: 4-Bromofluorobenzene	*97.1*			*81-113*	*%REC*	*1*	*23-Mar-2020 20:16*
Surr: Dibromofluoromethane	*98.3*			*77-123*	*%REC*	*1*	*23-Mar-2020 20:16*
Surr: Toluene-d8	*100*			*82-127*	*%REC*	*1*	*23-Mar-2020 20:16*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Sample ID: WG-1620-FD02-20200317
Collection Date: 17-Mar-2020 00:00

ANALYTICAL REPORT
WorkOrder:HS20030819
Lab ID:HS20030819-08
Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D	**Method:SW8270**				Prep:SW3510 / 19-Mar-2020		Analyst: GEY
1,2-Diphenylhydrazine	< 0.000021		0.000021	0.00020	mg/L	1	19-Mar-2020 20:22
2,4-Dimethylphenol	< 0.000040		0.000040	0.00020	mg/L	1	19-Mar-2020 20:22
2,4-Dinitrotoluene	< 0.000058		0.000058	0.00020	mg/L	1	19-Mar-2020 20:22
2,6-Dinitrotoluene	< 0.000042		0.000042	0.00020	mg/L	1	19-Mar-2020 20:22
2-Chloronaphthalene	< 0.000021		0.000021	0.00020	mg/L	1	19-Mar-2020 20:22
2-Methylnaphthalene	< 0.000019		0.000019	0.00010	mg/L	1	19-Mar-2020 20:22
4,6-Dinitro-2-methylphenol	< 0.000020		0.000020	0.00020	mg/L	1	19-Mar-2020 20:22
4-Nitrophenol	< 0.000047		0.000047	0.0010	mg/L	1	19-Mar-2020 20:22
Acenaphthene	< 0.000027		0.000027	0.00010	mg/L	1	19-Mar-2020 20:22
Acenaphthylene	< 0.000015		0.000015	0.00010	mg/L	1	19-Mar-2020 20:22
Anthracene	< 0.000014		0.000014	0.00010	mg/L	1	19-Mar-2020 20:22
Benz(a)anthracene	< 0.000050		0.000050	0.00010	mg/L	1	19-Mar-2020 20:22
Benzo(a)pyrene	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 20:22
Bis(2-chloroethoxy)methane	< 0.000030		0.000030	0.00020	mg/L	1	19-Mar-2020 20:22
Bis(2-ethylhexyl)phthalate	**0.00013**	J	**0.000037**	**0.00020**	**mg/L**	1	19-Mar-2020 20:22
Chrysene	< 0.000021		0.000021	0.00010	mg/L	1	19-Mar-2020 20:22
Dibenzofuran	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 20:22
Di-n-butyl phthalate	< 0.000020		0.000020	0.00020	mg/L	1	19-Mar-2020 20:22
Fluoranthene	< 0.000010		0.000010	0.00010	mg/L	1	19-Mar-2020 20:22
Fluorene	< 0.000030		0.000030	0.00010	mg/L	1	19-Mar-2020 20:22
Naphthalene	< 0.000020		0.000020	0.00010	mg/L	1	19-Mar-2020 20:22
Nitrobenzene	< 0.000024		0.000024	0.00020	mg/L	1	19-Mar-2020 20:22
N-Nitrosodiphenylamine	< 0.000025		0.000025	0.00020	mg/L	1	19-Mar-2020 20:22
Pentachlorophenol	< 0.000079		0.000079	0.00020	mg/L	1	19-Mar-2020 20:22
Phenanthrene	< 0.000021		0.000021	0.00010	mg/L	1	19-Mar-2020 20:22
Phenol	< 0.000035		0.000035	0.00020	mg/L	1	19-Mar-2020 20:22
Pyrene	< 0.000019		0.000019	0.00010	mg/L	1	19-Mar-2020 20:22
Surr: 2,4,6-Tribromophenol	*57.8*			*34-129*	*%REC*	*1*	*19-Mar-2020 20:22*
Surr: 2-Fluorobiphenyl	*59.0*			*40-125*	*%REC*	*1*	*19-Mar-2020 20:22*
Surr: 2-Fluorophenol	*48.5*			*20-120*	*%REC*	*1*	*19-Mar-2020 20:22*
Surr: 4-Terphenyl-d14	*89.9*			*40-135*	*%REC*	*1*	*19-Mar-2020 20:22*
Surr: Nitrobenzene-d5	*47.3*			*41-120*	*%REC*	*1*	*19-Mar-2020 20:22*
Surr: Phenol-d6	*44.4*			*20-120*	*%REC*	*1*	*19-Mar-2020 20:22*
ICP-MS METALS BY SW6020A	**Method:SW6020**				Prep:SW3010A / 26-Mar-2020		Analyst: JHD
Arsenic	**0.00311**		**0.000400**	**0.00200**	**mg/L**	1	27-Mar-2020 14:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Weight / Prep Log

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030819

Batch ID: 151876 **Start Date:** 19 Mar 2020 07:00 **End Date:** 19 Mar 2020 12:30
Method: SV AQ SEP FUN EXTRACT-LOWLEV - 3510C **Prep Code:** 3510_B_LOW

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20030819-02	1	1000 (mL)	1 (mL)	0.001
HS20030819-03	1	1000 (mL)	1 (mL)	0.001
HS20030819-04	1	1000 (mL)	1 (mL)	0.001
HS20030819-05	1	1000 (mL)	1 (mL)	0.001
HS20030819-06	1	1000 (mL)	1 (mL)	0.001
HS20030819-07	1	1000 (mL)	1 (mL)	0.001
HS20030819-08	1	1000 (mL)	1 (mL)	0.001

Batch ID: 152162 **Start Date:** 26 Mar 2020 08:57 **End Date:** 26 Mar 2020 13:00
Method: WATER - SW3010A **Prep Code:** 3010A

Sample ID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS20030819-02		10 (mL)	10 (mL)	1
HS20030819-03		10 (mL)	10 (mL)	1
HS20030819-04		10 (mL)	10 (mL)	1
HS20030819-05		10 (mL)	10 (mL)	1
HS20030819-06		10 (mL)	10 (mL)	1
HS20030819-07		10 (mL)	10 (mL)	1
HS20030819-08		10 (mL)	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030819

DATES REPORT

Sample ID	Client Samp ID	Collection Date	Leachate Date	Prep Date	Analysis Date	DF
Batch ID: 151876 (0)	**Test Name :** LOW-LEVEL SEMIVOLATILES BY 8270D				**Matrix:** Groundwater	
HS20030819-02	WG-1620-MW88A-20200317	17 Mar 2020 12:55		19 Mar 2020 10:38	19 Mar 2020 18:27	1
HS20030819-03	WG-1620-MW61B-20200317	17 Mar 2020 11:45		19 Mar 2020 10:38	19 Mar 2020 18:46	1
HS20030819-04	WG-1620-MW96B-20200317	17 Mar 2020 10:25		19 Mar 2020 10:38	19 Mar 2020 19:05	1
HS20030819-05	WG-1620-MW95A-20200317	17 Mar 2020 09:10		19 Mar 2020 10:38	19 Mar 2020 19:24	1
HS20030819-06	WG-1620-MW60B-20200317	17 Mar 2020 15:15		19 Mar 2020 10:38	19 Mar 2020 19:43	1
HS20030819-07	WG-1620-MW88B-20200317	17 Mar 2020 13:50		19 Mar 2020 10:38	19 Mar 2020 20:02	1
HS20030819-08	WG-1620-FD02-20200317	17 Mar 2020 00:00		19 Mar 2020 10:38	19 Mar 2020 20:22	1
Batch ID: 152162 (0)	**Test Name :** ICP-MS METALS BY SW6020A				**Matrix:** Groundwater	
HS20030819-02	WG-1620-MW88A-20200317	17 Mar 2020 12:55		26 Mar 2020 13:00	27 Mar 2020 13:41	1
HS20030819-03	WG-1620-MW61B-20200317	17 Mar 2020 11:45		26 Mar 2020 13:00	27 Mar 2020 14:44	1
HS20030819-04	WG-1620-MW96B-20200317	17 Mar 2020 10:25		26 Mar 2020 13:00	27 Mar 2020 14:46	1
HS20030819-05	WG-1620-MW95A-20200317	17 Mar 2020 09:10		26 Mar 2020 13:00	27 Mar 2020 14:48	1
HS20030819-06	WG-1620-MW60B-20200317	17 Mar 2020 15:15		26 Mar 2020 13:00	27 Mar 2020 14:51	1
HS20030819-07	WG-1620-MW88B-20200317	17 Mar 2020 13:50		26 Mar 2020 13:00	27 Mar 2020 14:53	1
HS20030819-08	WG-1620-FD02-20200317	17 Mar 2020 00:00		26 Mar 2020 13:00	27 Mar 2020 14:55	1
Batch ID: R358799 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Groundwater	
HS20030819-02	WG-1620-MW88A-20200317	17 Mar 2020 12:55			23 Mar 2020 20:39	1
HS20030819-03	WG-1620-MW61B-20200317	17 Mar 2020 11:45			23 Mar 2020 22:11	1
HS20030819-04	WG-1620-MW96B-20200317	17 Mar 2020 10:25			23 Mar 2020 22:34	1
HS20030819-05	WG-1620-MW95A-20200317	17 Mar 2020 09:10			23 Mar 2020 22:57	1
HS20030819-06	WG-1620-MW60B-20200317	17 Mar 2020 15:15			23 Mar 2020 23:20	1
HS20030819-07	WG-1620-MW88B-20200317	17 Mar 2020 13:50			23 Mar 2020 23:43	1
HS20030819-08	WG-1620-FD02-20200317	17 Mar 2020 00:00			23 Mar 2020 20:16	1
Batch ID: R358799 (0)	**Test Name :** LOW LEVEL VOLATILES BY SW8260C				**Matrix:** Water	
HS20030819-01	WQ-1620-TB01-20200317	17 Mar 2020 15:59			23 Mar 2020 19:53	1

WorkOrder: HS20030819
InstrumentID: ICPMS05
Test Code: ICP_TW
Test Number: SW6020
Test Name: ICP-MS Metals by SW6020A

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	Arsenic	7440-38-2	0.000500	0.000499	0.000400	0.00200

WorkOrder: HS20030819
InstrumentID: SV-7
Test Code: 8270_LOW_W
Test Number: SW8270
Test Name: Low-Level Semivolatiles by 8270D

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Diphenylhydrazine	122-66-7	0.00010	0.00013	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000081	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.00010	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.00010	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.00012	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000052	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000060	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000069	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000050	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000046	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000046	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000057	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000047	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.00012	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00014	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000049	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000050	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.00012	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000053	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000050	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000048	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.00014	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.00012	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000057	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000047	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.00012	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000051	0.000019	0.00010
S	2,4,6-Tribromophenol	118-79-6	0	0	0	0.00020
S	2-Fluorobiphenyl	321-60-8	0	0	0	0.00020
S	2-Fluorophenol	367-12-4	0	0	0	0.00020
S	4-Terphenyl-d14	1718-51-0	0	0	0	0.00020
S	Nitrobenzene-d5	4165-60-0	0	0	0	0.00020
S	Phenol-d6	13127-88-3	0	0	0	0.00020

WorkOrder: HS20030819
InstrumentID: VOA2
Test Code: 8260_LL_W
Test Number: SW8260
Test Name: Low Level Volatiles by SW8260C

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** mg/L

Type	Analyte	CAS	DCS Spike	DCS	MDL	PQL
A	1,2-Dichloroethane	107-06-2	0.00050	0.00062	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00059	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00071	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00063	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.00075	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00069	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00059	0.00030	0.0010
S	1,2-Dichloroethane-d4	17060-07-0	0	0	0	0.0010
S	4-Bromofluorobenzene	460-00-4	0	0	0	0.0010
S	Dibromofluoromethane	1868-53-7	0	0	0	0.0010
S	Toluene-d8	2037-26-5	0	0	0	0.0010

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030819

QC BATCH REPORT

Batch ID: 152162 (0) **Instrument: ICPMS05** **Method: ICP-MS METALS BY SW6020A**

MBLK Sample ID: **MBLK-152162** Units: **mg/L** Analysis Date: **27-Mar-2020 13:36**
Client ID: Run ID: **ICPMS05_359030** SeqNo: **5534467** PrepDate: **26-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	< 0.000400	0.00200								

LCS Sample ID: **LCS-152162** Units: **mg/L** Analysis Date: **27-Mar-2020 13:39**
Client ID: Run ID: **ICPMS05_359030** SeqNo: **5534468** PrepDate: **26-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05069	0.00200	0.05	0	101	80 - 120				

MS Sample ID: **HS20031033-01MS** Units: **mg/L** Analysis Date: **30-Mar-2020 11:14**
Client ID: Run ID: **ICPMS05_359110** SeqNo: **5536564** PrepDate: **26-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1729	0.00200	0.05	0.1254	95.0	80 - 120				

MSD Sample ID: **HS20031033-01MSD** Units: **mg/L** Analysis Date: **30-Mar-2020 11:17**
Client ID: Run ID: **ICPMS05_359110** SeqNo: **5536565** PrepDate: **26-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1842	0.00200	0.05	0.1254	118	80 - 120	0.1729	6.31	20	

PDS Sample ID: **HS20031033-01PDS** Units: **mg/L** Analysis Date: **30-Mar-2020 11:19**
Client ID: Run ID: **ICPMS05_359110** SeqNo: **5536566** PrepDate: **26-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.2352	0.00200	0.1	0.1254	110	75 - 125				

SD Sample ID: **HS20031033-01SD** Units: **mg/L** Analysis Date: **30-Mar-2020 11:12**
Client ID: Run ID: **ICPMS05_359110** SeqNo: **5536563** PrepDate: **26-Mar-2020** DF: **5**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	%D Limit	Qual
Arsenic	0.1248	0.0100					0.1254	0.469	10	

The following samples were analyzed in this batch: HS20030819-02 HS20030819-03 HS20030819-04 HS20030819-05 HS20030819-06 HS20030819-07 HS20030819-08

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030819

QC BATCH REPORT

Batch ID: 151876 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

MBLK Sample ID: **MBLK-151876** Units: **ug/L** Analysis Date: **19-Mar-2020 13:39**
Client ID: Run ID: **SV-7_358509** SeqNo: **5520890** PrepDate: **19-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	< 0.021	0.20								
2,4-Dimethylphenol	< 0.040	0.20								
2,4-Dinitrotoluene	< 0.058	0.20								
2,6-Dinitrotoluene	< 0.042	0.20								
2-Chloronaphthalene	< 0.021	0.20								
2-Methylnaphthalene	< 0.019	0.10								
4,6-Dinitro-2-methylphenol	< 0.020	0.20								
4-Nitrophenol	< 0.047	1.0								
Acenaphthene	< 0.027	0.10								
Acenaphthylene	< 0.015	0.10								
Anthracene	< 0.014	0.10								
Benz(a)anthracene	< 0.050	0.10								
Benzo(a)pyrene	< 0.020	0.10								
Bis(2-chloroethoxy)methane	< 0.030	0.20								
Bis(2-ethylhexyl)phthalate	< 0.037	0.20								
Chrysene	< 0.021	0.10								
Dibenzofuran	< 0.020	0.10								
Di-n-butyl phthalate	< 0.020	0.20								
Fluoranthene	< 0.010	0.10								
Fluorene	< 0.030	0.10								
Naphthalene	< 0.020	0.10								
Nitrobenzene	< 0.024	0.20								
N-Nitrosodiphenylamine	< 0.025	0.20								
Pentachlorophenol	< 0.079	0.20								
Phenanthrene	< 0.021	0.10								
Phenol	< 0.035	0.20								
Pyrene	< 0.019	0.10								
Surr: 2,4,6-Tribromophenol	*2.949*	*0.20*	*5*	*0*	*59.0*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*2.962*	*0.20*	*5*	*0*	*59.2*	*40 - 125*				
Surr: 2-Fluorophenol	*2.88*	*0.20*	*5*	*0*	*57.6*	*20 - 120*				
Surr: 4-Terphenyl-d14	*3.57*	*0.20*	*5*	*0*	*71.4*	*40 - 135*				
Surr: Nitrobenzene-d5	*2.498*	*0.20*	*5*	*0*	*50.0*	*41 - 120*				
Surr: Phenol-d6	*2.798*	*0.20*	*5*	*0*	*56.0*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030819

QC BATCH REPORT

Batch ID: 151876 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCS Sample ID: **LCS-151876** Units: **ug/L** Analysis Date: **19-Mar-2020 15:15**
Client ID: Run ID: **SV-7_358509** SeqNo: **5520894** PrepDate: **19-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.006	0.20	5	0	60.1	39 - 127				
2,4-Dimethylphenol	3.069	0.20	5	0	61.4	35 - 120				
2,4-Dinitrotoluene	3.767	0.20	5	0	75.3	50 - 122				
2,6-Dinitrotoluene	3.698	0.20	5	0	74.0	50 - 120				
2-Chloronaphthalene	4.153	0.20	5	0	83.1	50 - 120				
2-Methylnaphthalene	3.43	0.10	5	0	68.6	50 - 120				
4,6-Dinitro-2-methylphenol	3.658	0.20	5	0	73.2	25 - 121				
4-Nitrophenol	2.531	1.0	5	0	50.6	30 - 130				
Acenaphthene	3.225	0.10	5	0	64.5	45 - 120				
Acenaphthylene	3.269	0.10	5	0	65.4	47 - 120				
Anthracene	3.472	0.10	5	0	69.4	45 - 120				
Benz(a)anthracene	3.507	0.10	5	0	70.1	40 - 120				
Benzo(a)pyrene	3.777	0.10	5	0	75.5	45 - 120				
Bis(2-chloroethoxy)methane	3.186	0.20	5	0	63.7	45 - 120				
Bis(2-ethylhexyl)phthalate	3.478	0.20	5	0	69.6	40 - 139				
Chrysene	3.344	0.10	5	0	66.9	43 - 120				
Dibenzofuran	3.454	0.10	5	0	69.1	50 - 120				
Di-n-butyl phthalate	3.575	0.20	5	0	71.5	45 - 123				
Fluoranthene	3.531	0.10	5	0	70.6	45 - 125				
Fluorene	3.427	0.10	5	0	68.5	49 - 120				
Naphthalene	3.329	0.10	5	0	66.6	45 - 120				
Nitrobenzene	2.977	0.20	5	0	59.5	44 - 120				
N-Nitrosodiphenylamine	3.366	0.20	5	0	67.3	40 - 125				
Pentachlorophenol	1.871	0.20	5	0	37.4	19 - 121				
Phenanthrene	3.392	0.10	5	0	67.8	45 - 121				
Phenol	3.406	0.20	5	0	68.1	20 - 124				
Pyrene	3.501	0.10	5	0	70.0	40 - 130				
Surr: 2,4,6-Tribromophenol	*3.613*	*0.20*	*5*	*0*	*72.3*	*34 - 129*				
Surr: 2-Fluorobiphenyl	*2.764*	*0.20*	*5*	*0*	*55.3*	*40 - 125*				
Surr: 2-Fluorophenol	*2.851*	*0.20*	*5*	*0*	*57.0*	*20 - 120*				
Surr: 4-Terphenyl-d14	*3.276*	*0.20*	*5*	*0*	*65.5*	*40 - 135*				
Surr: Nitrobenzene-d5	*2.453*	*0.20*	*5*	*0*	*49.1*	*41 - 120*				
Surr: Phenol-d6	*2.853*	*0.20*	*5*	*0*	*57.1*	*20 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030819

QC BATCH REPORT

Batch ID: 151876 (0) **Instrument: SV-7** **Method: LOW-LEVEL SEMIVOLATILES BY 8270D**

LCSD Sample ID: **LCSD-151876** Units: **ug/L** Analysis Date: **19-Mar-2020 14:18**
Client ID: Run ID: **SV-7_358509** SeqNo: **5520891** PrepDate: **19-Mar-2020** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	2.865	0.20	5	0	57.3	39 - 127	3.006	4.83	20	
2,4-Dimethylphenol	3.104	0.20	5	0	62.1	35 - 120	3.069	1.1	20	
2,4-Dinitrotoluene	3.649	0.20	5	0	73.0	50 - 122	3.767	3.18	20	
2,6-Dinitrotoluene	3.677	0.20	5	0	73.5	50 - 120	3.698	0.567	20	
2-Chloronaphthalene	3.78	0.20	5	0	75.6	50 - 120	4.153	9.39	20	
2-Methylnaphthalene	3.4	0.10	5	0	68.0	50 - 120	3.43	0.881	20	
4,6-Dinitro-2-methylphenol	3.494	0.20	5	0	69.9	25 - 121	3.658	4.58	30	
4-Nitrophenol	2.988	1.0	5	0	59.8	30 - 130	2.531	16.5	20	
Acenaphthene	3.232	0.10	5	0	64.6	45 - 120	3.225	0.23	20	
Acenaphthylene	3.295	0.10	5	0	65.9	47 - 120	3.269	0.783	20	
Anthracene	3.376	0.10	5	0	67.5	45 - 120	3.472	2.8	20	
Benz(a)anthracene	3.682	0.10	5	0	73.6	40 - 120	3.507	4.86	20	
Benzo(a)pyrene	3.802	0.10	5	0	76.0	45 - 120	3.777	0.658	20	
Bis(2-chloroethoxy)methane	3.188	0.20	5	0	63.8	45 - 120	3.186	0.0664	20	
Bis(2-ethylhexyl)phthalate	3.54	0.20	5	0	70.8	40 - 139	3.478	1.76	20	
Chrysene	3.571	0.10	5	0	71.4	43 - 120	3.344	6.57	20	
Dibenzofuran	3.429	0.10	5	0	68.6	50 - 120	3.454	0.747	20	
Di-n-butyl phthalate	3.482	0.20	5	0	69.6	45 - 123	3.575	2.64	20	
Fluoranthene	3.413	0.10	5	0	68.3	45 - 125	3.531	3.4	20	
Fluorene	3.408	0.10	5	0	68.2	49 - 120	3.427	0.573	20	
Naphthalene	3.336	0.10	5	0	66.7	45 - 120	3.329	0.225	20	
Nitrobenzene	2.957	0.20	5	0	59.1	44 - 120	2.977	0.66	20	
N-Nitrosodiphenylamine	3.264	0.20	5	0	65.3	40 - 125	3.366	3.1	20	
Pentachlorophenol	1.812	0.20	5	0	36.2	19 - 121	1.871	3.23	20	
Phenanthrene	3.322	0.10	5	0	66.4	45 - 121	3.392	2.07	20	
Phenol	3.274	0.20	5	0	65.5	20 - 124	3.406	3.96	20	
Pyrene	3.554	0.10	5	0	71.1	40 - 130	3.501	1.51	20	
Surr: 2,4,6-Tribromophenol	*3.602*	*0.20*	*5*	*0*	*72.0*	*34 - 129*	*3.613*	*0.299*	*20*	
Surr: 2-Fluorobiphenyl	*2.776*	*0.20*	*5*	*0*	*55.5*	*40 - 125*	*2.764*	*0.445*	*20*	
Surr: 2-Fluorophenol	*2.733*	*0.20*	*5*	*0*	*54.7*	*20 - 120*	*2.851*	*4.25*	*20*	
Surr: 4-Terphenyl-d14	*3.381*	*0.20*	*5*	*0*	*67.6*	*40 - 135*	*3.276*	*3.15*	*20*	
Surr: Nitrobenzene-d5	*2.448*	*0.20*	*5*	*0*	*49.0*	*41 - 120*	*2.453*	*0.189*	*20*	
Surr: Phenol-d6	*2.753*	*0.20*	*5*	*0*	*55.1*	*20 - 120*	*2.853*	*3.58*	*20*	

The following samples were analyzed in this batch: HS20030819-02 HS20030819-03 HS20030819-04 HS20030819-05 HS20030819-06 HS20030819-07 HS20030819-08

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030819

QC BATCH REPORT

Batch ID: R358799 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MBLK Sample ID: **VBLKW-200323** Units: **ug/L** Analysis Date: **23-Mar-2020 19:22**
Client ID: Run ID: **VOA2_358799** SeqNo: **5527631** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	< 0.20	1.0								
Benzene	< 0.20	1.0								
Chlorobenzene	< 0.30	1.0								
Ethylbenzene	< 0.30	1.0								
Methylene chloride	< 1.0	2.0								
Toluene	< 0.20	1.0								
Xylenes, Total	< 0.30	1.0								
Surr: 1,2-Dichloroethane-d4	*51.61*	*1.0*	*50*	*0*	*103*	*70 - 123*				
Surr: 4-Bromofluorobenzene	*47.84*	*1.0*	*50*	*0*	*95.7*	*82 - 115*				
Surr: Dibromofluoromethane	*49.76*	*1.0*	*50*	*0*	*99.5*	*73 - 126*				
Surr: Toluene-d8	*51.01*	*1.0*	*50*	*0*	*102*	*81 - 120*				

LCS Sample ID: **VLCSW-203023** Units: **ug/L** Analysis Date: **23-Mar-2020 18:36**
Client ID: Run ID: **VOA2_358799** SeqNo: **5527630** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	19.11	1.0	20	0	95.6	70 - 124				
Benzene	18.46	1.0	20	0	92.3	74 - 120				
Chlorobenzene	17.94	1.0	20	0	89.7	76 - 113				
Ethylbenzene	18.37	1.0	20	0	91.9	77 - 117				
Methylene chloride	17.55	2.0	20	0	87.7	70 - 127				
Toluene	18.17	1.0	20	0	90.9	77 - 118				
Xylenes, Total	55.92	1.0	60	0	93.2	75 - 122				
Surr: 1,2-Dichloroethane-d4	*53.36*	*1.0*	*50*	*0*	*107*	*70 - 130*				
Surr: 4-Bromofluorobenzene	*48.6*	*1.0*	*50*	*0*	*97.2*	*82 - 115*				
Surr: Dibromofluoromethane	*48.48*	*1.0*	*50*	*0*	*97.0*	*73 - 126*				
Surr: Toluene-d8	*49.98*	*1.0*	*50*	*0*	*100.0*	*81 - 120*				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS20030819

QC BATCH REPORT

Batch ID: R358799 (0) **Instrument: VOA2** **Method: LOW LEVEL VOLATILES BY SW8260C**

MS Sample ID: **HS20030819-02MS** Units: **ug/L** Analysis Date: **23-Mar-2020 21:02**
Client ID: **WG-1620-MW88A-20200317** Run ID: **VOA2_358799** SeqNo: **5527635** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.84	1.0	20	0	89.2	70 - 127				
Benzene	18.14	1.0	20	0	90.7	70 - 127				
Chlorobenzene	17.35	1.0	20	0	86.8	70 - 114				
Ethylbenzene	18.32	1.0	20	0	91.6	70 - 124				
Methylene chloride	16.47	2.0	20	0	82.3	70 - 128				
Toluene	17.75	1.0	20	0	88.8	70 - 123				
Xylenes, Total	54.81	1.0	60	0	91.4	70 - 130				
Surr: 1,2-Dichloroethane-d4	*52.67*	*1.0*	*50*	*0*	*105*	*70 - 126*				
Surr: 4-Bromofluorobenzene	*48.7*	*1.0*	*50*	*0*	*97.4*	*81 - 113*				
Surr: Dibromofluoromethane	*48.94*	*1.0*	*50*	*0*	*97.9*	*77 - 123*				
Surr: Toluene-d8	*49.9*	*1.0*	*50*	*0*	*99.8*	*82 - 127*				

MSD Sample ID: **HS20030819-02MSD** Units: **ug/L** Analysis Date: **23-Mar-2020 21:25**
Client ID: **WG-1620-MW88A-20200317** Run ID: **VOA2_358799** SeqNo: **5527636** PrepDate: DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.75	1.0	20	0	88.8	70 - 127	17.84	0.511	20	
Benzene	17.84	1.0	20	0	89.2	70 - 127	18.14	1.62	20	
Chlorobenzene	17.38	1.0	20	0	86.9	70 - 114	17.35	0.187	20	
Ethylbenzene	18.24	1.0	20	0	91.2	70 - 124	18.32	0.447	20	
Methylene chloride	16.37	2.0	20	0	81.9	70 - 128	16.47	0.587	20	
Toluene	17.8	1.0	20	0	89.0	70 - 123	17.75	0.297	20	
Xylenes, Total	54.38	1.0	60	0	90.6	70 - 130	54.81	0.78	20	
Surr: 1,2-Dichloroethane-d4	*52.39*	*1.0*	*50*	*0*	*105*	*70 - 126*	*52.67*	*0.533*	*20*	
Surr: 4-Bromofluorobenzene	*48.55*	*1.0*	*50*	*0*	*97.1*	*81 - 113*	*48.7*	*0.314*	*20*	
Surr: Dibromofluoromethane	*48.89*	*1.0*	*50*	*0*	*97.8*	*77 - 123*	*48.94*	*0.106*	*20*	
Surr: Toluene-d8	*50.09*	*1.0*	*50*	*0*	*100*	*82 - 127*	*49.9*	*0.39*	*20*	

The following samples were analyzed in this batch:

HS20030819-01	HS20030819-02	HS20030819-03	HS20030819-04
HS20030819-05	HS20030819-06	HS20030819-07	HS20030819-08

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: **HS20030819**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
California	2919, 2019-2020	30-Apr-2020
Dept of Defense	ANAB L2231 V009	22-Dec-2021
Florida	E87611-28	30-Jun-2020
Illinois	2000322019-2	09-May-2020
Kansas	E-10352 2019-2020	31-Jul-2020
Kentucky	123043, 2019-2020	30-Apr-2020
Louisiana	03087, 2019-2020	30-Jun-2020
Maryland	343, 2019-2020	30-Jun-2020
North Carolina	624-2020	31-Dec-2020
North Dakota	R-193 2019-2020	30-Apr-2020
Oklahoma	2019-067	31-Aug-2020
Texas	T104704231-19-25	30-Apr-2020

Sample Receipt Checklist

Client Name: PBW
Work Order: HS20030819

Date/Time Received: **18-Mar-2020 16:35**
Received by: **DDG**

Checklist completed by: *Jared R. Makan* eSignature — 18-Mar-2020 Date

Reviewed by: *Dane J. Wacasey* eSignature — 19-Mar-2020 Date

Matrices: **Water**

Carrier name: **ALS Courier**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
VOA/TX1005/TX1006 Solids in hermetically sealed vials?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	1 Page(s)
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	COC IDs:221274
Samplers name present on COC?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☐	No ☑	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Temperature(s)/Thermometer(s):	1.3°C, 1.0°C UC/C	IR11
Cooler(s)/Kit(s):	45498, 43911	
Date/Time sample(s) sent to storage:	03/18/2020 20:45	

Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes: Limited sample volume for MW 60B - approximately 750ml of sample in each SVOC amber bottle.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

Cincinnati, OH +1 513 733 5336
Fort Collins, CO +1 970 490 1511
Everett, WA +1 425 356 2600
Holland, MI +1 616 399 6070

Chain of Custody Form

Page ____ of ____

COC ID: 221274

HS20030819

Golder Associates Inc.
Houston TX-Wood Preserving Works

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works	A	8260_LL_W (5632528 VOC Site Specific)
Work Order		Project Number	1620-14-Rev0 SR 92688	B	TX1005_W_Low (5643233 TPH TX1005)
Company Name	Golder Associates Inc.	Bill To Company	Union Pacific Railroad- A/P	C	8270_LOW_W (5632532 SemiVolatiles Site specific)
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D	ICP_TW (5630902 Metals - As)
Address	2201 Double Creek Drive Suite 4004	Address	1400 Douglas Street Stop 0750	E	
				F	
City/State/Zip	Round Rock, TX 78664	City/State/Zip	Omaha NE 68179-0750	G	
Phone	(512) 671-3434	Phone		H	
Fax	(512) 671-2446	Fax		I	
e-Mail Address	Eric_Matzner@golder.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WG-1620-TB CG021720 179	3-17-2020	15:59	Water	1,3	2	X										
2	WG-1620-MW88A20200317	3-17-2020	12:55	Groundwater	1,2,8	9	X	X	X	X							
3	WG 1620 MW 61B 20200317	3-17-2020	11:45	GW	1,2,8	9	X	X	X	X							
4	WG 1620 MW 96B 20200317	3-17-2020	10:25	GW	1,2,8	9	X	X	X	X							
5	WG 1620 MW 95A 20200317	3-17-2020	9:10	GW	1,2,8	9	X	X	X	X							
6	WG 1620 MW 60B 20200317	3-17-2020	15:15	GW	1,2,8	9	X	X	X	X							
7	WG 1620 MW 88B 20200317	3-17-2020	13:50	GW	1,2,8	9	X	X	X	X							
8	WG 1620 FB 02 20200317	3-17-2020	—	GW	1,2,8	9	X	X	X	X							
9																	
10																	

Sampler(s) Please Print & Sign: T. McSpadden

Shipment Method:

Required Turnaround Time: (Check Box) [X] STD 10 W.D. [ ] 5 W.D. [ ] 2 W.D. [ ] 1 W.D. [ ] Other

Results Due Date:

Relinquished by: T. McSpadden Date: 3-18-20 Time: 16:00 Received by:

Relinquished by: Date: 3-18-20 Time: 1635 Received by (Laboratory):

Logged by (Laboratory): Date: Time: Checked by (Laboratory):

Notes: UPRR HWPW 1620-14

Cooler ID	Cooler Temp.
454498	1.3
43911	1.0

QC Package: (Check One Box Below)
[ ] Level II Std QC
[ ] Level III Std QC/Raw Data
[ ] Level IV SW846/CLP
[X] EDD (Format)
[ ] EDP (Format)
[ ] Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

ATTACHMENT C

Groundwater Sampling Records

GROUNDWATER SAMPLING RECORD

PAGE 1 of 1

Project Number: 19119232 Project Name: UPRR-HWPW-SMUV Date: 7-2-19

Sampling Location (well ID, etc.): MW10A

Sample Number: WG-1620-MW10A-20190702

Sampled by: JTB

Measuring Point (MP) of Well: (TOC) - Steel or (PVC)

Screened Interval (ft. BGL): -

Filter Pack Interval (ft. BGL): -

Starting Water Level (ft. BMP): 4.69

Casing Stickup (ft.):

WL (ft. BMP): 4.69 (ft. BGL):

TD (ft. BMP): (ft. BGL):

Ft. water: Casing Dia. (In ID):

1X Casing Vol (gal.): 3X (gal):

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer Sampling: (Peristaltic Pump) / SS Pump / Bailer

Disposal of Discharged Water: 55-gallon drum

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: SOLINST Other: -

Multi Meter: HORIBA

Field Calibration: AUTO CAL

Filter / Filter Size: -

SAMPLING MEASUREMENTS

Begin Purge: 0851

Time	DTW (ft BTOC)	Cum. Vol. (gal. or (L))	Purge Rate (gal. or (L/m))	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
0901	4.89		.2	21.6	0.53	1030	6.81	-61	7.4	neutral
0906	4.91		↓	21.9	0.39	1070	6.86	-55	7.1	↓
0911	4.92		↓	21.9	0.38	1060	6.86	-56	6.7	↓

WL (ft. BMP) at End of Purge: Sample Intake Depth (ft. BMP):

SAMPLE INVENTORY

Bottles Collected					Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
Time		Volume	Composition (G, P)	No.			
0925		1L	G	2	N	-	SVOCS

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE 1 of 1

Project Number: 19119232 Project Name: UPRR - HWPW - SMMU Date: 7-2-19

Sampling Location (well ID, etc.): MW 11B

Sample Number: WG-1620-MW11B-20190702

Sampled by: YTB

Measuring Point (MP) of Well: TOC - Steel or PVC

Screened Interval (ft. BGL): —

Filter Pack Interval (ft. BGL): —

Starting Water Level (ft. BMP): 5.21

Casing Stickup (ft.): _____

WL (ft. BMP): 5.21 (ft. BGL): _____

TD (ft. BMP): _____ (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): _____

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer Sampling: Peristaltic Pump / SS Pump / Bailer

Disposal of Discharged Water: 55-gallon drum

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: SOLINST Other: —

Multi Meter: HORIBA

Field Calibration: AUTO CAL

Filter / Filter Size: —

SAMPLING MEASUREMENTS

Begin Purge: 0801

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L/m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
0812	5.39	—	.2	22.4	0.79	1120	6.92	-42	16	muddied
0817	5.41		↓	22.1	0.62	1150	6.97	-37	12	↓
0822	5.41		↓	22.1	0.61	1160	6.96	-39	12	↓

WL (ft. BMP) at End of Purge: Sample Intake Depth (ft. BMP):

SAMPLE INVENTORY

Bottles Collected					Filtration	Preservation	Remarks
Time		Volume	Composition (G, P)	No.	(Y / N)	(type)	(quality control sample, other)
0835		1L	G	2	N	—	SVOCs

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE 1 of 1

Project Number: 19119232 Project Name: VPRR - HWPW - SMVU Date: 7-2-19

Sampling Location (well ID, etc.): MW 11A

Sample Number: WG-1620-MW11A-20190702

Sampled by: JTB

Measuring Point (MP) of Well: (TOC) - Steel or (PVC)

Screened Interval (ft. BGL): —

Filter Pack Interval (ft. BGL): —

Starting Water Level (ft. BMP): 5.06

Casing Stickup (ft.): _____

WL (ft. BMP): 5.06 (ft. BGL): _____

TD (ft. BMP): _____ (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): _____

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer Sampling: (Peristaltic Pump) / SS Pump / Bailer

Disposal of ~~Discharged~~ Water: SS-gallon drum

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: SOLINST Other: —

Multi Meter: HORIBA

Field Calibration: AUTO CAL

Filter / Filter Size: —

SAMPLING MEASUREMENTS

Begin Purge: 0712

Time	DTW (ft BTOC)	Cum. Vol. (gal. or (L))	Purge Rate (gal. or (L/m))	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
0723	5.31	—	.1	22.6	0.96	1060	6.86	-41	5.7	neutral
0728	5.31		↓	22.7	0.81	1040	6.81	-36	3.2	↓
0731	5.30		↓	22.7	0.82	1030	6.82	-37	4.6	↓

WL (ft. BMP) at End of Purge: Sample Intake Depth (ft. BMP):

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G, P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
0745		1L	G	2	N	—	SVOCS

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE 1 of 1

Project Number: 19119232 Project Name: UPRR-HWPU-SMDU Date: 7-1-19

Sampling Location (well ID, etc.): MW07

Sample Number: WG-1620-MW07-20190701

Sampled by: JJB

Measuring Point (MP) of Well: (TOC) - Steel or (PVC)

Screened Interval (ft. BGL): —

Filter Pack Interval (ft. BGL): —

Starting Water Level (ft. BMP): 3.93

Casing Stickup (ft.): _____

WL (ft. BMP): 3.93 (ft. BGL): _____

TD (ft. BMP): _____ (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): _____

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer Sampling: (Peristaltic Pump) / SS Pump / Bailer

Disposal of ~~Discharged~~ Water: 55-gallon drum

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: SOLINST Other: —

Multi Meter: HORIBA

Field Calibration: AUTO CAL

Filter / Filter Size: —

SAMPLING MEASUREMENTS

Begin Purge:

1623 Time	DTW (ft BTOC)	Cum. Vol (gal. or (L))	Purge Rate (gal. or (L/m))	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
1632	4.26	—	.2	22.7	0.34	1340	6.86	-41	16	neutral
1638	4.29		↓	22.3	0.26	1310	6.92	-35	11	↓
1643	4.22		↓	22.4	0.26	1310	6.91	-36	12	↓

WL (ft. BMP) at End of Purge: Sample Intake Depth (ft. BMP):

SAMPLE INVENTORY

Bottles Collected					Filtration	Preservation	Remarks
Time		Volume	Composition (G, P)	No.	(Y / N)	(type)	(quality control sample, other)
1655		1L	G	2	N	—	SVOCS

Comments:

WG-1620-FD02-20190701

1655 - Sample Time

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE 1 of 1

Project Number: 19119232 Project Name: UPRR-HWPW-SMVV Date: 7-1-19

Sampling Location (well ID, etc.): P10 Starting Water Level (ft. BMP): 3.12

Sample Number: WG-1620-P10-20190701 Casing Stickup (ft.): -

Sampled by: MB WL (ft. BMP): 3.12 (ft. BGL):

Measuring Point (MP) of Well: (TOC) - Steel or (PVC) TD (ft. BMP): (ft. BGL):

Screened Interval (ft. BGL): - Ft. water: Casing Dia. (In ID):

Filter Pack Interval (ft. BGL): - 1X Casing Vol (gal.): 3X (gal):

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer Sampling: (Peristaltic Pump) / SS Pump / Bailer

Disposal of Discharged Water: 55 gallon drum

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: SOLINST Other: -

Multi Meter: HORIBA

Field Calibration: AUTO CAL

Filter / Filter Size: -

SAMPLING MEASUREMENTS

Begin Purge:

Time (1526)	DTW (ft BTOC)	Cum. Vol. (gal. or (L))	Purge Rate (gal. or (L /m))	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
1537	3.29	-	.2	21.9	0.72	1330	6.78	-57	6.2	neutral
1542	3.31		↓	21.7	0.54	1360	6.71	-51	7.9	↓
1546	3.31		↓	21.6	0.56	1360	6.72	-52	7.2	↓

WL (ft. BMP) at End of Purge: Sample Intake Depth (ft. BMP):

SAMPLE INVENTORY

Bottles Collected					Filtration	Preservation	Remarks
Time		Volume	Composition (G, P)	No.	(Y / N)	(type)	(quality control sample, other)
1600		1L	G	2	N	-	SVOCS

Comments:

JB

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE 1 of 1

Project Number: 19119232 Project Name: UPRR-HWPW-SMVV Date: 7-1-19

Sampling Location (well ID, etc.): MW08 Starting Water Level (ft. BMP): 3.98

Sample Number: WG-1620-MW08-20190701 Casing Stickup (ft.): -

Sampled by: JTB WL (ft. BMP): 3.98 (ft. BGL):

Measuring Point (MP) of Well: (TOC) - Steel or (PVC) TD (ft. BMP): (ft. BGL):

Screened Interval (ft. BGL): - Ft. water: Casing Dia. (In ID):

Filter Pack Interval (ft. BGL): - 1X Casing Vol (gal.): 3X (gal):

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer Sampling: (Peristaltic Pump) / SS Pump / Bailer

Disposal of Discharged Water: 55-gallon drum

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: SOLINST Other: -

Multi Meter: HORIBA

Field Calibration: AUTO CAL

Filter / Filter Size: -

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or (L))	Purge Rate (gal. or (L)/m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
1439										
1449	4.17	-	.2	21.7	0.47	1130	6.67	-23	7.2	muted
1453	4.21		"	21.3	0.31	1130	6.61	-20	5.1	"
1458	4.22		"	21.4	0.32	1120	6.62	-21	5.6	"

WL (ft. BMP) at End of Purge: Sample Intake Depth (ft. BMP):

SAMPLE INVENTORY

Bottles Collected					Filtration	Preservation	Remarks
Time		Volume	Composition (G, P)	No.	(Y / N)	(type)	(quality control sample, other)
1510		1L	G	2	N	-	SVOCS

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE 1 of 1

Project Number: 19119232 Project Name: UPRR - HWPW - SMUU Date: 7-1-19

Sampling Location (well ID, etc.): ~~BG~~ P12

Sample Number: WG-1620-P12-20190701

Sampled by: JTB

Measuring Point (MP) of Well: (TOC) - Steel or (PVC)

Screened Interval (ft. BGL): —

Filter Pack Interval (ft. BGL): —

Starting Water Level (ft. BMP): 3.06

Casing Stickup (ft.): —

WL (ft. BMP): 3.06 (ft. BGL):

TD (ft. BMP): (ft. BGL):

Ft. water: Casing Dia. (In ID):

1X Casing Vol (gal.): 3X (gal):

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer Sampling: (Peristaltic Pump) / SS Pump / Bailer

Disposal of Discharged Water: SS-gallon drum

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: SOLINST Other: —

Multi Meter: HORIBA

Field Calibration: AUTO CAL

Filter / Filter Size: —

SAMPLING MEASUREMENTS

Begin Purge:

Time (1341)	DTW (ft BTOC)	Cum. Vol (gal. or (L))	Purge Rate (gal. or (L/m))	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
1351	3.21	—	.2	22.7	0.71	960	6.79	-53	6.2	neutral
1357	3.22		↓	22.3	0.51	970	6.70	-57	5.1	↓
1405	3.21		↓	22.1	0.52	970	6.71	-56	5.7	↓

WL (ft. BMP) at End of Purge: Sample Intake Depth (ft. BMP):

SAMPLE INVENTORY

Bottles Collected					Filtration	Preservation	Remarks
Time		Volume	Composition (G, P)	No.	(Y / N)	(type)	(quality control sample, other)
1415		1L	G	2	N	—	SVOCS

Comments: MS/MSD

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE 1 of 1

Project Number: 19119232 Project Name: UPRR - HWPW - SMVV Date: 7-2-19

Sampling Location (well ID, etc.): MW01A

Sample Number: WG1620-MW01A-20190702

Sampled by: JTB

Measuring Point (MP) of Well: (TOC) - Steel or (PVC)

Screened Interval (ft. BGL): —

Filter Pack Interval (ft. BGL): —

Starting Water Level (ft. BMP): 2.85

Casing Stickup (ft.):

WL (ft. BMP): 2.85 (ft. BGL):

TD (ft. BMP): (ft. BGL):

Ft. water: Casing Dia. (In ID):

1X Casing Vol (gal.): 3X (gal.):

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer Sampling: (Peristaltic Pump) / SS Pump / Bailer

Disposal of Discharged Water: 55-gallon drum

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: SOLINST Other: —

Multi Meter: HORIBA

Field Calibration: AUTO CAL

Filter / Filter Size: —

SAMPLING MEASUREMENTS

Begin Purge: 1132

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L/m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
1143	3.07		.2	21.9	0.59	1150	6.89	-26	7.1	neutral
1148	3.08		↓	21.9	0.39	1140	6.81	-25	5.2	↓
1153	3.08		↓	21.7	0.42	1140	6.82	-27	6.1	↓

WL (ft. BMP) at End of Purge: Sample Intake Depth (ft. BMP):

SAMPLE INVENTORY

Bottles Collected					Filtration	Preservation	Remarks
Time		Volume	Composition (G, P)	No.	(Y / N)	(type)	(quality control sample, other)
1210		1L	G	2	N	—	SVOCs

Comments:

WG1620-FD01-20190702

1210 - Sample Time

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE 1 of 1

Project Number: 19119232 Project Name: VPRR - HWPW - SMUV Date: 7-2-19

Sampling Location (well ID, etc.): MW02 Starting Water Level (ft. BMP): 3.09

Sample Number: WG-1620-MW02-20190702 Casing Stickup (ft.): —

Sampled by: JTB WL (ft. BMP): 3.09 (ft. BGL): —

Measuring Point (MP) of Well: (TOC) - Steel or (PVC) TD (ft. BMP): — (ft. BGL): —

Screened Interval (ft. BGL): — Ft. water: — Casing Dia. (In ID): —

Filter Pack Interval (ft. BGL): — 1X Casing Vol (gal.): — 3X (gal): —

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer Sampling: (Peristaltic Pump) / SS Pump / Bailer

Disposal of Discharged Water: 55-gallon drum

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: SOLINST Other: —

Multi Meter: HORIBA

Field Calibration: AUTO CAL

Filter / Filter Size: —

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or (L))	Purge Rate (gal. or (L /m))	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
1043										
1052	3.26	—	.2	22.4	0.79	1060	6.71	-41	5.6	neutral
1058	3.27		↓	22.5	0.64	1060	6.74	-36	5.1	↓
1103	3.29		↓	22.4	0.65	1070	6.73	-37	4.7	↓

WL (ft. BMP) at End of Purge: Sample Intake Depth (ft. BMP):

SAMPLE INVENTORY

Bottles Collected					Filtration	Preservation	Remarks
Time		Volume	Composition (G, P)	No.	(Y / N)	(type)	(quality control sample, other)
1115		1L	G	2	N	—	SVOCs

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE 1 of 1

Project Number: 19119232 Project Name: UPPR - HWY - SMW Date: 7-2-19

Sampling Location (well ID, etc.): MW10B

Sample Number: WG-1120-MW10B-20190702

Sampled by: JTB

Measuring Point (MP) of Well: (TOC) - Steel or (PVC)

Screened Interval (ft. BGL): —

Filter Pack Interval (ft. BGL): —

Starting Water Level (ft. BMP): 4.82

Casing Stickup (ft.):

WL (ft. BMP): 4.82 (ft. BGL):

TD (ft. BMP): (ft. BGL):

Ft. water: Casing Dia. (In ID):

1X Casing Vol (gal.): 3X (gal):

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer Sampling: (Peristaltic Pump) / SS Pump / Bailer

Disposal of Discharged Water: 55-gallon drum

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: SOLINST Other: —

Multi Meter: HORIBA

Field Calibration: AUTO CAL

Filter / Filter Size: —

SAMPLING MEASUREMENTS

Begin Purge:

Time (0946)	DTW (ft BTOC)	Cum. Vol. (gal. or (L))	Purge Rate (gal. or (L)/m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
0957	5.08	—	.2	22.7	0.61	1030	6.89	-81	11	neutral
1003	5.09		↓	22.2	0.42	1010	6.83	-77	8.1	↓
1008	5.08		↓	22.1	0.43	1010	6.84	-79	9.2	↓

WL (ft. BMP) at End of Purge: Sample Intake Depth (ft. BMP):

SAMPLE INVENTORY

Bottles Collected					Filtration	Preservation	Remarks
Time		Volume	Composition (G, P)	No.	(Y / N)	(type)	(quality control sample, other)
1020		1L	G	2	N	—	SVOCS

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	4.21 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-9-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	4.21 ft. BGL
MW ID	MW50A	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW50A-20190709	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1009	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1019	.2	/	4.42	21.9	7.21	1140	0.82	-62	5.1
1024	↓	/	4.43	21.8	7.17	1170	0.64	-54	6.7
1029	↓	/	4.42	21.8	7.16	1160	0.67	-56	6.2
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1040	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1040	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	7.91 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-19-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	7.91 ft. BGL
MW ID	MW81B	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW81B-20190709	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0916	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0926	.2	/	8.12	22.6	7.31	1040	0.91	-79	5.2
0931	↓	/	8.13	22.3	7.25	1060	0.72	-76	4.1
0936	↓	/	8.12	22.4	7.26	1060	0.71	-77	4.2
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0945	60mL	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0945	40mL / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	20.39 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	07-19-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	20.39 ft. BGL
MW ID	MW51C	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-162D-MW51C-20190709	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time (0822)	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
0832	.2	/	20.56	21.9	7.13	1430	0.67	-76	4.7
0837	↓	/	20.58	21.6	7.10	1420	0.51	-76	7.9
0842	↓	/	20.58	21.7	7.11	1410	0.52	-77	7.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
0855	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0855	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	6.29 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	— ft.
Date	7-9-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	6.29 ft. BGL
MW ID	MW51A	**Location**	Other	**Total MW Depth**	— ft. BGL
Sample ID	WG-1620-MW51A-20190709	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	— gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	— ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0652	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0702	.2	/	6.41	21.2	7.21	1760	1.31	-91	9.2
0707	↓	/	6.42	21.2	7.25	1710	1.11	-85	8.6
0712	↓	/	6.41	21.1	7.26	1720	1.07	-86	8.9
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0725	60ML	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
0725	40ML / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	9.23	ft. BMP
Site Location	UPRR - HWPW		☐ Decon between locations	**Casing Stickup**	-	ft.
Date	7-10-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	9.23	ft. BGL
MW ID	MW15B	**Location**	Other _____	**Total MW Depth**	-	ft. BGL
Sample ID	WG-1620-MW15B-20190710	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	-	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	-	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1729	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1739	.2	/	9.42	22.4	6.74	960	0.76	-46	8.2
1744	↓	/	9.44	22.2	6.80	910	0.71	-40	6.5
1749	↓	/	9.43	22.3	6.81	920	0.72	-41	6.8

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1800	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1800	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

WG-1620-FB01-20190710

Field Team Leader JOHN BRAXTON (name) _____ (signature)

1815 - SAMPLE TIME

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	22.38	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	–	ft.
Date	7-10-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	22.38	ft. BGL
MW ID	MW15C	**Location**	Other _____	**Total MW Depth**	–	ft. BGL
Sample ID	WG-162D- -2019	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	–	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	–	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1632									
1642	.2	/	22.61	22.6	6.91	820	1.06	-71	6.2
1647	↓	/	22.63	22.3	6.93	870	0.80	-61	4.7
1652	↓	/	22.64	22.4	6.93	860	0.81	-62	5.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1705	60ML	P	1	☐ filtered ☒ ~~unfiltered~~	HNO_3	METALS
1705	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	9.03 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-10-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	9.03 ft. BGL
MW ID	MW15A	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW15A-20190710	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1536									
1546	.2	/	9.42	22.7	6.91	1190	0.52	-71	10
1551	↓	/	9.44	22.3	6.81	1150	0.49	-62	8.2
1556	↓	/	9.45	22.4	6.82	1160	0.51	-67	9.3

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1610	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1610	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	9.04 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-10-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	9.04 ft. BGL
MW ID	MW20A	**Location**	Other	**Total MW Depth**	– ft. BGL
Sample ID	WG-162D-MW20A-20190710	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1439	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1449	.2	/	9.41	22.4	6.61	1690	0.67	-101	3.7
1454	↓	/	9.42	22.5	6.62	1660	0.54	-101	3.2
1459	↓	/	9.42	22.1	6.62	1670	0.53	-92	3.4

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1510	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1510	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	22.14 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-10-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	22.14 ft. BGL
MW ID	MW17C	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW17C-20190710	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1251	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1301	.2	/	22.39	21.3	6.71	1170	0.79	-29	4.1
1306	|	/	22.46	22.9	6.74	1160	0.74	-32	3.1
1311	↓	/	22.47	22.8	6.77	1160	0.71	-33	2.9
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
	60ML	P	1	☐ filtered ☒ unfiltered	HNO3	METALS
	40ML | 1L	G | G	5	☐ filtered ☒ unfiltered	HCL | NONE	VOCS | SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	22.14 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-10-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	22.14 ft. BGL
MW ID	MW17	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW17-20190710	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1341									
1351	.2	/	22.41	22.6	6.90	1320	0.91	-61	9.1
1356	↓	/	22.43	22.5	6.93	1340	0.71	-52	8.4
1401	↓	/	22.43	22.5	6.93	1340	0.72	-51	8.6

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1415	60ML	P	1	☐ filtered ☑ unfiltered	HNO_3	METALS
1415	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	24.58 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-10-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	24.58 ft. BGL
MW ID	MW19C	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW19C-20190710	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1154	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1204	.2	/	24.81	21.6	6.70	1260	0.79	-102	7.2
1209	|	/	24.82	21.8	6.71	1240	0.72	-101	6.2
1214	↓	/	24.81	21.9	6.71	1230	0.74	-102	6.7

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1225	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1225	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	15.28 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-10-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	15.28 ft. BGL
MW ID	MW72B	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW72B-2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1103	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1113	.2	/	15.51	25.6	6.79	1730	0.86	-103	12
1118	↓	/	15.56	25.2	6.80	1710	0.86	-103	11
1123	↓	/	15.57	25.1	6.81	1710	0.79	-101	11

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1135	60ML	P	1	☒ filtered ☒ unfiltered	HNO_3	METALS
1135	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	13.71 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-10-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	13.71 ft. BGL
MW ID	MW57B	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW57B-20190710	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1009	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1019	.2	/	14.03	21.6	6.69	1270	1.42	-31	14
1024	"	/	14.05	21.7	6.65	1270	1.02	-25	11
1029	↓	/	14.05	21.7	6.67	1260	1.01	-26	11

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1040	60ML	P	1	☒ filtered ☐ unfiltered	HNO_3	METALS
1040	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	13.11	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	–	ft.
Date	7-10-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	13.11	ft. BGL
MW ID	MW57A	**Location**	Other _____	**Total MW Depth**	–	ft. BGL
Sample ID	WG-162D-MW57A-20190710	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	–	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	–	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0924	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0934	.2	/	13.41	23.1	6.71	1470	0.79	-91	9.1
0939	↓	/	13.42	23.2	6.56	1430	0.59	-91	7.1
0944	↓	/	13.42	23.2	6.51	1430	0.57	-90	8.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0955	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0955	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	12.29 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-10-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	12.29 ft. BGL
MW ID	MW52A	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620- -2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0821									
0831	.2	/	12.61	22.9	6.64	1460	1.41	-77	3.7
0836	"	/	12.63	22.9	6.71	1420	1.11	-72	3.2
0841	↓	/	12.63	22.8	6.81	1440	1.09	-71	4.6

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0855	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0855	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	23.08 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-10-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	23.08 ft. BGL
MW ID	MW18C-	**Location**	Other	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW18C-20190710	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0734	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0744	.2	/	23.39	22.7	6.71	1340	0.79	-101	7.3
0749	↓	/	23.41	22.4	6.64	1320	0.65	-93	6.7
0754	↓	/	23.41	22.4	6.67	1310	0.67	-93	7.4
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0805	60ML	P	1	☐ filtered ☑ unfiltered	HNO_3	METALS
0805	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	17.51 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-10-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	17.51 ft. BGL
MW ID	MW18A	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW18A-20190710	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0642	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0652	.2	/	17.89	22.4	6.79	1570	0.90	-41	5.2
0657	|		17.92	22.1	6.73	1550	0.71	-35	6.1
0702	↓		17.92	22.1	6.74	1540	0.71	-36	6.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0720	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	5.09 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-11-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	5.09 ft. BGL
MW ID	MW64A	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-162D-MW64A-20190711	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1521	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1531	.2	/	5.26	21.6	6.91	1540	0.61	-62	5.6
1536	|	/	5.29	21.7	6.93	1570	0.51	-50	4.1
1541	↓	/	5.29	21.7	6.93	1560	0.52	-51	4.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1550	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1550	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	6.56	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	–	ft.
Date	7-11-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	6.56	ft. BGL
MW ID	MW05	**Location**	Other _____	**Total MW Depth**	–	ft. BGL
Sample ID	WG-1620-MW05-20190711	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	–	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	–	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1417									
1427	.2	/	6.79	22.6	6.91	580	0.69	-39	5.6
1432	↓	/	6.78	22.4	6.95	590	0.42	-33	2.7
1437	↓	/	6.78	22.3	6.96	590	0.41	-34	3.4

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1450	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1450	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	5.31 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-11-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	5.31 ft. BGL
MW ID	P11	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-P11-20190711	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1323	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1333	.2	/	5.49	22.7	6.97	1160	0.71	-134	7.9
1338	↓	/	5.51	22.5	6.96	1140	0.76	-131	6.7
1343	↓	/	5.51	22.6	6.96	1140	0.77	-132	6.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1355	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1355	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	7.42 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-11-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	7.42 ft. BGL
MW ID	MW42B	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW42B-2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1228									
1238	.2	/	7.61	23.2	6.79	1610	0.89	-21	8.2
1243	↓	/	7.62	23.1	6.76	1550	0.78	-16	9.1
1248	↓	/	7.60	23.1	6.77	1540	0.79	-17	9.2
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1300	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1300	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	7.28 ft. BMP
Site Location	UPRR - HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	7-11-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	7.28 ft. BGL
MW ID	MW40B	**Location**	Other _____	**Total MW Depth**	- ft. BGL
Sample ID	WG-1620-MW40B-20190711	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	- gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	- ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1126	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1136	.2	/	7.42	22.5	6.96	1650	0.81	-79	8.6
1141	↓	/	7.44	22.3	6.98	1630	0.70	-77	7.1
1146	↓	/	7.44	22.4	6.98	1640	0.71	-77	7.1

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1200	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1200	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	8.02	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	-	ft.
Date	7-11-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	8.02	ft. BGL
MW ID	MW12A	**Location**	Other _____	**Total MW Depth**	-	ft. BGL
Sample ID	WG-1620-MW12A-2019	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	-	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	-	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1021	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1031	.2	/	8.22	22.6	6.79	490	1.06	-31	8.1
1036	↓	/	8.21	22.6	6.77	460	0.82	-26	6.1
1041	↓	/	8.21	22.7	6.76	470	0.81	-27	6.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1055	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1055	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	23.73 ft. BMP
Site Location	UPRR - HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-11-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	23.73 ft. BGL
MW ID	MW12C	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW12C-20190711	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0929	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0939	.2	/	23.91	21.3	6.91	810	0.91	-39	7.4
0944	↓	/	23.92	21.1	6.86	820	0.70	-60	8.2
0949	↓	/	23.91	21.2	6.87	830	0.71	-61	8.7

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1000	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1000	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	7.47 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-11-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	7.47 ft. BGL
MW ID	MW39B	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620 MW39B-20190711	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0843	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0852	.2	/	7.68	22.4	6.91	1270	0.51	-91	5.2
0858	↓	/	7.69	22.4	6.85	1280	0.54	-86	4.1
0903	↓	/	7.68	22.3	6.86	1280	0.56	-87	4.7

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0915	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0915	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	10.63 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	— ft.
Date	7-11-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	10.63 ft. BGL
MW ID	MW13	**Location**	Other _____	**Total MW Depth**	— ft. BGL
Sample ID	WG-1620-MW13-20190711	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	— gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	— ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0742	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0752	.2	/	10.81	21.4	6.93	750	0.59	-52	13
0757	↓	/	10.84	21.9	6.94	730	0.54	-50	11
0802	↓	/	10.83	21.9	6.94	740	0.56	-51	11
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0815	60ML	P	1	☒ filtered ☐ unfiltered	HNO_3	METALS
0815	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	9.57 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	7-11-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	9.57 ft. BGL
MW ID	MW14	**Location**	Other _____	**Total MW Depth**	- ft. BGL
Sample ID	WG-1620-MW14-20190710	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	- gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	- ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0647									
0657	.2	/	9.73	22.4	6.71	1090	1.31	-76	16
0702	↓	/	9.74	22.4	6.64	1070	1.01	-70	11
0707	↓	/	9.73	22.5	6.65	1060	1.02	-71	12

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0720	60ML	P	1	☒ filtered ☐ unfiltered	HNO_3	METALS
0720	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	8.22	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	–	ft.
Date	7-12-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	8.22	ft. BGL
MW ID	TW4-1B	**Location**	Other _____	**Total MW Depth**	–	ft. BGL
Sample ID	WG-1620-TW4-1B-20190712	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	–	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	–	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1009	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1019	.2	/	8.43	22.6	6.67	1410	1.13	-106	8.6
1024	↓	/	8.44	22.3	6.56	1430	0.91	-109	7.7
1029	↓	/	8.44	22.3	6.57	1440	0.92	-109	7.9

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1040	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1040	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	6.02 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-12-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	6.02 ft. BGL
MW ID	MW04	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW04-20190712	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0856	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0906	.2	/	6.31	22.3	6.87	720	0.71	-77	6.2
0911	↓	/	6.32	22.4	6.84	730	0.52	-73	5.1
0916	↓	/	6.31	22.2	6.81	740	0.51	-74	5.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0925	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0925	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	5.57 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-12-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	5.57 ft. BGL
MW ID	MW03	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW03-20190712	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0802	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0812	.2	/	5.81	21.7	7.12	560	0.74	-34	7.7
0817	↓	/	5.86	21.8	7.06	570	0.62	-31	7.2
0822	↓	/	5.87	21.8	7.07	570	0.62	-31	6.6

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0835	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0835	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	6.21 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-12-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	6.21 ft. BGL
MW ID	MW09	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-162D-MW09-20190712	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0704	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0714	.2	/	6.46	22.9	6.77	660	1.39	-21	5.2
0719	↓	/	6.48	23.0	6.75	630	1.02	-19	4.2
0724	↓	/	6.49	23.1	6.74	640	1.03	-19	4.7

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0735	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0735	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	3.96 ft. BMP
Site Location	UPRR - HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-16-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	3.96 ft. BGL
MW ID	MW63B	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW63B-20190716	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1723									
1733	.2	/	4.29	22.4	6.81	1640	1.31	-46	9.3
1738	↓	/	4.31	22.6	6.79	1630	1.01	-43	7.4
1743	↓	/	4.31	22.6	6.79	1630	1.02	-44	7.7

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1755	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1755	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	6.58 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-16-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	6.52 ft. BGL
MW ID	MW28A	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW28A-20190716	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1629									
1639	.2	/	6.81	21.9	6.67	1340	0.91	-106	7.4
1644	↓	/	6.82	21.9	6.61	1320	0.76	-101	5.1
1649	↓	/	6.82	21.8	6.62	1310	0.77	-102	5.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1700	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1700	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	15.03 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	7-16-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	15.03 ft. BGL
MW ID	MW28C	**Location**	Other _____	**Total MW Depth**	- ft. BGL
Sample ID	WG-1620-MW28C-2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	- gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	- ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1543									
1553	.2	/	15.29	22.3	6.92	1460	0.79	-101	3.2
1558	↓	/	15.32	22.1	6.88	1420	0.60	-96	4.9
1603	↓	/	15.32	22.1	6.89	1430	0.62	-93	5.7

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1615	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1615	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

MS/MSD

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	8.32 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-16-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	8.32 ft. BGL
MW ID	MW36A	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW36A-20190716	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1448									
1458	.2	/	8.72	22.6	6.71	1410	0.79	-17	5.9
1503	↓	/	8.74	22.4	6.72	1340	0.61	-13	4.1
1508	↓	/	8.74	22.4	6.74	1360	0.62	-14	4.6

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1520	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1520	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	1.86 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-16-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	1.86 ft. BGL
MW ID	MW36B	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW36B-20190716	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1338									
1348	.2	/	2.37	21.7	6.71	1160	0.67	-46	27
1353	↓	/	2.39	21.8	6.61	1190	0.53	-42	20
1358	↓	/	2.40	21.8	6.63	1190	0.56	-41	21
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1420	60mL	P	1	☒ filtered ☐ unfiltered	HNO_3	METALS
1420	40mL / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	6.77 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-16-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	6.77 ft. BGL
MW ID	MW25A	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW25A-20190716	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1237	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1247	.2	/	7.03	22.3	6.94	1520	0.57	-36	17
1252	↓	/	7.06	22.1	6.92	1470	0.48	-29	12
1257	↓	/	7.07	22.1	6.91	1460	0.49	-31	12
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1310	60ML	P	1	☒ filtered ☐ unfiltered	HNO_3	METALS
1310	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	15.84 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-16-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	15.84 ft. BGL
MW ID	MW25C	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-162D-MW25C-20190716	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1139									
1144	.2	/	16.09	23.6	6.81	1160	0.71	-47	6.2
1154	↓	/	16.11	23.7	6.76	1190	0.56	-42	5.1
1159	↓	/	16.12	23.7	6.77	1190	0.58	-43	5.7
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1215	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1215	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	15.27 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-16-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	15.27 ft. BGL
MW ID	MW54C	**Location**	Other	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW54C-2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1043	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1053	.2	/	15.61	21.6	6.79	1610	1.21	-81	4.6
1058	↓	/	15.62	21.6	6.72	1540	0.86	-77	2.7
1103	↓	/	15.62	21.9	6.71	1510	0.89	-71	2.6
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1115	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1115	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	15.86 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-16-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	15.86 ft. BGL
MW ID	MW33C	**Location**	Other	**Total MW Depth**	– ft. BGL
Sample ID	WG-162D-MW33C-20190716	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
0946									
0956	.2	/	16.11	22.6	6.91	1560	0.89	-22	9.2
1001	↓	/	16.16	22.3	6.84	1530	0.76	-21	7.2
1006	↓	/	16.18	22.4	6.86	1540	0.71	-21	7.6
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1015	60mL	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1015	40mL / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	4.34 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-16-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	4.34 ft. BGL
MW ID	MW62B	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-162D-MW62B-20190716	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
0757									
0807	.2	/	4.71	21.6	6.71	1120	1.13	-26	7.4
0812	↓	/	4.73	21.3	6.73	1170	0.92	-30	6.0
0817	↓	/	4.74	21.4	6.74	1160	0.91	-31	6.1
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
0825	60mL	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0825	40mL / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	23.11	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	–	ft.
Date	7-16-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	23.11	ft. BGL
MW ID	MW21C	**Location**	Other _____	**Total MW Depth**	–	ft. BGL
Sample ID	WG-1620-MW21C-20190716	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	–	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	–	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0656									
0706	.2	/	23.34	21.6	7.07	810	0.92	-51	8.6
0711	↓	/	23.39	21.7	7.01	820	0.71	-44	7.0
0716	↓	/	23.39	21.7	7.02	820	0.72	-46	7.1

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0735	60ML	P	1	☐ filtered ☑ unfiltered	HNO_3	METALS
0735	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

WG-1620-FD01-20190716

Field Team Leader JOHN BRAXTON (name) _____ (signature)

0735-SAMPLE TIME

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	5.09	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	–	ft.
Date	7-17-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	5.09	ft. BGL
MW ID	MW33A	**Location**	Other _____	**Total MW Depth**	–	ft. BGL
Sample ID	WG-1620-MW33A-20190717	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	–	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	–	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1712	.2	/	5.33	21.3	7.12	730	1.26	-31	4.2
1722	↓	/	5.32	21.0	7.08	710	1.01	-25	3.3
1727	↓	/	5.32	21.1	7.09	710	1.02	-26	3.6
1732									
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1750	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1750	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

WG-1620-FD02-20190717

Field Team Leader JOHN BRAXTON (name) _____ (signature)

1750-SAMPLE TIME

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	0.62 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-17-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	0.62 ft. BGL
MW ID	MW71B	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW71B-20190717	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1606	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1616	.2	/	1.11	22.7	6.91	570	0.46	-76	11
1621	↓	/	1.10	22.5	6.94	520	0.33	-71	7.9
1626	↓	/	1.10	22.5	6.93	510	0.34	-71	8.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1640	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1640	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	15.83 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-17-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	15.83 ft. BGL
MW ID	MW87C	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW87C-20190717	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1509	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1519	.2	/	16.12	22.4	7.46	1670	0.92	-92	10
1524	↓	/	16.13	22.6	7.61	1630	0.74	-76	8.2
1529	↓	/	16.13	22.3	7.61	1640	0.71	-71	9.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1540	60mL	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1540	40mL / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	8.67	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	–	ft.
Date	7-17-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	8.67	ft. BGL
MW ID	MW44A	**Location**	Other _____	**Total MW Depth**	–	ft. BGL
Sample ID	WG-162D-MW44A-20190717	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	–	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	–	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1329	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1339	.2	/	8.96	22.7	6.62	910	0.99	-27	8.1
1344	↓	/	8.94	22.9	6.79	930	0.84	-21	6.2
1349	↓	/	8.94	22.4	6.56	920	0.86	-22	7.2
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1400	60ML	P	1	☐ filtered ☑ unfiltered	HNO_3	METALS
1400	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	9.06 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-17-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	9.06 ft. BGL
MW ID	MW59B	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW59B-20190717	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1236	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1246	.2	/	9.39	22.3	6.81	1210	0.71	-34	7.4
1251	↓	/	9.41	22.4	6.77	1250	0.22	-29	6.1
1256	↓	/	9.42	22.1	6.79	1240	0.16	-31	6.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1310	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1310	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	8.92 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	— ft.
Date	7-17-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	8.92 ft. BGL
MW ID	MW59A	**Location**	Other _____	**Total MW Depth**	— ft. BGL
Sample ID	WG-1620- -2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	— gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	— ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1147									
1157	.2	/	9.23	23.2	6.96	1460	-72	0.51	8.1
1202	↓	/	9.24	23.1	6.92	1470	-68	0.42	7.1
1207	↓	/	9.23	23.1	6.93	1470	-69	0.42	7.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1220	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1220	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	16.23 ft. BMP
Site Location	UPRR - HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	7-17-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	16.23 ft. BGL
MW ID	MW48C	**Location**	Other _____	**Total MW Depth**	- ft. BGL
Sample ID	WG-1620-MW48C-20190717	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	- gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	- ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1048	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1058	.2	/	16.47	21.4	6.79	1090	0.77	-31	16
1103	1	/	16.51	21.7	6.77	1130	0.72	-25	10
1108	↓	/	16.52	21.9	6.72	1160	0.74	-26	10

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1120	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1120	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	16.43 ft. BMP
Site Location	UPRR - HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	7-17-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	16.43 ft. BGL
MW ID	MW47C	**Location**	Other	**Total MW Depth**	- ft. BGL
Sample ID	WG-1620-MW47C-20190717	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	- gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	- ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0956	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1006	.2	/	16.78	22.5	6.74	960	1.31	-7	9.2
1011	"	/	16.80	22.4	6.72	910	1.16	-6	7.4
1016	↓	/	16.81	22.4	6.71	920	1.13	-6	8.1
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1025	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1025	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	9.71 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-17-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	9.71 ft. BGL
MW ID	MW69A	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW69A-20190717	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0901	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0911	.2	/	9.97	22.6	6.94	1730	1.13	-37	8.6
0916	"	/	10.01	22.5	6.88	1640	0.95	-44	7.7
0921	↓	/	10.02	22.4	6.89	1620	0.96	-47	7.1

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0935	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0935	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	5.52 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	7-17-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	5.52 ft. BGL
MW ID	MW60A	**Location**	Other _____	**Total MW Depth**	- ft. BGL
Sample ID	WG-1620-MW60A-20190717	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	- gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	- ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0802	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0812	.2	/	5.81	22.3	6.98	1260	0.92	-77	9.1
0817	|	/	5.83	22.4	6.97	1230	0.70	-76	8.4
0822	↓	/	5.84	22.4	6.96	1240	0.71	-76	8.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
0835	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0835	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	6.96 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	7-17-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	6.96 ft. BGL
MW ID	MW61A	**Location**	Other _____	**Total MW Depth**	- ft. BGL
Sample ID	WG-1620-MW61A-20190717	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	- gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	_____ ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0711	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0721	.2	/	7.16	21.7	6.71	1320	0.74	-106	8.1
0726	↓	/	7.17	21.6	6.73	1350	0.56	-101	7.7
0731	↓	/	7.17	21.7	6.74	1360	0.57	-102	7.6

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0750	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0750	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

MS/MSD

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	6.31 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-17-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	6.31 ft. BGL
MW ID	MW26A	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW26A-20190717	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1816									
1826	.2	/	6.49	21.4	6.71	1740	1.39	-107	17
1831	↓	/	6.51	21.8	6.57	1710	1.03	-106	13
1836	↓	/	6.51	21.7	6.56	1720	1.04	-106	14

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1845	60ML	P	1	☒ filtered ☐ unfiltered	HNO_3	METALS
1845	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	15.61	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	–	ft.
Date	7-18-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	15.61	ft. BGL
MW ID	MW27C	**Location**	Other _____	**Total MW Depth**	–	ft. BGL
Sample ID	WG-1620-MW27C-20190718	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	–	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	–	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1731									
1741	.2	/	15.92	22.2	6.51	1230	0.74	-44	6.8
1746	↓	/	15.94	22.3	6.41	1270	0.70	-42	5.1
1751	↓	/	15.95	22.3	6.42	1260	0.71	-43	5.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1805	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1805	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	7.21 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-18-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	7.21 ft. BGL
MW ID	MW27A	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW27A-20190718	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1641	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1651	.2	/	7.47	21.7	7.06	1420	0.74	-21	4.1
1656	↓	/	7.49	21.6	7.09	1430	0.67	-22	9.6
1701	↓	/	7.49	21.6	7.08	1430	0.66	-22	9.7
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1715	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1715	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	3.26 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	7-18-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	3.26 ft. BGL
MW ID	MW38B	**Location**	Other _____	**Total MW Depth**	- ft. BGL
Sample ID	WG-1620-MW38B-2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	- gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	- ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1539	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1549	.2	/	3.47	22.7	6.74	1340	0.79	-101	9.2
1554	"	/	3.51	22.5	6.75	1320	0.51	-92	8.7
1559	"	/	3.52	22.6	6.76	1330	0.52	-93	8.6

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1610	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1610	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	7.74	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	-	ft.
Date	7-18-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	7.74	ft. BGL
MW ID	MW89B	**Location**	Other _____	**Total MW Depth**	-	ft. BGL
Sample ID	WG-1620-MW89B-20190718	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	-	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	-	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1444									
1454	.2	/	7.93	22.7	6.81	1420	1.09	-84	8.6
1459	↓	/	7.96	22.6	6.77	1430	1.01	-80	7.1
1504	↓	/	7.97	22.6	6.76	1430	1.02	-81	7.3

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1515	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1515	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	4.13 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	7-18-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	4.13 ft. BGL
MW ID	MW90B	**Location**	Other _____	**Total MW Depth**	- ft. BGL
Sample ID	WG-1620-MW90B-20190719	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	- gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	- ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1357	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1407	.2	/	4.31	23.2	6.93	1470	1.41	-41	7.4
1412	↓	/	4.32	23.1	6.92	1420	0.99	-42	6.5
1417	↓	/	4.31	23.2	6.94	1410	0.96	-42	6.7
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1425	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1425	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	5.62 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	7-18-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	5.62 ft. BGL
MW ID	MW35B	**Location**	Other _____	**Total MW Depth**	- ft. BGL
Sample ID	WG-1620-MW35B-20190718	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	- gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	- ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1256	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1306	.2	/	5.86	21.4	6.74	1940	0.81	-39	7.9
1311	↓	/	5.89	21.3	6.72	1920	0.71	-41	6.1
1316	↓	/	5.88	21.1	6.71	1910	0.72	-42	6.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1330	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1330	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	7.92 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-18-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	7.92 ft. BGL
MW ID	MW35A	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW35A-20190718	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1208	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1218	.2	/	8.16	21.4	6.64	1710	0.69	-41	6.7
1223	↓	/	8.17	21.6	6.60	1640	0.52	-33	5.4
1228	↓	/	8.16	21.7	6.61	1630	0.59	-34	5.9

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1240	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1240	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	17.17 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-18-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	17.17 ft. BGL
MW ID	MW83C	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-162D-MW83C-20190718	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1059	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1109	.2	/	17.39	23.4	7.16	1260	0.91	-28	4.9
1114	1	/	17.41	23.2	7.12	1230	0.73	-25	7.1
1119	↓	/	17.42	23.1	7.13	1240	0.74	-26	7.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1130	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1130	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	6.11 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	7-18-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	6.11 ft. BGL
MW ID	MW83B	**Location**	Other _____	**Total MW Depth**	- ft. BGL
Sample ID	WG-1620-MW83B-20190718	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	- gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	- ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1008	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1018	.2	/	6.34	22.1	6.74	1740	0.71	-61	14
1023	"	/	6.36	22.1	6.72	1770	0.61	-61	12
1028	↓	/	6.36	22.2	6.71	1760	0.62	-62	13

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1040	60ML	P	1	☒ filtered ☐ unfiltered	HNO_3	METALS
1040	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	16.39 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-18-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	16.39 ft. BGL
MW ID	MW68C	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW68C-20190718	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0913	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0923	.2	/	16.67	21.7	7.19	1560	1.16	-23	4.1
0928	"	/	16.66	21.6	7.19	1520	0.92	-20	3.2
0933	"	/	16.67	21.6	7.21	1530	0.91	-21	3.4

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0945	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0945	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	5.78 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-18-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	5.78 ft. BGL
MW ID	MW68B	**Location**	Other	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW68B-20190718	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0816									
0826	.2	/	5.96	22.6	6.71	940	0.86	-23	4.7
0831	|	/	5.98	22.4	6.63	940	0.70	-22	4.9
0836	↓	/	5.98	22.4	6.64	930	0.71	-22	6.1
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0855	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0855	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

WG-1620-FD03-20190718

Field Team Leader JOHN BRAXTON (name) _____ (signature)

0855-SAMPLE TIME

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	5.01	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	-	ft.
Date	7-18-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	5.01	ft. BGL
MW ID	MW68A	**Location**	Other _____	**Total MW Depth**	-	ft. BGL
Sample ID	WG-1620-MW68A-20190718	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	-	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	-	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
0721									
0731	.2	/	5.32	21.4	6.94	1040	0.79	-22	6.4
0736	↓	/	5.36	21.6	6.91	1010	0.61	-19	5.16
0741	↓	/	5.37	21.7	6.92	1020	0.62	-21	5.7

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
0755	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0755	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	9.68 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-30-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	9.68 ft. BGL
MW ID	MW19A	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW19A-20190730	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1838									
1848	.2	/	9.89	23.4	6.94	860	1.06	-32	16
1853	"	/	9.91	23.1	6.91	850	0.84	-32	13
1858	↓	/	9.91	23.1	6.91	810	0.87	-31	14

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1910	60ML	P	1	☒ filtered ☐ unfiltered	HNO_3	METALS
1910	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	8.59 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	— ft.
Date	7-30-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	8.59 ft. BGL
MW ID	MW74B	**Location**	Other ____	**Total MW Depth**	— ft. BGL
Sample ID	WG-1620-MW74B-20190730	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	— gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	— ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1747									
1757	.2	/	8.91	24.2	6.91	1370	0.67	-72	16
1802	↓	/	8.89	24.1	6.93	1330	0.52	-62	11
1807	↓	/	8.89	24.1	6.97	1340	0.53	-61	12

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1820	60ML	P	1	☒ filtered ☐ unfiltered	HNO_3	METALS
1820	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	20.18	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	–	ft.
Date	7-30-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	20.18	ft. BGL
MW ID	MW16C	**Location**	Other _____	**Total MW Depth**	–	ft. BGL
Sample ID	WG-162D-MW16C-20190730	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	–	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	–	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1658	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1708	.2	/	20.39	22.7	7.16	1920	0.59	-81	4.2
1713	↓	/	20.41	22.6	7.21	1920	0.42	-76	5.1
1718	↓	/	20.40	22.6	7.22	1930	0.41	-77	5.6

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1730	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1730	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	19.73 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-30-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	19.73 ft. BGL
MW ID	MW86C	**Location**	Other	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW86C-20190730	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1601	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1611	.2	/	19.96	22.7	7.29	1060	0.81	-47	6.9
1616	↓	/	19.98	22.6	7.22	1020	0.85	-42	7.1
1621	↓	/	19.98	22.6	7.21	1030	0.86	-42	5.6

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1640	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1640	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

WG-1620-FD04-20190730

Field Team Leader JOHN BRAXTON (name) (signature)

1640 - SAMPLE TIME

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	21.78 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-30-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	21.78 ft. BGL
MW ID	MW85C	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW85C-20190730	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1507									
1517	.2	/	21.93	22.5	7.49	1340	1.09	-29	5.1
1522	↓	/	21.94	22.4	7.62	1360	1.04	-25	5.7
1527	↓	/	21.94	22.4	7.61	1370	1.06	-26	5.6

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
~~1540~~ 1535	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
~~1540~~ 1535	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	6.11 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-30-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	6.11 ft. BGL
MW ID	MW77A	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW77A-20190730	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1122	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1132	.2	/	6.33	22.3	6.91	1230	0.74	-51	6.7
1137	↓	/	6.32	22.2	6.94	1270	0.61	-44	5.2
1142	↓	/	6.32	22.1	6.96	1260	0.62	-46	5.1

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1155	60ML	P	1	☐ filtered ☑ unfiltered	HNO_3	METALS
1155	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	11.02	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	–	ft.
Date	7-30-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	11.02	ft. BGL
MW ID	MW80B	**Location**	Other _____	**Total MW Depth**	–	ft. BGL
Sample ID	WG-1620-MW80B-20190730	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	–	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	–	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1037	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1047	.2	/	11.34	22.6	7.11	1060	0.42	-47	4.1
1052	↓	/	11.37	22.8	7.08	1020	0.41	-41	3.7
1057	↓	/	11.36	22.9	7.06	1030	0.41	-42	3.4

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1110	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1110	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	4.03 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-30-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	4.03 ft. BGL
MW ID	MW82B	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW82B-20190730	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0940	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0950	.2	/	4.27	22.5	6.94	1940	0.91	-21	19
0955	↓	/	4.29	22.5	6.92	1960	0.75	-15	15
1000	↓	/	4.30	22.4	6.91	1970	0.77	-16	16
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1010	60mL	P	1	☒ filtered ☐ unfiltered	HNO_3	METALS
1010	40mL / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

MS/MSD

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	7.09	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	—	ft.
Date	7-30-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	7.09	ft. BGL
MW ID	MW84B	**Location**	Other _____	**Total MW Depth**	—	ft. BGL
Sample ID	WG-1620-MW84B-20190730	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	—	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	—	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0843	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0853	.2	/	7.31	22.7	7.11	560	0.56	-107	8.6
0858	↓	/	7.32	22.6	7.07	520	0.40	-103	5.1
0903	↓	/	7.31	22.6	7.06	530	0.41	-104	6.2
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0915	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0915	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	5.92 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	7-30-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	5.92 ft. BGL
MW ID	MW33BR	**Location**	Other _____	**Total MW Depth**	- ft. BGL
Sample ID	WG-1620-MW33BR-20190730	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	- gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	- ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0746									
0756	.2	/	6.21	22.7	6.91	1570	0.61	-27	8.2
0801	↓	/	6.22	22.8	6.95	1590	0.63	-21	7.4
0806	↓	/	6.21	22.8	6.86	1590	0.62	-22	7.7

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0820	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0820	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	6.41 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-30-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	6.41 ft. BGL
MW ID	MW32AR	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW32AR-20190730	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
0651									
0701	.2	/	6.74	21.5	6.77	1910	0.63	-71	4.2
0706	↓	/	6.75	21.6	6.75	1830	0.55	-66	5.1
0711	↓	/	6.74	21.6	6.74	1820	0.56	-67	5.2
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
0725	60mL	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0725	40mL / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	11.21 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	7-31-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	11.21 ft. BGL
MW ID	MW49A	**Location**	Other _____	**Total MW Depth**	- ft. BGL
Sample ID	WG-1620-MW49A-20190731	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	- gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	- ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1716									
1726	.2	/	11.47	22.7	6.91	1260	1.13	-36	21
1731	↓	/	11.51	22.5	6.83	1220	0.90	-41	16
1736	↓	/	11.51	22.4	6.84	1230	0.91	-41	17

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1745	60ML	P	1	☒ filtered ☐ unfiltered	HNO_3	METALS
1745	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	9.09 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-31-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	9.09 ft. BGL
MW ID	MW67B	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW67B-20190731	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1607									
1617	.2	/	9.28	22.5	7.21	430	0.91	-79	8.2
1622	↓	/	9.27	22.4	7.18	410	0.73	-76	6.1
1629	↓	/	9.28	22.4	7.17	390	0.74	-77	6.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1645	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1645	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

MS/MSD

Field Team Leader JOHN BRAXTON
name

signature

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	24.13 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-31-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	24.13 ft. BGL
MW ID	MW88C	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW88C-20190731	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1516									
1526	.2	/	24.39	22.6	7.39	1270	0.59	-91	5.7
1531	"	/	24.41	22.6	7.41	1270	0.46	-86	4.7
1536	"	/	24.42	22.9	7.34	1260	0.47	-86	5.1

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1545	60ML	P	1	☐ filtered ☒ unfiltered	HNO3	METALS
1545	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	4.41	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	-	ft.
Date	7-31-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	4.41	ft. BGL
MW ID	MW22BR	**Location**	Other _____	**Total MW Depth**	-	ft. BGL
Sample ID	WG-1620-MW22BR-20190731	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	-	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	-	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1321	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1331	.2	/	4.71	21.6	6.91	1260	0.91	-61	10
1336	↓	/	4.72	21.6	6.93	1230	0.74	-55	8.6
1341	↓	/	4.71	21.7	6.82	1240	0.71	-56	9.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1350	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1350	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	3.96 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	7-31-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	3.96 ft. BGL
MW ID	MW22AR	**Location**	Other _____	**Total MW Depth**	- ft. BGL
Sample ID	WG-1620-MW22AR2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	- gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	- ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1232									
1242	.2	/	4.23	22.4	6.59	1260	0.57	-43	16
1247	"	/	4.24	22.2	6.53	1270	0.44	-41	12
1252	↓	/	4.22	22.1	6.52	1280	0.47	-41	13
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1305	60mL	P	1	☒ filtered ☐ unfiltered	HNO_3	METALS
1305	40mL / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	81.31	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	–	ft.
Date	7-31-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	81.31	ft. BGL
MW ID	MW59D	**Location**	Other _____	**Total MW Depth**	–	ft. BGL
Sample ID	WG-1620-MW59D-20190731	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	–	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	–	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1112									
1122	.2	/	81.37	21.7	6.96	1120	0.93	-77	5.9
1127	↓	/	81.56	21.6	6.94	1140	0.70	-67	4.3
1132	↓	/	81.56	21.7	6.94	1150	0.71	-69	5.7
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1150	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
1150	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

WG-1620-FD05-20190731

Field Team Leader JOHN BRAYTON (name) _____ (signature)

1150 SAMPLE TIME

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	82.99 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	7-31-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	82.99 ft. BGL
MW ID	MW66D	**Location**	Other _____	**Total MW Depth**	- ft. BGL
Sample ID	WG-162D-MW66D-20190731	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	- gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	- ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1013									
1023	.2	/	83.18	22.6	7.11	11130	0.94	-86	6.7
1028	↓	/	83.19	22.7	7.11	1110	0.84	-80	6.1
1033	↓	/	83.18	22.7	7.09	1110	0.86	-81	5.7

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
	60ML	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	82.71 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-31-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	82.71 ft. BGL
MW ID	MW65D	**Location**	Other	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW65D-2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
0909									
0919	.2	/	82.96	21.6	6.92	1290	0.89	-86	9.2
0924	↓	/	82.97	21.7	6.94	1250	0.74	-91	8.6
0929	↓	/	82.96	21.6	6.98	1260	0.77	-90	8.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
0945	60mL	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
	40mL / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

MS/MSD

Field Team Leader JOHN BRAXTON (name) (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	4.13 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	7-31-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	4.13 ft. BGL
MW ID	MW38A	**Location**	Other _____	**Total MW Depth**	- ft. BGL
Sample ID	WG-162D-MW38A-20190731	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	- gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	- ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0802	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0812	.2	/	4.32	22.6	6.47	1060	0.92	-74	27
0817	↓	/	4.33	22.5	6.48	1020	0.72	-66	24
0822	↓	/	4.33	22.4	6.42	1030	0.73	-62	22

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0835	60mL	P	1	☒ filtered ☐ unfiltered	HNO_3	METALS
0835	40mL / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	82.91 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	7-31-19	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	82.91 ft. BGL
MW ID	MW 36D-	**Location**	Other _____	**Total MW Depth**	– ft. BGL
Sample ID	WG-1620-MW36D-20190730	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	– gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0709	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0719	.2	/	83.16	21.7	6.79	1340	1.06	-51	6.2
0724	↓	/	83.19	21.5	6.71	1310	0.92	-47	6.7
0729	↓	/	83.19	21.6	6.72	1310	0.93	-49	6.7

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0740	60mL	P	1	☐ filtered ☒ unfiltered	HNO_3	METALS
0740	40mL / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Duplicate Field Blank

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-14-2020

Sampling Location (well ID, etc.): MW-01A

Sample Number: WG1620MW01A20200114

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC – Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 2.71

Casing Stickup (ft.):

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 19.90 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 4"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): (Low Flow) - Dedicated Tubing/Equipment

Cleaning Equipment: (DI/Alconox Rinse)

Purge: (Peristaltic Pump) / SS Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba C1103

Field Calibration: ph-4.01 NTU-0 Cond 4.46

Filter / Filter Size:

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
13:55	2.71	.2	.2	24.17	4.54	.844	6.17	-78	26.7	Clear/Mo
14:05	2.80	.3	.2	24.01	2.16	.969	6.06	-67	28.4	
14:10	2.89	.4	.2	23.71	0.50	1.02	6.09	-52	11.2	
14:15	2.91	.5	.2	24.50	2.29	1.03	6.14	-26	9.9	
14:20	3.02	.6	.2	24.58	1.01	1.04	6.14	-25	9.6	
14:25	3.09	.7	.2	24.74	1.53	1.05	6.13	-21	9.6	
14:30	3.17	.8	.2	24.90	1.94	1.06	6.15	-16	8.6	
14:35	3.20	.9	.2	25.14	1.91	1.06	6.15	-16	8.4	

WL (ft. BMP) at End of Purge: 3.20 Sample Intake Depth (ft. BMP): 16.

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
14:35				2		Iced	

Comments:

Duplicate, Field blank
WG1620FD01 20200114
WG1620FB02 20200114

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119237 Project Name: UPRR HWPW Date: 1-14-2020

Sampling Location (well ID, etc.): MW-02

Sample Number: WG1620MW022020011 4

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 2.64

Casing Stickup (ft.): 2'

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 20.20 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): (Low Flow) - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P-2111 Heron Other: Geo Purge P 1102

Multi Meter: Horiba C1103

Field Calibration: PK-41-01 NTU 0 Cond 4.49

Filter / Filter Size:

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
12:55	2.64	.2	.2	23.20	3.94	.605	6.57	-81	33.5	Clear/no
13:05	3.39	.3	.2	23.29	1.82	.605	6.44	-83	30.2	
13:10	3.47	.4	.2	22.91	0.93	.596	6.10	-85	28.7	
13:15	3.51	.5	.2	22.70	0.91	.592	6.16	-84	27.8	
13:20	3.55	.6	.2	22.32	0.59	.578	5.98	-79	40.4	
13:25	3.59	.7	.2	22.28	0.61	.578	5.99	-79	42.6	
13:30	3.62	.8	.2	22.24	0.60	.578	5.96	-77	40.0	

WL (ft. BMP) at End of Purge: 3.62 Sample Intake Depth (ft. BMP): 17.0

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G/P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
13:30				2		Neat	

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119232	Project Name: UP RR HWPW	Date: 1-21-2020	
Sample Number: WG-1620MW032020012I		Starting Water Level (ft. BMP): 3.05	
Sampling Location (well ID, etc.): MW03		Casing Stickup (ft.): 2'	
Sampled by: T, M MCS paddeu		Starting Water Level (ft. BGL):	
Measuring Point (MP) of Well: TOC		Total Depth (ft. BMP): 18.90 soft bottom	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 2"	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.):	

QUALITY ASSURANCE

METHODS (describe): Low flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	PZ111 Heron	Thermometer:	" "
pH Meter:	Horiba C1103	Field Calibration:	PH 4.0
Conductivity Meter:	" "	Field Calibration:	
Filter / Filter Size:	10 Microns	Other:	

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
14:20	3.05	.2	.2	18.08	6.82	.779	3.20	34	76.8	clear
14:30	3.41	.3	.2	18.10	6.72	.779	1.08	41	70.4	
14:35	3.34	.4	.2	18.09	6.63	.783	.25	53	44.9	
14:40	3.28	.5	.2	17.91	6.60	.776	.15	57	53.3	
14:45	3.30	.6	.2	17.93	6.60	.773	0	60	33.0	
14:50	3.28	.7	.2	17.71	6.56	.774	0	63	39.9	
14:55	3.29	.8	.2	17.67	6.55	.774	0	64	41.2	
15:00	3.31	.9	.2	17.58	6.55	.776	0	65	47.8	

Water Level (ft. BMP) at End of Purge: 3.30

Sample Intake Depth (ft. BMP): 15.0

SAMPLE INVENTORY

Bottles Collected				Filtration		
Time	Volume	Composition (G, P)	No.	(Y) N)	Preservation	Remarks (quality control sample, other)
1500			6	(Y)		

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119232	Project Name: UPRR HWPW	Date: 1-21-2020	
Sample Number: WG1620 MW03 20200121	Starting Water Level (ft. BMP): 4.61		
Sampling Location (well ID, etc.): MW 04	Casing Stickup (ft.): 1'		
Sampled by: T,M McSpadden	Starting Water Level (ft. BGL):		
Measuring Point (MP) of Well:	Total Depth (ft. BMP): 21.38 Soft bottom		
Screened Interval (ft. BGL):	Casing Diameter (In ID):		
Filter Pack Interval (ft. BGL):	Casing Volume (gal.):		

QUALITY ASSURANCE

METHODS (describe): Low flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	P211 Horiba	Thermometer:	" "
pH Meter:	Horiba C1103	Field Calibration:	PH 4.0
Conductivity Meter:	" "	Field Calibration:	
Filter / Filter Size:		Other:	

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
15:20	4.61	.2	.2	17.98	6.74	.626	3.19	67	51.8	
15:30	4.96	.3	.2	18.09	6.66	-628	2.22	71	52.5	
15:35	5.00	.4	.2	18.17	6.62	-628	1.01	76	55.0	
15:40	5.08	.5	.2	18.16	6.59	-626	1.66	80	45.3	
15:45	5.10	.6	.2	18.13	6.52	-626	1.40	84	42.1	
15:50	5.10	.7	.2	18.60	6.50	-621	1.23	96	56.5	
15:55	5.12	.8	.2	18.72	6.45	-621	1.23	97	37.0	
16:00	5.12	.9	.2							

Water Level (ft. BMP) at End of Purge: 5.12

Sample Intake Depth (ft. BMP): 18.0

SAMPLE INVENTORY

Bottles Collected				Filtration		
Time	Volume	Composition (G, P)	No.	(Y / N)	Preservation	Remarks (quality control sample, other)
16:00			6			

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	4.69 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	— ft.
Date	1-13-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	4.69 ft. BGL
MW ID	MW05	**Location**	Other _____	**Total MW Depth**	27.30 ft. BGL
Sample ID	WG-1620-MW05-2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1 gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	_____ ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1422	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1432	.2	/	4.92	21.7	6.94	690	0.86	-52	6.7
1437	↓	/	4.91	21.6	6.93	660	0.59	-44	4.1
1442	↓	/	4.92	21.6	6.92	670	0.57	-46	4.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1455	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1455	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-13-2020

Sampling Location (well ID, etc.): MW 07

Sample Number: ARWG-1620-MW07-20200113

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 4.29

Casing Stickup (ft.): 3'

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 24.90 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 4"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): (Low Flow - Dedicated Tubing/Equipment)

Cleaning Equipment: (DI/Alconox Rinse)

Purge: (Peristaltic Pump) / SS Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba C1103

Field Calibration: pH-3.99 NTU-0 cond 449

Filter / Filter Size:

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
12:30	4.29	.2	.2	17.71	9.11	252	6.56	149	250	Clear/No
12:40	4.41	.3	.2	17.79	5.91	.821	7.30	110	51.2	
12:45	4.43	.4	.2	19.02	4.97	.814	7.16	116	59.5	
12:50	4.44	.5	.2	19.30	4.86	.813	7.15	117	45.4	
12:55	4.46	.6	.2	19.34	4.84	.813	7.13	118	33.1	
13:00	4.46	.7	.2	19.31	4.85	.813	7.11	119	29.4	
13:05	4.51	.8	.2	19.65	4.51	.811	7.06	121	15.9	
13:10	4:52	.9	.2	19.61	4.60	.812	7.05	120	15.4	

WL (ft. BMP) at End of Purge: 4.52 Sample Intake Depth (ft. BMP): 21.

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G, P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
13:15				2		Neat	

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE 1 of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-13-2020

Sampling Location (well ID, etc.): MW 08 Starting Water Level (ft. BMP): 4.45

Sample Number: WG1620 MW 08 20200113 Casing Stickup (ft.): 2.5'

Sampled by: T.M McSpadden WL (ft. BMP): _____ (ft. BGL): _____

Measuring Point (MP) of Well: TOC - Steel or PVC TD (ft. BMP): 25.10 (ft. BGL): _____

Screened Interval (ft. BGL): Ft. water: _____ Casing Dia. (In ID): 4"

Filter Pack Interval (ft. BGL): 1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba C1103

Field Calibration: PH-399 NTU-0 cond 449

Filter / Filter Size:

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
11:00	4.45	.2	.2	20.32	4.74	.612	7.22	100	33.7	Clear/No
11:10	4.61	.3	.2	20.16	4.63	.610	7.20	102	26.4	
11:05	4.63	.4	.2	19.98	4.54	.609	7.16	104	14.9	
11:10	4.65	.5	.2	19.83	4.40	.607	7.18	105	12.1	
11:15	4.65	.6	.2	19.90	3.90	.603	7.14	109	6.1	
11:20	4.64	.7	.2	19.69	3.86	.604	7.13	110	4.9	
11:25	4.65	.8	.2	19.66	3.78	.604	7.12	111	2.1	
11:30	4.65	.9	.2	19.59	3.62	.605	7.10	112	0.1	

WL (ft. BMP) at End of Purge: 4.65 Sample Intake Depth (ft. BMP): 22.

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G/P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
11:30				2		Neat	

Comments:

Field blank collected @ MW-08

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	4.11 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	1-14-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	4.11 ft. BGL
MW ID	MW09	**Location**	Other	**Total MW Depth**	25.40 ft. BGL
Sample ID	WG-1620-MW09-2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1 gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0826	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0836	.2	/	4.31	23.6	6.71	660	1.29	-26	4.7
0841	↓	/	4.33	23.2	6.64	620	1.06	-22	3.1
0846	↓	/	4.33	23.4	6.67	630	1.16	-23	3.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0900	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
0900	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCs / SVOCs

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 191923.2 Project Name: UPRR Houston Date: 1-14-2020

Sampling Location (well ID, etc.): MW 10A

Sample Number: WG 1620 MW 10A 20200114

Sampled by: Tim MCS padden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 4.67

Casing Stickup (ft.): 3'

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 25.55 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 4"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): ~~Low Flow~~ - ~~Dedicated~~ Tubing/Equipment

Cleaning Equipment: ~~DI~~/Alconox Rinse

Purge: ~~Peristaltic Pump~~ / SS Pump / Bailer / Bladder Sampling: ~~Peristaltic Pump~~ / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P 2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba U-1103

Field Calibration: pH-4.01 NTU-0 Cond 4.49

Filter / Filter Size:

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
11:45	4.67	.2	.2	22.74	2.35	.947	6.24	-21	0.0	
11:55	4.96	.3	.2	22.76	2.18	.944	6.26	71	0.0	
12:00	5.19	.4	.2	22.75	2.21	.942	6.27	18	0.0	
12:05	5.24	.5	.2	22.67	2.04	.940	6.28	40	0.0	
12:10	5.29	.6	.2	22.83	1.98	.945	6.29	52	0.0	
12:15	5.31	.7	.2	22.89	1.95	.945	6.29	54	0.0	
12:20	5.33	.8	.2	22.92	1.96	.944	6.30	55	0.0	
12:25	5.34	.9	.2	22.94	1.92	.944	6.30	57	0.0	

WL (ft. BMP) at End of Purge: 5.34 Sample Intake Depth (ft. BMP): 22.

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G / P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
12:25				2		Heat	

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-14-2020

Sampling Location (well ID, etc.): MW-10B

Sample Number: WG1620MW10B20200114

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 4.90

Casing Stickup (ft.): 3.

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 46.52 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 4"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): (Low Flow) - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge water drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P 2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba C1103

Field Calibration: Ph-4.01 ORP-0 Cond 449

Filter / Filter Size:

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
11:00	4.90	.2	.2	22.07	1.94	.990	6.28	-90	17.5	clear/no
11:10	5.15	.3	.2	22.26	0.19	1.06	6.05	-92	0.0	
11:15	5.17	.4	.2	23.30	0.21	1.08	5.90	-94	0.0	
11:20	5.19	.5	.2	23.26	0.05	1.07	5.90	-94	0.0	
11:25	5.19	.6	.2	23.05	0.00	1.06	5.91	-95	0.0	
11:30	5.21	.7	.2	22.78	0.00	1.06	5.92	-97	0.0	
11:35	5.23	.8	.2	22.74	0.00	1.07	5.90	-96	0.0	

WL (ft. BMP) at End of Purge: 5.23 Sample Intake Depth (ft. BMP): 43.

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G, P)	No.	Filtration (Y / (N))	Preservation (type)	Remarks (quality control sample, other)
11:35				2		Neat	

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Ce

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HwPw Date: 1-14-2020

Sampling Location (well ID, etc.): MW 11A

Sample Number: WG 1620 MW 11A 20200114

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 5.11

Casing Stickup (ft.): 3'

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 24.05 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 4"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): (Low Flow) - Dedicated Tubing/Equipment

Cleaning Equipment: DI/(Alconox Rinse)

Purge: (Peristaltic Pump) / SS Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum · 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P-2111 Heron Other: Geo pump P1102

Multi Meter: Horiba C1103

Field Calibration: pH-4.01 NTU-0 COND 4.49

Filter / Filter Size:

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
9:55	5.11	.2	.2	21.27	0.40	1.03	6.09	-81	0.0	
10:05	5.22	.3	.2	21.22	0.91	0.921	6.14	-19	0.0	
10:10	5.51	.4	.2	21.30	2.56	.896	6.19	56	11.7	
10:15	5.55	.5	.2	21.27	2.62	.893	6.20	63	10.9	
10:20	5.58	.6	.2	21.37	2.47	.884	6.22	89	7.3	
10:25	5.58	.7	.2	21.41	2.38	.881	6.22	93	3.9	
10:30	5.59	.8	.2	21.44	2.42	.881	6.22	93	4.5	
10:35	5.59	.9	.2	21.49	2.29	.880	6.22	95	7.4	

WL (ft. BMP) at End of Purge: 5.59 Sample Intake Depth (ft. BMP): 21

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G/P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
10:35				2		Neat	

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-14-2020

Sampling Location (well ID, etc.): MW-113 Starting Water Level (ft. BMP): 5.30

Sample Number: WG1620MW113 20200114 Casing Stickup (ft.): 3'

Sampled by: Tim McSpedden WL (ft. BMP): ____ (ft. BGL): ____

Measuring Point (MP) of Well: TOC - Steel or PVC TD (ft. BMP): 46.80 (ft. BGL): ____

Screened Interval (ft. BGL): Ft. water: ____ Casing Dia. (In ID): 4"

Filter Pack Interval (ft. BGL): 1X Casing Vol (gal.): ____ 3X (gal): ____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo Pump P1112

Multi Meter: Horiba C1103

Field Calibration: PH-4.01 NTU-0 COND-449

Filter / Filter Size: -

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
8:45	5.30	.2	.2	20.92	2.08	1.04	5.20	-71	0.0	Clear/No
8:55	5.62	.5	.2	21.09	0.57	1.03	5.37	-94	0.0	
9:00	5.73	.4	.2	21.12	0.41	1.03	5.47	-102	0.0	
9:05	5.81	.5	.2	21.01	0.00	1.02	5.78	-101	0.0	
9:10	5.86	.6	.2	21.06	0.00	1.02	5.88	-101	0.0	
9:15	5.91	.7	.2	21.09	0.00	1.02	5.90	-101	0.0	
9:20	5.97	.8	.2	21.12	0.00	1.02	5.92	-101	0.0	

WL (ft. BMP) at End of Purge: 5.97 Sample Intake Depth (ft. BMP): 41.

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G/P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
9:25				2		Neat	

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	Equipment Decon	☒ Dedicated equipment	Depth to Water	6.04 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	Casing Stickup	– ft.
Date	1-13-20	Reference Point	☒ Top of casing	☐ Depth to Water	6.04 ft. BGL
MW ID	MW12A	Location	Other	Total MW Depth	30.35 ft. BGL
Sample ID	WG-1620-MW12A-2019	Water Quality		MW Diameter	2.0 inches
Pump	☐ Waterra ☐ Submersible	Meter Model	HORIBA	MW Volume	1 gallons
	☒ Peristaltic ☐ Bladder	Unit Number	U-50	Pump Intake Depth	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1612									
1622	.2	/	6.29	23.6	6.79	670	1.21	-37	7.4
1627	↓	/	6.31	23.5	6.72	610	1.03	-33	5.9
1632	↓	/	6.32	23.4	6.71	590	1.04	-34	6.1

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1645	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1645	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119232	Project Name: UPRR HwPw	Date: 1-23-2020	
Sample Number: UG-1620-MW-12B-20200123		Starting Water Level (ft. BMP): 5.66	
Sampling Location (well ID, etc.): MW 12B		Casing Stickup (ft.): 4'	
Sampled by: Tim McSpadden		Starting Water Level (ft. BGL):	
Measuring Point (MP) of Well:		Total Depth (ft. BMP): 46.01	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 2"	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.):	

QUALITY ASSURANCE

METHODS (describe): Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	P211 Heron Hi Water	Thermometer:	" "
pH Meter:	Horiba U10	Field Calibration:	pH 4.0 pH 4.0
Conductivity Meter:	" "	Field Calibration:	
Filter / Filter Size:	10 Micron	Other:	Geo pump P1102

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
13:20	5.66	.2	.2	19.65	7.04	1.09	0.91	-89	67.7	Clear
13:30	6.71	.3	.2	19.32	7.03	1.10	0.25	-89	0.20	
13:35	6.75	.4	.2	19.24	7.00	1.10	0.13	-89	57.7	
13:40	6.84	.5	.2	19.20	7.02	1.09	0	-89	49.7	
13:45	6.88	.6	.2	19.13	7.01	1.08	0	-89	52.6	
13:50	6.93	.7	.2	19.10	7.01	1.08	0	-89	52.9	
13:55	6.99	.8	.2	19.02	7.00	1.08	0	-89	52.1	
14:00	6.99	.9	.2	18.99	7.01	1.08	0	-88	51.4	

Water Level (ft. BMP) at End of Purge: 6.99 Sample Intake Depth (ft. BMP): 20.

SAMPLE INVENTORY

Bottles Collected				Filtration		
Time	Volume	Composition (G, P)	No.	(Y / N)	Preservation	Remarks (quality control sample, other)
14:00			6	10 micron		

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	Equipment Decon	☒ Dedicated equipment	Depth to Water	24.61 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	Casing Stickup	– ft.
Date	1-13-20	Reference Point	☒ Top of casing	☐ Depth to Water	24.61 ft. BGL
MW ID	MW-12C	Location	Other	Total MW Depth	75.60 ft. BGL
Sample ID	WG-1620-MW12C-2019	Water Quality		MW Diameter	2.0 inches
Pump	☐ Waterra ☐ Submersible	Meter Model	HORIBA	MW Volume	1 gallons
	☒ Peristaltic ☐ Bladder	Unit Number	U-50	Pump Intake Depth	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1519									
1529	.2	/	24.87	21.3	6.92	840	1.01	-86	6.7
1534	↓	/	24.91	21.1	6.83	860	0.83	-77	8.1
1539	↓	/	24.90	21.1	6.84	860	0.81	-79	9.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1555	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1555	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCs / SVOCs

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	9.42 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	1-14-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	9.42 ft. BGL
MW ID	MW13	**Location**	Other _____	**Total MW Depth**	26.10 ft. BGL
Sample ID	WG-1620-MW13-2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1 gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	_____ ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0739	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0749	.2	/	9.67	21.2	6.92	710	0.96	-62	12
0754	↓	/	9.71	21.2	6.94	720	0.71	-56	18
0759	↓	/	9.72	21.3	6.97	720	0.72	-57	17

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0810	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
0810	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCs / SVOCs

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	8.39	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	–	ft.
Date	1-14-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	8.39	ft. BGL
MW ID	MW14	**Location**	Other _____	**Total MW Depth**	44.80	ft. BGL
Sample ID	WG-162D-MW14-20190114	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**		ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1546									
1556	.2	/	8.67	22.4	6.67	1040	1.17	-67	21
1601	↓	/	8.71	22.3	6.61	1050	1.11	-61	15
1606	↓	/	8.72	22.3	6.59	1030	1.09	-62	16
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1615	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1615	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCs / SVOCs

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	8.57	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	-	ft.
Date	1-14-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	8.57	ft. BGL
MW ID	MW1SA	**Location**	Other _____	**Total MW Depth**	29.90	ft. BGL
Sample ID	WG-1620-MW1SA-20190114	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**		ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1313	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1322	.2	/	8.79	21.6	6.86	1160	0.91	-76	13
1326	↓	/	8.81	21.4	6.77	1130	0.77	-71	10
1333	↓	/	8.81	21.7	6.79	1120	0.74	-73	11
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1345	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1345	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCs / SVOCs

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	Equipment Decon	☒ Dedicated equipment	Depth to Water	8.39 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	Casing Stickup	– ft.
Date	1-14-20	Reference Point	☒ Top of casing	☐ Depth to Water	8.39 ft. BGL
MW ID	MW15B	Location	Other	Total MW Depth	40.70 ft. BGL
Sample ID	WG-1620-MW15B-20190114	Water Quality		MW Diameter	2.0 inches
Pump	☐ Waterra ☐ Submersible	Meter Model	HORIBA	MW Volume	– gallons
	☒ Peristaltic ☐ Bladder	Unit Number	U-50	Pump Intake Depth	– ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1358									
1408	.2	/	8.61	22.6	6.91	930	0.71	-51	6.7
1413	↓	/	8.62	22.4	6.82	940	0.53	-55	7.4
1418	↓	/	8.61	22.1	6.88	910	0.56	-56	7.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1430	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1430	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	23.12 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	1-14-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	23.12 ft. BGL
MW ID	MW15C	**Location**	Other _____	**Total MW Depth**	75.25 ft. BGL
Sample ID	WG-1620-MW15G20190114	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	7 gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	7 ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1443	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1453	.2	/	23.31	21.6	6.79	860	1.12	-74	8.6
1458	↓	/	23.32	21.1	6.81	810	0.93	-62	6.8
1503	↓	/	23.32	21.3	6.82	820	0.92	-61	7.1

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1520	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1520	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	8.23	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	–	ft.
Date	1-14-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	8.23	ft. BGL
MW ID	MW17	**Location**	Other _____	**Total MW Depth**	36.95	ft. BGL
Sample ID	WG-1620-MW17-2019	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	–	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	–	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1637									
1647	.2	/	8.42	21.6	7.11	1440	0.52	-61	16
1652	↓	/	8.46	21.7	7.06	1420	0.45	-52	11
1657	↓	/	8.47	21.9	7.04	1410	0.46	-51	12

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1710	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1710	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCs / SVOCs

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	23.21	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	–	ft.
Date	1-15-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	23.21	ft. BGL
MW ID	MW7C	**Location**	Other _____	**Total MW Depth**	72.15	ft. BGL
Sample ID	WG-1620-MW7C-20190115	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	/	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**		ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0739	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0749	.2	/	23.39	22.6	6.92	1270	1.12	-46	11
0754	↓	/	23.41	22.2	6.96	1260	0.84	-36	8.2
0759	↓	/	23.41	23.1	6.97	1260	0.83	-39	9.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0815	60ML	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
0815	40ML / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

GROUNDWATER SAMPLING RECORD

PAGE 1 of ___

Project Number: 19119232 Project Name: HWPW Date: 1-8-2020

Sampling Location (well ID, etc.): MW-18A

Sample Number: WC-1620-MW18A20200108

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: (TOC) - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 17.71

Casing Stickup (ft.): 18"

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 35.65 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): (Low Flow) / Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / ~~SS Pump~~ / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: D2111 Heron Other: Geo pump P 1102

Multi Meter: Horiba C1103

Field Calibration: PH-4.04 NTU-0 Cond.450

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/l)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
10:30	17.71	.2	.2	24.03	11.41	1.88	6.78	-1.55	0.0	
10:40	19.23	.3	.2	24.12	0.52	1.80	6.80	-154	0.0	
10:45	19.29	.4	.2	24.00	0.04	1.65	6.81	-146	973	
10:50	19.32	.5	.2	23.96	0.00	1.56	6.77	-145	1000	
10:55	19.36	.6	.2	23.94	0.00	1.38	6.78	-137	10000	
11:00	19.40	.7	.2	23.96	0.00	1.02	6.83	-126	990	
11:05	19.42	.8	.2	24.12	0.00	.952	6.82	-125	978	
11:10	19.43	.9	.2	24.15	0.00	.933	6.83	-125	986	

WL (ft. BMP) at End of Purge: 19.43 Sample Intake Depth (ft. BMP): 32.

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G, P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
11:10		2.5		9			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE 1 of ___

Project Number: HWPW19119232 Project Name: HWPW Date: 1-8-2020

Sampling Location (well ID, etc.): MW-18C

Sample Number: WG-1620-MW18C 20200108

Sampled by: T.M McSpadden

Measuring Point (MP) of Well: TOC - Steel or PVC

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 23.54

Casing Stickup (ft.): 1.4'

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 61.80 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: D 2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba C 1103

Field Calibration: Ph: 4.04 NTU-0 COND - 450

Filter / Filter Size: W Mc Geo

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
9:30	23.54	.2	.2	19.99	1.98	3.26	11.83	-196	253	clear/no
9:40	25.01	.3	.2	19.78	0.25	3.26	11.88	-203	226	
9:45	25.04	.4	.2	20.33	0.39	3.26	11.90	-214	186	
9:50	25.09	.5	.2	20.38	0.40	3.27	11.91	-219	181	
9:55	25.13	.6	.2	20.75	0.16	3.28	11.90	-220	167	
10:00	25.14	.7	.2	21.21	0.12	3.30	11.90	-224	143	
10:05	25.16	.8	.2	21.53	0.01	3.30	11.89	-230	116	
10:10	25.17	.9	.2	21.58	0.00	3.30	11.89	-230	108	

WL (ft. BMP) at End of Purge: 25.17 Sample Intake Depth (ft. BMP): 60.

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G) P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
10:10		2.0		9			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	25.71	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	1.0	ft.
Date	1-9-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	24.71	ft. BGL
MW ID	MW-19C	**Location**	Other _____	**Total MW Depth**	75.15	ft. BGL
Sample ID	WG-1620-MW19C-20200109	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	-	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	-	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1016	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1021	.2	/	26.06	21.9	6.67	1500	2.42	-111	17
1026	↓	/	26.12	21.8	6.71	1530	2.06	-107	13
1031	↓	/	26.13	21.8	6.72	1540	2.07	-108	14
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1045	60ML	P	1	☒ filtered ☐ unfiltered	HNO_3	METALS
1045	40ML / 1L	G / G	5	☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	Equipment Decon	☒ Dedicated equipment	Depth to Water	9.06 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	Casing Stickup	- ft.
Date	1-14-20	Reference Point	☒ Top of casing	☐ Depth to Water	9.06 ft. BGL
MW ID	MW20A	Location	Other	Total MW Depth	22.80 ft. BGL
Sample ID	WG-1620-MW20A-20191114	Water Quality		MW Diameter	2.0 inches
Pump	☐ Waterra ☐ Submersible	Meter Model	HORIBA	MW Volume	1 gallons
	☒ Peristaltic ☐ Bladder	Unit Number	U-50	Pump Intake Depth	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1219									
1228	.2	/	9.26	21.6	6.74	1440	0.96	-91	5.1
1234	↓	/	9.31	21.2	6.76	1410	0.73	-86	3.8
1239	↓	/	9.32	21.3	6.74	1420	0.74	-86	4.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1255	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1255	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	23.46 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	— ft.
Date		**Reference Point**	☒ Top of casing	☐ **Depth to Water**	23.46 ft. BGL
MW ID	MW21C	**Location**	Other	**Total MW Depth**	74.60 ft. BGL
Sample ID	WG-1620-MW21C-20190114	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1 gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0922	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0932	.2	/	23.61	21.3	7.11	910	0.96	-36	10
0937	↓	/	23.64	21.2	7.10	850	0.76	-31	7.4
0942	↓	/	23.64	21.3	7.06	860	0.79	-31	8.6
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1000	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1000	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCs / SVOCs

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

WG-1620-FD02-20190114

Field Team Leader JOHN BRAYTON
name

signature

GROUNDWATER SAMPLING RECORD

PAGE 1 of 1

Project Number: 9119232	Project Name: UPRR Harper	Date: 2-10-2020	
Sample Number: WG1620 MW22AR 20200210		Starting Water Level (ft. BMP): 1.55	
Sampling Location (well ID, etc.): MW-22AR		Casing Stickup (ft.): 0	
Sampled by: Tim McSpadden		Starting Water Level (ft. BGL):	
Measuring Point (MP) of Well:		Total Depth (ft. BMP): 19.80	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 2"	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.):	

QUALITY ASSURANCE

METHODS (describe): Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	H. Oil Heron 01 7720	Thermometer:	C1113
pH Meter:	Horiba C1113	Field Calibration:	
Conductivity Meter:	C1113	Field Calibration:	
Filter / Filter Size:	10 micron	Other:	Geo Pump P1119

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
9:00	1.55	.2	.2	22.33	6.50	1.20	16.40	-33	0.0	LT Brown
9:10	2.36	.3	.2	22.49	6.56	1.24	1.38	-72	910	
9:15	3.01	.4	.2	22.53	6.57	1.23	0.11	-71	852	
9:20	3.34	.5	.2	22.56	6.60	1.09	0.00	-60	818	
9:25	3.47	.6	.2	22.67	6.61	1.04	0.00	-52	648	
9:30	3.53	.7	.2	22.72	6.62	1.03	0.00	-50	611	
9:35	3.67	.8	.2	22.80	6.63	1.01	0.00	-44	502	
9:40	3.72	.9	.2	22.84	6.63	0.993	0.00	-40	219	

Water Level (ft. BMP) at End of Purge: 3.74

Sample Intake Depth (ft. BMP): 17.

SAMPLE INVENTORY

Bottles Collected				Filtration		
Time	Volume	Composition (G) P)	No.	(Y) / N)	Preservation	Remarks (quality control sample, other)
10:00			6			

Comments:

WG1620 MW22AR 20200210 10:00
WG1620 FB14 20200210
Trip Blank 10

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119232	Project Name:	Date: 2-10-2020	
Sample Number: WG-1620 MW-22BR 20200210		Starting Water Level (ft. BMP): 1.44	
Sampling Location (well ID, etc.): MW-22BR		Casing Stickup (ft.): 0	
Sampled by: Tim McSpadden		Starting Water Level (ft. BGL): 1.44	
Measuring Point (MP) of Well:		Total Depth (ft. BMP): 37.80	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 2"	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.):	

QUALITY ASSURANCE

METHODS (describe): Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	H. Oil Heron 017720	Thermometer:	C-1113
pH Meter:	Horiba C1113	Field Calibration:	
Conductivity Meter:	C-1113	Field Calibration:	
Filter / Filter Size:	10 micron	Other:	Grundfos Pump P1119

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
10:20	1.44	.2	.2	23.08	6.48	1.24	3.01	-50	135	
10:30	1.72	.3	.2	23.12	6.44	1.25	1.23	-61	124	
10:35	1.68	.4	.2	23.01	6.33	1.34	0.00	-53	21.0	
10:40	1.66	.5	.2	23.00	6.32	1.35	0.00	-52	20.2	
10:45	1.62	.6	.2	23.02	6.32	1.35	0.00	-50	13.3	
10:50	1.66	.7	.2	23.04	6.33	1.36	0.00	-53	11.0	
10:55	1.67	.8	.2	23.01	6.33	1.35	0.00	-57	10.9	
11:00	1.65	.9	.2	23.03	6.33	1.35	0.00	-58	13.2	

Water Level (ft. BMP) at End of Purge: 1.65

Sample Intake Depth (ft. BMP): 34.0

SAMPLE INVENTORY

Bottles Collected				Filtration (Y) N)	Preservation	Remarks (quality control sample, other)
Time	Volume	Composition (G, P)	No.			
11:00		G	6			

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

GROUNDWATER SAMPLING RECORD

PAGE 1 of ___

Project Number: 91192.32 Project Name: UPRR HWPW Date: 1-9-2020

Sampling Location (well ID, etc.): MW-23C

Sample Number: WG-1620 MW23C 20200109

Sampled by: JIM MCSpadden

Measuring Point (MP) of Well: TOC - Steel or PVC

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 26.59

Casing Stickup (ft.):

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 76.80 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): _____

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: D2111 Heron Other: Geo pump P1102

Multi Meter: Horiba C1103

Field Calibration: D-4.05 NTU-0 cond 445

Filter / Filter Size: 10-micron Alte

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
859	26.59	.2	.2	23.11	0.82	.475	9.92	-41	64.7	Clear/no
9:10	26.71	.3	.2	23.08	0.72	.473	9.95	-39	69.8	
9:15	26.72	.4	.2	23.08	.45	.472	9.95	-39	58.8	
9:20	26.74	.5	.2	23.16	0	.469	10.02	-42	50.3	
9:25	26.75	.6	.2	23.22	0	.469	10.02	-42	47.2	
9:30	26.75	.7	.2	23.24	0	.469	10.03	-44	47.1	
9:35	26.77	.8	.2	23.29	0	.469	10.04	-47	47.4	

WL (ft. BMP) at End of Purge: 26.77 Sample Intake Depth (ft. BMP): 70.

SAMPLE INVENTORY

Time	Bottles Collected: Volume	Composition (G/P)	No.	Filtration (Y/ N)	Preservation (type)	Remarks (quality control sample, other)
9:40	2.0		6			

Comments:

No tubing in well

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	8.01 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	1-15-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	8.01 ft. BGL
MW ID	MW25A	**Location**	Other	**Total MW Depth**	28.80 ft. BGL
Sample ID	WG-1620-MW25A-20190115	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1 gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1049	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1059	.2	/	8.26	22.2	6.91	1440	0.79	-42	26
1104	↓	/	8.31	22.3	6.96	1420	0.64	-36	20
1109	↓	/	8.32	22.4	6.84	1410	0.67	-37	21
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1120	60mL	P		☐ filtered ☐ unfiltered	HNO_3	METALS
1120	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	16.72	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	–	ft.
Date	1-15-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	16.72	ft. BGL
MW ID	MW25C	**Location**	Other _____	**Total MW Depth**	74.05	ft. BGL
Sample ID	WG-1620-MW25C-20190115	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**		ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1519	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1529	.2	/	16.93	23.4	6.77	1110	0.91	-42	6.7
1534	↓	/	16.96	23.1	6.73	1120	0.71	-47	4.8
1539	↓	/	16.97	23.1	6.72	1130	0.71	-46	5.2
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1550	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1550	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HW PW Date: 1-16-2020

Sampling Location (well ID, etc.): MW 26A

Sample Number: WG 1620 MW 26A 20200116

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 3.91

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 19.90 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo pump P1102

Multi Meter: Horiba C1103

Field Calibration: Ph. 4.0

Filter / Filter Size: 10 Micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
15:15	3.91	.2	.2	22.38	4.76	1.47	6.42	-87	0	Brown/no
15:25	4.05	.3	.2	22.43	1.20	1.63	6.40	-87	0	particles
15:30	4.04	.4	.2	22.15	0	2.38	6.08	-71	706	fishing
15:35	4.00	.5	.2	22.04	0	2.40	6.06	-71	1000	up out
15:40	4.02	.6	.2	22.32	0	1.25	6.25	-72	226	of well
15:45	4.04	.7	.2	22.29	0	1.23	6.25	-72	345	to check
15:50	4.09	.8	.2	22.27	0	1.23	6.25	-72	308	the depth
15:55	4.12	.9	.2	22.22	0	1.23	6.24	-71	263	

WL (ft. BMP) at End of Purge: 4.12 Sample Intake Depth (ft. BMP): 16.0

SAMPLE INVENTORY

Bottles Collected Time		Volume	Composition (G, P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
16:00				6			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	Equipment Decon	☒ Dedicated equipment	Depth to Water	7.22	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	Casing Stickup	-	ft.
Date	1-15-20	Reference Point	☒ Top of casing	☐ Depth to Water	7.22	ft. BGL
MW ID	MW27A	Location	Other	Total MW Depth	29.85	ft. BGL
Sample ID	WG-1620-MW27A-20190115	Water Quality		MW Diameter	2.0	inches
Pump	☐ Waterra ☐ Submersible	Meter Model	HORIBA	MW Volume	/	gallons
	☒ Peristaltic ☐ Bladder	Unit Number	U-50	Pump Intake Depth		ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1607	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1617	.2	/	7.43	21.6	6.77	1060	1.14	-36	5.2
1622	↓	/	7.44	21.7	6.75	1080	0.92	-31	4.4
1627	↓	/	7.43	21.9	6.74	1090	0.93	-32	4.7

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1640	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1640	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	16.93	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	-	ft.
Date	1-15-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	16.93	ft. BGL
MW ID	MW27C	**Location**	Other	**Total MW Depth**	73.60	ft. BGL
Sample ID	WG-162D-MW27C-20190115	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**		ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1649									
1659	.2	/	17.26	22.7	6.96	1140	1.09	-51	6.7
1704	↓	/	17.29	22.4	6.92	1120	0.79	-46	5.3
1709	↓	/	17.29	22.4	6.91	1120	0.74	-47	5.1

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1720	60ML	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1720	40ML / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-16-2020

Sampling Location (well ID, etc.): MW-28A

Sample Number: WG1620MW28A20200116

Sampled by: TM McSpadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 5.01

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 25.60 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba C1103

Field Calibration: pH-4.0

Filter / Filter Size: 0

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
8:30	5.01	.2	.2	22.97	3.01	1.47	5.29	-23	160	clear/no
8:40	5.09	.3	.2	22.37	3.89	1.47	5.61	-46	99.1	
8:45	5.12	.4	.2	22.41	5.22	1.45	5.77	-46	50.1	
8:50	5.17	.5	.2	22.58	5.47	1.45	5.83	-44	34.8	
8:55	5.22	.6	.2	23.25	5.14	1.43	5.97	-40	13.2	
9:00	5.26	.7	.2	23.43	5.63	1.41	6.14	-38	1.5	
9:05	5.30	.8	.2	23.38	5.57	1.41	6.17	-38	2.9	
9:10	5.32	.9	.2	23.43	5.77	1.41	6.18	-38	3.5	

WL (ft. BMP) at End of Purge: 5.32

Sample Intake Depth (ft. BMP): 23.

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G/P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
9:10				6			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

MS MSD

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-16-2020

Sampling Location (well ID, etc.): Jim McSpadden

Sample Number: mw-28C

Sampled by: WG-1620 MW28C20200116

Measuring Point (MP) of Well: TOC - Steel or PVC

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 15.45

Casing Stickup (ft.):

WL (ft. BMP): (ft. BGL):

TD (ft. BMP): 87.30 (ft. BGL):

Ft. water: Casing Dia. (In ID): 2"

1X Casing Vol (gal.): 3X (gal):

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba C1103

Field Calibration: pH-4.0

Filter / Filter Size: 0

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
9:35	15.45	.2	.2	23.92	1.32	0.186	7.58	-159	15.3	Clear/NO
9:45	16.61	.3	.2	23.02	0.92	0.180	7.73	-176	14.9	
9:50	17.12	.4	.2	23.87	0.21	0.168	8.04	-191	10.7	
9:55	17.22	.5	.2	23.96	0.0	0.163	8.23	-200	6.2	
10:00	17.53	.6	.2	23.76	0.0	0.164	8.38	-206	0.5	
10:05	17.73	.7	.2	23.72	0.0	0.164	8.46	-206	0	
10:10	17.91	.8	.2	23.71	0.0	0.163	8.50	-208	0	

WL (ft. BMP) at End of Purge: Sample Intake Depth (ft. BMP):

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G, P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
10:15				6			

Comments:

WG-1620 MW28CMS 20200116

WG-1620 MW28CMSD 20200116

GOLDER

2201 Double Creek Dr., Suite 4004

Round Rock, Texas 78664

Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR IHW Pan Date: 1-20-2020

Sampling Location (well ID, etc.): MW-32MR

Sample Number: WG1620gmw32MR20200120

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 3.86

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 18.11 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): (Low Flow) Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H20 drum 1-2-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo pump P1102

Multi Meter: Horiba C1103

Field Calibration: PH-4.0

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
8:30	3.86	.2	.2	17.52	11.89	.946	6.88	3	240	Clear/mod
8:40	4.10	.3	.2	18.14	3.14	.944	6.85	-4	2.55	
8:45	4.06	.4	.2	18.65	.85	.962	6.74	-47	4.96	
8:50	4.04	.5	.2	18.35	.19	.977	6.63	-60	6.06	
8:55	4.04	.6	.2	18.24	.10	.982	6.62	-61	6.00	
9:00	4.04	.7	.2	18.29	0	.984	6.52	-73	4.53	
9:05	4.05	.8	.2	18.49	0	1.02	6.51	-77	3.46	
9:10	4:03	.9	.2							

WL (ft. BMP) at End of Purge: Sample Intake Depth (ft. BMP): 15

SAMPLE INVENTORY 4.03

Time	Bottles Collected	Volume	Composition (G) P)	No.	Filtration (Y) N)	Preservation (type)	Remarks (quality control sample, other)
9:10				6			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR Harper Date: 1-20-2020

Sampling Location (well ID, etc.): MW-32B

Sample Number: WQ1620 MW32B 20200120

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - (Steel) or PVC

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 4.50

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 36.45 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe) (Low Flow) - Dedicated Tubing/Equipment

Cleaning Equipment: DI/~~Alconox Rinse~~

Purge: (Peristaltic Pump) / SS Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron

Multi Meter: Horiba U1103

Field Calibration: PH. 4.0

Filter / Filter Size: 10 micron

Other: Geo Pump P1102

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
9:35	4.50	.2	.2	16.84	4.00	.697	6.79	-23	121	clear/no
9:45	6.55	.3	.2	16.69	1.49	.701	6.78	-30	115	
9:50	6.79	.4	.2	16.94	.08	.706	6.72	-34	105	
9:55	7.01	.5	.2	16.89	0	.708	6.77	-34	101	
10:00	7.11	.6	.2	17.15	0	.689	6.77	-39	101	
10:05	7.14	.7	.2	16.99	0	.690	6.77	-39	102	
10:10	7.17	.8	.2	16.92	0	.691	6.76	-38	102	
10:15	7.20	.9	.2	15.88	0	.684	6.76	-38	93.6	

WL (ft. BMP) at End of Purge: 7.20

Sample Intake Depth (ft. BMP): 31

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G/P)	No.	Filtration (Y/ N)	Preservation (type)	Remarks (quality control sample, other)
10:15				6			

Comments:

GOLDER

2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Duplicate

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-20-2020

Sampling Location (well ID, etc.): MW-33A

Sample Number: WG-1620 MW33A20200120

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - (Steel) or PVC

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 4.41

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 25.20 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge Hot drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba C1103

Field Calibration: Ph. 4-0-

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
12:00	4.41	.2	.2	20.87	1.90	1.36	6.65	-21	140	clear/no
12:10	4.58	.3	.2	21.27	.35	1.36	6.68	-31	140	
12:15	4.62	.4	.2	21.65	0	1.37	6.64	-44	79.2	
12:20	4.61	.5	.2	22.11	0	1.39	6.50	-54	80.4	
12:25	4.64	.6	.2	22.21	0	1.37	6.49	-56	56.2	
12:30	4.62	.7	.2	22.56	0	1.38	6.47	-59	46.9	
12:35	4.58	.8	.2	22.57	0	1.38	6.47	-61	48.7	
12:40	4.56	.9	.2	22.92	0	1.39	6.47	-61	44.8	

WL (ft. BMP) at End of Purge: 4.56

Sample Intake Depth (ft. BMP): 22.

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G/P)	No.	Filtration (Y/N)	Preservation (type)	Remarks (quality control sample, other)
12:45				12			

Comments:

Duplicate
WG-1620 FD05 20200120

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	Equipment Decon	☒ Dedicated equipment	Depth to Water	5.06 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	Casing Stickup	- ft.
Date	1-15-20	Reference Point	☒ Top of casing	☐ Depth to Water	5.06 ft. BGL
MW ID	MW33BR	Location	Other	Total MW Depth	38.05 ft. BGL
Sample ID	WG-1620-MW33BR-20190115	Water Quality		MW Diameter	2.0 inches
Pump	☐ Waterra ☐ Submersible	Meter Model	HORIBA	MW Volume	1 gallons
	☒ Peristaltic ☐ Bladder	Unit Number	U-50	Pump Intake Depth	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1424									
1434	.2	/	5.22	21.4	6.91	1560	0.74	-31	6.7
1439	↓	/	5.26	21.4	6.92	1520	0.56	-26	4.7
1444	↓	/	5.27	21.6	6.92	1530	0.59	-27	5.1

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1500	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1500	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCs / SVOCs

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-10-2020

Sampling Location (well ID, etc.): MW 35A

Sample Number: WG 1620 MW35A 20200110

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 4.42

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 28.25 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba C1103

Field Calibration: Ph-7.99. ntu-0 cond 4.49

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
10:40	4.42	.2	.2	23.54	1.99	2.17	6.41	-33	47.1	
10:50	4.91	.3	.2	23.63	.84	2.32	6.25	-39	34.9	
10:55	4.89	.4	.2	23.65	.22	2.33	6.23	-42	35.6	
11:00	4.98	.5	.2	23.58	0	2.34	6.20	-48	27.2	
11:05	4.90	.6	.2	23.52	0	2.34	6.19	-51	24.4	
11:10	4.92	.7	.2	23.52	0	2.33	6.19	-54	22.9	
11:15	4.92	.8	.2	23.52	0	2.29	6.20	-55	22.5	

WL (ft. BMP) at End of Purge: 4.92 Sample Intake Depth (ft. BMP): 25

SAMPLE INVENTORY

Bottles Collected					Filtration	Preservation	Remarks
Time		Volume	Composition (G,P)	No.	(Y) N)	(type)	(quality control sample, other)
11:20				6			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-10-2020

Sampling Location (well ID, etc.): MW-35B Starting Water Level (ft. BMP): 4.65

Sample Number: WG-1620-MW35B-20200110 Casing Stickup (ft.): 0

Sampled by: Tim McSpadden WL (ft. BMP): ___ (ft. BGL): ___

Measuring Point (MP) of Well: TOC - Steel or PVC TD (ft. BMP): 42.95 (ft. BGL): ___

Screened Interval (ft. BGL): Ft. water: ___ Casing Dia. (In ID): 2"

Filter Pack Interval (ft. BGL): 1X Casing Vol (gal.): ___ 3X (gal): ___

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P-2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba U1103

Field Calibration: PH-3.99 NTU-0 COND 4MC

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
12:00	4.65	.2	.2	23.17	.92	4.64	6.57	-88	0.0	Brown/yes
12:10	5.31	.3	.2	23.17	0	1.71	6.50	-64	0.0	clear/no
12:15	5.49	.4	.2	23.05	0	1.16	6.55	-79	24.7	clear/no
12:20	5.58	.5	.2	23.25	0	1.33	6.38	-84	16.2	
12:25	5.59	.6	.2	23.29	0	1.36	6.38	-85	15.3	
12:30	5.60	.7	.2	23.37	0	1.40	6.38	-85	11.9	
12:35	5.61	.8	.2	23.41	0	1.40	6.38	-85	11.2	

WL (ft. BMP) at End of Purge: 5.61 Sample Intake Depth (ft. BMP): 33

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G/P)	No.	Filtration (Y/ N)	Preservation (type)	Remarks (quality control sample, other)
12:45				6			

Comments:

Duplicate
WG-1620-FD01-20200110

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-34

Stop work 12:30.

GROUNDWATER SAMPLING RECORD

PAGE 1 of ___

Project Number: 19119232 Project Name: UPRR HWPU Date: 1-9-2020

Sampling Location (well ID, etc.): MW 36A

Sample Number: WG-1620 MW 36A 20200109

Sampled by: Tim McSpaddean

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 8.83

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 27.35 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo pump P1102

Multi Meter: Horiba C1103

Field Calibration: pH 4.01 NTU 0 Cond 445

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
15:15	8.83	.2	.2	23.60	11.0	.963	7.03	12	0	Clear/no
15:25	9.11	.3	.2	23.61	4.85	.965	7.01	11	0	
15:30	10.82	.4	.2	23.82	1.41	.8221	6.97	42	183	
15:35	11.08	.5	.2	23.84	2.20	.799	6.97	45	139	
15:40	11.22	.6	.2	23.89	2.36	.791	6.97	49	103	
15:45	11.37	.7	.2	23.88	2.28	.790	6.97	50	90.3	
15:50	11.39	.8	.2	23.84	2.23	.791	6.97	50	88.2	
15:55	11.42	.9	.2	23.86	2.18	.790	6.97	51	84.1	

WL (ft. BMP) at End of Purge: 11.42 Sample Intake Depth (ft. BMP): 24.

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G/P)	No.	Filtration (Y/ N)	Preservation (type)	Remarks (quality control sample, other)
16:00		2.5		6			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE 1 of ___

Project Number: 191192.32 Project Name: URR HW PW Date: 1-9-2020

Sampling Location (well ID, etc.): MW-36B

Sample Number: WG-1620 MW36B 20200109

Sampled by: T. McSpadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): .39

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 42.85 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo Pump P-1102

Multi Meter: Horiba C1103

Field Calibration: Ph 4.00 NTU-0 Cond 445

Filter / Filter Size: 10 Micron Filter

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
14:00	0.39	.2	.2	22.61	2.82	.153	7.91	41	13.4	
1410	1.51	.3	.2	22.50	2.14	.152	7.84	47	8.2	
1415	2.21	.4	.2	22.40	2.02	.161	7.76	53	8.1	
1420	2.65	.5	.2	22.55	1.64	.149	7.51	64	8.1	
1425	2.77	.6	.2	22.56	1.56	.149	7.45	67	7.6	
1430	2.86	.7	.2	22.79	1.49	.149	7.34	8371	8.3	
1435	3.27	.8	.2	22.93	1.46	.149	7.32	73	8.9	

WL (ft. BMP) at End of Purge: 3.27 Sample Intake Depth (ft. BMP): 38

SAMPLE INVENTORY

Bottles Collected					Filtration (Y) N)	Preservation (type)	Remarks (quality control sample, other)
Time		Volume	Composition (G/P)	No.			
14:40		2.0		6			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	Equipment Decon	☒ Dedicated equipment	Depth to Water	82.06 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	Casing Stickup	- ft.
Date	1-16-20	Reference Point	☒ Top of casing	☐ Depth to Water	82.06 ft. BGL
MW ID	MW36D	Location	Other	Total MW Depth	110.10 ft. BGL
Sample ID	WG-1620-MW36D-20190116	Water Quality		MW Diameter	2.0 inches
Pump	☐ Waterra ☐ Submersible	Meter Model	HORIBA	MW Volume	1 gallons
	☒ Peristaltic ☐ Bladder	Unit Number	U-50	Pump Intake Depth	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1652	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1702	.2	/	82.29	21.9	6.71	1360	1.39	-73	6.7
1707	↓	/	82.31	21.4	6.72	1320	1.09	-70	7.2
1712	↓	/	82.32	21.3	6.74	1330	1.12	-71	7.1
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1725	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1725	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) (signature)

GROUNDWATER SAMPLING RECORD

PAGE _____ of _____

Project Number: 19119232	Project Name: UPRR HWPW	Date: 1-21-2020	
Sample Number: MW 38A		Starting Water Level (ft. BMP): 1.51	
Sampling Location (well ID, etc.): WG1620MW38A20200121		Casing Stickup (ft.): 0	
Sampled by: TIM MCSpadden		Starting Water Level (ft. BGL):	
Measuring Point (MP) of Well: TOC		Total Depth (ft. BMP): 37.60	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 2"	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.):	

QUALITY ASSURANCE

METHODS (describe): Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P211 Heron Thermometer: " "

pH Meter: Horiba U-10 Field Calibration: Ph. 4.0

Conductivity Meter: " " Field Calibration:

Filter / Filter Size: Other:

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
10:30	1.51	.2	.2	19.08	7.34	.507	5.05	8	42.2	Clear/no
10:40	1.65	.3	.2	19.42	7.34	.499	2.87	18	42.0	
10:45	1.69	.4	.2	18.27	7.18	.606	.88	32	8.4	
10:50	1.68	.5	.2	18.17	7.02	.769	.31	26	8.9	
10:55	1.66	.6	.2	18.52	6.89	.865	.11	14	8.2	
11:00	1.67	.7	.2	18.27	6.88	.803	.02	14	8.1	
11:05	1.69	.8	.2	18.21	6.90	.805	0	12	7.9	
11:10										

Water Level (ft. BMP) at End of Purge: Sample Intake Depth (ft. BMP):

SAMPLE INVENTORY

Bottles Collected				Filtration		
Time	Volume	Composition (G/P)	No.	(Y/N)	Preservation	Remarks (quality control sample, other)
11:10			6			

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119252	Project Name: UPRR HWPW	Date: 1-21-2026	
Sample Number: MW 3813		Starting Water Level (ft. BMP): 3.79	
Sampling Location (well ID, etc.): WG-1620/MW38B20210121		Casing Stickup (ft.): 3'	
Sampled by: TIM MCSpadden		Starting Water Level (ft. BGL):	
Measuring Point (MP) of Well: TOC		Total Depth (ft. BMP): 35.70 Soft bottom	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 2"	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.):	

QUALITY ASSURANCE

METHODS (describe): Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	P211 Heron	Thermometer:	" "
pH Meter:	Horiba U1103	Field Calibration:	PH. 4.0
Conductivity Meter:	" "	Field Calibration:	
Filter / Filter Size:	10 micron	Other:	

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
12:00	3.79	.2	.2	18.75	7.04	1.33	3.20	-60	254	
12:10	4.08	.3	.2	19.28	6.59	1.32	.69	-53	264	
12:15	3.98	.4	.2	19.18	6.33	1.29	0	-44	193	
12:20	3.99	.5	.2	18.69	6.28	1.29	0	-45	149	
12:25	3.99	.6	.2	18.86	6.26	1.31	0.39	-45	145	
12:30	3.97	.7	.2	18.79	6.24	1.30	~~120~~ 0	-45	116	
12:35	3.98	.8	.2	18.68	6.23	1.30	.34	-46	88.9	
12:40	3.97	.9	.2	18.59	6.22	1.30	.45	-46	73.8	

Water Level (ft. BMP) at End of Purge: 3.97 Sample Intake Depth (ft. BMP): 31

SAMPLE INVENTORY

Bottles Collected				Filtration		Remarks
Time	Volume	Composition (G/P)	No.	(Y/N)	Preservation	(quality control sample, other)
13:45			6			

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	6.02 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	1-13-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	6.02 ft. BGL
MW ID	MW39B	**Location**	Other _____	**Total MW Depth**	41.25 ft. BGL
Sample ID	WG-162D-MW39B-2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1 gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	_____ ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1703									
1713	.2	/	6.31	21.8	6.81	1260	0.79	-91	8.2
1718	↓	/	6.34	21.7	6.82	1230	0.64	-80	7.7
1723	↓	/	6.35	21.7	6.82	1240	0.67	-81	7.8
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1735	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1735	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	6.17 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	1-13-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	6.17 ft. BGL
MW ID	MW40B	**Location**	Other	**Total MW Depth**	42.55 ft. BGL
Sample ID	WG-1620-MW40B-2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1 gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1131	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1141	.2	1	6.29	22.9	6.91	1620	0.74	-72	4.7
1146	↓	1	6.36	22.4	6.85	1620	0.61	-70	5.8
1151	↓	1	6.35	22.7	6.86	1610	0.63	-71	5.7
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1210	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1210	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) (signature)

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119232	Project Name: UPRR HWPW	Date: 1-23-2020	
Sample Number: WC 1620 MW 41B 20200123		Starting Water Level (ft. BMP): 4.20	
Sampling Location (well ID, etc.): MW 41B		Casing Stickup (ft.): 4'	
Sampled by: Tim McSpadden		Starting Water Level (ft. BGL):	
Measuring Point (MP) of Well:		Total Depth (ft. BMP): 42.63	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 6 2" PVC	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.):	

QUALITY ASSURANCE

METHODS (describe): Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	P211 Heron Hi Water	Thermometer:	" "
pH Meter:	Horiba C1103	Field Calibration:	PH 4.0 PH 7.0
Conductivity Meter:	" "	Field Calibration:	
Filter / Filter Size:		Other:	Geo Pump 1402

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
12:00	4.20	.2	.2	18.29	6.96	1.28	2.16	-130	13.4	Clear
12:10	4.40	.3	.2	18.23	6.96	1.28	1.16	-136	10.2	
12:15	4.44	.4	.2	18.19	6.87	1.28	.75	-135	6.4	
12:20	4.46	.5	.2	18.23	6.85	1.28	.41	-132	4.6	
12:25	4.48	.6	.2	18.25	6.80	1.28	0.11	-124	8.2	
12:30	4.52	.7	.2	18.27	6.80	1.28	0	-124	9.4	
12:35	4.55	.8	.2	18.29	6.80	1.28	0	-124	8.2	

Water Level (ft. BMP) at End of Purge: 4.55

Sample Intake Depth (ft. BMP): 35.6

SAMPLE INVENTORY

Bottles Collected				Filtration		
Time	Volume	Composition (G/P)	No.	(Y / N)	Preservation	Remarks (quality control sample, other)
12:40			6			

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	Equipment Decon	☒ Dedicated equipment	Depth to Water	6.97 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	Casing Stickup	– ft.
Date	1-13-20	Reference Point	☒ Top of casing	☐ Depth to Water	6.97 ft. BGL
MW ID	MW42B	Location	Other	Total MW Depth	43.80 ft. BGL
Sample ID	WG-1620-MW42B-2019	Water Quality		MW Diameter	2.0 inches
Pump	☐ Waterra ☐ Submersible	Meter Model	HORIBA	MW Volume	1 gallons
	☒ Peristaltic ☐ Bladder	Unit Number	U-50	Pump Intake Depth	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1232	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1242	.2	/	7.19	21.9	6.77	1450	0.96	-41	7.3
1247	↓	/	7.22	21.6	6.75	1470	0.81	-36	6.2
1252	↓	/	7.21	21.7	6.74	1470	0.84	-39	6.9

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1310	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1310	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: HWPW UPRR Date: 1-9-2020

Sampling Location (well ID, etc.): MW 44A

Sample Number: WG 1620 MW44A 20200109

Sampled by: TIM MCSpadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 10.14

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 28.05 (ft. BGL): *

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): (Low Flow) - Dedicated Tubing/Equipment

Cleaning Equipment: DI/(Alconox Rinse)

Purge: (Peristaltic Pump) / SS Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: D211 Heron Other: Geo Pump P-1102

Multi Meter: Horiba C1103

Field Calibration: pH-4.08 NTU-0 Cond-445

Filter / Filter Size: 10 micron Poly

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
13:00	10.18	.2	.2	23.38	0.88	.814	7.21	-95	22.2	
13:10	10.34	.3	.2	23.35	0.63	.813	7.19	-95	18.7	
13:15	10.38	.4	.2	23.25	0.16	.806	7.09	-93	15.5	
13:20	10.39	.5	.2	23.25	0.41	.795	7.02	-91	14.4	
13:25	10.41	.6	.2	23.26	0.41	.795	7.03	-91	14.0	

WL (ft. BMP) at End of Purge: 10.41 Sample Intake Depth (ft. BMP): 25

SAMPLE INVENTORY

Bottles Collected					Filtration	Preservation	Remarks
Time		Volume	Composition (G, P)	No.	(Y / N)	(type)	(quality control sample, other)
13:30		2.0	G	6	N		

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	16.81 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	1-15-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	16.81 ft. BGL
MW ID	MW44C	**Location**	Other _____	**Total MW Depth**	47.80 ft. BGL
Sample ID	WG-1620-MW44C-20190115	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1 gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	_____ ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1241									
1251	.2	/	17.06	21.6	6.91	1140	0.91	-41	6.2
1256	↓	/	17.11	21.4	6.82	1120	0.71	-33	5.7
1301	↓	/	17.12	21.7	6.84	1110	0.72	-34	5.2
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1315	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1315	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCs / SVOCs

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HW PW Date: 1-20-2020

Sampling Location (well ID, etc.): MW 45 C

Sample Number: WG1620MW45C20200120

Sampled by: T.M McSpadden

Measuring Point (MP) of Well: TOC - Steel or PVC

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 16.01

Casing Stickup (ft.):

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 70.60 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron

Multi Meter: Horiba C1103

Field Calibration: PH. 4.0

Filter / Filter Size: 10 micron

Other: Geo Pump P1102

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
15:50	16.01	.2	.2	21.85	15.19	.245	8.09	-9	52.2	clear/nw
16:00	16.71	.3	.2	21.70	.52	.245	8.02	-3	49.7	
16:05	16.79	.4	.2	21.66	.35	.253	7.80	1	47.2	
16:10	16.66	.5	.2	21.60	.22	.257	7.53	2	49.1	
16:15	16.61	.6	.2	21.36	.05	.246	7.64	6	33.4	
16:20	16.63	.7	.2	20.38	0.0	.234	7.54	11	16.7	
16:25	16.66	.8	.2	20.23	0.5	.233	7.50	2	15.1	
16:30	16.74	.9	.2	20.95	0.0	.227	7.57	-10	39.4	

WL (ft. BMP) at End of Purge: 16.74

Sample Intake Depth (ft. BMP): 60.0

SAMPLE INVENTORY

Bottles Collected					Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
Time		Volume	Composition (G, P)	No.			
16:30				6			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	Equipment Decon	☒ Dedicated equipment	Depth to Water	16.34 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	Casing Stickup	– ft.
Date	1-15-20	Reference Point	☒ Top of casing	☐ Depth to Water	16.34 ft. BGL
MW ID	MW46C	Location	Other	Total MW Depth	72.80 ft. BGL
Sample ID	WG-1620-MW46C-20190115	Water Quality		MW Diameter	2.0 inches
Pump	☐ Waterra ☐ Submersible	Meter Model	HORIBA	MW Volume	1 gallons
	☒ Peristaltic ☐ Bladder	Unit Number	U-50	Pump Intake Depth	1 ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
0952									
1002	.2	/	16.56	23.4	6.74	1160	1.09	-31	26
1007	↓	/	16.57	23.5	6.72	1170	1.06	-25	18
1012	↓	/	16.57	23.4	6.71	1170	1.07	-26	19
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1025	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1025	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	17.28 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	ft.
Date	1-16-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	ft. BGL
MW ID	MW 47C	**Location**	Other	**Total MW Depth**	68.85 ft. BGL
Sample ID	WG-1620-MW47C-20200116	**Water Quality**		**MW Diameter**	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1033	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1043	.2	/	17.46	22.7	6.91	1260	1.39	-27	23
1048	↓	/	17.47	22.4	6.96	1240	1.07	-36	12
1053	↓	/	17.47	22.5	6.94	1240	1.08	-36	13

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1105	60ML	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1105	40ML / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	17.09 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	ft.
Date	1-16-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	ft. BGL
MW ID	MW48C	**Location**	Other	**Total MW Depth**	72.50 ft. BGL
Sample ID	WG-1620-MW48C-20200116	**Water Quality**		**MW Diameter**	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0947	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0957	.2	/	17.29	22.8	7.11	980	2.34	-96	16
1002	↓	/	17.31	22.9	7.13	960	1.96	-91	17
1007	↓	/	17.31	22.8	7.11	960	1.95	-92	17
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1020	60ML	P	1	☒ filtered ☐ unfiltered	HNO_3	METALS
1020	40ML / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) (signature)

49A

GROUNDWATER SAMPLING RECORD

PAGE 1 of ___

Project Number: 19119232 Project Name: VPRR HWPW Date: 1-7-2020

Sampling Location (well ID, etc.): MW-49A

Sample Number: WG-1620-MW49A-20200107

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - Steel or PVC

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 11.12

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 30.18 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow / Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum.

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: D211 Heron Other: Portable sampler P1102

Multi Meter: Horiba U1103

Field Calibration: PH-3.99 ORP-0 cond 4.52

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
12:30	11.12	.2	.2	21.40	9.64	1.00	6.33	-37	2.86	Clear/no
12:40	11.41	.3	.2	22.79	6.20	1.00	6.57	-86	224	
12:45	11:44	.4	.2	22.90	6.60	1.01	6.60	-94	188	
12:50	11:48	.5	.2	22.99	5.37	1.01	6.63	-98	165	
12:55	11.52	.6	.2	23.18	4.89	1.00	6.63	-102	142	
13:00	11:54	.7	.2	23.73	0.29	.979	6.65	-100	124	
13:05	11:56	.8	.2	23.91	0.21	.963	6.65	-101	91.4	
13:10	11:59	.9	.2	24.69	0.13	.845	6.67	-99	31.2	

WL (ft. BMP) at End of Purge: 11.59 Sample Intake Depth (ft. BMP): 27.

SAMPLE INVENTORY

Bottles Collected Time		Volume	Composition (G/P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
13:10		1.5		9			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE 2 of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-7-2020

Sampling Location (well ID, etc.): MW-49B

Sample Number: WG-1620-MW49B-20200107

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: (TOC) - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 11.57 20.09

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 33.05 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): (Low Flow) - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: D211 Heron Other: Portable Sampler P-1102

Multi Meter: Horiba C1103

Field Calibration: PH-3.99 NTU-0 cond 4,52

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
13:45	11.51	.2	.2	25.64	4.20	.708	6.91	-76	81.2	
13:55	11.76	.3	.2	25.54	4.10	.703	6.91	-76	85.4	
14:00	11.83	.4	.2	24.89	3.62	.714	6.88	-70	69.2	
14:05	11.93	.5	.2	24.90	3.41	.715	6.87	-69	63.2	
14:10	11.85	.6	.2	24.86	3.51	.714	6.86	-68	60.2	
14:15	11.86	.7	.2	24.88	3.06	.716	6.81	-65	74.2	
14:20	11.86	.8	.2	24.90	3.00	.716	6.80	-64	72.7	
14:25	11.86	.9	.2	24.87	2.73	.716	6.76	-61	58.9	

WL (ft. BMP) at End of Purge: 11.86 Sample Intake Depth (ft. BMP): 15.0

SAMPLE INVENTORY

Bottles Collected					Filtration	Preservation	Remarks
Time		Volume	Composition (S P)	No.	(Y / N)	(type)	(quality control sample, other)
14:30		1.5		9			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	7.09 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	1-9-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	7.09 ft. BGL
MW ID	MW50A	**Location**	Other	**Total MW Depth**	24.80 ft. BGL
Sample ID	WG-1620-MW50A-2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1643									
1658	.2	/	7.31	21.6	7.11	1140	0.92	-61	7.2
1703	↓	/	7.32	21.5	7.12	1130	0.81	-52	8.6
1708	↓	/	7.32	21.4	7.06	1120	0.74	-51	8.7

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1715	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1715	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	8.47 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	— ft.
Date	1-9-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	8.47 ft. BGL
MW ID	MW51A	**Location**	Other	**Total MW Depth**	24.90 ft. BGL
Sample ID	WG-162D-MW51A-2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	— gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	— ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1116	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1126	.2	/	8.72	20.4	7.12	1630	1.14	-71	9.2
1131	↓	/	8.75	20.6	7.13	1640	0.96	-72	7.1
1136	↓	/	8.76	20.7	7.17	1670	0.93	-72	6.7
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1150	60ML	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1150	40ML / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	20.34	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	-	ft.
Date	1-9-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	20.34	ft. BGL
MW ID	MW51C	**Location**	Other	**Total MW Depth**	72.80	ft. BGL
Sample ID	WG-1620-MW51C-2019	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**		gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**		ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1207	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1217	.2	/	20.62	21.3	7.11	1460	0.81	-67	6.1
1223	↓	/	20.61	21.1	7.05	1420	0.51	-60	7.9
1227	↓	/	20.61	21.2	7.06	1430	0.47	-61	7.7
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1240	60ML	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1240	40ML / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-9-2020

Sampling Location (well ID, etc.): MW-53C Starting Water Level (ft. BMP): 16.72

Sample Number: WG-1620-MW53C-20200109 Casing Stickup (ft.): 0

Sampled by: Tim McSpadden WL (ft. BMP): _____ (ft. BGL): _____

Measuring Point (MP) of Well: TOC - (Steel) or PVC TD (ft. BMP): 71.05 (ft. BGL): _____

Screened Interval (ft. BGL): Ft. water: _____ Casing Dia. (In ID): _____

Filter Pack Interval (ft. BGL): 1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): (Low Flow) - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: D2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba C1103

Field Calibration: D-4.08 NTU-0 ORP 445

Filter / Filter Size: 10 micron Abs

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
10:35	16.72	.2	.2	23.69	1.72	.224	9.01	-123	111	
10:45	16.99	.3	.2	23.57	0.72	.221	8.84	-129	40.1	
10:50	17.01	.4	.2	23.69	0.17	.208	8.64	-123	24.6	
10:55	17.01	.5	.2	23.75	0	.210	8.24	-104	14.9	
11:00	17.04	.6	.2	23.81	0	.213	8.16	-84	15.5	
11:05	17.06	.7	.2	23.80	0	.220	8.04	-70	17.0	
11:10	17.08	.8	.2	23.82	0	.237	7.92	-57	17.3	
11:15	17.08	.9	.2	23.87	0	.276	7.79	-48	19.9	

WL (ft. BMP) at End of Purge: 17:08 Sample Intake Depth (ft. BMP): 6.5

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G, P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
11:15		1.5		6			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 191192.32 Project Name: UPRR HWPW Date: 1-9-2020

Sampling Location (well ID, etc.): MW54C

Sample Number: WG 1620 MW54C 20200109

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - (Steel) or PVC

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 15.59

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 72.05 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: D2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba C1103

Field Calibration: pH 4.06 NTU-0 Cond 445

Filter / Filter Size: 10 micro Bltz

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
11:55	15.59	.2	.2	24.62	1.28	1.21	7.23	.95	42.3	Clear/tn
12:05	16.72	.3	.2	24.57	.91	1.21	7.17	.94	41.4	
12:10	16.76	.4	.2	23.43	.13	1.51	6.85	.88	300	X
12:15	16.78	.5	.2	23.27	.00	1.52	6.88	-84	155	
12:20	16.81	.6	.2	23.28	.00	1.52	6.86	-82	135	
12:25	16.83	.7	.2	23.53	.00	1.52	6.86	-83	126	
12:30	16.83	.7	.2	23.34	.00	1.52	6.88	-83	125	

WL (ft. BMP) at End of Purge: 16.83

Sample Intake Depth (ft. BMP): 69.

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G, P)	No.	Filtration (Y) N)	Preservation (type)	Remarks (quality control sample, other)
1235		1.5		6			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE 1 of ___

Project Number: 19119232 Project Name: HW PW Date: 1-8-2020

Sampling Location (well ID, etc.): MW-57A

Sample Number: ~~MW-57~~ WG-1620MW57A20200108

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - Steel or PVC

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 14.46

Casing Stickup (ft.): 3'

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 25.90 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: D 2111 Heron Other: Geo Pump P1101

Multi Meter: Horiba C1103

Field Calibration: D.4.04 NTU 0.0 COND 450

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
14:15	14.46	.2	.2	22.44	0.12	.700	6.77	-87	123	
14:25	14.53	.3	.2	22.41	0.01	.777	6.81	-69	68.3	
14:30	14.57	.4	.2	22.48	0.0	.770	6.82	-90	70.4	
14:35	14.66	.5	.2	22.84	0.0	.782	6.82	-96	71.4	
14:40	14.68	.6	.2	22.91	0.0	.783	6.82	-96	72.9	
14:45	14.71	.7	.2	23.11	0.0	.788	6.82	-103	53.1	
14:50	14.73	.8	.2	23.16	0.0	.788	6.81	-103	49.3	

WL (ft. BMP) at End of Purge: Sample Intake Depth (ft. BMP): 22

SAMPLE INVENTORY

Bottles Collected					Filtration	Preservation	Remarks
Time		Volume	Composition (G, P)	No.	(Y / N)	(type)	(quality control sample, other)
14:55		2.0		6			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE 1 of ___

Project Number: 19119232 Project Name: HWPW Date: 1-8-2020

Sampling Location (well ID, etc.): MW-57B

Sample Number: WG 1620 MW 57B 20200108

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 13.74

Casing Stickup (ft.): 3'

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 42.85 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): _____

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): (Low Flow) - Dedicated Tubing/Equipment

Cleaning Equipment: (DI/Alconox Rinse)

Purge: (Peristaltic Pump) / ~~SS~~ Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: D 2111 Heron Other: Geo pump P 1102

Multi Meter: Horiba C1103

Field Calibration: D-4.04 ORP 0.0 cond 450

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
12:45	13.74	.2	.2	23.31	1.86	.996	7.32	-60	0.0	
12:55	14.70	.3	.2	23.15	1.35	.999	7.32	-65	0.0	
13:00	14.74	.4	.2	23.12	.80	1.00	7.28	-69	628	
13:05	14.74	.5	.2	23.09	.72	1.00	7.28	-68	541	
13:10	14.76	.6	.2	23.00	.61	1.01	7.27	-66	467	
13:20	14.88	.7	.2	23.08	.51	1.01	7.27	-60	272	
13:25	14.95	.8	.2	23.01	.45	1.01	7.26	-58	240	
1330	14.96	.9	.2	23.03	.00	1.00	7.25	-51	92.4	

WL (ft. BMP) at End of Purge: 14.96 Sample Intake Depth (ft. BMP): 35

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G, P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
13:30		2.5		9			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE 1 of ___

Project Number: 19119232 Project Name: HWPW Date: 1-8-2020

Sampling Location (well ID, etc.): MW-58A

Sample Number: WG 1620 MW58A 20200108

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 17.71

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 28.60 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge to drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: D2111 Heron Other: Geo pump P1102

Multi Meter: Horiba C1103

Field Calibration: pH-4.04 NTU-0 COND 450

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
11:30	17.71	.2	.2	25.16	5.06	.648	6.86	-98	47.5	
11:40	15.12	.3	.2	24.96	5.51	.650	6.84	-99	43.8	
11:45	15.15	.3	.2	24.98	5.13	.637	6.82	-97	32.6	
11:50	15.17	.4	.2	24.87	5.74	.637	6.80	-95	30.1	
11:55	15.19	.5	.2	24.67	5.75	.635	6.81	-97	30.3	
12:00	15.22	.6	.2	24.69	5.71	.633	6.80	-96	35.9	
12:05	15.21	.7	.2	24.67	5.61	.622	6.80	-94	36.9	
12:10	15.23	.8	.2	24.69	5.57	.632	6.80	-95	42.9	

WL (ft. BMP) at End of Purge: 15.23 Sample Intake Depth (ft. BMP): 25.

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G, P)	No.	Filtration (Y) N)	Preservation (type)	Remarks (quality control sample, other)
12:15		2.5		9			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	9.21	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	-	ft.
Date		**Reference Point**	☒ Top of casing	☐ **Depth to Water**	9.21	ft. BGL
MW ID	MW59A	**Location**	Other	**Total MW Depth**	21.10	ft. BGL
Sample ID	WG-1620-MW59A-20190116	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**		gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**		ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0729	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0739	.2	/	9.47	22.7	6.96	1460	0.67	-71	7.4
0744	↓	/	9.51	22.3	6.92	1420	0.50	-61	7.8
0749	↓	/	9.52	22.4	6.91	1410	0.51	-62	7.4

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0805	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
0805	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	9.17	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	-	ft.
Date	1-16-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	9.17	ft. BGL
MW ID	MW59B	**Location**	Other _____	**Total MW Depth**	32.90	ft. BGL
Sample ID	WG-1620-MW59B-20190116	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**		ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0827	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0837	.2	/	9.34	22.3	6.79	1280	0.36	-29	6.2
0842	↓	/	9.37	22.1	6.71	1250	0.28	-25	5.1
0847	↓	/	9.36	22.1	6.72	1260	0.29	-26	5.3
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0900	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
0900	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	Equipment Decon	☒ Dedicated equipment	Depth to Water	83.06 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	Casing Stickup	- ft.
Date	1-16-20	Reference Point	☒ Top of casing	☐ Depth to Water	83.06 ft. BGL
MW ID	MW59D	Location	Other	Total MW Depth	117.80 ft. BGL
Sample ID	WG-1620-MW59D-20190116	Water Quality		MW Diameter	2.0 inches
Pump	☐ Waterra ☐ Submersible	Meter Model	HORIBA	MW Volume	1 gallons
	☒ Peristaltic ☐ Bladder	Unit Number	U-50	Pump Intake Depth	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1316	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1326	.2	/	83.19	21.6	7.06	1140	0.78	-91	4.7
1331	↓	/	83.21	21.3	7.03	1120	0.61	-86	26
1336	↓	/	83.22	21.2	7.03	1110	0.62	-86	3.2
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1350	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1350	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

~~MS/MSD~~

Field Team Leader JOHN BRAXTON
name

signature

WG-1620-FD03-20190116
1350-Dampletime

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	4.87 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	ft.
Date	1-16-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	ft. BGL
MW ID	MW 61A	**Location**	Other	**Total MW Depth**	21.95 ft. BGL
Sample ID	WG-1620-MW61A-20200116	**Water Quality**		**MW Diameter**	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1117									
1127	.2	/	5.39	22.9	6.72	1170	1.42	-37	6.7
1132	↓	/	5.41	22.6	6.69	1130	0.74	-36	7.2
1137	↓	/	5.42	22.7	6.68	1120	0.73	-36	7.7
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1200	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1200	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

MS/MSD

Field Team Leader JOHN BRAXTON (name) (signature)

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119232	Project Name: UPRR HWPW	Date: 1-27-2020	
Sample Number: WG-1620 MW 623 20200127		Starting Water Level (ft. BMP): 3.05	
Sampling Location (well ID, etc.): MW 623		Casing Stickup (ft.): 3'	
Sampled by: TJM MCSpadden		Starting Water Level (ft. BGL):	
Measuring Point (MP) of Well:		Total Depth (ft. BMP): 35.55	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 2"	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.):	

QUALITY ASSURANCE

METHODS (describe): _____

Cleaning Equipment: _____

Purging: _____ Sampling: _____

Disposal of Discharged Water: _____

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	01-7720 Golder	Thermometer:	" "
pH Meter:	Horiba C1106	Field Calibration:	Ph-4.0 Ph 4.0
Conductivity Meter:	" "	Field Calibration:	
Filter / Filter Size:	10 micron filter	Other:	Geo Pump P 1108

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
8:45	3.05	.2	.2	19.52	6.45	1.33	7.51	-2	89.1	
8:55	3.41	.3	.2	19.71	6.56	1.34	2.06	-72	79.8	
9:00	3.39	.4	.2	19.100	6.57	1.34	1.21	-100	77.0	
9:05	3.40	.5	.2	19.79	6.52	1.34	0.17	-130	39.7	
9:10	3.37	.6	.2	17.72	6.48	1.34	0.10	-129	34.4	
9:15	3.35	.7	.2	17.65	6.50	1.34	0.14	-131	32.1	
9:20	3.37	.8	.2	17.67	6.49	1.34	0.08	-130	32.2	

Water Level (ft. BMP) at End of Purge: 3.37

Sample Intake Depth (ft. BMP): ~~35~~ 32.

SAMPLE INVENTORY

Bottles Collected				Filtration		
Time	Volume	Composition (G/P)	No.	(Y/N)	Preservation	Remarks (quality control sample, other)
9:25			6			

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-16-2020

Sampling Location (well ID, etc.): MW 63B

Sample Number: WG-1620 MW 63B 20200116

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - Steel or PVC

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 4.90

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 36.27 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID) 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba C1103

Field Calibration: Ph - 4.0

Filter / Filter Size: /

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
14:15	4.90	.2	.2	24.48	3.12	1.79	6.69	-110	2.0	
14:25	5.81	.3	.2	24.60	0.90	1.80	6.61	-112	4.9	
14:30	6.57	.4	.2	24.42	1.63	1.82	6.48	-110	0.4	
14:35	6.91	.5	.2	24.26	3.11	1.81	6.45	-101	0	
14:40	7.15	.6	.2	24.45	2.88	1.80	6.46	-103	0	
14:45	7.29	.7	.2	24.46	2.84	1.78	6.46	-104	0	

WL (ft. BMP) at End of Purge: 7.29 Sample Intake Depth (ft. BMP): 32.

SAMPLE INVENTORY

Bottles Collected					Filtration	Preservation	Remarks
Time		Volume	Composition (G P)	No.	(Y / N)	(type)	(quality control sample, other)
14:45				6			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119232	Project Name: UPPR HWPW	Date: 1-27-20	
Sample Number: WG1620 MW 64A 20200127		Starting Water Level (ft. BMP): 4.91	
Sampling Location (well ID, etc.): MW 64A		Casing Stickup (ft.): 3'	
Sampled by: Tim McSpadden		Starting Water Level (ft. BGL):	
Measuring Point (MP) of Well:		Total Depth (ft. BMP): 22.20	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 2"	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.):	

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	01-7720	Thermometer:	" "
pH Meter:	Horiba C1106	Field Calibration:	
Conductivity Meter:	" "	Field Calibration:	
Filter / Filter Size:	10 Micron	Other:	Geo Pump PH08

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
10:35	4.91	.2	.2	17.04	6.49	482	13.16	118	0	
10:45	8.67	.3	.2	18.91	6.71	1.65	3.09	120	0	
10:50	8.72	.4	.2	18.84	6.70	1.66	2.81	122	964	
10:55	8.75	.5	.2	18.76	6.70	1.66	2.76	124	711	
11:00	8.77	.6	.2	18.72	6.69	1.66	2.93	124	734	
11:05	8.79	.7	.2	18.58	6.70	1.65	2.51	125	575	
11:10	8.82	.8	.2	18.46	6.70	1.65	2.01	125	531	

Water Level (ft. BMP) at End of Purge: 8.82

Sample Intake Depth (ft. BMP): 17

SAMPLE INVENTORY

Bottles Collected				Filtration		
Time	Volume	Composition (G, P)	No.	(Y) N)	Preservation	Remarks (quality control sample, other)
11:15			6			

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	83.29	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	-	ft.
Date	1-16-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	83.29	ft. BGL
MW ID	MW65D	**Location**	Other _____	**Total MW Depth**	109.75	ft. BGL
Sample ID	WG-1620-MW65D-20190116	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**		gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	1	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1538	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1548	.2	/	83.46	21.6	6.91	1240	1.13	-91	9.1
1553	↓	/	83.47	21.4	6.92	1260	0.94	-85	5.6
1558	↓	/	83.47	21.4	6.94	1270	0.91	-82	6.2
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1620	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1620	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

MS/MSD

Field Team Leader JOHN BRAYTON
name

signature

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	81.26	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	-	ft.
Date	1-16-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	81.26	ft. BGL
MW ID	MW-66D	**Location**	Other _____	**Total MW Depth**	103.05	ft. BGL
Sample ID	WG-1620-MW66P-20190116	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**		gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**		ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1426	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1431	.2	/	81.43	21.6	7.07	1160	1.21	-71	6.7
1441	↓	/	81.44	21.8	7.01	1160	0.92	-65	9.1
1446	↓	/	81.44	21.9	7.02	1170	0.93	-67	8.2
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1500	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1500	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	8.82 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	— ft.
Date	1-15-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	8.82 ft. BGL
MW ID	MW67B	**Location**	Other _____	**Total MW Depth**	39.50 ft. BGL
Sample ID	WG-1620-MW67B-20190115	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1 gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	_____ ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0843	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0853	.2	/	9.06	21.6	7.16	510	0.71	-96	7.6
0858	↓	/	9.08	21.9	7.12	460	0.54	-91	6.8
0903	↓	/	9.08	22.2	7.11	470	0.56	-92	7.4

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0930	60ML	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
0930	40ML / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

MS/MSD

Field Team Leader JOHN BRAXTON (name) _____ (signature)

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number:	Project Name:
Date: 1-23-2020	
Sample Number: WG1620 MW 68B 20200123	Starting Water Level (ft. BMP): 1.20
Sampling Location (well ID, etc.): MW 68B	Casing Stickup (ft.): -0
Sampled by: Tim McSpadden	Starting Water Level (ft. BGL): 1.20
Measuring Point (MP) of Well:	Total Depth (ft. BMP): 37.40
Screened Interval (ft. BGL):	Casing Diameter (In ID): 2"
Filter Pack Interval (ft. BGL):	Casing Volume (gal.):

QUALITY ASSURANCE

METHODS (describe): Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	P211 Heron Iti mate	Thermometer:	" "
pH Meter:	Horiba U11 03	Field Calibration:	PH 4.0 PH 4.0
Conductivity Meter:	" "	Field Calibration:	
Filter / Filter Size:		Other:	Geo Pump P1102

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
14:45	1.20	.2	.2	21.41	6.85	1.89	9.02	-55	59.1	
14:55	2.18	.3	.2	21.47	6.84	1.89	8.20	-52	57.6	
15:00	2.20	.4	.2	21.44	6.85	1.89	5.01	-55	55.0	
15:05	2.23	.5	.2	21.43	6.85	1.89	2.42	-56	52.1	
15:10	2.28	.6	.2	21.45	6.85	1.89	0	-56	53.9	
15:15	2.33	.7	.2	21.44	6.85	1.89	0	-56	54.7	
15:20	2.41	.8	.2	21.39	6.84	1.89	0	-55	53.7	
15:25	2.44	.9	.2	21.41	6.85	1.89	0	-56	53.1	

Water Level (ft. BMP) at End of Purge: 2.44

Sample Intake Depth (ft. BMP): 24.0

SAMPLE INVENTORY

Bottles Collected				Filtration		
Time	Volume	Composition (G/P)	No.	(Y/N)	Preservation	Remarks (quality control sample, other)
~~14:45~~		G	6			
15:25		G	6	Y		

Comments:

Power Supply error Horiba
Printed circuit board failure
Change batteries to fix the error

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-20-2020

Sampling Location (well ID, etc.): MW-7013

Sample Number: WG1620 MW7013 20200120

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - (Steel) or PVC

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 6.55

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 35.30 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): (Low Flow) Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Grd pump P1102

Multi Meter: Horiba C1103

Field Calibration: Ph. 4.0

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
10:50	6.55	.2	.2	20.10	1.34	2.69	6.52	9	81.4	clear/nd
11:00	7.31	.3	.2	20.64	0.78	2.61	6.53	1	92.6	
11:05	7.49	.4	.2	20.44	.03	2.61	6.56	3	84.9	
11:10	7.64	.5	.2	20.49	0	2.61	6.57	-5	79.9	
11:15	7.79	.6	.2	20.86	0	2.61	6.58	-12	43.1	
11:20	7.86	.7	.2	20.93	0	2.62	6.58	-14	35.9	
11:25	7.92	.8	.2	20.90	0	2.61	6.58	-14	34.7	
11:30	8.00	.9	.2	20.87	0	2.61	6.59	-13	32.6	

WL (ft. BMP) at End of Purge: 8.0 Sample Intake Depth (ft. BMP): 31.0

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G P)	No.	Filtration (Y N)	Preservation (type)	Remarks (quality control sample, other)
11:30				6			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	1.12	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	–	ft.
Date	1-15-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	1.12	ft. BGL
MW ID	MW11B	**Location**	Other _____	**Total MW Depth**	36.80	ft. BGL
Sample ID	WG-1620-MW11B-20190115	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**		ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1328	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1338	.2	/	1.29	22.7	6.96	610	0.55	-72	7.2
1343	↓	/	1.34	22.3	6.92	570	0.41	-66	7.4
1348	↓	/	1.35	22.4	6.91	580	0.42	-61	7.4

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1400	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1400	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCs / SVOCs

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

GROUNDWATER SAMPLING RECORD

PAGE 1 of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-9-2020

Sampling Location (well ID, etc.): MW-72B

Sample Number: UG 1620 MW72B 20200109

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - (Steel) or PVC

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 14.78

Casing Stickup (ft.):

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 40.31 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): (Low Flow - Dedicated Tubing/Equipment)

Cleaning Equipment: (DI/Alconox Rinse)

Purge: (Peristaltic Pump) / SS Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo pump 1102

Multi Meter: Horiba C1103

Field Calibration: pH 4.8 NTU-0 Cond 4uS

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
8:00	14.78	.2	.2	22.43	.46	1.75	6.36	-39	96.6	clear/no
8:10	15.58	.3	.2	22.41	.31	1.74	6.46	-40	99.9	
8:15	15.77	.4	.2	22.46	.11	1.71	6.72	-33	70.8	
8:20	15.84	.5	.2	22.52	.06	1.70	6.76	-32	65.8	
8:25	15.99	.6	.2	22.68	0.0	1.66	6.88	-30	33.4	
8:30	16.21	.7	.2	22.70	0	1.64	6.90	-30	32.8	
8:35	16.29	.8	.2	22.79	0	1.59	6.94	-31	32.5	

WL (ft. BMP) at End of Purge: 16.29 Sample Intake Depth (ft. BMP): 35

SAMPLE INVENTORY

Bottles Collected					Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
Time		Volume	Composition (G) P)	No.			
8:35		2.0		6			

Comments:

No tubing in well

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	Equipment Decon	☒ Dedicated equipment	Depth to Water	8.29	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	Casing Stickup	–	ft.
Date	1-17-20	Reference Point	☒ Top of casing	☐ Depth to Water	8.29	ft. BGL
MW ID	MW74B	Location	Other	Total MW Depth	35.10	ft. BGL
Sample ID	WG-1620-MW74B-20190117	Water Quality		MW Diameter	2.0	inches
Pump	☐ Waterra ☐ Submersible	Meter Model	HORIBA	MW Volume	1	gallons
	☒ Peristaltic ☐ Bladder	Unit Number	U-50	Pump Intake Depth		ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
0946									
0956	.2	/	8.47	23.1	6.89	1380	0.79	-71	16
1001	↓	/	8.49	23.1	6.85	1360	0.65	-72	12
1006	↓	/	8.49	23.2	6.84	1350	0.67	-72	13
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1020	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1020	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	Equipment Decon	☒ Dedicated equipment	Depth to Water	8.52 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	Casing Stickup	- ft.
Date	1-17-20	Reference Point	☒ Top of casing	☐ Depth to Water	8.52 ft. BGL
MW ID	MW75B	Location	Other	Total MW Depth	37.25 ft. BGL
Sample ID	WG-1620-MW75B-20190117	Water Quality		MW Diameter	2.0 inches
Pump	☐ Waterra ☐ Submersible	Meter Model	HORIBA	MW Volume	1 gallons
	☒ Peristaltic ☐ Bladder	Unit Number	U-50	Pump Intake Depth	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0742	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0752	.2	/	8.79	21.7	6.79	1170	0.74	-42	5.2
0757	↓	/	8.81	21.3	6.76	1140	0.63	-41	4.4
0802	↓	/	8.80	21.2	6.76	1130	0.67	-41	4.7

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0815	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
0815	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCs / SVOCs

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	Equipment Decon	☒ Dedicated equipment	Depth to Water	20.68 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	Casing Stickup	– ft.
Date	1-9-20	Reference Point	☒ Top of casing	☐ Depth to Water	20.68 ft. BGL
MW ID	MW76C	Location	Other	Total MW Depth	70.40 ft. BGL
Sample ID	WG-1620-MW76C-2019	Water Quality		MW Diameter	2.0 inches
Pump	☐ Waterra ☐ Submersible	Meter Model	HORIBA	MW Volume	1 gallons
	☒ Peristaltic ☐ Bladder	Unit Number	U-50	Pump Intake Depth	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1444									
1454	.2	/	20.91	22.6	7.06	1940	0.74	-77	5.6
1459	↓	/	20.94	22.3	7.12	1920	0.51	-70	7.1
1504	↓	/	20.93	22.4	7.13	1910	0.52	-71	7.2
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1520	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1520	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	6.81 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	1-9-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	6.81 ft. BGL
MW ID	MW 77A	**Location**	Other	**Total MW Depth**	22.80 ft. BGL
Sample ID	WG-1620-MW77A-2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1 gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1352	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1402	.2	/	6.97	21.4	6.92	1270	0.79	-42	9.2
1407	↓	/	7.01	21.3	6.91	1240	0.66	-39	7.4
1412	↓	/	7.02	21.6	6.91	1250	0.69	-39	8.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1425	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1425	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCs / SVOCs

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	7.96	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	–	ft.
Date	11-7-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	7.96	ft. BGL
MW ID	MW78A	**Location**	Other _____	**Total MW Depth**	24.85	ft. BGL
Sample ID	WG-1620-MW78A-20191117	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**		ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1053	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1103	.2	/	8.21	21.3	6.79	1240	1.46	-71	6.7
1108	↓	/	8.24	21.4	6.72	1260	1.31	-65	5.1
1113	↓	/	8.25	21.6	6.71	1230	1.26	-67	5.2
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1125	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1125	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	9.81	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	-	ft.
Date	1-17-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	9.81	ft. BGL
MW ID	MW79A	**Location**	Other ____	**Total MW Depth**	26.45	ft. BGL
Sample ID	WG-1620-MW79A-20190117	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**		ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0849	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0859	.2	/	10.06	21.6	6.91	720	0.61	-31	16
0904	↓	/	10.08	21.5	6.84	760	0.46	-25	17
0909	↓	/	10.09	21.5	6.86	770	0.47	-26	17
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0920	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
0920	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

GROUNDWATER SAMPLING RECORD

PAGE 3 of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-7-2020

Sampling Location (well ID, etc.): MW-80B

Sample Number: WG-1620-MW 80B 20200107

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: (TOC) - Steel or PVC

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 10.87

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 37.74 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): (Low Flow) - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: D2111 Horiba Other:

Multi Meter: Horiba C1103

Field Calibration: pH-3.99 NTU-0 Cond. 4.52

Filter / Filter Size:

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
15:15	10.87	.2	.2	24.86	11.31	.949	7.18	-7	20.8	
15:25	11.11	.3	.2	25.00	3.75	.946	7.17	-5	19.6	
15:30	11.14	.4	.2	25.17	3.37	.945	7.17	-6	18.1	
15:35	11.21	.5	.2	25.23	3.21	.946	7.18	-5	12.5	
15:40	11.24	.6	.2	25.25	3.11	.945	7.18	-5	10.1	
15:45	11.31	.7	.2	25.38	2.97	.943	7.19	-3	9.3	
15:50	11.33	.8	.2	25.42	2.94	.942	7.19	-4	4.8	
15:55	11.33	.9	.2	25.42	2.01	.942	7.19	-3	9.8	
16:00	11.35	.10	.2	25.40	2.91	.912	7.19	-5	4.5	

WL (ft. BMP) at End of Purge: 11.35 Sample Intake Depth (ft. BMP): 34.0

SAMPLE INVENTORY

Bottles Collected					Filtration	Preservation	Remarks
Time		Volume	Composition (G, P)	No.	(Y / N)	(type)	(quality control sample, other)
16:00		2.0		9			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	7.12 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	1-9-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	7.12 ft. BGL
MW ID	MW81B	**Location**	Other _____	**Total MW Depth**	33.80 ft. BGL
Sample ID	WG-1620-MW81B-2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1 gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	_____ ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1548									
1558	.2	/	7.22	21.9	7.21	1060	0.91	-62	8.1
1603	↓	/	7.27	21.6	7.15	1080	0.77	-60	6.7
1608	↓	/	7.28	21.6	7.16	1090	0.79	-61	7.1

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1620	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1620	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

MS / MSD

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 191 9232 Project Name: UPRR HW PW Date: 1-21-2020

Sampling Location (well ID, etc.): MW 82B

Sample Number: WG 1620 MW82B 20200121

Sampled by: T.M MCS pardee

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 2.65

Casing Stickup (ft.):

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 34.90 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): (Low Flow) - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H20 drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P211 Hervo Other: Geo Pump P1102

Multi Meter: Horiba C1103

Field Calibration: PH. 4.0

Filter / Filter Size:

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
8130	2.65	.2	.2	18.87	0.73	2.38	5.60	-61	65.3	
8140	2.94	.3	.2	18.24	0.60	2.35	5.88	-67	84.0	
8145	2.88	.4	.2	18.94	0.44	2.33	6.10	-76	93.8	
8150	2.81	.5	.2	18.40	0	2.34	6.23	-64	73.0	
8155	2.80	.6	.2	18.79	0	2.27	6.34	-58	6.3	
9:00	2.82	.7	.2	18.87	0	2.26	6.35	-58	5.2	
9:05	2.83	.8	.2	18.93	0	2.25	6.36	-60	5.1	
9:10	2.81	.9	.2	19.03	0	2.22	6.37	-61	3.9	

WL (ft. BMP) at End of Purge: 2.81

Sample Intake Depth (ft. BMP): 30.

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G/P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
9:10				18			

Comments:

WG-1620 MW82BMS 20200121

WG-1620 MW82BMSD 20200121

GOLDER

2201 Double Creek Dr., Suite 4004

Round Rock, Texas 78664

Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-10-2020

Sampling Location (well ID, etc.): MW 833

Sample Number: WG-1620 MW833 20200110

Sampled by: T.M McSpadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 5.33

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 35.50 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba C1103

Field Calibration: Ph - 3.99 NTU - 0 cond - 4.49

Filter / Filter Size: 45 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
9:25	5.33	.2	.2	24.08	10.01	1.27	7.54	-129	13.4	Clear/no
9:35	5.63	.3	.2	24.16	2.79	1.30	7.37	-126	10.0	
9:40	5.65	.4	.2	24.00	2.41	1.62	6.79	-115	6.8	
9:45	5.63	.5	.2	24.00	.57	1.68	6.49	-102	6.2	
9:50	5.63	.6	.2	24.02	.0	1.69	6.53	-104	4.8	
9:55	5.61	.7	.2	24.02	0	1.70	6.51	-104	2.9	

WL (ft. BMP) at End of Purge: 5.61

Sample Intake Depth (ft. BMP): 32

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G/P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
10:00		~~1L~~ 1/2		6			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE 1 of ___

Project Number: 191192.32 Project Name: UPRR HWPW Date: 1-10-2020

Sampling Location (well ID, etc.): MW 83C

Sample Number: WG 1620 MW83C 2020 0110

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: (TOC) Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 17.21

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 62.90 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): ~~Low Flow~~ - Dedicated Tubing/Equipment

Cleaning Equipment: ~~DI/Alconox Rinse~~

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge 1620 drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba C1103

Field Calibration: PH-3.99 NTU-0 cond-4.49

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
8:15	17.71	.2	.2	23.86	2.10	1.23	6.26	-100	67.9	Clear/no
8:25	17.99	.3	.2	23.75	.94	1.22	6.88	-133	66.9	
8:30	18.0	.4	.2	23.80	.52	1.21	7.13	-147	59.2	
8:35	17.99	.5	.2	23.98	.06	1.17	7.95	-178	30.2	
8:40	17.97	.6	.2	24.07	0	1.17	8.28	-188	25.8	
8:45	17.99	.7	.2	24.10	0	1.16	8.47	-201	23.2	
8:50	17.99	.8	.2	24.12	0	1.16	8.52	-209	23.7	
8:55	17.97	.9	.2	24.09	0	1.16	8.60	-209	20.9	

WL (ft. BMP) at End of Purge: 17.97 Sample Intake Depth (ft. BMP): 63

SAMPLE INVENTORY

Bottles Collected					Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
Time		Volume	Composition (G P)	No.			
9:00				6			

Comments:

Tubing 3' in well, used tools to fish out tubing.

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-16-2020

Sampling Location (well ID, etc.): MW 84B

Sample Number: WG1620 MW84B 20200116

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 4.33

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 40.40 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba C1103

Field Calibration: Ph. 4.0

Filter / Filter Size:

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
13:15	4.33	.2	.2	23.77	1.05	1.64	6.92	-15	9.0	Clear/no
13:25	4.67	.3	.2	23.37	.28	1.69	6.52	37	0	
13:30	4.68	.4	.2	23.27	.02	1.71	6.46	66	0	
13:35	4.70	.5	.2	23.26	.17	1.71	6.44	75	0	
13:40	4.73	.6	.2	23.24	.26	1.71	6.41	53	0	
13:45	4.73	.7	.2	23.22	.21	1.71	6.40	-9	0	

WL (ft. BMP) at End of Purge: 4.73 Sample Intake Depth (ft. BMP): 36

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G, P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
13:45				6			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	22.27 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	- ft.
Date	1-9-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	22.27 ft. BGL
MW ID	MW-85C	**Location**	Other	**Total MW Depth**	70.10 ft. BGL
Sample ID	WG-1620-MW85C-2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	/ gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1303	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1313	.2	/	22.47	22.6	7.52	1360	0.96	-21	6.7
1318	↓	/	22.51	22.4	7.46	1360	0.73	-16	5.2
1323	↓	/	22.52	22.1	7.47	1390	0.76	-17	4.3
Purging was completed based on:	☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)								

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1335	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1335	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) (signature)

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	21.09 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	1-17-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	21.09 ft. BGL
MW ID	MW86C	**Location**	Other	**Total MW Depth**	70.25 ft. BGL
Sample ID	WG-1620-MW86C-20190117	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1 gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
0642	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
0652	.2	/	21.32	21.6	7.12	1060	0.92	-36	4.7
0657	↓	/	21.37	21.2	7.11	1070	0.71	-31	6.6
0702	↓	/	21.36	21.3	7.09	1070	0.74	-32	6.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
0725	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
0725	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

WG-1620-FD04-20190117

Field Team Leader JOHN BRAXTON (name) _____ (signature)

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UP RR HWPW Date: 1-20-2020

Sampling Location (well ID, etc.): MW-87C

Sample Number: WG1620MW87C20200120

Sampled by: J.M McSpadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 15.79

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 65.0 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron

Multi Meter: Horiba C1103

Field Calibration: PH. 4.0

Filter / Filter Size: 10 micron

Other: Geo Pump P1102

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
13:20	5.79	.2	.2	23.49	1.52	1.05	9.13	-165	84.2	clear/no
13:30	6.22	.3	.2	23.65	0.21	1.03	9.41	-174	87.7	
13:35	6.12	.4	.2	23.67	.05	.985	10.00	-189	57.3	
13:40	5.96	.5	.2	23.51	0.0	.968	10.24	-190	49.9	
13:45	5.81	.6	.2	23.23	0.0	.976	10.59	-204	39.4	
13:50	5.84	.7	.2	23.01	0.0	.975	10.69	-209	37.5	
13:55	5.88	.8	.2	22.64	0	.974	10.93	-208	36.9	
14:00										

WL (ft. BMP) at End of Purge: 15.88

Sample Intake Depth (ft. BMP): 60

SAMPLE INVENTORY

Bottles Collected					Filtration (Y) N)	Preservation (type)	Remarks (quality control sample, other)
Time		Volume	Composition (G) P)	No.			
1400				6			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	24.64	ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	—	ft.
Date	1-14-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	24.64	ft. BGL
MW ID	MW88C	**Location**	Other ____	**Total MW Depth**	—	ft. BGL
Sample ID	WG-1620-MW88C-20190114	**Water Quality**		**MW Diameter**	2.0	inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	/	gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	/	ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1117									
1127	.2	/	24.72	23.4	7.21	1210	0.67	-77	5.3
1132	↓	/	24.71	23.1	7.16	1240	0.42	-71	4.1
1137	↓	/	24.72	23.2	7.17	1230	0.43	-72	4.2

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1150	60ML	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1150	40ML / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAYTON (name) _____ (signature)

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HWPW Date: 1-16-2020

Sampling Location (well ID, etc.): MW 89B

Sample Number: WG-1620 MW89B 20200116

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 6.19

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 40.80 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID) 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): (Low Flow) - Dedicated Tubing/Equipment

Cleaning Equipment: ~~DI/Alconox Rinse~~

Purge: ~~Peristaltic Pump~~ / SS Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba C1103

Field Calibration: Ph. 4.0

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
12:10	6.19	.2	.2	23.35	0.98	.258	7.81	-138	27.5	clear/no
12:20	6.30	.3	.2	23.26	0.29	.260	7.69	-146	23.6	
12:25	6.47	.4	.2	22.98	0	.281	7.57	-155	21.3	
12:30	6.55	.5	.2	22.90	0	.283	7.55	-157	21.1	
12:35	6.71	.6	.2	22.95	0	.287	7.45	-171	23.4	
12:40	6.82	.7	.2	22.98	0	.289	7.36	-182	23.9	

WL (ft. BMP) at End of Purge: 6.82 Sample Intake Depth (ft. BMP): 36.

SAMPLE INVENTORY

Bottles Collected Time		Volume	Composition (G/P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
12:45				6			

Comments:

WG 1620 FB08 20200116 12:00

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: UPRR HwPw Date: 1-20-2020

Sampling Location (well ID, etc.): MW 90B

Sample Number: WG-1620 MW90B 20200120

Sampled by: TJM MCSpadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 0.84

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 36.40 (ft. BGL): 2

Ft. water: _____ Casing Dia. (In ID): _____

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge HW drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other: Geo Pump P1102

Multi Meter: Horiba C1103

Field Calibration: Ph. 4.0

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
14:40	0.89	.2	.2	21.76	2.52	.854	9.10	-16	32.2	Clear/no
14:50	1.31	.3	.2	22.05	2.76	.861	8.03	-27	14.3	
14:55	1.47	.4	.2	22.00	1.48	.857	8.86	-37	14.0	
15:00	2.52	.5	.2	21.73	1.10	.858	8.32	-40	19.4	
15:05	2.68	.6	.2	21.59	1.33	.840	8.28	-42	19.4	
15:10	2.84	.7	.2	21.50	1.26	.844	8.05	-42	19.2	
15:15	2.96	.8	.2	21.71	1.12	.836	7.02	-44	14.1	

WL (ft. BMP) at End of Purge: 2.96 Sample Intake Depth (ft. BMP): 31.

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G/P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
15:20				6			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 1911232 Project Name: UPRR HWPW Date: 1-13-2020

Sampling Location (well ID, etc.): P-10

Sample Number: WG1620 MWP10 20200113

Sampled by: Tim Mespadden

Measuring Point (MP) of Well: TOC - Steel or (PVC)

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 3.18

Casing Stickup (ft.):

WL (ft. BMP): (ft. BGL):

TD (ft. BMP): 42.90 (ft. BGL):

Ft. water: Casing Dia. (In ID): 2"

1X Casing Vol (gal.): 3X (gal):

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: (Peristaltic Pump) / SS Pump / Bailer / Bladder Sampling: (Peristaltic Pump) / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge 1620 drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Heron Other:

Multi Meter: Horiba U-1103

Field Calibration: pH-7.99 ORP+0 cond 448

Filter / Filter Size: -

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
13:35	3.18	.2	.2	19.79	2.81	.981	6.95	114	13.8	Clear/no
13:45	4.61	.3	.2	19.61	2.41	1.01	6.97	113	8.9	
13:50	4.64	.4	.2	19.70	1.81	1.07	7.08	110	6.5	
13:55	4.64	.5	.2	19.70	1.57	1.08	7.14	108	6.1	
14:00	4.65	.6	.2	19.63	1.52	1.08	7.17	107	4.9	
14:05	4.66	.7	.2	19.65	1.38	1.09	7.21	106	3.3	
14:10	4.68	.8	.2	19.61	1.36	1.09	7.21	106	1.4	
14:15	4.70	.9	.2	19.60	1.38	1.09	7.21	106	2.4	

WL (ft. BMP) at End of Purge: Sample Intake Depth (ft. BMP): 37

SAMPLE INVENTORY

Bottles Collected					Filtration	Preservation	Remarks
Time		Volume	Composition (G, P)	No.	(Y / N)	(type)	(quality control sample, other)
14:20				2		Neat	

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	4.26 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	1-14-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	4.26 ft. BGL
MW ID	P11	**Location**	Other _____	**Total MW Depth**	42.75 ft. BGL
Sample ID	WG-1620-P11-20190114	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	1 gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	_____ ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate (L/min)	Cumulative Purge Volume (L)	Depth to Water (ft)	Temp (°C) ☐ NM	pH ☐ NM	Conductivity (µS/m or mS/cm) ☐ not measured	Dissolved Oxygen (mg/L) ☐ not measured	Redox Potential (mV) ☐ not measured	Turbidity (NTU) ☐ NM
1023									
1033	.2	/	4.42	21.7	6.91	1060	1.34	-99	7.9
1038	↓	/	4.43	21.6	6.91	1020	0.93	-96	7.1
1043	↓	/	4.43	21.6	6.92	1030	0.92	-96	7.4

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration (10µm / 45µm)	Preserved (type)	Notes and Observations (quality control sample, other)
Time	Volume	Composition (G / P)	No.			
1055	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1055	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

GROUNDWATER SAMPLING RECORD

1 | PAGE ___ of ___

Project Number: 191/9232 Project Name: UPRR HWPW Date: 1-13-2020

Sampling Location (well ID, etc.): P-12

Sample Number: WG-1620 MW P12 20200113

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC - Steel or PVC

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 3.96

Casing Stickup (ft.): 1.4'

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 42.75 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): 2"

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water: Purge H2O drum 1-7-2020

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: P2111 Hersa Other: Geo pump P1102

Multi Meter: Hanna C1103

Field Calibration: Ph-3.99 ORP-0 cond 4.49

Filter / Filter Size: 10"

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
~~9:15~~ 9:45	3.96	.2	.2	20.01	7.01	1.34	7.39	99	73.3	Clear/no
~~9:18~~ 9:55	4.89	.3	.2	20.09	1.82	1.33	7.30	100	76.0	
~~9:30~~ 10:00	4.91	.4	.2	20.11	1.44	1.31	7.19	103	72.8	
~~9:35~~ 10:05	4.95	.5	.2	20.14	1.30	1.30	7.14	104	70.8	
~~9:40~~ 10:10	4.98	.6	.2	20.17	1.20	1.30	7.09	106	66.5	
~~9:45~~ 10:15	4.99	.7	.2	20.26	1.00	1.28	6.99	111	59.9	
~~9:50~~ 10:20	4.99	.8	.2	20.33	0.67	1.28	6.90	112	54.5	
~~9:55~~ 10:25	5.02	.9	.2	20.33	0.49	1.28	6.89	112	53.4	

WL (ft. BMP) at End of Purge: 5.02 Sample Intake Depth (ft. BMP): 37

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G/P)	No.	Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
10:30				2	-	Neat	

Comments:

Collected MS MSD and Field Blank @ P-12

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

Groundwater Sample Collection

Page 1 of 1

GOLDER

Project/Phase	19119232	**Equipment Decon**	☒ Dedicated equipment	**Depth to Water**	5.53 ft. BMP
Site Location	UPRR-HWPW		☐ Decon between locations	**Casing Stickup**	– ft.
Date	1-13-20	**Reference Point**	☒ Top of casing	☐ **Depth to Water**	5.52 ft. BGL
MW ID	~~MW~~ TW41B	**Location**	Other _____	**Total MW Depth**	42.25 ft. BGL
Sample ID	WG-1620-TW41B-2019	**Water Quality**		**MW Diameter**	2.0 inches
Pump	☐ Waterra ☐ Submersible	**Meter Model**	HORIBA	**MW Volume**	/ gallons
	☒ Peristaltic ☐ Bladder	**Unit Number**	U-50	**Pump Intake Depth**	/ ft. BGL

Standard volume capacity of monitoring wells: Schedule 40 PVC (1-inch OD, 0.04 gallons/foot; 2-inch OD, 0.16 gallons/foot; 4-inch OD, 0.65 gallons/foot)

Time	Purge Rate	Cumulative Purge Volume	Depth to Water	Temp (°C)	pH	Conductivity (µS/m or mS/cm)	Dissolved Oxygen (mg/L)	Redox Potential (mV)	Turbidity (NTU)
1326	(L/min)	(L)	(ft)	☐ NM	☐ NM	☐ not measured	☐ not measured	☐ not measured	☐ NM
1336	.2	/	5.74	22.7	6.91	1460	0.79	-36	21
1341	↓	/	5.76	22.3	6.84	1490	0.61	-27	14
1346	↓	/	5.77	22.4	6.86	1490	0.62	-29	16

Purging was completed based on: ☒ stabilization of water quality parameters ☐ removal of three well volumes ☐ removal of at least one half well volume (low yield well)

Bottles Collected				Filtration	Preserved	Notes and Observations
Time	Volume	Composition (G / P)	No.	(10µm / 45µm)	(type)	(quality control sample, other)
1400	60mL	P	1	☐ filtered ☐ unfiltered	HNO_3	METALS
1400	40mL / 1L	G / G		☐ filtered ☒ unfiltered	HCL / NONE	VOCS / SVOCS

Notes: record time at which purging is started. For low flow sampling, recommended stabilization criteria: temp ± 0.5°C; pH ± 0.1 units; conductivity ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes with <1 foot of stable draw down.

Unless otherwise noted, groundwater sample collection was completed in accordance with the applicable requirements of Golder's Quality Assurance Program and Standard Operating Procedure ☐ 9 Conventional Groundwater Sample Collection ☒ 10 Low Flow Groundwater Sample Collection.

Field Team Leader JOHN BRAXTON (name) _____ (signature)

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: HWPW Date: 3-17-2020

Sampling Location (well ID, etc.): MW 60B

Sample Number: WG-1620 MW60B 20200317

Sampled by:

Measuring Point (MP) of Well: TOC - Steel or PVC

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 24.91

Casing Stickup (ft.): 0

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 39.50 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): _____

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): ~~Low Flow~~ - ~~Dedicated~~ Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: Heron D2106 Other: Geo purp 1122

Multi Meter: Horiba C1122

Field Calibration: PH buffer 4.0, FieldCal @ 4.0

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
14:30	24.91	.2	.2	~~26.85~~	5.36	1.35	6.73	-82	306	Clear
14:40	26.11	.3	.2	27.24	1.00	1.36	6.71	-87	0.0	LT Brown
14:45	26.40	.4	.2	26.69	0.31	1.40	6.58	-105	0.0	LT Brown
14:50	27.58	.5	.2	26.20	0.19	1.41	6.55	-111	0.0	LT Brown/Clearing
14:55	27.71	.6	.2	26.08	0.11	1.42	6.54	-113	0.0	clear
15:00	27.84	.7	.2	25.96	0.14	1.42	6.53	-116	0.0	clear
15:05	27.91	.8	.2	25.78	0.10	1.42	6.51	-117	751	clear
15:10	28.04	.9	.2	~~25.93~~ 25.93	0.01	1.41	6.50	-117	691	clear

WL (ft. BMP) at End of Purge: 28.04 Sample Intake Depth (ft. BMP): 320

SAMPLE INVENTORY

Time	Bottles Collected	Volume	Composition (G/P)	No.	Filtration (Y/N)	Preservation (type)	Remarks (quality control sample, other)
15:15			Pump	9	10 Micron		

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19192232 Project Name: HWPW Date: 3-17-2020

Sampling Location (well ID, etc.): MW-88B

Sample Number: WG1620MW88B20200317

Sampled by: T+M MCSpadden

Measuring Point (MP) of Well: TOC - Steel or PVC

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 7.82

Casing Stickup (ft.): 3'

WL (ft. BMP): _____ (ft. BGL): _____

TD (ft. BMP): 43.0 (ft. BGL): _____

Ft. water: _____ Casing Dia. (In ID): _____

1X Casing Vol (gal.): _____ 3X (gal): _____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: Heron D2106 Other: Geo Pump P1122

Multi Meter: Horiba C1122

Field Calibration: Ph buffer 4.0 Field cal @ 4.0

Filter / Filter Size:

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
13:10	7.82	.2	.2	25.11	4.38	1.15	6.65	37	18.8	Clear
13:20	8.44	.3	.2	25.27	2.33	1.16	6.67	36	1.4	
13:25	8.41	.4	.2	25.35	2.14	1.16	6.52	37	0.0	
13:30	8.50	.5	.2	25.25	2.08	1.16	6.46	50	0.0	
13:35	8.51	.6	.2	25.04	1.80	1.16	6.40	16	0.0	
13:40	8.47	.7	.2	25.09	1.61	1.16	6.38	9	0.1	
13:45	8.41	.8	.2	25.23	1.51	1.16	6.35	-10	0.9	
13:50	8.44	.9	.2	25.11	1.21	1.17	6.35	-17	0.8	

WL (ft. BMP) at End of Purge:

Sample Intake Depth (ft. BMP): 40.0

SAMPLE INVENTORY

Bottles Collected					Filtration	Preservation	Remarks
Time		Volume	Composition (G, P)	No.	(Y / N)	(type)	(quality control sample, other)
1350			Pump	9			

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE ___ of ___

Project Number: 19119232 Project Name: HarPW Date: 3-17-2020

Sampling Location (well ID, etc.): MW 88A

Sample Number: LWG-1020 MW88A 20200317

Sampled by: Tim McSpadden

Measuring Point (MP) of Well: TOC / Steel or PVC

Screened Interval (ft. BGL):

Filter Pack Interval (ft. BGL):

Starting Water Level (ft. BMP): 8.00

Casing Stickup (ft.): 3'

WL (ft. BMP): ____ (ft. BGL): ____

TD (ft. BMP): 25.50 (ft. BGL): ____

Ft. water: 2.8 Casing Dia. (In ID): 2"

1X Casing Vol (gal.): ____ 3X (gal): ____

QUALITY ASSURANCE

Gallons/Foot: 2": 0.16 4": 0.65 5.25": 1.12 6": 1.47 6.25": 1.59

METHODS (describe): Low Flow - Dedicated Tubing/Equipment

Cleaning Equipment: DI/Alconox Rinse

Purge: Peristaltic Pump / SS Pump / Bailer / Bladder Sampling: Peristaltic Pump / SS Pump / Bailer / Bladder

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level: Heron D 2106 Other: Geo pump P1122

Multi Meter: Horiba C1122

Field Calibration: Ph buffer 9.0 = Ph 4.0

Filter / Filter Size: 10 micron

SAMPLING MEASUREMENTS

Begin Purge:

Time	DTW (ft BTOC)	Cum. Vol. (gal. or L)	Purge Rate (gal. or L /m)	Temp. (oC)	DO (mg/L)	Spec. Cond. (µs/cm)	pH	ORP (mV)	Turbidity (NTU)	Color & Sediment
1220	8.00	.2	.2	24.93	0.72	0.954	6.47	-43	980	clear
1230	8.64	.3	.2	25.09	0.55	0.957	6.41	-48	926	
1235	8.64	.4	.2	25.19	0.31	0.957	6.37	-49	910	
1240	8.57	.5	.2	25.64	0.40	0.948	6.27	-51	832	
1245	8.51	.6	.2	25.33	0.33	0.957	6.23	-50	773	
1250	8.47	.7	.2	26.01	0.29	0.938	6.29	-57	684	
1255	8.41	.8	.2	26.13	0.27	0.935	6.30	-58	637	

WL (ft. BMP) at End of Purge: 8.41 Sample Intake Depth (ft. BMP): 23.

SAMPLE INVENTORY

Bottles Collected					Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
Time		Volume	Composition (G/P)	No.			
1255			Pump	9	10 Micron		

Comments:

GOLDER
2201 Double Creek Dr., Suite 4004
Round Rock, Texas 78664
Phone: (512) 671-3434 Fax: (512) 671-3446

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19189232	Project Name: HWPW	Date: 3-17-20	
Sample Number: WG1620MW96B20200317		Starting Water Level (ft. BMP): 4.28	
Sampling Location (well ID, etc.): MW96B		Casing Stickup (ft.): 0	
Sampled by: T. McFadden		Starting Water Level (ft. BGL): 4.28	
Measuring Point (MP) of Well: TOC		Total Depth (ft. BMP): 35.50	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 2"	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.): 4.9	

QUALITY ASSURANCE

METHODS (describe):- Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	Heron D 2106	Thermometer:	Horiba C1123
pH Meter:	Horiba C1122	Field Calibration:	
Conductivity Meter:	Horiba C1122	Field Calibration:	Ph buffer 4.0 Field Cal Ph 4.0
Filter / Filter Size:		Other:	Geo pump P1122

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
9:45	4.28	.2	.2	22.35	6.96	0.782	3.44	129	11.7	Clear
9:55	5.01	.3	.2	22.41	7.19	0.782	2.30	125	6.5	
10:00	4.98	.4	.2	22.38	7.49	0.779	1.71	123	0.9	
10:05	5.09	.5	.2	22.36	7.61	0.777	1.51	122	0.1	
10:10	5.14	.6	.2	22.39	7.63	0.775	1.47	121	0.4	
10:15	5.17	.7	.2	22.43	7.70	0.774	1.33	120	0.3	
10:20	5.14	.8	.2	22.46	7.71	0.774	1.30	120	0.6	
10:25	5.17	.9	.2	22.48	7.73	0.774	1.24	118	0.3	

Water Level (ft. BMP) at End of Purge: 5.14

Sample Intake Depth (ft. BMP): 30.

SAMPLE INVENTORY

Bottles Collected				Filtration (Y / N)	Preservation	Remarks (quality control sample, other)
Time	Volume	Composition (G/P)	No.			
10:25		Pump	9	NO		

Comments:

Duplicate Sample
WG1620FD02.20200317

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119232	Project Name: HWPW		Date: 3-17-2020
Sample Number: WG-1620 MW 95A 20200317		Starting Water Level (ft. BMP):	3.88
Sampling Location (well ID, etc.): MW-95A		Casing Stickup (ft.):	0
Sampled by: Tim McSpedden		Starting Water Level (ft. BGL):	3.88
Measuring Point (MP) of Well: TOC		Total Depth (ft. BMP):	24.90
Screened Interval (ft. BGL):		Casing Diameter (In ID):	2"
Filter Pack Interval (ft. BGL):		Casing Volume (gal.):	3.3

QUALITY ASSURANCE

METHODS (describe): Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	Heron D2106	Thermometer:	Horiba C1122
pH Meter:	Horiba C1122	Field Calibration:	
Conductivity Meter:	Horiba C1122	Field Calibration:	Ph buffer 4.0 - Field Cal Ph-4.0
Filter / Filter Size:		Other:	Geopump P1122

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
8:30	3.88	.2	.2	22.56	5.71	0.832	2.49	235	20.7	Clear
8:40	4.83	.3	.2	22.44	6.05	0.819	2.37	217	16.7	
8:45	4.90	.4	.2	22.31	6.19	0.806	2.22	209	14.8	
8:50	5.94 SM	.5	.2	22.10	6.23	0.802	2.18	205	12.6	
8:55	5.48	.6	.2	22.25	6.30	0.799	2.07	199	11.4	
9:00	5.37	.7	.2	22.22	6.31	0.799	2.03	194	9.2	
9:05	5.41	.8	.2	22.36	6.36	0.797	1.91	188	9.7	
9:10	5.42	.9	.2	22.42	6.37	0.797	1.90	186	9.1	

Water Level (ft. BMP) at End of Purge: 5.42

Sample Intake Depth (ft. BMP): 22.

SAMPLE INVENTORY

Bottles Collected				Filtration (Y (N))	Preservation	Remarks (quality control sample, other)
Time	Volume	Composition (G, P)	No.			
9:10		Pump	9			

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119232	Project Name: HWPW	Date: 3-17-2020	
Sample Number: WG-1620 MW 613 20200317	Starting Water Level (ft. BMP): 8.31		
Sampling Location (well ID, etc.): MW 613	Casing Stickup (ft.): 0		
Sampled by: Tim McSpadden	Starting Water Level (ft. BGL): 8.31		
Measuring Point (MP) of Well: TOC	Total Depth (ft. BMP): 33.25		
Screened Interval (ft. BGL):	Casing Diameter (In ID): 2"		
Filter Pack Interval (ft. BGL):	Casing Volume (gal.): 3.9		

QUALITY ASSURANCE

METHODS (describe): Low flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	Heron D2106	Thermometer:	Horiba C1122
pH Meter:	Horiba C1122	Field Calibration:	
Conductivity Meter:	Horiba C1122	Field Calibration:	pH buffer 4.0 Field Cal. = 4.0
Filter / Filter Size:		Other:	Geo pump P1122

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
11:10	8.31	.2	.2	23.76	7.01	1.18	3.80	129	0.0	Clear
11:20	7.99	.3	.2	23.58	6.72	1.21	3.41	140	0.0	
11:25	8.71	.4	.2	23.41	6.58	1.22	3.18	147	0.0	
11:30	8.59	.5	.2	23.53	6.52	1.22	3.06	149	0.0	
11:35	8.41	.6	.2	23.66	6.50	1.22	3.00	150	0.0	
11:40	8.37	.7	.2	23.63	6.46	1.22	2.91	152	0.0	
11:45	8.31	.8	.2	23.59	6.44	1.22	2.89	153	0.0	

Water Level (ft. BMP) at End of Purge: 8.31

Sample Intake Depth (ft. BMP): 30.

SAMPLE INVENTORY

Bottles Collected				Filtration (Y / (N))	Preservation	Remarks (quality control sample, other)
Time	Volume	Composition (G, (P))	No.			
11:45		Pump	9	NV		

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119232	Project Name: UP CSA	Date: 3-11-2020	
Sample Number: WG-1620 MW 54B 20200311		Starting Water Level (ft. BMP): 13.42	
Sampling Location (well ID, etc.): MW 54B		Casing Stickup (ft.): 0	
Sampled by: Tim M S parker		Starting Water Level (ft. BGL): 13.42	
Measuring Point (MP) of Well:		Total Depth (ft. BMP): 40.08	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 2"	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.): 4.2	

QUALITY ASSURANCE

METHODS (describe): Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	Heron H-01L D2106	Thermometer:	Horiba C1122
pH Meter:	Horiba C1122	Field Calibration:	
Conductivity Meter:	Horiba C1122	Field Calibration:	Buffer 4.0 = Field Cal @ 4.0
Filter / Filter Size:	0 micron	Other:	Geo pump P1122

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
13:55	13.42	.2	.2	2598	7.45	1.57	4.15	130	33.4	clear
14:05	15.05	.3	.2	25.87	7.19	1.56	3.71	113	24.9	clear
14:10	15.01	.4	.2	25.79	7.14	1.56	3.54	107	22.2	
14:15	14.97	.5	.2	2583	7.11	1.57	3.65	102	21.2	
14:20	14.93	.6	.2	25.84	7.09	1.57	3.63	99	21.8	

Water Level (ft. BMP) at End of Purge: 14.93

Sample Intake Depth (ft. BMP): 37.0

SAMPLE INVENTORY

Bottles Collected				Filtration		Remarks
Time	Volume	Composition (G/P)	No.	(Y/N)	Preservation	(quality control sample, other)
14:20		Plump (P)	9	(N)		

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119232	Project Name: UP CSA	Date: 3-16-2020	
Sample Number: WG1620MW99C20200316	Starting Water Level (ft. BMP): 14.99		
Sampling Location (well ID, etc.): MW99C	Casing Stickup (ft.): 0		
Sampled by: Tim McSpadden	Starting Water Level (ft. BGL): 14.99		
Measuring Point (MP) of Well: TOC	Total Depth (ft. BMP): 68.25		
Screened Interval (ft. BGL):	Casing Diameter (In ID): 2"		
Filter Pack Interval (ft. BGL):	Casing Volume (gal.): 8.5		

QUALITY ASSURANCE

METHODS (describe): Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	Heron H-Oil D2100	Thermometer:	Horiba C1122
pH Meter:	Horiba C1122	Field Calibration:	
Conductivity Meter:	Horiba C1122	Field Calibration:	Buffer 4.0 = Field Cal @ 4.0
Filter / Filter Size:		Other:	Geo pump P1127

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
15:00	14.99	.3	.2	28.20	11.48	1.62	1.13	-88	8.8	clear
15:10	15.25	.3	.2	28.51	11.74	1.62	0.57	-151	5.4	
15:15	15.19	.4	.2	28.87	11.78	1.63	0.40	-160	3.6	
15:20	15.10	.5	.2	28.27	11.80	1.63	0.31	-166	0.1	
15:25	15.02	.6	.2	28.23	11.80	1.63	0.30	-167	0.0	
15:30	14.99	.7	.2	28.26	11.81	1.63	0.28	-169	0.0	
15:35	14.92	.8	.2	28.08	11.78	1.63	0.22	-175	0.0	

Water Level (ft. BMP) at End of Purge: 14.99 Sample Intake Depth (ft. BMP): 210.0

SAMPLE INVENTORY

Bottles Collected				Filtration (Y / N)	Preservation	Remarks (quality control sample, other)
Time	Volume	Composition (G, P)	No.			
15:35		Pump	9			

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119232	Project Name: UP CSA HWPW		Date: 3-12-2020
Sample Number: WG1620MW91A20200312		Starting Water Level (ft. BMP): 5.21	
Sampling Location (well ID, etc.): MW 91A		Casing Stickup (ft.): -0	
Sampled by: Tim McSpadden		Starting Water Level (ft. BGL): 5.21	
Measuring Point (MP) of Well: TOC		Total Depth (ft. BMP): 24.10	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 2"	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.):	

QUALITY ASSURANCE

METHODS (describe): Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	Heron H-01L D2106	Thermometer:	Horiba C1122
pH Meter:	Horiba C1122	Field Calibration:	
Conductivity Meter:	Horiba C1122	Field Calibration:	pH buffer 4.0 - Field Cal = 4.0
Filter / Filter Size:	10 Micron	Other:	Geo pump PL122

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
8:45	5.21	.2	.2	22.73	7.82	0.733	2.18	-53	332	clear
8:55	5.31	.3	.2	22.60	7.52	0.742	0.71	-69	391	
9:00	5.34	.4	.2	22.50	7.14	0.747	0.24	-81	272	
9:05	5.36	.5	.2	22.57	6.68	0.801	0.08	-84	208	
9:10	5.33	.6	.2	22.65	6.55	0.838	0.00	-91	131	
9:15	5.34	.7	.2	22.64	6.54	0.835	0.00	-92	108	
9:20	5.31	.8	.2	22.67	6.52	0.845	0.00	-92	102	

Water Level (ft. BMP) at End of Purge: 5.31

Sample Intake Depth (ft. BMP): 22.0

SAMPLE INVENTORY

Bottles Collected				Filtration (Y / N)	Preservation	Remarks (quality control sample, other)
Time	Volume	Composition (G/P)	No.			
9:20		Pump	9	10 Micron		

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 1919232	Project Name: UP HWPW	Date: 3-12-2020	
Sample Number: WG1620MW70C20200312		Starting Water Level (ft. BMP): 16.04	
Sampling Location (well ID, etc.): MW 70C		Casing Stickup (ft.): 0	
Sampled by: TJM MCS pacden		Starting Water Level (ft. BGL): 16.04	
Measuring Point (MP) of Well: TOC		Total Depth (ft. BMP): 67.02	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 2"	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.): 8.1	

QUALITY ASSURANCE

METHODS (describe): Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	Heron H-Oil D2106	Thermometer:	Horiba C1122
pH Meter:	Horiba C1122	Field Calibration:	
Conductivity Meter:	Horiba C1122	Field Calibration:	PH buffer 4.0 - Field Cal = 4.0
Filter / Filter Size:	10 micron	Other:	Geo pump P1122

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
9:55	16.04	.2	.2	24.37	7.01	1.00	0.99	-7	70.3	Clear
10:05	16.25	.3	.2	24.58	7.04	0.997	0.61	-13	70.5	
10:10	16.19	.4	.2	24.63	7.13	0.999	0.35	-41	58.9	
10:15	16.18	.5	.2	24.72	7.10	1.01	0.22	-46	59.7	
10:20	16.20	.6	.2	24.87	7.06	1.11	0.00	-80	56.2	
10:25	16.18	.7	.2	24.76	6.99	1.18	0.02	-91	53.2	
10:30	16.19	.8	.2	24.83	6.98	1.20	0.01	-93	51.4	

Water Level (ft. BMP) at End of Purge: 16.19

Sample Intake Depth (ft. BMP):

SAMPLE INVENTORY

Bottles Collected				Filtration		
Time	Volume	Composition (G/P)	No.	(Y/N)	Preservation	Remarks (quality control sample, other)
10:35		Pump	18	10 Micron		

Comments: Duplicate
WG1620 FD 01 20200312

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-36[illegible]

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19619232	Project Name: UP HWPW	Date: 3-12-2020	
Sample Number: GW-1620 MW84A 20200312		Starting Water Level (ft. BMP): 4.19	
Sampling Location (well ID, etc.): MW 84A		Casing Stickup (ft.): 0	
Sampled by: T.M mcspadden		Starting Water Level (ft. BGL): 4.19	
Measuring Point (MP) of Well: TOC		Total Depth (ft. BMP): 23.80	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 2"	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.): 3.1	

QUALITY ASSURANCE

METHODS (describe): Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	Heron H-01L D2106	Thermometer:	Horiba-C1122
pH Meter:	Horiba C1122	Field Calibration:	
Conductivity Meter:	Horiba C1122	Field Calibration:	Ph buffer 4.0-Field Cal = 4.0
Filter / Filter Size:	1.0 micron	Other:	Geopump P1122

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
11:25	4.19	~~26.09~~	.2	26.04	6.96	0.970	1.52	53	78.8	clear
11:35	4.41	.3	.2	26.50	6.57	0.985	0.51	34	65.7	
11:40	4.29	.4	.2	26.59	6.54	0.984	0.45	33	71.4	
11:45	4.24	.5	.2	26.74	6.52	0.984	0.31	34	53.5	
11:50	4.22	.6	.2	26.85	6.57	0.984	0.26	36	55.6	
11:55	4.21	.7	.2	27.04	6.57	0.980	0.25	34	53.4	
12:00	4.22	.8	.2	27.19	6.50	0.981	0.24	31	44.8	
12:05	4.20	.9	.2	27.35	6.50	0.978	0.24	30	50.8	

Water Level (ft. BMP) at End of Purge: 4.20

Sample Intake Depth (ft. BMP): 21.

SAMPLE INVENTORY

Bottles Collected				Filtration		
Time	Volume	Composition (G/P)	No.	(Y / N)	Preservation	Remarks (quality control sample, other)
12:15		Pump	9	Y Micron		

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119232	Project Name: HWPW	Date: 3-12-2020	
Sample Number: WG-1620 MW 923 20200312		Starting Water Level (ft. BMP): 4.19	
Sampling Location (well ID, etc.): MW 923		Casing Stickup (ft.): 0	
Sampled by: Tim McSpadden		Starting Water Level (ft. BGL): 4.19	
Measuring Point (MP) of Well: TOC		Total Depth (ft. BMP): 34.60	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 2	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.): 4.8	

QUALITY ASSURANCE

METHODS (describe): Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	Heron H.Oil D2106	Thermometer:	Horiba C1122
pH Meter:	Horiba C1122	Field Calibration:	
Conductivity Meter:	Horiba C1122	Field Calibration:	PH buffer 4.0 Field Cal. PH 4.0
Filter / Filter Size:	~~50 microns~~	Other:	Geo pump P1122

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
1245	4.19	.2	.2	30.89	6.56	1.77	0.53	17	3.7	clear
1255	4.90	.3	.2	29.99	6.36	1.83	0.26	-4	4.0	
1300	4.72	.4	.2	29.92	6.34	1.82	0.21	-6	4.8	
1305	4.64	.5	.2	29.91	6.32	1.83	0.19	-10	5.7	
1310	4.51	.6	.2	29.90	6.32	1.83	0.17	-12	7.4	
1315	4.49	.7	.2	29.93	6.32	1.83	0.15	-14	9.2	

Water Level (ft. BMP) at End of Purge: 4.49 Sample Intake Depth (ft. BMP): 32.0

SAMPLE INVENTORY

Bottles Collected				Filtration		Remarks
Time	Volume	Composition (G/P)	No.	(Y / N)	Preservation	(quality control sample, other)
1320		Pump	9	NO		

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119232	Project Name: HWPW	Date: 3-12-2020	
Sample Number: WG1620MW93B20200312	Starting Water Level (ft. BMP): 4.06		
Sampling Location (well ID, etc.): MW 93B	Casing Stickup (ft.): 0		
Sampled by: Tim McSpadden	Starting Water Level (ft. BGL): 4.06		
Measuring Point (MP) of Well: TOC	Total Depth (ft. BMP): 34.01		
Screened Interval (ft. BGL):	Casing Diameter (In ID): 2"		
Filter Pack Interval (ft. BGL):	Casing Volume (gal.): 4.7		

QUALITY ASSURANCE

METHODS (describe): Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	Heron H-Oil D 2106	Thermometer:	Horiba C1122
pH Meter:	Horiba C1122	Field Calibration:	
Conductivity Meter:	Horiba C1122	Field Calibration:	PH buffer 4.0 Field Cal = 4.0
Filter / Filter Size:	10 Micron	Other:	Geo pump & 1122

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
13:55	4.06	.2	.2	30.37	6.69	1.24	1.09	11	10.8	Clear
1405	4.49	.3	.2	30.39	6.54	1.28	0.50	-26	12.4	
1410	4.36	.4	.2	29.56	6.45	1.34	0.25	-50	12.8	
1415	4.29	.5	.2	28.83	6.40	1.37	0.15	-59	16.0	
1420	4.28	.6	.2	28.08	6.34	1.37	0.05	-66	21.0	
1425	4.28	.7	.2	27.79	6.30	1.36	0.01	-70	25.1	
1430	4.31	.8	.2	27.01	6.31	1.36	0.00	-72	22.4	
1435	4.28	.9	.2	27.67	6.23	1.34	0.00	-72	28.6	

Water Level (ft. BMP) at End of Purge:

Sample Intake Depth (ft. BMP): 32.0

SAMPLE INVENTORY

Bottles Collected				Filtration		
Time	Volume	Composition (G/P)	No.	(Y/N)	Preservation	Remarks (quality control sample, other)
1435		Pump	9	10 Micron		

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119232	Project Name: HWPH	Date: 3-12-2020	
Sample Number: WG1620MW94A20200312		Starting Water Level (ft. BMP): 3.99	
Sampling Location (well ID, etc.): MW 94A		Casing Stickup (ft.): 0	
Sampled by: Tim McSpadden		Starting Water Level (ft. BGL): 3.99	
Measuring Point (MP) of Well: TOC		Total Depth (ft. BMP): 21.60	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 2"	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.):	

QUALITY ASSURANCE

METHODS (describe): Low flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	Heron H-Oil D2106	Thermometer:	Horiba C1122
pH Meter:	Horiba C1122	Field Calibration:	
Conductivity Meter:	Horiba C1122	Field Calibration:	PH buffer 4.0, Field Cal = 4.0
Filter / Filter Size:	10 micron	Other:	Geo pump P1122

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
15:05	3.99	.2	.2	30.83	6.78	0.598	0.62	-72	138	Clear
15:15	4.21	.3	.2	30.37	6.82	0.605	0.44	-78	154	
15:20	4.01	.4	.2	29.71	6.77	0.612	0.33	-84	163	
15:25	4.00	.5	.2	29.16	6.74	0.617	0.26	-88	215	
15:30	4.00	.6	.2	27.99	6.65	0.626	0.09	-95	197	
1535	4.01	.7	.2	27.87	6.63	0.627	0.07	-94	161	
1540	4.01	.8	.2	27.41	6.59	0.630	0.00	-95	151	
1545	4.00	.9	.2	26.70	6.34	0.633	0.00	-85	92.8	

Water Level (ft. BMP) at End of Purge: Sample Intake Depth (ft. BMP):

SAMPLE INVENTORY

Bottles Collected				Filtration		
Time	Volume	Composition (G, P)	No.	(Y) N	Preservation	Remarks (quality control sample, other)
1545		Pump	9	10 micron		

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

GROUNDWATER SAMPLING RECORD

PAGE 1 of 1

Project Number: 19119232 **Project Name:** HWPW	**Date:** 3.12.20
Sample Number: 76B WG-1620-MW76B-20200312	**Starting Water Level (ft. BMP):** ~~4.80~~ 5.40
Sampling Location (well ID, etc.): MW-76B	**Casing Stickup (ft.):** -
Sampled by: SDB	**Starting Water Level (ft. BGL):** -
Measuring Point (MP) of Well: TOC/PVC	**Total Depth (ft. BMP):** 35.50
Screened Interval (ft. BGL): 31-36	**Casing Diameter (in ID):** 2
Filter Pack Interval (ft. BGL): 29-36	**Casing Volume (gal.):** 4.91 = ~~18.58~~ L

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Dedicated Equipment

Purging: (Peristaltic) or bladder pump with dedicated tubing **Sampling:** Same

Disposal of Discharged Water: 55 gal Drum CSA

INSTRUMENTS (Indicate make, model, I.D.)

Water Level: Keck

pH Meter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
Conductivity Meter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
Thermometer: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
Turbidimeter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
ORP Meter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
DO Meter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
Other:	**Filter / Filter Size:** 10 micron

SAMPLING MEASUREMENTS

Time	Cum. Vol. (L)	Purge Rate (L/m)	Temp. (oC)	pH	Spec. Cond. (µS/cm)	Color	Turbidity & Sediment (NTU)	ORP (mV)	DO (mg/L)	Water Level (ft BMP)	Remarks
10:10	-	0.2	-	-	-	-	-	-	-	~~5.40~~	Pump is on
10:20	2	〃	24.67	6.87	1520	Neutral	30.7	204	2.17	6.20	
10:25	3	〃	24.88	6.86	1530	〃	15.8	194	1.89	6.55	
10:30	4	〃	25.24	6.86	1530	〃	15.6	179	1.75	6.90	

Water Level (ft. BMP) at End of Purge: 6.90 **Sample Intake Depth (ft. BMP):** 32.50

SAMPLE INVENTORY

Bottles Collected				Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
Time	Volume	Composition (G, P)	No.			
10:35	1 L	G	2	N	Neat	SVOCs - Site specific
10:35	120 mL	P	1	Y	HNO_3	Metals - As
10:35	40 mL	G	6	N	HCL	VOC site specific / TPH

Comments:

GOLDER
Golder Associates Inc.
14950 Heathrow Forest Pkwy Ste. 280
Houston, Texas 77032
O·281.821.6868 www.golder.com

GROUNDWATER SAMPLING RECORD

PAGE 1 of 1

Project Number: 19119232 Project Name: HWPW Date: 3.12.20

Sample Number: WG-1620-MW97A-20200312 Starting Water Level (ft. BMP): 5.20

Sampling Location (well ID, etc.): MW-97A Casing Stickup (ft.): -

Sampled by: SNS Starting Water Level (ft. BGL): -

Measuring Point (MP) of Well: TOC/PVC Total Depth (ft. BMP): 19.85

Screened Interval (ft. BGL): 10.5 - 20.5 Casing Diameter (in ID): 2

Filter Pack Interval (ft. BGL): 8.5 - 21 Casing Volume (gal.): 2.39 = 9.05L

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Dedicated Equipment

Purging: Peristaltic or bladder pump with dedicated tubing **Sampling:** Same

Disposal of Discharged Water: 55 gal Drum CSA

INSTRUMENTS (Indicate make, model, I.D.)

Water Level: Keck

pH Meter: Horiba U-52 **Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution

Conductivity Meter: Horiba U-52 **Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution

Thermometer: Horiba U-52 **Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution

Turbidimeter: Horiba U-52 **Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution

ORP Meter: Horiba U-52 **Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution

DO Meter: Horiba U-52 **Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution

Other: **Filter / Filter Size:** 10 micron

SAMPLING MEASUREMENTS

Time	Cum. Vol. (L)	Purge Rate (L/m)	Temp. (oC)	pH	Spec. Cond. (µS/cm)	Color	Turbidity & Sediment (NTU)	ORP (mV)	DO (mg/L)	Water Level (ft BMP)	Remarks
11:19	-		-	-	-	-	-	-	-	5.20	Pump is on
11:29	2	0.2	26.31	6.58	1910	Neutral	109	45	0.00	5.75	
11:34	3	↓	26.52	6.58	1890	↓	89.7	38	0.00	5.82	
11:39	4	↓	26.68	6.57	1890	↓	77.6	34	0.00	5.91	
11:42	4.5	↓	26.68	6.59	1880	↓	64.9	33	0.00	5.92	
11:45	5	↓	26.70	6.59	1870	↓	59.2	33	0.00	5.93	

Water Level (ft. BMP) at End of Purge: 5.93 Sample Intake Depth (ft. BMP): 16.85

SAMPLE INVENTORY

Bottles Collected				Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
Time	Volume	Composition (G, P)	No.			
11:47	1 L	G	2	N	Neat	SVOCs
11:47	120 mL	P	1	Y	HNO_3	Metals - As
11:47	40 mL	G	6	N	HCL	VOCs / TPH

Comments:

GOLDER
Golder Associates Inc.
14950 Heathrow Forest Pkwy Ste. 280
Houston, Texas 77032
O·281.821.6868 www.golder.com

GROUNDWATER SAMPLING RECORD

PAGE 1 of 1

Project Number: 19119232 Project Name: HWPW	Date: 3.12.20
Sample Number: WG-1620-MW98A-20200312	Starting Water Level (ft. BMP): 7.19
Sampling Location (well ID, etc.): MW-98A	Casing Stickup (ft.): -
Sampled by: SAS	Starting Water Level (ft. BGL): -
Measuring Point (MP) of Well: TOC/PVC	Total Depth (ft. BMP): 20.40
Screened Interval (ft. BGL): 10.5 - 20.5	Casing Diameter (in ID): 2
Filter Pack Interval (ft. BGL): 8.5 - 21	Casing Volume (gal.): 2.16 = 8.18 L

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Dedicated Equipment

Purging: Peristaltic or bladder pump with dedicated tubing **Sampling:** Same

Disposal of Discharged Water: 55 gal drum CSA

INSTRUMENTS (Indicate make, model, I.D.)

Water Level: Keck

pH Meter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
Conductivity Meter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
Thermometer: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
Turbidimeter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
ORP Meter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
DO Meter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
Other:	**Filter / Filter Size:** 10 micron

SAMPLING MEASUREMENTS

Time	Cum. Vol. (L)	Purge Rate (L/m)	Temp. (oC)	pH	Spec. Cond. (µS/cm)	Color	Turbidity & Sediment (NTU)	ORP (mV)	DO (mg/L)	Water Level (ft BMP)	Remarks
12:26	-	0.2	-	-	-	-	-	-	-	7.19	Pump is on
12:36	2	↓	30.18	6.89	1810	Neutral	78.7	-88	0.00	7.91	
12:41	3	↓	30.01	6.89	1820	↓	63.3	-92	0.00	7.95	
12:46	4	↓	29.76	6.87	1850	↓	48.7	-94	0.00	7.97	
12:49	4.5	↓	29.66	6.86	1860	↓	45.0	-95	0.00	7.98	

Water Level (ft. BMP) at End of Purge: 7.98 **Sample Intake Depth (ft. BMP):** 17.40

SAMPLE INVENTORY

Bottles Collected				Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
Time	Volume	Composition (G, P)	No.			
12:54	1 L	G	2	N	Neat	SVOCs
12:54	120 mL	P	1	Y	HNO_3	Metals - As
12:54	40 mL	G	6	N	HCL	VOCs / TPH

Comments:

GOLDER

Golder Associates Inc.
14950 Heathrow Forest Pkwy Ste. 280
Houston, Texas 77032
O·281.821.6868 www.golder.com

GROUNDWATER SAMPLING RECORD

PAGE 1 of 1

Project Number: 19119232	**Project Name:** HWPW	**Date:** 3.12.20	
Sample Number: MG-1620-MW98B-20200312		**Starting Water Level (ft. BMP):** 8.30	
Sampling Location (well ID, etc.): MW-98B		**Casing Stickup (ft.):** -	
Sampled by: SV		**Starting Water Level (ft. BGL):** 8.3 -	
Measuring Point (MP) of Well: TOC/PVC		**Total Depth (ft. BMP):** 39.80	
Screened Interval (ft. BGL): 35-40		**Casing Diameter (in ID):** 2	
Filter Pack Interval (ft. BGL): 31-40		**Casing Volume (gal.):** 5.14 = 19.46L	

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Dedicated Equipment

Purging: (Peristaltic) or bladder pump with dedicated tubing **Sampling:** Same

Disposal of Discharged Water: 55 gal Drum CSA

INSTRUMENTS (Indicate make, model, I.D.)

Water Level: Keck	
pH Meter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
Conductivity Meter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
Thermometer: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
Turbidimeter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
ORP Meter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
DO Meter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
Other:	**Filter / Filter Size:** 10 micron

SAMPLING MEASUREMENTS

Time	Cum. Vol. (L)	Purge Rate (L/m)	Temp. (oC)	pH	Spec. Cond. (µS/cm)	Color	Turbidity & Sediment (NTU)	ORP (mV)	DO (mg/L)	Water Level (ft BMP)	Remarks
13:25	-	0.2	-	-	-	-	-	-	-	8.30	Pump is on
13:35	2	〃	29.26	7.11	991	Neutral	30.7	74	0.42	11.30	
13:40	3	〃	29.78	7.12	981	〃	25.7	73	0.37	12.25	
13:45	4	↓	29.03	7.17	993	〃	4.2	74	0.37	13.81	
13:48	4.5	↓	29.17	7.12	991	〃	6.2	75	0.44	14.89	
13:51	5	↓	29.32	7.12	987	↓	6.8	75	0.47	15.23	

Water Level (ft. BMP) at End of Purge: 15.23 **Sample Intake Depth (ft. BMP):** 36.80

SAMPLE INVENTORY

Bottles Collected				Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
Time	Volume	Composition (G, P)	No.			
13:50	1 L	G	2	N	Neat	SVOCs
13:50	120 mL	P	1	N	HNO_3	Metals-As
13:50	40 mL	G	6	N	HCl	VOCs / TPH

13:53

Comments:

GOLDER
Golder Associates Inc.
14950 Heathrow Forest Pkwy Ste. 280
Houston, Texas 77032
O·281.821.6868 www.golder.com

GROUNDWATER SAMPLING RECORD

PAGE 1 of 1

Project Number: 19119232 **Project Name:** HWPW **Date:** 3.12.20

Sample Number: WG-1620-MW503-20200312 **Starting Water Level (ft. BMP):** 8.37

Sampling Location (well ID, etc.): 503 **Casing Stickup (ft.):** -

Sampled by: SB **Starting Water Level (ft. BGL):** -

Measuring Point (MP) of Well: TOC/PVC **Total Depth (ft. BMP):** 35.5 - Silty bottom

Screened Interval (ft. BGL): 34.5 - 39.5 **Casing Diameter (in ID):** 2

Filter Pack Interval (ft. BGL): 31 - 40 **Casing Volume (gal.):** 4.92 = 18.62 L

QUALITY ASSURANCE

METHODS (describe):

Cleaning Equipment: Dedicated Equipment

Purging: (Peristaltic) or bladder pump with dedicated tubing **Sampling:** Same

Disposal of Discharged Water: 55 gal Drum CSA

INSTRUMENTS (Indicate make, model, I.D.)

Water Level: Keck

pH Meter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
Conductivity Meter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
Thermometer: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
Turbidimeter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
ORP Meter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
DO Meter: Horiba U-52	**Field Calibration:** Auto Calibration - 100-4 Horiba Calibration Solution
Other:	**Filter / Filter Size:** 10 micron

SAMPLING MEASUREMENTS

Time	Cum. Vol. (L)	Purge Rate (L/m)	Temp. (oC)	pH	Spec. Cond. (µS/cm)	Color	Turbidity & Sediment (NTU)	ORP (mV)	DO (mg/L)	Water Level (ft BMP)	Remarks
14:49	-	0.2	-	-	-	-	-	-	-	8.37	Pump is on
14:59	2	|	30.75	6.98	1620	Cloudy	360	26	2.72	11.65	
15:04	3	|	30.53	6.96	1620	Neutral	83.8	32	2.84	12.93	
15:09	4	↓	30.43	6.97	1620	|	60.3	22	2.82	14.10	
15:12	4.5	↓	30.53	6.97	1620	|	87.2	19	2.76	14.57	
15:15	5	↓	30.11	6.97	1630	|	50.1	13	2.65	15.10	
15:18	5.5	↓	30.27	6.97	1630	↓	54.7	9	2.50	15.50	

Water Level (ft. BMP) at End of Purge: 15.50 **Sample Intake Depth (ft. BMP):** 35.5

SAMPLE INVENTORY

Bottles Collected				Filtration (Y / N)	Preservation (type)	Remarks (quality control sample, other)
Time	Volume	Composition (G, P)	No.			
15:20	1 L	G	2	N	Neat	SVOCs
15:20	120mL	P	1	Y	HNO_3	Metals-As
15:20	40mL	G	6	N	HCL	VOCs/TPH

Comments: Very Silty Bottom

GOLDER
Golder Associates Inc.
14950 Heathrow Forest Pkwy Ste. 280
Houston, Texas 77032
O·281.821.6868 www.golder.com

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119737	Project Name: HNPW	Date: 3-20-2020	
Sample Number: LWG 1620 MW 60AR 20200320		Starting Water Level (ft. BMP): 8.03	
Sampling Location (well ID, etc.): MW 60 AR		Casing Stickup (ft.): 0	
Sampled by: Tim McSpadden TOC		Starting Water Level (ft. BGL): 8.03	
Measuring Point (MP) of Well:		Total Depth (ft. BMP): 29.60	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 2"	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.): 3.4	

QUALITY ASSURANCE

METHODS (describe): Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	Heron D2106	Thermometer:	Horiba C1122
pH Meter:	Horiba C1122	Field Calibration:	
Conductivity Meter:	Horiba C1122	Field Calibration:	Ph buffer 4.0 - Field Cal = 4.0
Filter / Filter Size:	10 Micro	Other:	Geo Pump P1122

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
8:00	8.03	.3	.2	23.96	5.90	1.08	1.48	190	249	
8:10	9.57	.3	.2	23.67	6.09	1.05	1.18	164	139	
8:15	8.33	.4	.2	23.52	6.17	1.04	0.92	145	142	
~~8:20~~										
~~8:25~~	Rain delay	20 minute								
~~8:30~~										
8:35	8.51	.5	.2	23.63	6.82	0.999	1.02	103	147	
8:40	8.23	.6	.2	23.38	6.73	1.01	1.00	78	103	
8:45	8.24	.7	.2	23.26	6.72	1.01	1.14	70	74.8	
8:50	8.22	.8	.2	23.15	6.70	1.01	1.02	65	68.9	
8:55	8.23	.9	.2	23.01	6.68	1.01	0.80	56	67.1	

Water Level (ft. BMP) at End of Purge: 8.23

Sample Intake Depth (ft. BMP): 26.

SAMPLE INVENTORY

Bottles Collected				Filtration (Y) N	Preservation	Remarks (quality control sample, other)
Time	Volume	Composition (G, P)	No.			
~~8:55~~		Pump	9	10 micro		

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

GROUNDWATER SAMPLING RECORD

PAGE ____ of ____

Project Number: 19119232	Project Name: AWPW	Date: 3-20-2020	
Sample Number: WG1620 MW47A 20200320		Starting Water Level (ft. BMP): 9.26	
Sampling Location (well ID, etc.): MW 47A		Casing Stickup (ft.): 0	
Sampled by: TIM McSpadden		Starting Water Level (ft. BGL): 9.26	
Measuring Point (MP) of Well: TOC		Total Depth (ft. BMP): 25.03	
Screened Interval (ft. BGL):		Casing Diameter (In ID): 2'	
Filter Pack Interval (ft. BGL):		Casing Volume (gal.): 2.5	

QUALITY ASSURANCE

METHODS (describe): Low Flow

Cleaning Equipment:

Purging: Sampling:

Disposal of Discharged Water:

INSTRUMENTS (Indicate make, model, I.d.)

Water Level:	Heron D2106	Thermometer:	Horiba C122
pH Meter:	Horiba C122	Field Calibration:	
Conductivity Meter:	Horiba C122	Field Calibration:	Ph buffer 4.0 Field cal: 4.0
Filter / Filter Size:		Other:	Geo pump P122

SAMPLING MEASUREMENTS

Time	Water Depth (ft BMP)	Cum. Vol. (gal. or L)	Purge Rate (L /m)	Temp. (°C)	pH (S.U.)	Spec. Cond. (mS/cm)	D.O. (mg/L)	Redox (mV)	Turbidity (NTU)	Color
--	--	--	--	± 3%	± 0.1	± 3%	± 10% if >0.5	± 10	± 10%	--
9:50	9.26	.2	.2	21.69	6.99	0.851	9.62	109	169	
10:00	9.37	.3	.2	22.03	7.18	0.856	2.21	119	81.4	
10:05	9.29	.4	.2	22.14	6.89	0.826	0.80	112	69.7	
10:10	9.27	.5	.2	22.17	6.84	0.863	0.42	109	58.4	
10:15	9.28	.6	.2	22.19	6.80	0.863	0.33	105	59.6	
10:20	9.26	.7	.2	22.29	6.78	0.859	0.38	101	86.4	
10:25	9.31	.8	.2	22.38	6.79	0.859	0.30	99	117	
10:30	9.32	.9	.2	22.34	6.78	0.858	0.24	100	97.3	

Water Level (ft. BMP) at End of Purge:

Sample Intake Depth (ft. BMP): 22.

SAMPLE INVENTORY

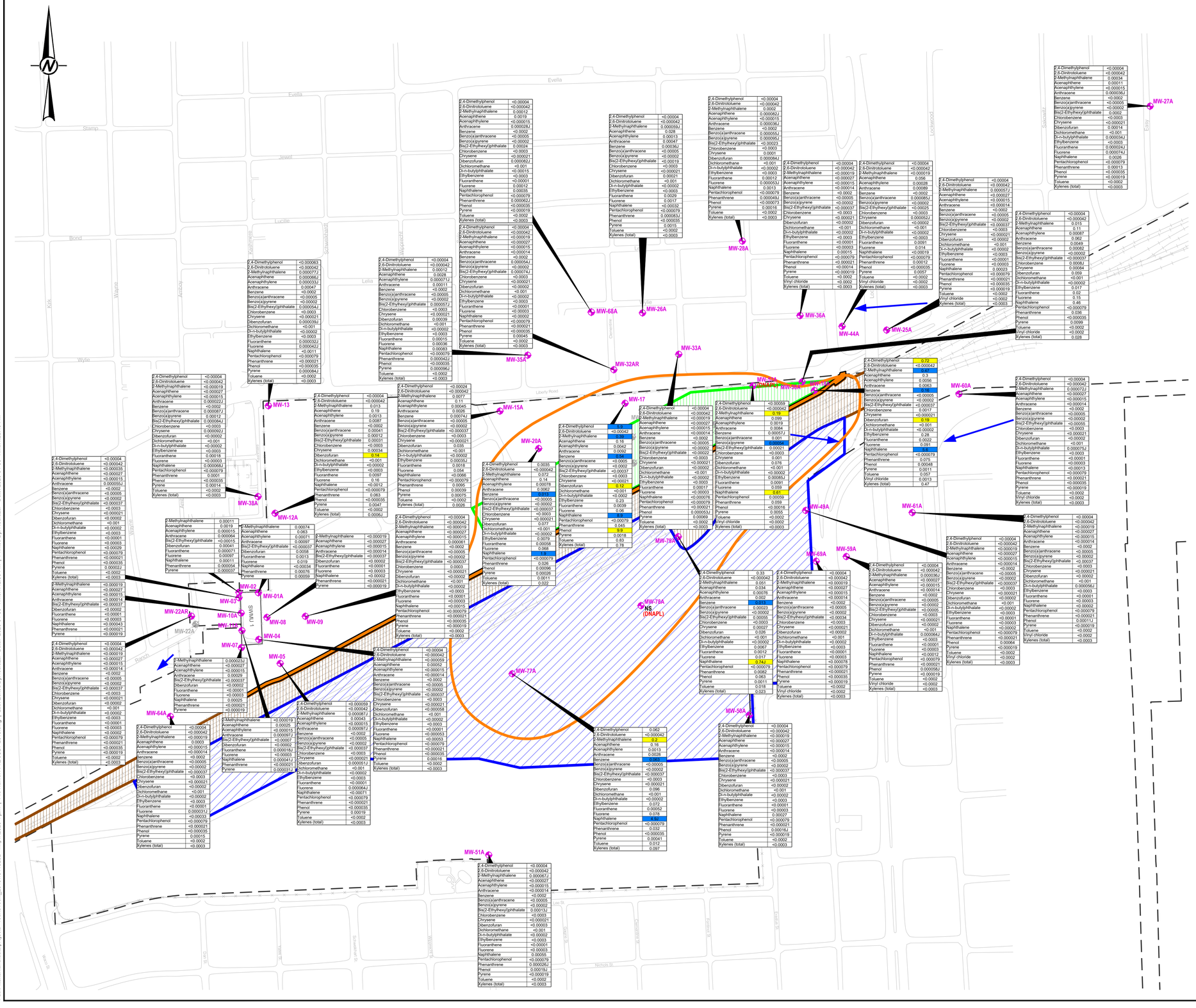
Bottles Collected				Filtration (Y / N)	Preservation	Remarks (quality control sample, other)
Time	Volume	Composition (G, P)	No.			
10:30		Pump	9			

Comments:

Golder Associates Inc.
11231 Richmond Avenue, Suite D104
Houston, TX 77082
(832) 916-3690

ATTACHMENT D

July 2019 Sampling Event COC Concentration Maps



LEGEND

- UPRR PROPERTY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION
- RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- SOIL CAP
- CONCRETE CAP AREA
- GW PCLE ZONE

NOTE(S)

1. ALL CONCENTRATIONS ARE IN mg/L.
2. J - ESTIMATED VALUE BETWEEN SQL AND MDL.
3. < - NOT DETECTED (RL/SQL REPORTED).
4. NA - NOT ANALYZED.
5. NS - NOT SAMPLED.
6. BLUE HIGHLIGHTED CONCENTRATIONS EXCEED COMMERCIAL INDUSTRIAL PCLs (FOR ON-SITE WELLS ONLY).
7. YELLOW HIGHLIGHTED CONCENTRATIONS EXCEED RESIDENTIAL ASSESSMENT LEVEL (RALs).
8. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).

SWNU AREA

NO.	DESCRIPTION
SWMU 1	CLOSED SURFACE IMPOUNDMENT

PROTECTIVE CONCENTRATION LEVELS (PCLs)

PARAMETER	RAL (mg/L)	C/I PCL (mg/L)
2,4-Dimethylphenol	1.5	1.5
2,6-Dinitrotoluene	0.0013	0.003
2-Methylnaphthalene	0.098	0.29
Acenaphthene	1.5	4.4
Acenaphthylene	1.5	4.4
Anthracene	7.3	22
Benzene	0.005	0.005
Benzo(a)anthracene	0.0092	0.02
Benzo(a)pyrene	0.0002	0.0002
Bis(2-Ethylhexyl)phthalate	0.006	0.006
Chlorobenzene	0.1	0.1
Chrysene	0.91	2
Dibenzofuran	0.098	0.29
Dichloromethane	0.005	0.005
Di-n-butylphthalate	2.6	2.6
Ethylbenzene	0.7	0.7
Fluoranthene	0.98	2.9
Fluorene	0.98	2.9
Naphthalene	0.49	1.5
Pentachlorophenol	0.001	0.001
Phenanthrene	0.73	2.2
Phenol	7.3	22
Pyrene	0.73	2.2
Toluene	1	1
Xylenes (total)	10	10

0 200 400
1" = 200' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - A-TZ JULY 2019

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

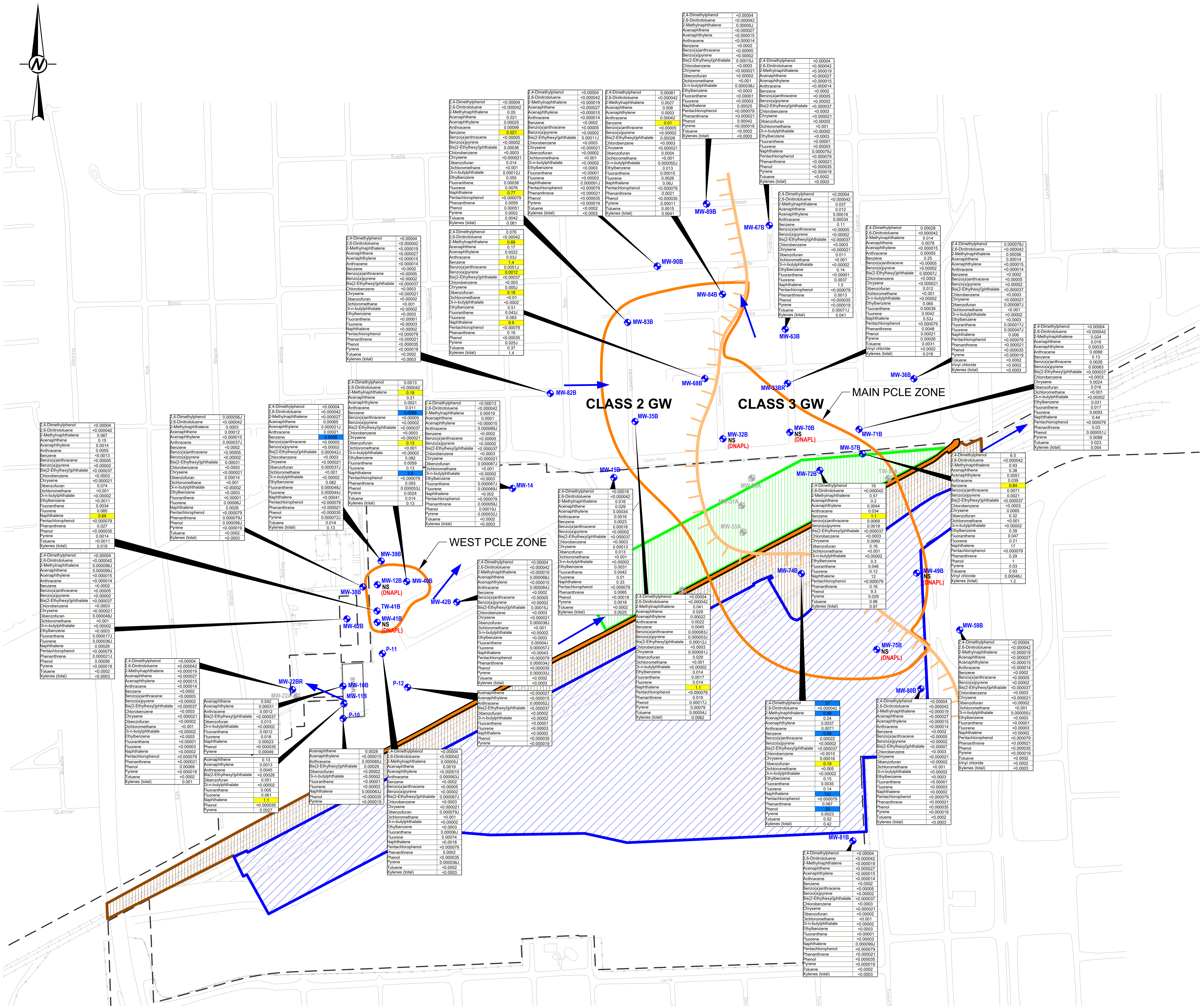
YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 1 in

Path: \\taxarkana\data\projects - round rock_2019\19119232 - hwow\2020-1 lan\ | File Name: A-TZ JULY 2019.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time: 1:26:40 PM | Printed By: RSalazar Date: 2020-04-30 Time: 12:36 PM



2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.05
Acenaphthene	0.021
Acenaphthylene	0.00025
Anthracene	0.00099
Benzene	0.021
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	0.00036
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.014
Dichloromethane	<0.001
Di-n-butylphthalate	0.00012J
Ethylbenzene	0.055
Fluoranthene	0.00038
Fluorene	0.0076
Naphthalene	0.77
Pentachlorophenol	<0.000079
Phenanthrene	0.0059
Phenol	0.00051
Pyrene	0.0002
Toluene	0.0042
Xylenes (total)	0.061

2,4-Dimethylphenol	0.076
2,6-Dinitrotoluene	<0.00042
2-Methylnaphthalene	0.66
Acenaphthene	0.17
Acenaphthylene	0.0022
Anthracene	0.03J
Benzene	1.4
Benzo(a)anthracene	0.0051J
Benzo(a)pyrene	0.0012
Bis(2-Ethylhexyl)phthalate	<0.00037
Chlorobenzene	<0.003
Chrysene	0.005J
Dibenzofuran	0.18
Dichloromethane	<0.01
Di-n-butylphthalate	<0.0002
Ethylbenzene	0.51
Fluoranthene	0.043J
Fluorene	0.083
Naphthalene	9.9
Pentachlorophenol	<0.00079
Phenanthrene	0.16
Phenol	<0.00035
Pyrene	0.025J
Toluene	0.37
Xylenes (total)	1.4

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	<0.000019
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	<0.00002
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

2,4-Dimethylphenol	0.0013
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.18
Acenaphthene	0.21
Acenaphthylene	0.0021
Anthracene	0.011
Benzene	0.0088
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.13
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	0.082
Fluoranthene	0.0059
Fluorene	0.13
Naphthalene	3.6
Pentachlorophenol	<0.000079
Phenanthrene	0.093
Phenol	0.000053J
Pyrene	0.0024
Toluene	0.014
Xylenes (total)	0.13

2,4-Dimethylphenol	<0.00013
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.00019
Acenaphthene	0.0001
Acenaphthylene	<0.000015
Anthracene	0.000089J
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.000087J
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	0.000067J
Fluorene	0.000069J
Naphthalene	<0.002
Pentachlorophenol	<0.000079
Phenanthrene	0.000059J
Phenol	0.00019J
Pyrene	0.000032J
Toluene	<0.0002
Xylenes (total)	<0.0003

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	<0.000027
Acenaphthene	0.00065
Acenaphthylene	0.000021J
Anthracene	0.00021
Benzene	0.0088
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	0.000042J
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.000037J
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	0.082
Fluoranthene	0.000048J
Fluorene	0.000044J
Naphthalene	<0.00041
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	0.000072J
Toluene	0.014
Xylenes (total)	0.13

2,4-Dimethylphenol	0.000056J
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.0003
Acenaphthene	0.00012
Acenaphthylene	<0.000015
Anthracene	0.000037J
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	0.00031
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.00014
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	0.00006J
Naphthalene	0.0026
Pentachlorophenol	<0.000079
Phenanthrene	0.000079J
Phenol	0.000056J
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.067
Acenaphthene	0.15
Acenaphthylene	0.0014
Anthracene	0.0055
Benzene	<0.0013
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.074
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	<0.0011
Fluoranthene	0.0034
Fluorene	0.085
Naphthalene	0.69
Pentachlorophenol	<0.000079
Phenanthrene	0.027
Phenol	<0.000035
Pyrene	0.0014
Toluene	<0.0011
Xylenes (total)	0.019

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.000096J
Acenaphthene	0.000099J
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.000048J
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	0.000017J
Fluorene	0.000036J
Naphthalene	0.00028
Pentachlorophenol	<0.000079
Phenanthrene	0.000021J
Phenol	0.00056
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	<0.000019
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	<0.00002
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	0.00069
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	0.001

Acenaphthene	0.042
Acenaphthylene	0.00031
Anthracene	0.0012
Bis(2-Ethylhexyl)phthalate	<0.000037
Dibenzofuran	0.013
Di-n-butylphthalate	<0.00002
Fluoranthene	0.0012
Fluorene	0.018
Naphthalene	0.00023
Phenol	<0.000035
Pyrene	0.00049

Acenaphthene	0.13
Acenaphthylene	0.0013
Anthracene	0.0045
Bis(2-Ethylhexyl)phthalate	<0.00026
Dibenzofuran	0.051
Di-n-butylphthalate	<0.00002
Fluoranthene	0.005
Fluorene	0.061
Naphthalene	1.1
Phenol	<0.000035
Pyrene	0.0027

Acenaphthene	0.0028
Acenaphthylene	<0.000015
Anthracene	0.000065J
Bis(2-Ethylhexyl)phthalate	0.00029
Dibenzofuran	<0.00002
Di-n-butylphthalate	<0.00002
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	0.000063J
Phenol	<0.000035
Pyrene	<0.000019

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.00005J
Acenaphthene	0.0019
Acenaphthylene	<0.000015
Anthracene	0.000063J
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	0.000087J
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.000079J
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	0.00006J
Fluorene	0.00074
Naphthalene	<0.0018
Pentachlorophenol	<0.000079
Phenanthrene	0.0002
Phenol	<0.000035
Pyrene	0.000036J
Toluene	<0.0002
Xylenes (total)	<0.0003

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	<0.000019
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	0.00011J
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	0.000091J
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

2,4-Dimethylphenol	0.00081
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.0027
Acenaphthene	0.008
Acenaphthylene	0.0003
Anthracene	0.00042
Benzene	0.01
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	0.00026
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.0054
Dichloromethane	<0.001
Di-n-butylphthalate	0.000055J
Ethylbenzene	0.013
Fluoranthene	0.00015
Fluorene	0.0026
Naphthalene	0.06J
Pentachlorophenol	<0.000079
Phenanthrene	0.0021
Phenol	<0.000035
Pyrene	0.00011
Toluene	0.0015
Xylenes (total)	0.0041

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.00005J
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	0.00015J
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Dichloromethane	<0.001
Di-n-butylphthalate	0.000038J
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	0.00025
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	0.00042
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	<0.000019
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	0.000079J
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.037
Acenaphthene	0.012
Acenaphthylene	0.00016
Anthracene	0.00034
Benzene	0.11
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.011
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	0.14
Fluoranthene	<0.00001
Fluorene	0.0037
Naphthalene	1.5
Pentachlorophenol	<0.000079
Phenanthrene	0.0013
Phenol	<0.000035
Pyrene	<0.000019
Toluene	0.00071J
Xylenes (total)	0.041

2,4-Dimethylphenol	0.00028
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.014
Acenaphthene	0.0078
Acenaphthylene	<0.000015
Anthracene	0.00055
Benzene	0.25
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	0.00007J
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.012
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	0.065
Fluoranthene	0.00039
Fluorene	0.0042
Naphthalene	0.53J
Pentachlorophenol	<0.000079
Phenanthrene	0.0048
Phenol	0.00021
Pyrene	0.00026
Toluene	0.0031
Vinyl chloride	<0.0002
Xylenes (total)	0.016

2,4-Dimethylphenol	0.000078J
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.00058
Acenaphthene	0.00014
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.000087J
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	0.000017J
Fluorene	0.000047J
Naphthalene	0.006
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Vinyl chloride	<0.0002
Xylenes (total)	<0.0003

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.024
Acenaphthene	0.016
Acenaphthylene	0.00033
Anthracene	0.0066
Benzene	0.13
Benzo(a)anthracene	0.0026
Benzo(a)pyrene	0.00083
Bis(2-Ethylhexyl)phthalate	<0.000037
Chlorobenzene	<0.0003
Chrysene	0.0024
Dibenzofuran	0.016
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	0.031
Fluoranthene	0.017
Fluorene	0.0093
Naphthalene	0.44
Pentachlorophenol	<0.000079
Phenanthrene	0.03
Phenol	0.000051J
Pyrene	0.0088
Toluene	0.023
Xylenes (total)	0.054

2,4-Dimethylphenol	6.5
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.93
Acenaphthene	0.38
Acenaphthylene	0.0051
Anthracene	0.039
Benzene	0.84
Benzo(a)anthracene	0.0071
Benzo(a)pyrene	0.0021
Bis(2-Ethylhexyl)phthalate	<0.000037
Chlorobenzene	<0.0003
Chrysene	0.0065
Dibenzofuran	0.32
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	0.39
Fluoranthene	0.047
Fluorene	0.21
Naphthalene	17
Pentachlorophenol	<0.000079
Phenanthrene	0.29
Phenol	1
Pyrene	0.03
Toluene	0.93
Vinyl chloride	0.00048J
Xylenes (total)	1.2

2,4-Dimethylphenol	19
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.57
Acenaphthene	0.2
Acenaphthylene	0.0044
Anthracene	0.034
Benzene	1.1
Benzo(a)anthracene	0.0069
Benzo(a)pyrene	0.0019
Bis(2-Ethylhexyl)phthalate	<0.000037
Chlorobenzene	<0.0003
Chrysene	0.0069
Dibenzofuran	0.16
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	0.3
Fluoranthene	0.046
Fluorene	0.12
Naphthalene	12
Pentachlorophenol	<0.000079
Phenanthrene	0.16
Phenol	9.3
Pyrene	0.029
Toluene	0.96
Xylenes (total)	0.97

2,4-Dimethylphenol	<0.00016
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.016
Acenaphthene	0.029
Acenaphthylene	0.00034
Anthracene	0.0016
Benzene	0.0023
Benzo(a)anthracene	0.00016
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	<0.000037
Chlorobenzene	<0.0003
Chrysene	0.00013
Dibenzofuran	0.013
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	0.0031
Fluoranthene	0.0042
Fluorene	0.01
Naphthalene	0.33
Pentachlorophenol	<0.000079
Phenanthrene	0.0065
Phenol	<0.00019
Pyrene	0.0018
Toluene	<0.0002
Xylenes (total)	0.0025

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	<0.000019
Acenaphthene	0.000068J
Acenaphthylene	<0.000015
Anthracene	0.000064J
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	0.00015J
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.000038J
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	0.00004J
Fluorene	0.000057J
Naphthalene	<0.00043
Pentachlorophenol	<0.000079
Phenanthrene	0.000034J
Phenol	<0.000035
Pyrene	0.000033J
Toluene	<0.0002
Xylenes (total)	<0.0003

Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	0.000052J
Bis(2-Ethylhexyl)phthalate	<0.000037
Dibenzofuran	<0.00002
Di-n-butylphthalate	<0.00002
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	<0.00002
Phenol	<0.000035
Pyrene	<0.000019

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.041
Acenaphthene	0.029
Acenaphthylene	0.00022
Anthracene	0.0022
Benzene	0.0045
Benzo(a)anthracene	0.000083J
Benzo(a)pyrene	0.000053J
Bis(2-Ethylhexyl)phthalate	0.00012J
Chlorobenzene	<0.0003
Chrysene	0.000091J
Dibenzofuran	0.029
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	0.014
Fluoranthene	0.0017
Fluorene	0.014
Naphthalene	1.1
Pentachlorophenol	<0.000079
Phenanthrene	0.019
Phenol	0.00017J
Pyrene	0.00079
Toluene	0.00054J
Xylenes (total)	0.0062

2,4-Dimethylphenol	37
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	0.48
Acenaphthene	0.24
Acenaphthylene	0.0037
Anthracene	0.0071
Benzene	0.59
Benzo(a)anthracene	0.00022
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	<0.000037
Chlorobenzene	<0.0015
Chrysene	0.00016
Dibenzofuran	0.19
Dichloromethane	<0.005
Di-n-butylphthalate	<0.00002
Ethylbenzene	0.15
Fluoranthene	0.0035
Fluorene	0.14
Naphthalene	13J
Pentachlorophenol	<0.000079
Phenanthrene	0.087
Phenol	33
Pyrene	0.0023
Toluene	0.52
Xylenes (total)	0.42

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	<0.000019
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	<0.00007
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	<0.00002
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	<0.000019
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Dichloromethane	<0.001
Di-n-butylphthalate	0.000055J
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	<0.00002
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Vinyl chloride	<0.0002
Xylenes (total)	<0.0003

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	<0.000019
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
Bis(2-Ethylhexyl)phthalate	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	0.000099J
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

LEGEND

- UPRR PROPERTY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- B-CZ (CLASS 3 GW) / B-TZ (CLASS 2 GW) — B-TZ/B-CZ BOUNDARY
- B-TZ AND B-CZ MONITORING WELL LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION
- RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- SOIL CAP
- CONCRETE CAP AREA
- GW PCLE ZONE

NOTE(S)

1. ALL CONCENTRATIONS ARE IN mg/L.
2. J - ESTIMATED VALUE BETWEEN SQL AND MDL.
3. < - NOT DETECTED (RL/SQL REPORTED).
4. NA - NOT ANALYZED.
5. NS - NOT SAMPLED.
6. BLUE HIGHLIGHTED CONCENTRATIONS EXCEED COMMERCIAL INDUSTRIAL PCLs (FOR ON-SITE WELLS ONLY).
7. YELLOW HIGHLIGHTED CONCENTRATIONS EXCEED RESIDENTIAL ASSESSMENT LEVEL (RALs).
8. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).

SWNU AREA

NO.	DESCRIPTION
SWMU 1	CLOSED SURFACE IMPOUNDMENT

PROTECTIVE CONCENTRATION LEVELS (PCLs)

PARAMETER	RAL (mg/L)	C/I PCL (mg/L)	GW_{CLASS3} (mg/L)
2,4-Dimethylphenol	0.49	1.5	49
2,6-Dinitrotoluene	0.0013	0.003	0.13
2-Methylnaphthalene	0.098	0.29	9.8
Acenaphthene	1.5	4.4	150
Acenaphthylene	1.5	4.4	150
Anthracene	7.3	22	730
Benzene	0.005	0.005	0.5
Benzo(a)anthracene	0.0091	0.02	0.91
Benzo(a)pyrene	0.0002	0.0002	0.02
Bis(2-Ethylhexyl)phthalate	0.006	0.006	0.6
Chlorobenzene	0.1	0.1	10
Chrysene	0.91	2	91
Dibenzofuran	0.098	0.29	9.8
Dichloromethane	0.005	0.005	0.5
Di-n-butylphthalate	2.4	7.3	240
Ethylbenzene	0.7	0.7	70
Fluoranthene	0.98	2.9	98
Fluorene	0.98	2.9	98
Naphthalene	0.49	1.5	49
Pentachlorophenol	0.001	0.001	0.1
Phenanthrene	0.73	2.2	73
Phenol	7.3	22	730
Pyrene	0.73	2.2	73
Toluene	1	1	100
Xylenes (total)	10	10	1000

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 200' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

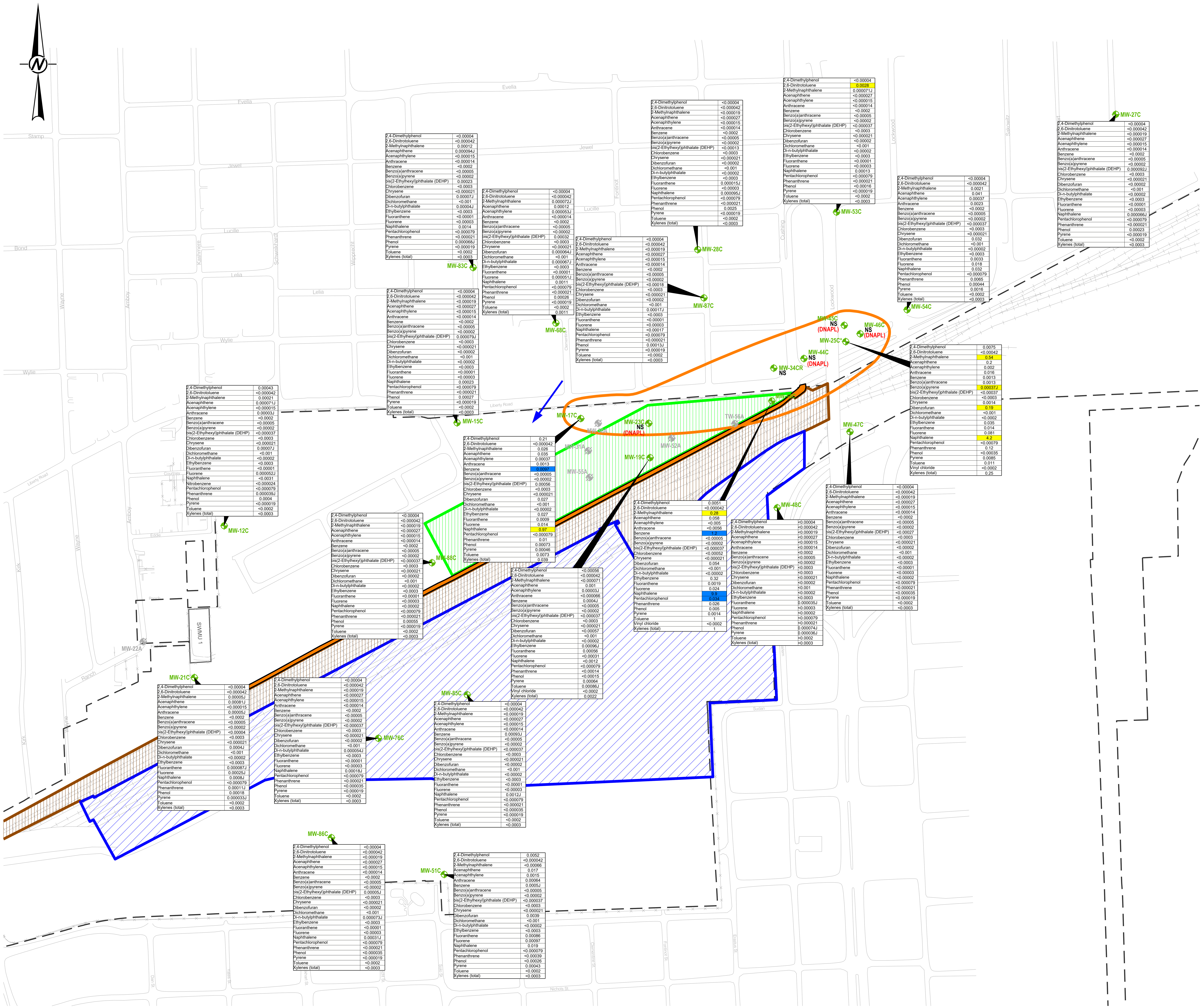
PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - B-TZ/B-CZ JULY 2019

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO.	REV.	FIGURE
19119232	0	5B-2



Groundwater COC concentrations by well (mg/L)

Parameter	MW-83C	MW-68C	MW-15C	MW-12C	MW-28C	MW-87C
2,4-Dimethylphenol	<0.00004	<0.00004	<0.00004	0.00043	<0.00004	<0.00004
2,6-Dinitrotoluene	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Methylnaphthalene	0.00012	0.000072J	<0.000019	0.00021	<0.000019	<0.000019
Acenaphthene	0.000094J	0.00012	<0.000027	0.000071J	<0.000027	<0.000027
Acenaphthylene	<0.000015	0.000053J	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	<0.000014	<0.000014	<0.000014	0.00003J	<0.000014	<0.000014
Benzene	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzo(a)anthracene	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	0.00023	0.00032	0.000079J	<0.000037	<0.00013	<0.00018
Chlorobenzene	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Chrysene	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	0.00007J	0.000064J	<0.00002	0.00007J	<0.00002	<0.00002
Dichloromethane	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Di-n-butylphthalate	0.00004J	0.000067J	<0.00002	<0.00002	<0.00002	0.00017J
Ethylbenzene	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Fluoranthene	<0.00001	<0.00001	<0.00001	<0.00001	0.000015J	<0.00001
Fluorene	<0.00003	0.000051J	<0.00003	0.000052J	<0.00003	<0.00003
Naphthalene	0.0014	0.0011	0.00023	<0.0031	0.000095J	<0.00017
Nitrobenzene				<0.000024		
Pentachlorophenol	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	<0.000021	<0.000021	<0.000021	0.000039J	<0.000021	<0.000021
Phenol	0.000068J	0.00026	0.00027	0.0004	0.0025	0.00013J
Pyrene	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019
Toluene	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Xylenes (total)	<0.0003	0.0011	<0.0003	<0.0003	<0.0003	<0.0003

Parameter	MW-53C	MW-54C	MW-27C	MW-25C*	MW-17C	MW-18C
2,4-Dimethylphenol	<0.00004	<0.00004	<0.00004	0.0075	0.21	0.0051
2,6-Dinitrotoluene	0.0028	<0.000042	<0.000042	<0.00042	<0.000042	<0.000042
2-Methylnaphthalene	0.000071J	0.0021	<0.000019	0.54	0.026	0.28
Acenaphthene	<0.000027	0.041	<0.000027	0.2	0.035	0.058
Acenaphthylene	<0.000015	0.00037	<0.000015	0.002	0.00037	<0.005
Anthracene	<0.000014	0.0023	<0.000014	0.016	0.0013	<0.0056
Benzene	<0.0002	<0.0002	<0.0002	0.0013	0.0097	1.2
Benzo(a)anthracene	<0.00005	<0.00005	<0.00005	0.0013	<0.00005	<0.00005
Benzo(a)pyrene	<0.00002	<0.00002	<0.00002	0.00037J	<0.00002	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	<0.000037	<0.000037	0.000092J	<0.00037	0.00056	<0.000037
Chlorobenzene	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00052
Chrysene	<0.000021	<0.000021	<0.000021	0.0014	<0.000021	<0.000021
Dibenzofuran	<0.00002	0.032	<0.00002	0.19	0.027	0.054
Dichloromethane	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Di-n-butylphthalate	<0.00002	<0.00002	<0.00002	<0.0002	<0.00002	<0.00002
Ethylbenzene	<0.0003	<0.0003	<0.0003	0.035	0.027	0.32
Fluoranthene	<0.00001	0.0033	<0.00001	0.014	0.0009	0.0019
Fluorene	<0.00003	0.018	<0.00003	0.081	0.014	0.024
Naphthalene	0.00013	0.032	0.000066J	4.2	0.97	9.9
Pentachlorophenol	<0.000079	<0.000079	<0.000079	<0.00079	<0.000079	0.034
Phenanthrene	<0.000021	0.0065	<0.000021	0.12	0.01	0.026
Phenol	<0.00016	0.00044	0.00023	<0.00035	0.00073	0.005
Pyrene	<0.000019	0.0016	<0.000019	0.0085	0.00046	0.0014
Toluene	<0.0002	<0.0002	<0.0002	0.011	0.0073	1
Vinyl chloride				<0.0002		<0.0002
Xylenes (total)	<0.0003	<0.0003	<0.0003	0.25	0.039	1

Parameter	MW-19C	MW-48C	MW-47C	MW-88C	MW-21C	MW-76C
2,4-Dimethylphenol	<0.00056	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
2,6-Dinitrotoluene	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Methylnaphthalene	<0.000071	<0.000019	<0.000019	<0.000019	0.00005J	<0.000019
Acenaphthene	0.001	<0.000027	<0.000027	<0.000027	0.00081J	<0.000027
Acenaphthylene	0.00003J	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	<0.000066	<0.000014	<0.000014	<0.000014	0.00005J	<0.000014
Benzene	0.0004J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzo(a)anthracene	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	<0.000037	<0.0003	<0.00027	<0.000037	<0.00004	<0.000037
Chlorobenzene	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Chrysene	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	<0.00057	<0.00002	<0.00002	<0.00002	0.0004J	<0.00002
Dichloromethane	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Di-n-butylphthalate	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.000054J
Ethylbenzene	0.00096J	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Fluoranthene	0.00056	0.000035J	<0.00001	<0.00001	0.000087J	<0.00001
Fluorene	<0.00031	<0.00003	<0.00003	<0.00003	0.00025J	<0.00003
Naphthalene	<0.0012	<0.00002	<0.00002	<0.00002	0.0008J	0.00018J
Pentachlorophenol	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	<0.00014	<0.000021	<0.000021	<0.000021	0.00011J	<0.000021
Phenol	<0.00015	0.000074J	<0.000035	0.00055	0.00018	<0.000035
Pyrene	0.00064	0.000036J	<0.000019	<0.000019	0.000033J	<0.000019
Toluene	0.00086J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	<0.0002					
Xylenes (total)	0.0022	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003

Parameter	MW-85C	MW-86C	MW-51C
2,4-Dimethylphenol	<0.00004	<0.00004	0.0052
2,6-Dinitrotoluene	<0.000042	<0.000042	<0.000042
2-Methylnaphthalene	<0.000019	<0.000019	<0.00066
Acenaphthene	<0.000027	<0.000027	0.017
Acenaphthylene	<0.000015	<0.000015	0.0015
Anthracene	<0.000014	<0.000014	0.00064
Benzene	0.00093J	<0.0002	0.0005J
Benzo(a)anthracene	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	<0.00002	<0.00002	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	<0.000037	0.00005J	<0.000037
Chlorobenzene	<0.0003	<0.0003	<0.0003
Chrysene	<0.000021	<0.000021	<0.000021
Dibenzofuran	<0.00002	<0.00002	0.0039
Dichloromethane	<0.001	<0.001	<0.001
Di-n-butylphthalate	<0.00002	0.000073J	<0.00002
Ethylbenzene	<0.0003	<0.0003	<0.0003
Fluoranthene	<0.00001	<0.00001	0.00086
Fluorene	<0.00003	<0.00003	0.00097
Naphthalene	0.0012J	0.00031J	0.019
Pentachlorophenol	<0.000079	<0.000079	<0.000079
Phenanthrene	<0.000021	<0.000021	<0.00039
Phenol	<0.000035	<0.000035	<0.00026
Pyrene	<0.000019	<0.000019	0.00043
Toluene	<0.0002	<0.0002	<0.0002
Xylenes (total)	<0.0003	<0.0003	<0.0003

LEGEND

- UPRR PROPERTY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- C-TZ MONITORING WELL LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION
- RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- SOIL CAP
- CONCRETE CAP AREA
- GW PCLE ZONE

NOTE(S)

1. ALL CONCENTRATIONS ARE IN mg/L.
2. J - ESTIMATED VALUE BETWEEN SQL AND MDL.
3. < - NOT DETECTED (RL/SQL REPORTED).
4. NA - NOT ANALYZED.
5. NS - NOT SAMPLED.
6. BLUE HIGHLIGHTED CONCENTRATIONS EXCEED COMMERCIAL INDUSTRIAL PCLs (FOR ON-SITE WELLS ONLY).
7. YELLOW HIGHLIGHTED CONCENTRATIONS EXCEED RESIDENTIAL ASSESSMENT LEVEL (RALs).
8. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).

SWNU AREA

NO.	DESCRIPTION
SWMU 1	CLOSED SURFACE IMPOUNDMENT

PROTECTIVE CONCENTRATION LEVELS (PCLs)

PARAMETER	RAL (mg/L)	C/I PCL (mg/L)
2,4-Dimethylphenol	0.49	1.5
2,6-Dinitrotoluene	0.0013	0.003
2-Methylnaphthalene	0.098	0.29
Acenaphthene	1.5	4.4
Acenaphthylene	1.5	4.4
Anthracene	7.3	22
Benzene	0.005	0.005
Benzo(a)anthracene	0.0091	0.02
Benzo(a)pyrene	0.0002	0.0002
Bis(2-Ethylhexyl)phthalate	0.006	0.006
Chlorobenzene	0.1	0.1
Chrysene	0.91	2
Dibenzofuran	0.098	0.29
Dichloromethane	0.005	0.005
Di-n-butylphthalate	2.4	7.3
Ethylbenzene	0.7	0.7
Fluoranthene	0.98	2.9
Fluorene	0.98	2.9
Naphthalene	0.49	1.5
Pentachlorophenol	0.001	0.001
Phenanthrene	0.73	2.2
Phenol	7.3	22
Pyrene	0.73	2.2
Toluene	1	1
Xylenes (total)	10	10

STATE OF TEXAS ERIC C. MATZNER GEOLOGY LIC. # 795 LICENSED PROFESSIONAL GEOSCIENTIST

4/30/20

0 200 400
1" = 200' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

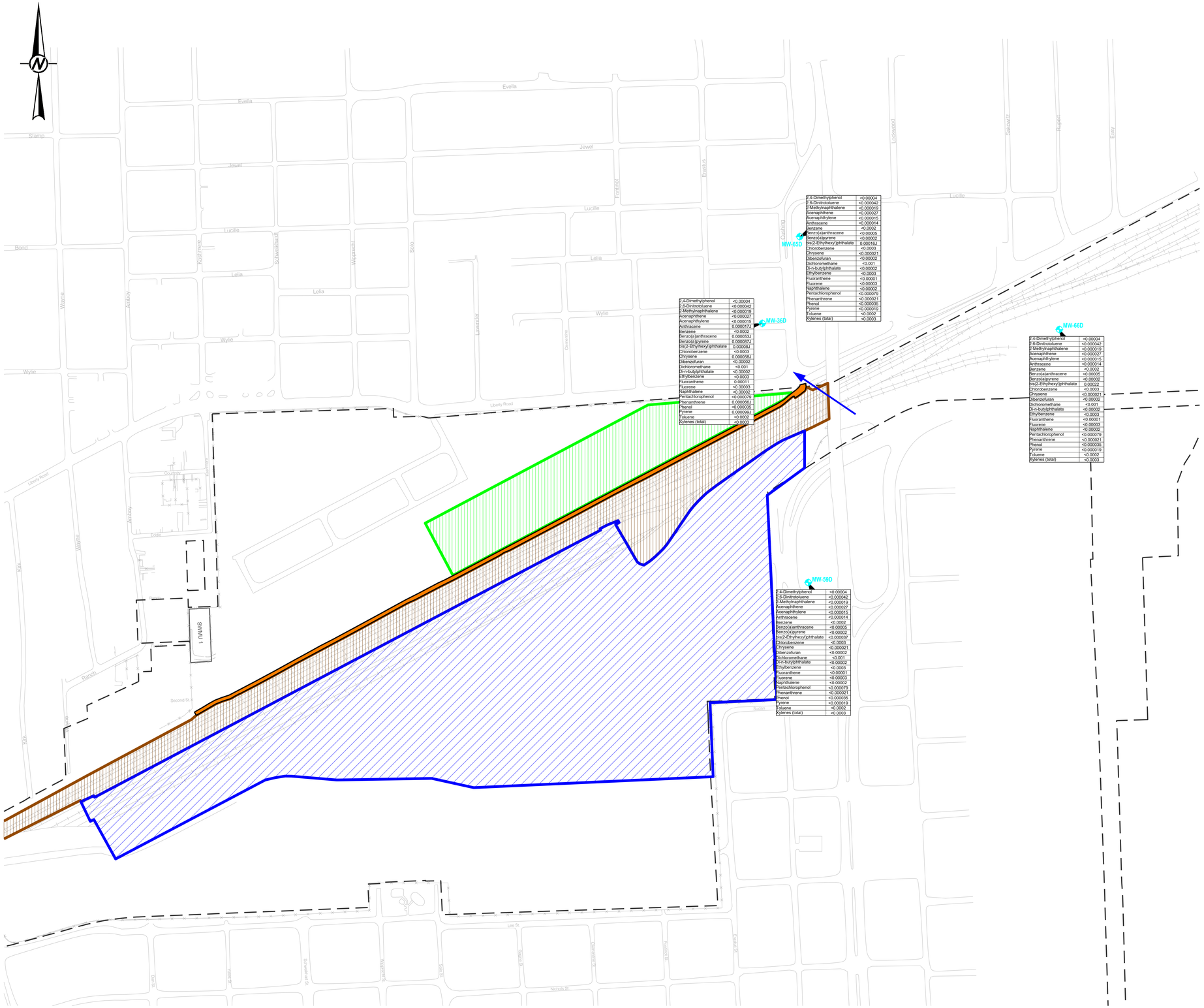
TITLE
GROUNDWATER COC CONCENTRATION MAP - C-TZ JULY 2019

CONSULTANT

GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-3



2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	<0.000019
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate	0.00058J
Chlorobenzene	<0.0003
Chrysene	0.000058J
Dibenzofuran	<0.00002
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	0.00011
Fluorene	<0.00003
Naphthalene	<0.00002
Pentachlorophenol	<0.000079
Phenanthrene	0.000085J
Phenol	<0.000035
Pyrene	0.000095J
Toluene	<0.0002
Xylenes (total)	<0.0003

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	<0.000019
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate	0.00016J
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	<0.00002
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	<0.000019
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate	0.00022
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	<0.00002
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Methylnaphthalene	<0.000019
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate	0.000037J
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Dichloromethane	<0.001
Di-n-butylphthalate	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	<0.00002
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

LEGEND

- UPRR PROPERTY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- D-TZ MONITORING WELL LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION
- RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- SOIL CAP
- CONCRETE CAP AREA

NOTE(S)

1. ALL CONCENTRATIONS ARE IN mg/L.
2. J - ESTIMATED VALUE BETWEEN SQL AND MDL.
3. < - NOT DETECTED (RL/SQL REPORTED).
4. NA - NOT ANALYZED.
5. NS - NOT SAMPLED.
6. BLUE HIGHLIGHTED CONCENTRATIONS EXCEED COMMERCIAL INDUSTRIAL PCLs (FOR ON-SITE WELLS ONLY).
7. YELLOW HIGHLIGHTED CONCENTRATIONS EXCEED RESIDENTIAL ASSESSMENT LEVEL (RALs).
8. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).

SWNU AREA

NO.	DESCRIPTION
SWMU 1	CLOSED SURFACE IMPOUNDMENT

PROTECTIVE CONCENTRATION LEVELS (PCLs)

PARAMETER	RAL (mg/L)	C/I PCL (mg/L)
2,4-Dimethylphenol	0.49	1.5
2,6-Dinitrotoluene	0.0013	0.003
2-Methylnaphthalene	0.098	0.29
Acenaphthene	1.5	4.4
Acenaphthylene	1.5	4.4
Anthracene	7.3	22
Benzene	0.005	0.005
Benzo(a)anthracene	0.0091	0.02
Benzo(a)pyrene	0.0002	0.0002
Bis(2-Ethylhexyl)phthalate	0.006	0.006
Chlorobenzene	0.1	0.1
Chrysene	0.91	2
Dibenzofuran	0.098	0.29
Dichloromethane	0.005	0.005
Di-n-butylphthalate	2.4	7.3
Ethylbenzene	0.7	0.7
Fluoranthene	0.98	2.9
Fluorene	0.98	2.9
Naphthalene	0.49	1.5
Pentachlorophenol	0.001	0.001
Phenanthrene	0.73	2.2
Phenol	7.3	22
Pyrene	0.73	2.2
Toluene	1	1
Xylenes (total)	10	10

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 200' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

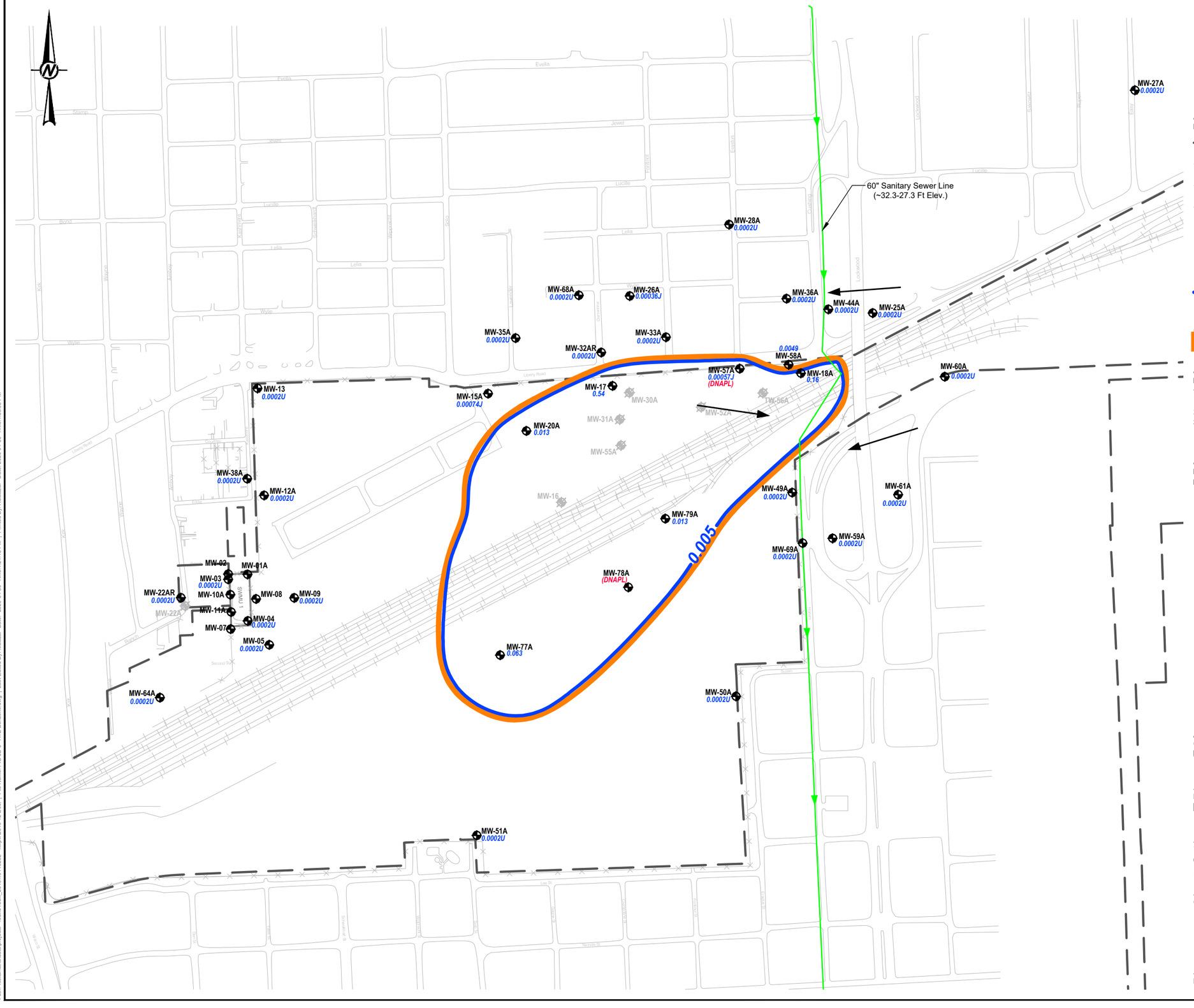
PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - D-TZ JULY 2019

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-4



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARLING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- 0.108 — BENZENE CONCENTRATION (mg/L)
- 0.005 — BENZENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.005 mg/L).

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1. DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

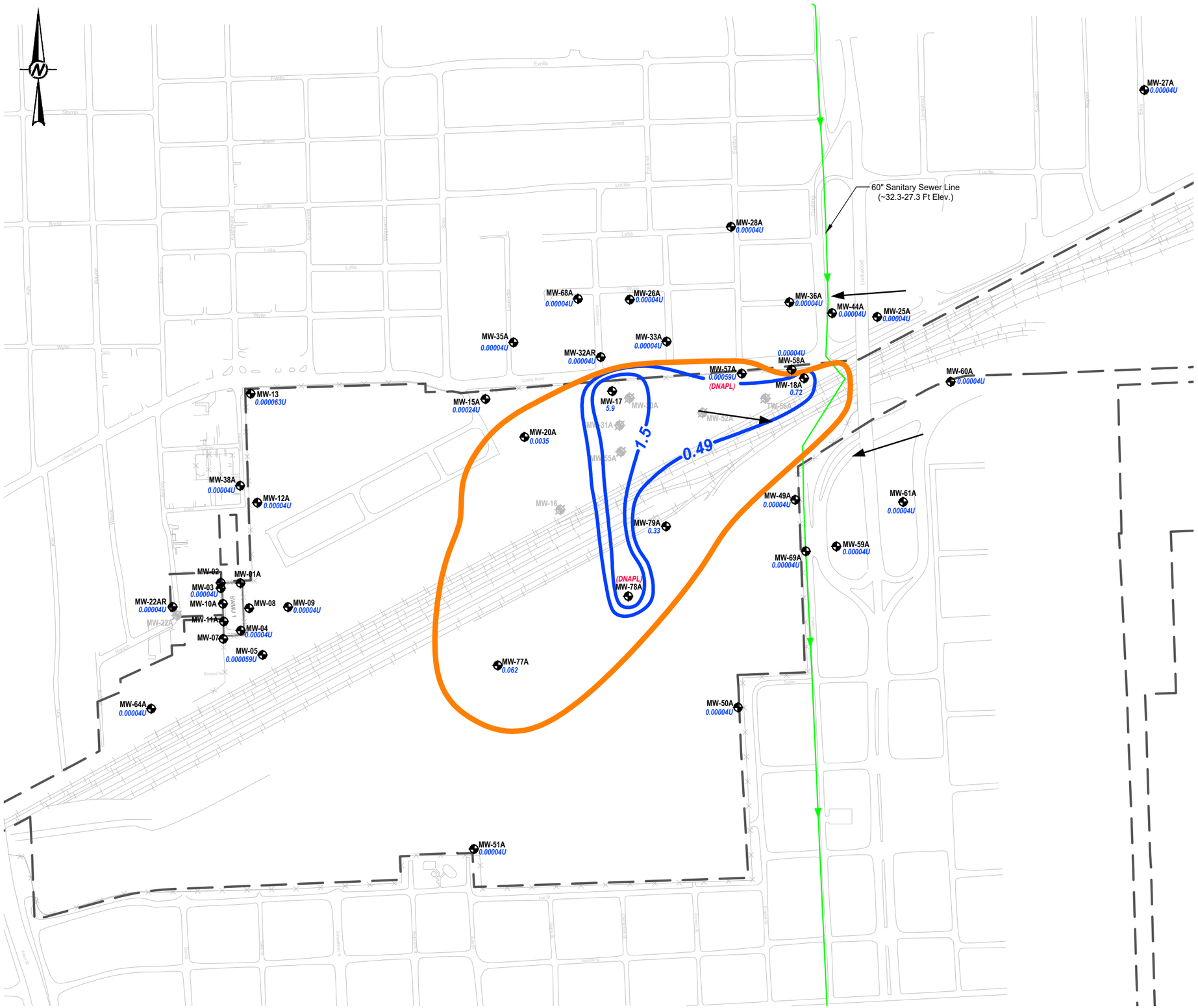
PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - A-TZ BENZENE - JULY 2019

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-5



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARLING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- 8.01 — 2,4-DIMETHYLPHENOL CONCENTRATION (mg/L)
- 0.49 — 2,4-DIMETHYLPHENOL CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.49 mg/L AND 1.5 mg/L, RESPECTIVELY).

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1. DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - A-TZ
2,4-DIMETHYLPHENOL - JULY 2019

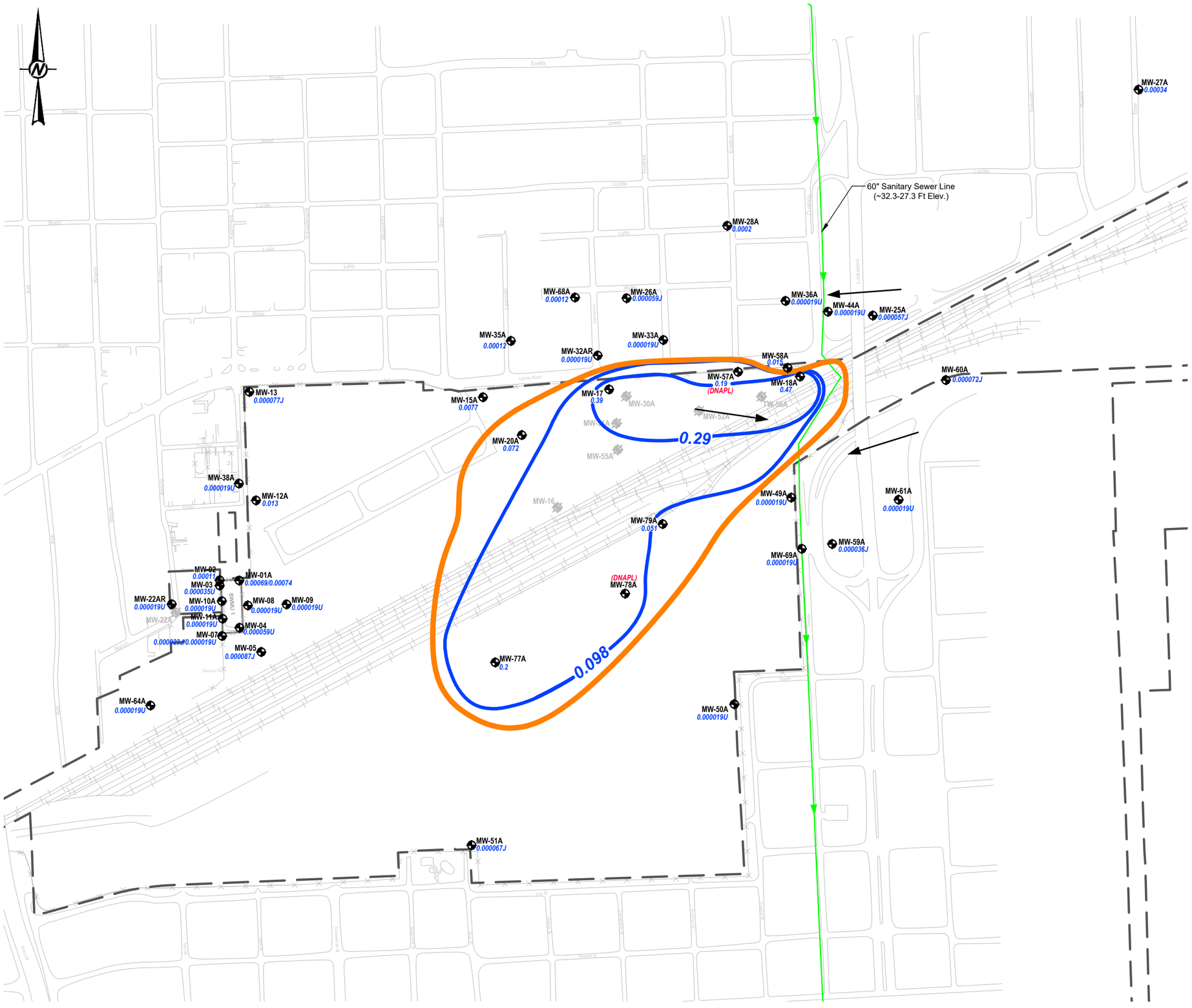
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-6

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\projects - round rock_2019\19119232 - hwpw\2019-12 Dec\ | File Name: FIG 5B-6 - ATZ-24-Dimethylphenol.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:1:23:49 PM | Printed By: RSalazar Date: 2020-04-30 Time:1:39:47 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARLING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- 0.293 — 2-METHYLNAPHTHALENE CONCENTRATION (mg/L)
- 0.098 — 2-METHYLNAPHTHALENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.098 mg/L AND 0.29 mg/L, RESPECTIVELY).

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1. DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

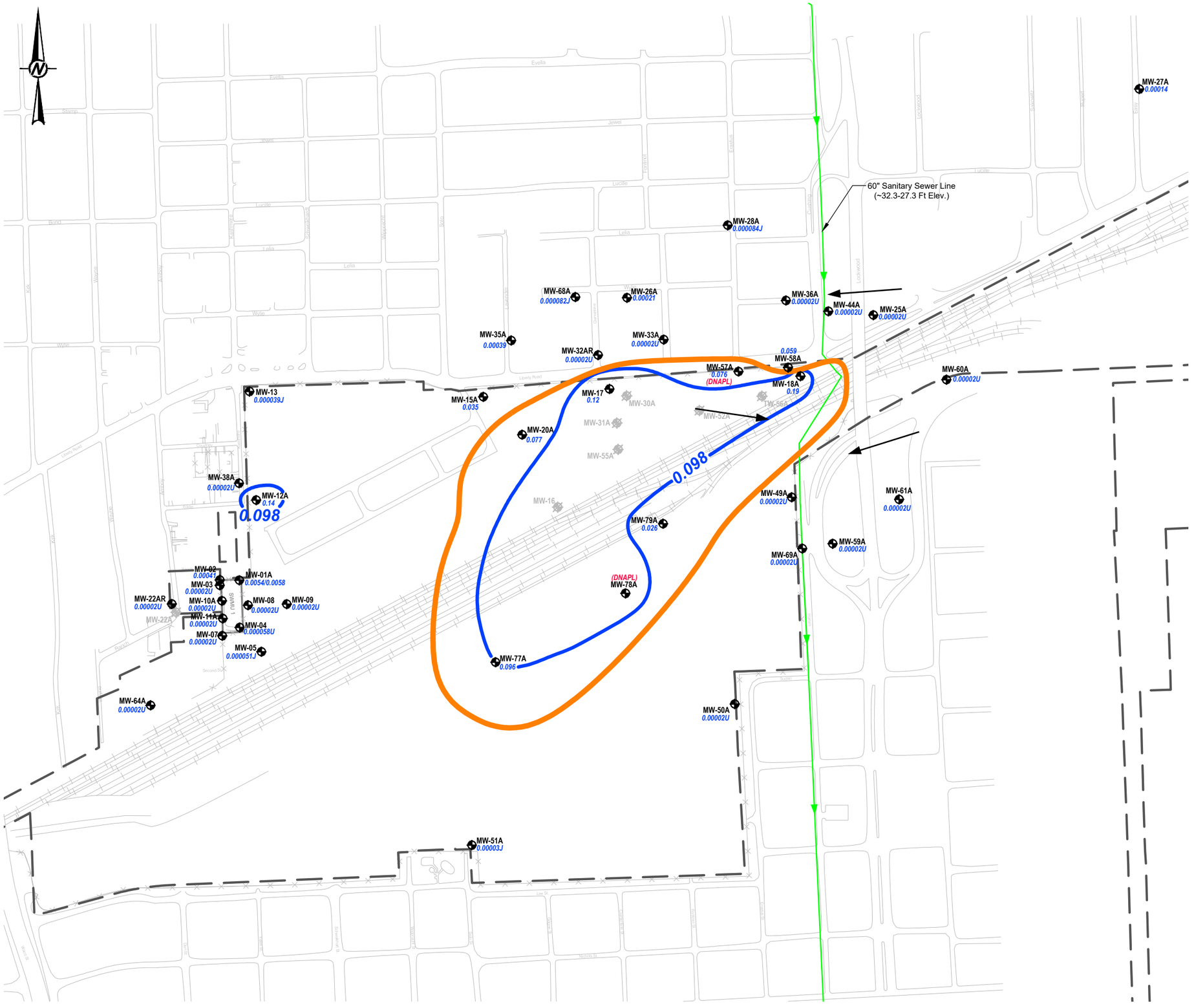
PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - A-TZ
2-METHYLNAPHTHALENE - JULY 2019

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5B-7



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARLING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- 5.27 DIBENZOFURAN CONCENTRATION (mg/L)
- 0.098 DIBENZOFURAN CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.098 mg/L AND 0.29 mg/L, RESPECTIVELY).

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1. DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

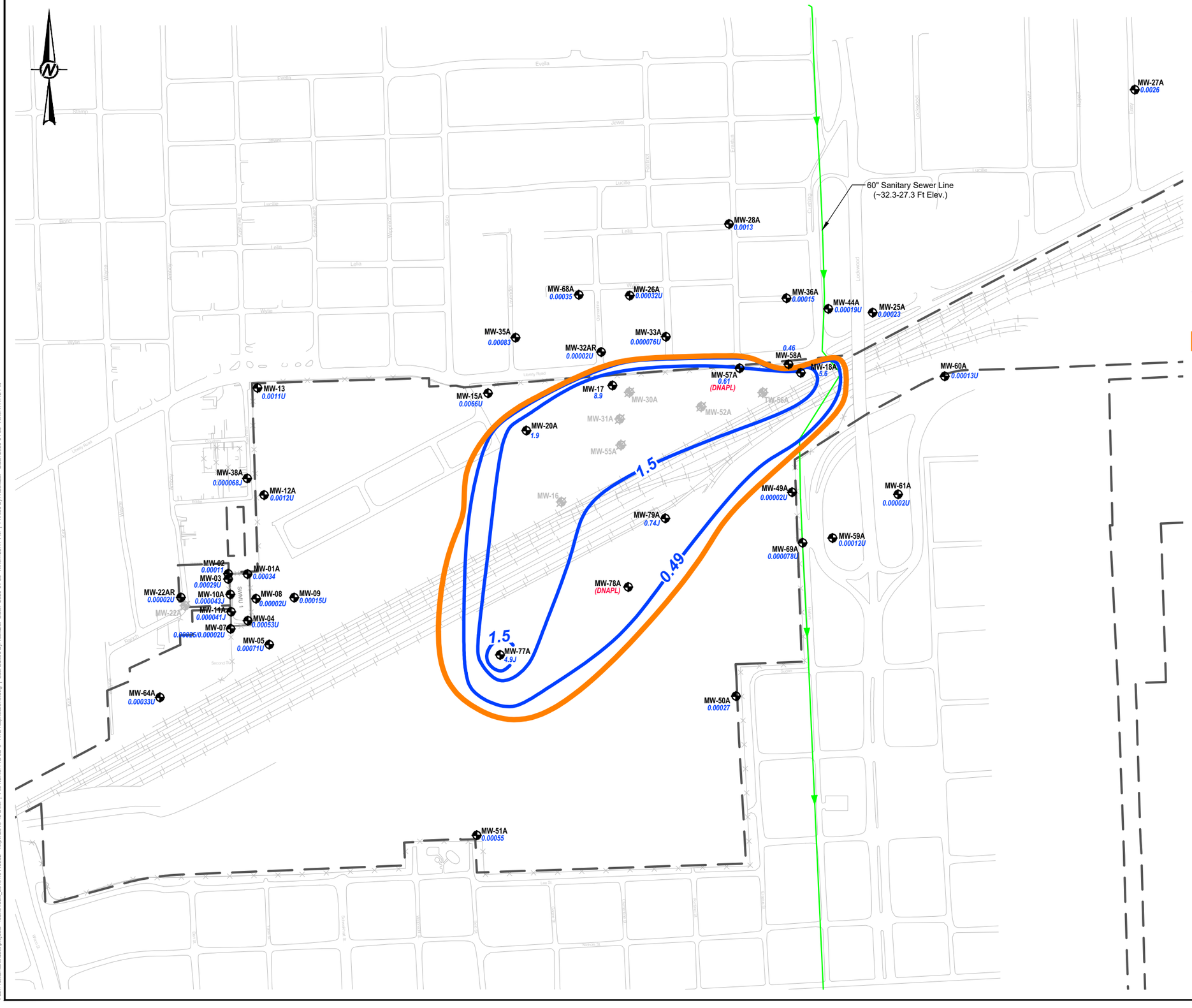
PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - A-TZ DIBENZOFURAN - JULY 2019

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-8



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARLING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- 5.27 NAPHTHALENE CONCENTRATION (mg/L)
- 0.49 NAPHTHALENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.49 mg/L AND 1.5 mg/L, RESPECTIVELY).

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1. DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - A-TZ NAPHTHALENE - JULY 2019

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5B-9

CLASS 2 GW

CLASS 3 GW

MAIN PCLE ZONE

WEST PCLE ZONE

MW-89B 0.0002U
MW-67B 0.0002U
MW-90B 0.0002U
MW-84B 0.01
MW-83B 0.021
MW-63B 0.11
MW-68B 1.4
MW-33BR 0.25
MW-36B 0.0002U
MW-82B 0.0002U
MW-35B 0.0045
MW-70B (DNAPL)
MW-32B (DNAPL)
0.13
MW-71B
MW-72B 1.1
MW-57B 0.84
MW-15B 0.0023
MW-14 0.0002U
MW-55B
MW-73B
MW-74B 0.59
MW-49B (DNAPL)
0.0002U
MW-39B 0.005
MW-12B (DNAPL)
MW-40B 0.0088
MW-38B 0.0002U
MW-42B 0.0002U
MW-62B 0.0002U
TW-41B 0.0013U
MW-41B (DNAPL)
P-11 0.0002U
MW-75B (DNAPL)
MW-59B 0.0002U
MW-22BR 0.0002U
MW-22B
MW-10B
MW-11B
P-10
P-12
MW-80B 0.0002U
MW-81B 0.0002U
0.005
0.5

LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- B-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- B-CZ (CLASS 3 GW) / B-TZ (CLASS 2 GW): B-TZ/B-CZ BOUNDARY
- 0.346: BENZENE CONCENTRATION (mg/L)
- 0.005: BENZENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL:
   CLASS 2 GW PCL: 0.005 mg/L
   CLASS 3 GW PCL: 0.5 mg/L

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - B-CZ/B-TZ BENZENE - JULY 2019

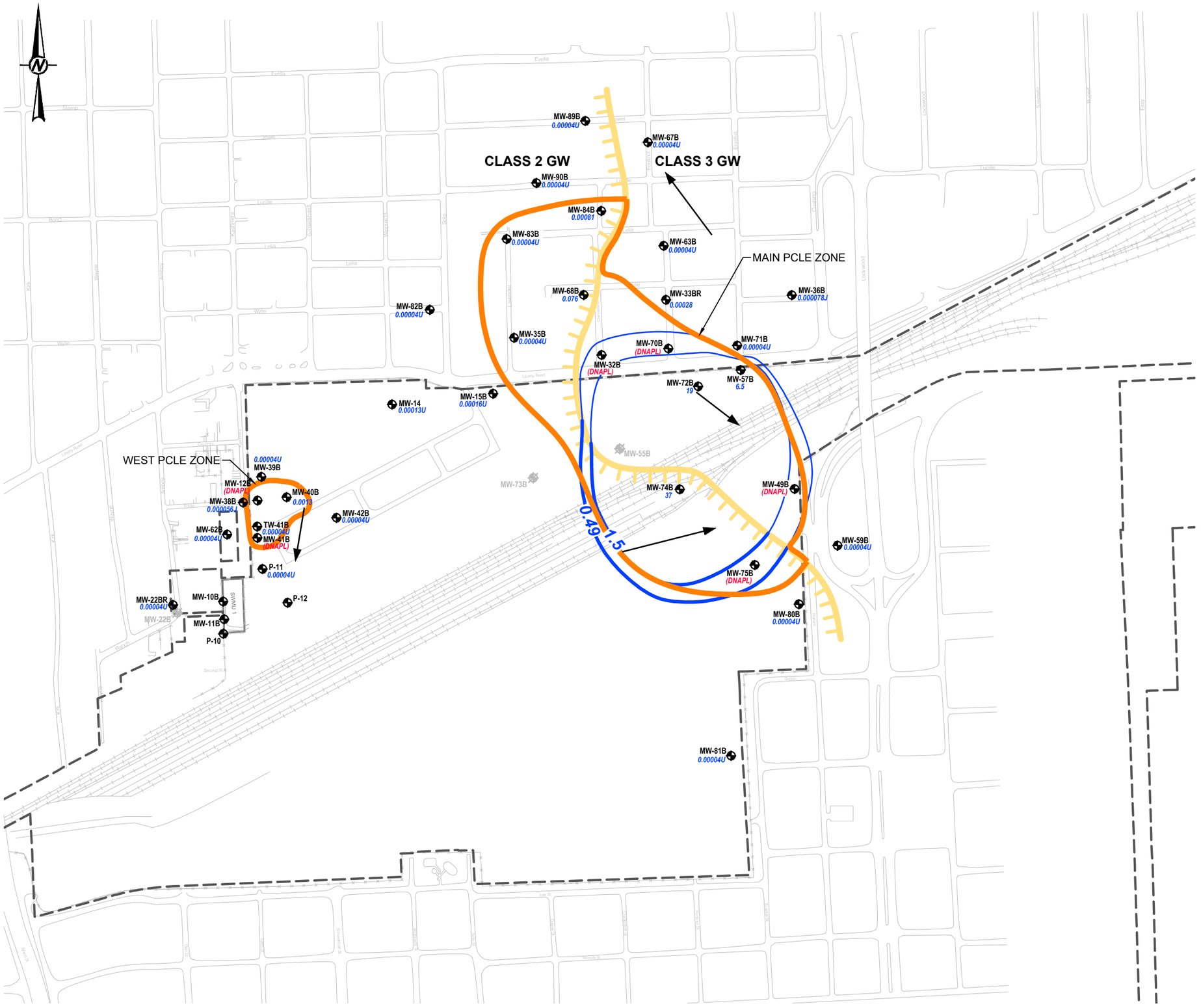
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-10

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\projects - round rock\ 20191911923 2 - hwvw\2019-12 Decl. | File Name: FIG 5B-10 - B-TZ_Benzene.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time: 1:30:39 PM | Printed By: RSalazar Date: 2020-04-30 Time: 1:42:13 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- B-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- B-CZ (CLASS 3 GW) / B-TZ (CLASS 2 GW): B-TZ/B-CZ BOUNDARY
- 13.6: 2,4-DIMETHYLPHENOL CONCENTRATION (mg/L)
- 0.49: 2,4-DIMETHYLPHENOL CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL:
   CLASS 2 GW PCL: 0.49 mg/L (RES.) & 1.5 mg/L (C/I)
   CLASS 3 GW PCL: 49 mg/L (RES.) & 150 mg/L (C/I)

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

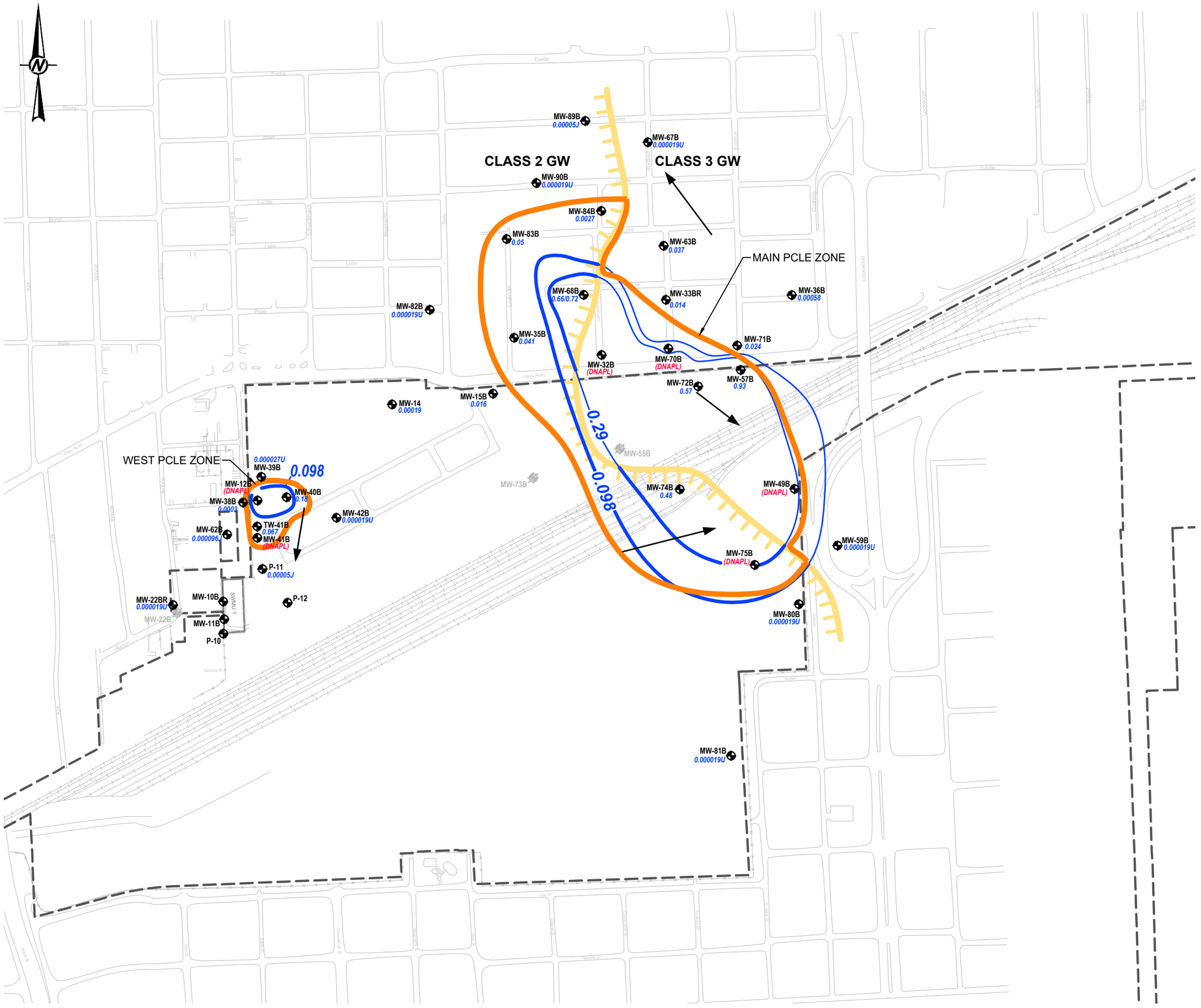
PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - B-CZ/B-TZ 2,4-DIMETHYLPHENOL - JULY 2019

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5B-11



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- B-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- B-CZ (CLASS 3 GW) / B-TZ (CLASS 2 GW): B-TZ/B-CZ BOUNDARY
- 0.276: 2-METHYLNAPHTHALENE CONCENTRATION (mg/L)
- 0.098: 2-METHYLNAPHTHALENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL:
   CLASS 2 GW PCL: 0.098 mg/L (RES.) & 0.29 mg/L (C/I)
   CLASS 3 GW PCL: 9.8 mg/L (RES.) & 29 mg/L (C/I)

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - B-CZ/B-TZ 2-METHYLNAPHTHALENE - JULY 2019

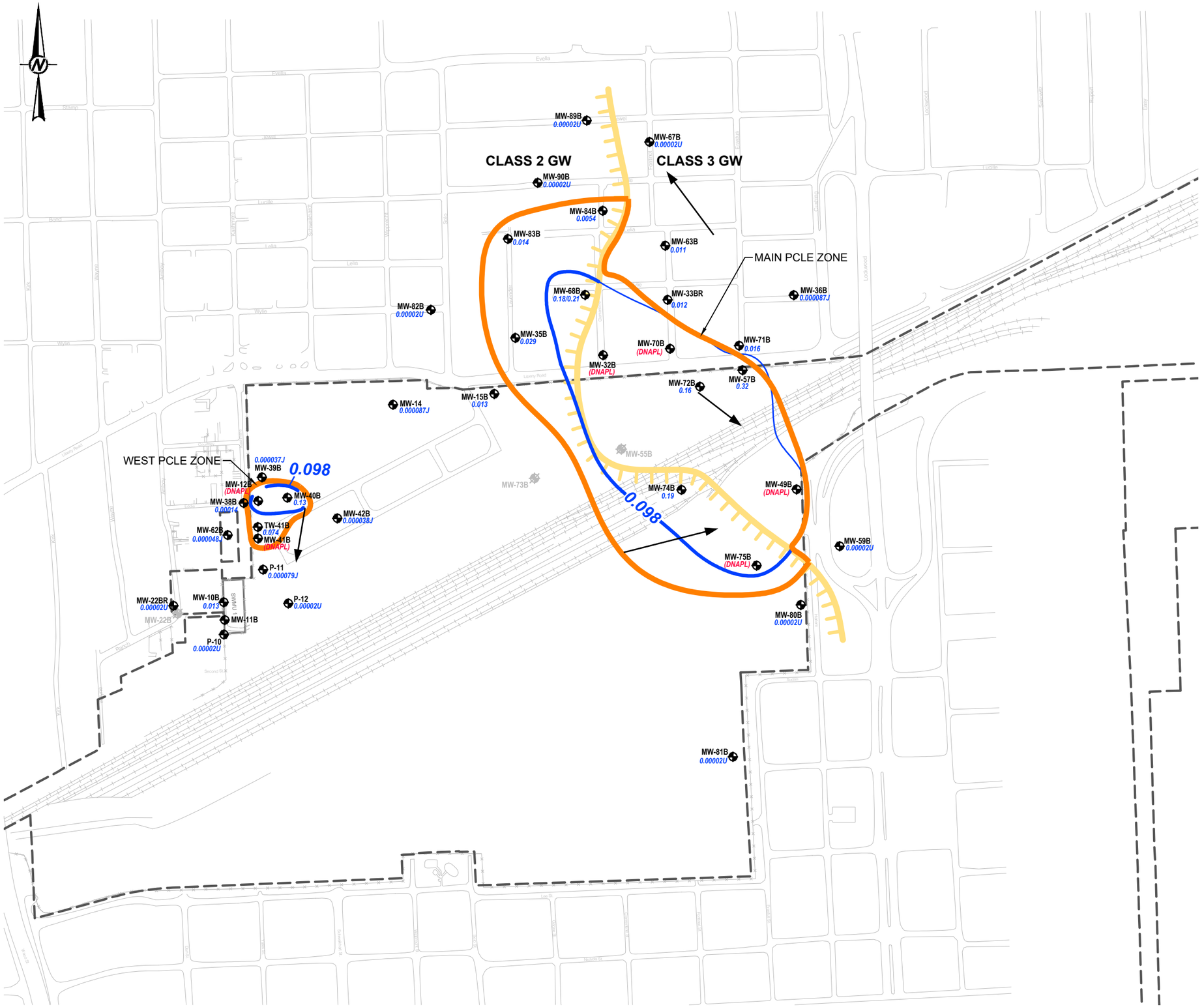
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-12

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\projects - round rock\ 20191911\9232 - hwvw\2019-12 Decl. | File Name: FIG 5B-12 - BTZ_2-Methylnaphthalene.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:1:43:17 PM | Printed By: RSalazar Date: 2020-04-30 Time:1:43:19 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- B-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- B-CZ (CLASS 3 GW) / B-TZ (CLASS 2 GW): B-TZ/B-CZ BOUNDARY
- 8.01: DIBENZOFURAN CONCENTRATION (mg/L)
- 0.098: DIBENZOFURAN CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL:
   CLASS 2 GW PCL: 0.098 mg/L (RES.) & 0.29 mg/L (C/I)
   CLASS 3 GW PCL: 9.8 mg/L (RES.) & 29 mg/L (C/I)

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - B-CZ/B-TZ DIBENZOFURAN - JULY 2019

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-13

CLASS 2 GW

CLASS 3 GW

MAIN PCLE ZONE

WEST PCLE ZONE

MW-89B 0.00025
MW-67B 0.000079J
MW-90B 0.000091J
MW-84B 0.06J
MW-83B 0.77
MW-63B 1.5
MW-68B 9.9/9.6
MW-36B 0.006
MW-82B 0.00002U
MW-33BR 0.53J
MW-35B 1.1
MW-70B (DNAPL)
MW-71B 0.44
MW-32B (DNAPL)
MW-57B 17
MW-72B 12
MW-15B 0.33
MW-14 0.002U
MW-55B
MW-73B
MW-74B 13J
MW-49B (DNAPL)
MW-59B 0.00015U
MW-75B (DNAPL)
MW-80B 0.00002U
MW-81B 0.000099J
0.00041U
MW-39B
MW-12B (DNAPL)
MW-38B 0.0026
MW-40B 3.8
MW-42B 0.00043U
TW-41B 0.69
MW-62B 0.00028
MW-41B (DNAPL)
P-11 0.0018U
MW-22BR 0.00002U
MW-22B
MW-10B 0.00023
MW-11B 0.7/1.1
P-12 0.00002U
P-10 0.000063J
1.5
0.49
0.49

LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- B-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- B-CZ (CLASS 3 GW) / B-TZ (CLASS 2 GW): B-TZ/B-CZ BOUNDARY
- 5.57: NAPHTHALENE CONCENTRATION (mg/L)
- 0.49: NAPHTHALENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL:
   CLASS 2 GW PCL: 0.49 mg/L (RES.) & 1.5 mg/L (C/I)
   CLASS 3 GW PCL: 49 mg/L (RES.) & 150 mg/L (C/I)

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - B-CZ/B-TZ NAPHTHALENE - JULY 2019

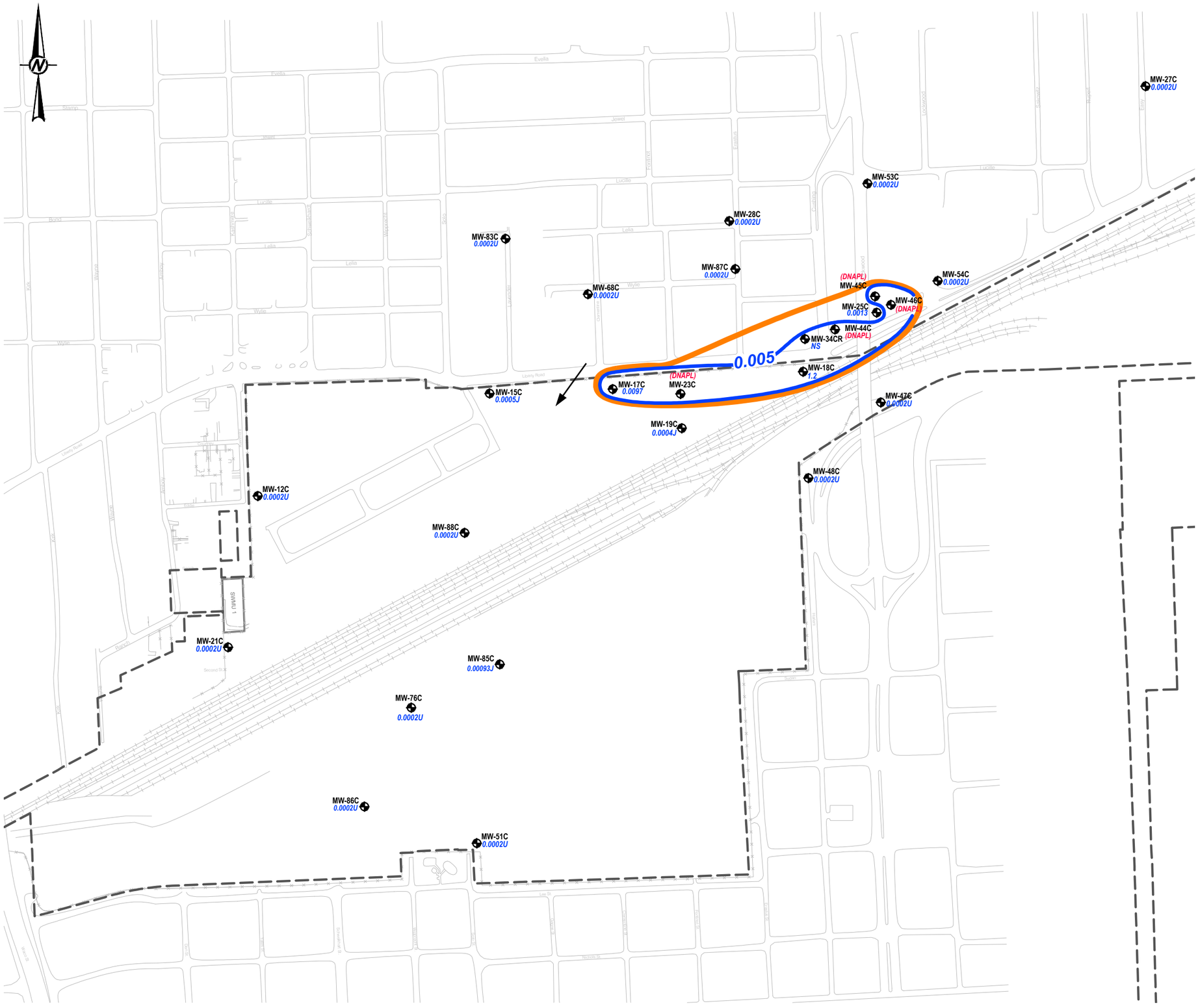
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232
REV. 0
FIGURE 5B-14

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\projects - round rock\ 20\19\19119232 - hwpw\2019-12 Decl. | File Name: FIG 5B-14 - BTZ_Naphthalene.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:1:36:10 PM | Printed By: RSalazar Date: 2020-04-30 Time:1:44:23 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- C-TZ MONITORING WELL LOCATION
- 8.01 — BENZENE CONCENTRATION (mg/L)
- 0.005 — BENZENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.005 mg/L).

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

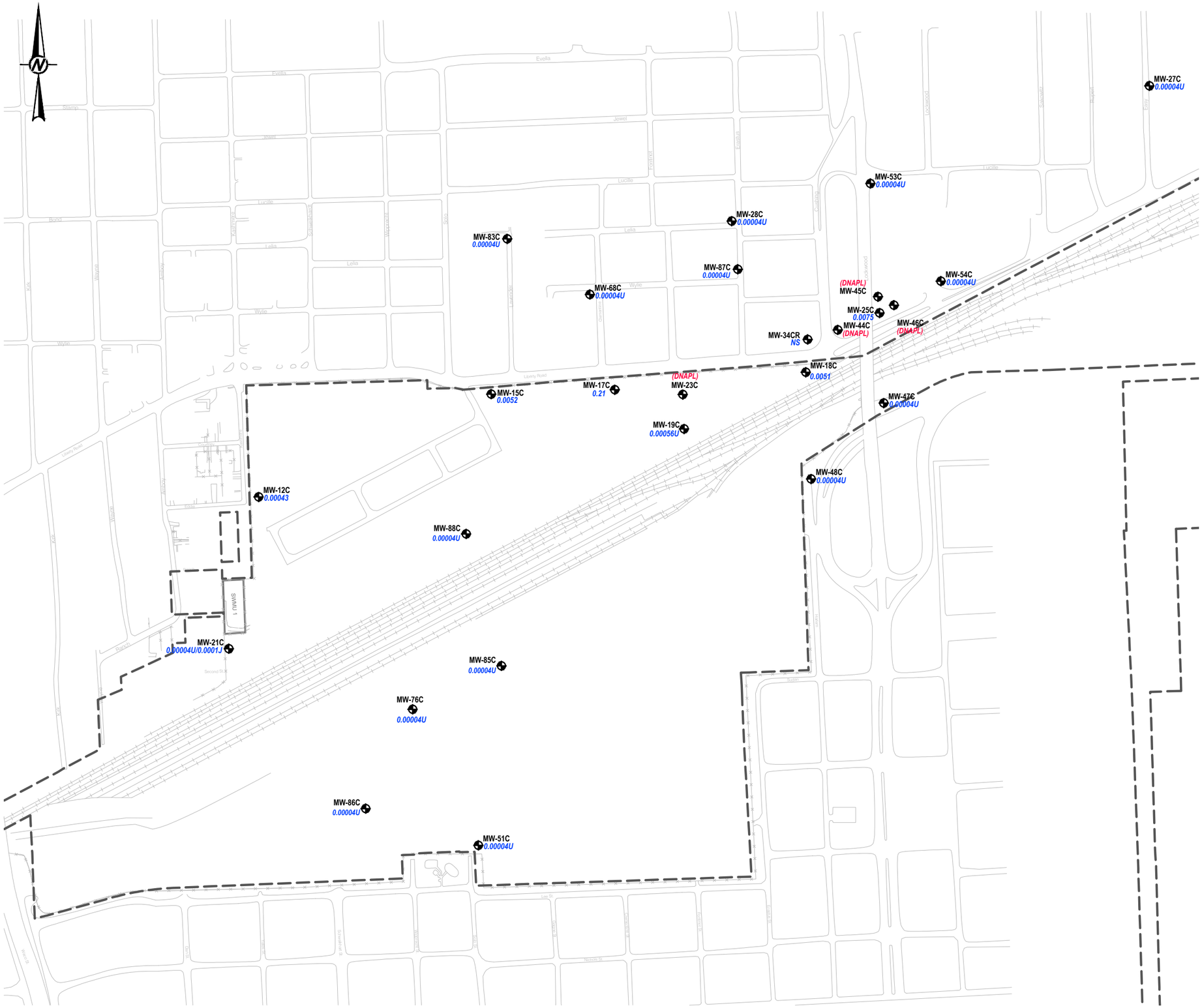
TITLE
GROUNDWATER COC CONCENTRATION MAP - C-TZ BENZENE - JULY 2019

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5B-15

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- C-TZ MONITORING WELL LOCATION
- 0.0325 — 2,4-DIMETHYLPHENOL CONCENTRATION (mg/L)
- 0.49 — 2,4-DIMETHYLPHENOL CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.49 mg/L AND 1.5 mg/L, RESPECTIVELY).

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - C-TZ
2,4-DIMETHYLPHENOL - JULY 2019

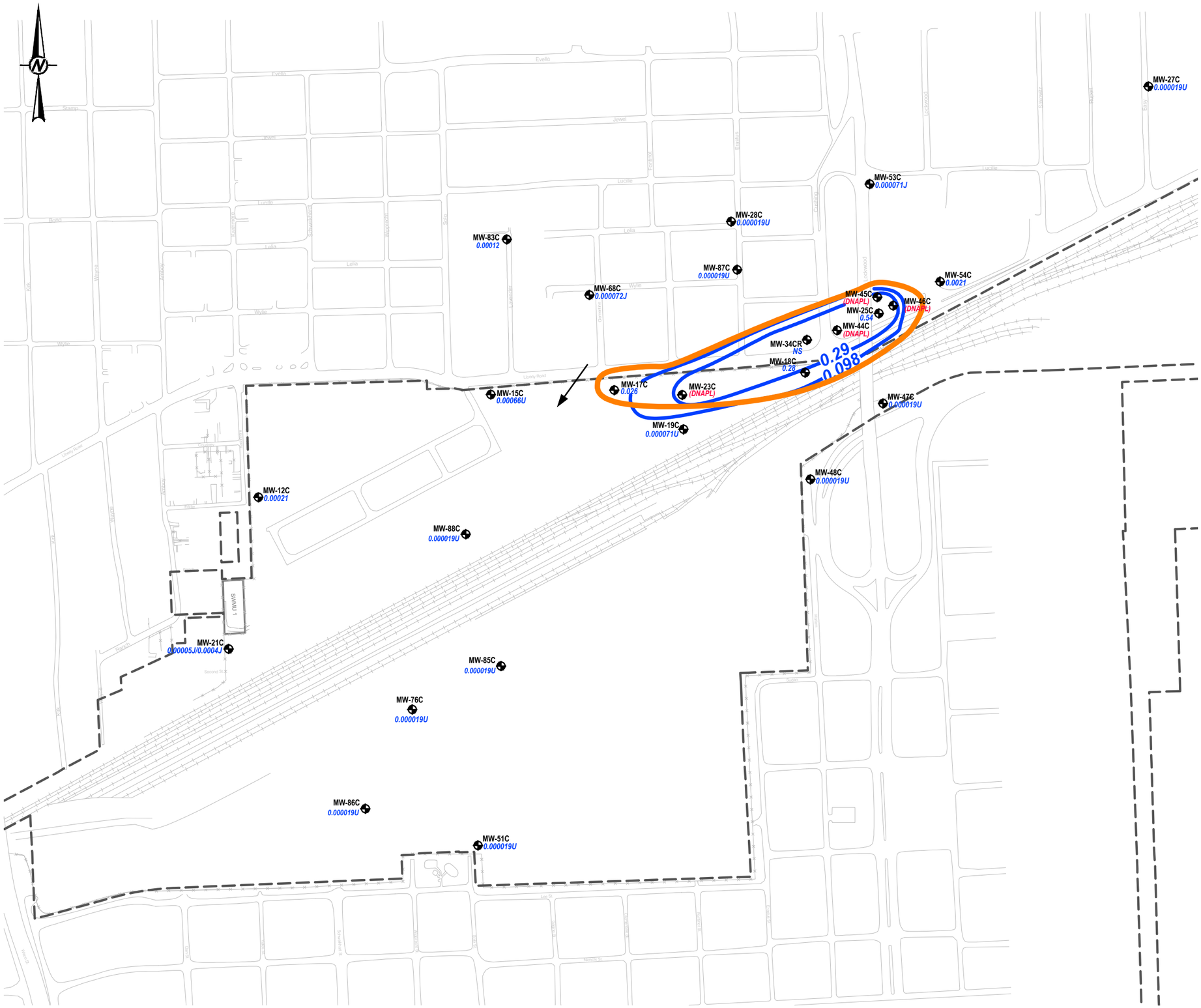
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5B-16

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\projects - round rock\ 20191911922 - hwpw\2019-12 Dwg\ | File Name: FIG 5B-16 - CTZ_24-Dimethylphenol.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:1:39:27 PM | Printed By: RSalazar Date: 2020-04-30 Time:1:47:06 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- C-TZ MONITORING WELL LOCATION
- 0.778 — 2-METHYLNAPHTHALENE CONCENTRATION (mg/L)
- 0.098 — 2-METHYLNAPHTHALENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.098 mg/L AND 0.29 mg/L, RESPECTIVELY).

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - C-TZ
2-METHYLNAPHTHALENE - JULY 2019

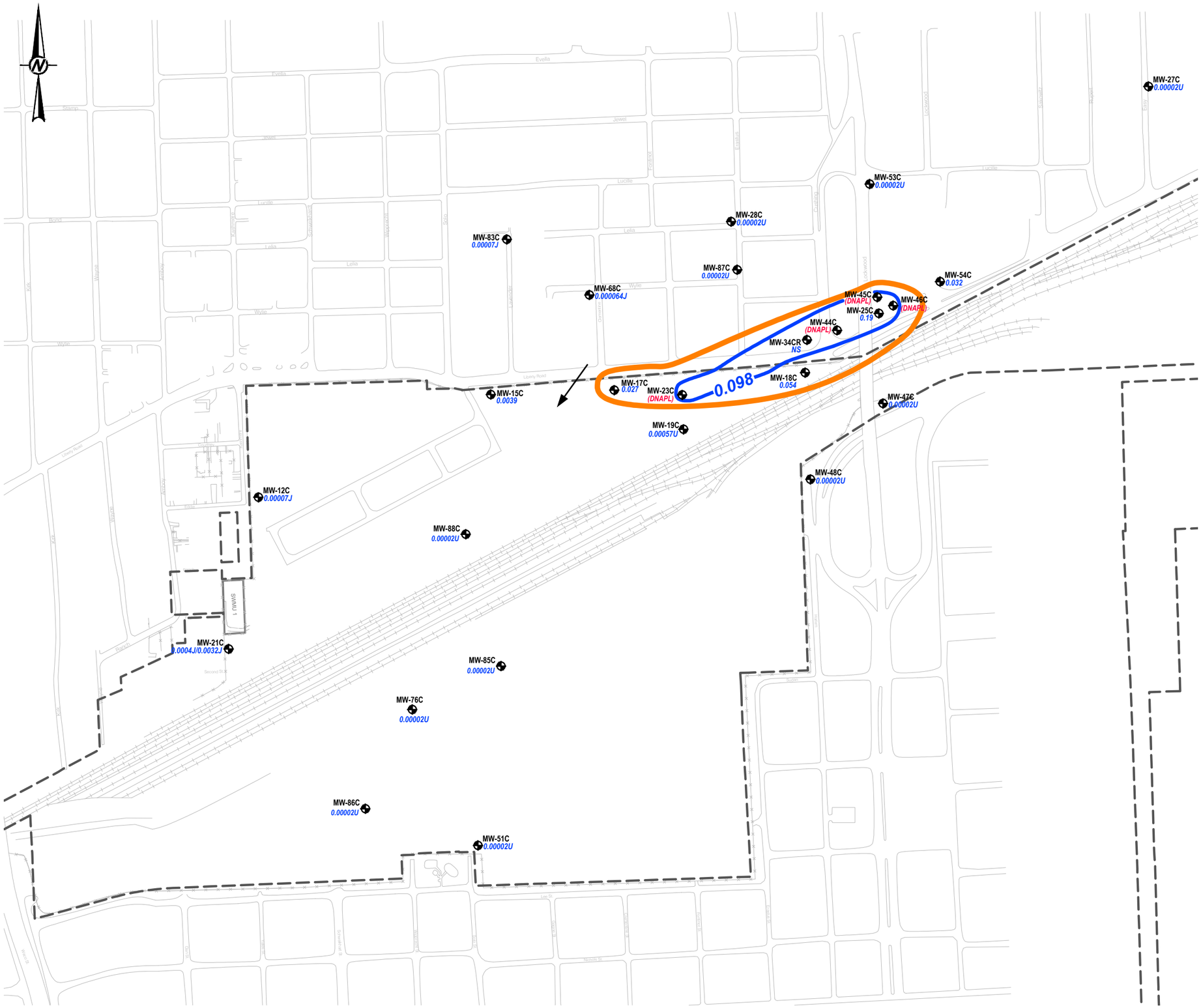
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-17

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\projects - round rock\ 20191911922 - hwwv\2019-12 Dwg\ | File Name: FIG 5B-17 - CTZ_2-Methylnaphthalene.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:1:41:57 PM | Printed By: RSalazar Date: 2020-04-30 Time:1:47:32 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- C-TZ MONITORING WELL LOCATION
- 0.207 — DIBENZOFURAN CONCENTRATION (mg/L)
- 0.098 — DIBENZOFURAN CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.098 mg/L AND 0.29 mg/L, RESPECTIVELY).

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

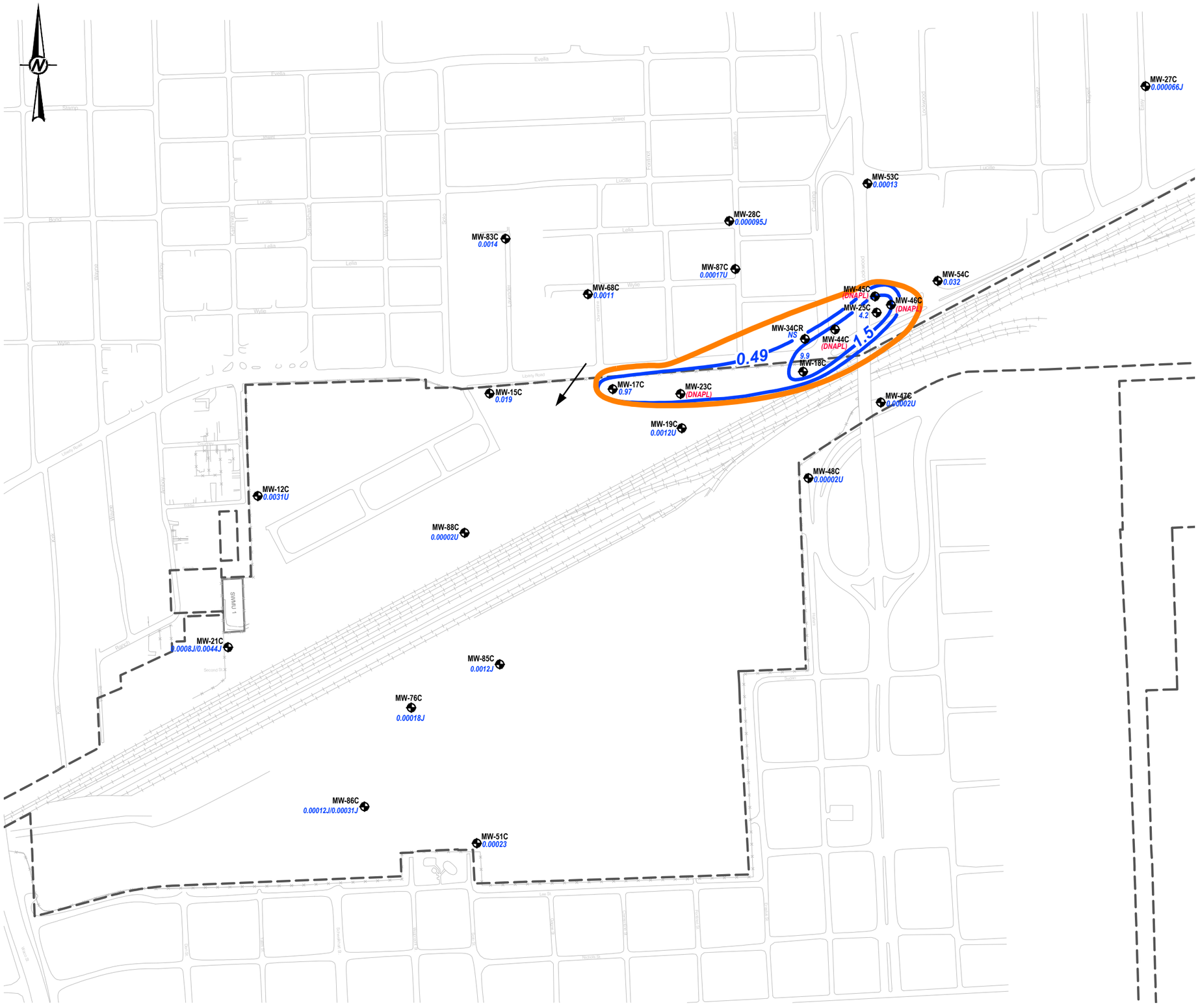
TITLE
GROUNDWATER COC CONCENTRATION MAP - C-TZ DIBENZOFURAN - JULY 2019

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-18

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- C-TZ MONITORING WELL LOCATION
- 14.7 — NAPHTHALENE CONCENTRATION (mg/L)
- 0.49 — NAPHTHALENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.49 mg/L AND 1.5 mg/L, RESPECTIVELY).

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - C-TZ NAPHTHALENE - JULY 2019

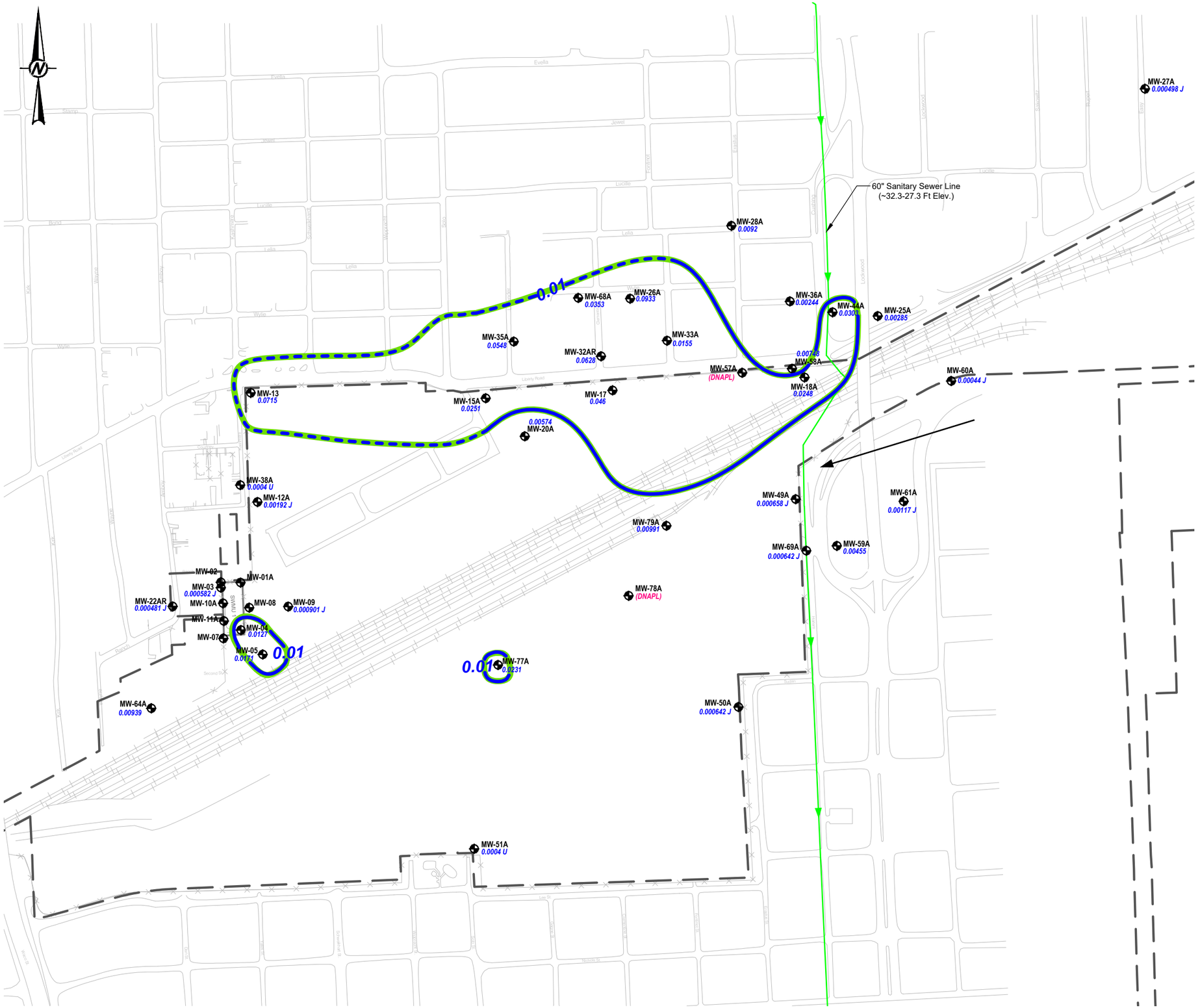
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	AJD
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-19

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\projects - round rock_2019\19119232 - hwpw\2019-12 Dec\ | File Name: FIG 5B-19 - CTZ_Naphthalene.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:1:43:57 PM | Printed By: RSalazar Date: 2020-04-30 Time:1:48:36 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARLING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- 0.108 ARSENIC CONCENTRATION (mg/L)
- 0.01 ARSENIC CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- ARSENIC PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.01 mg/L).

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1. DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - A-TZ
ARSENIC - JULY 2019

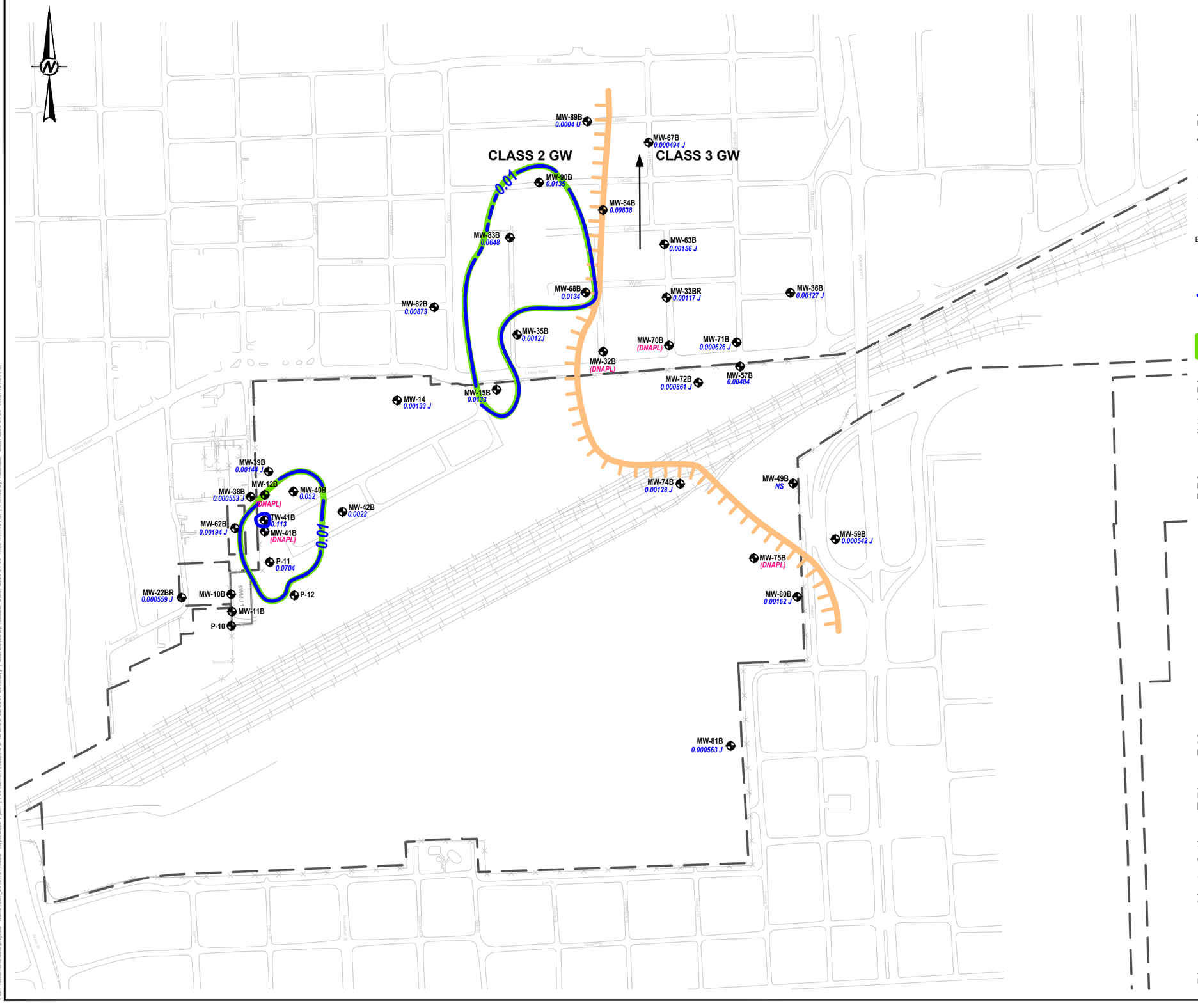
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5B-20

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\projects - round rock_2019\19119232 - hwpw\2020-1 jan\ | File Name: ARSENIC-A-TZ-JULY 2019.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:1:46:14 PM | Printed By: RSalazar Date: 2020-04-30 Time:1:51:21 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- B-TZ MONITORING WELL LOCATION
- B-CZ (CLASS 3 GW) / B-TZ (CLASS 2 GW) — B-TZ/B-CZ BOUNDARY
- 0.346 — ARSENIC CONCENTRATION (mg/L)
- 0.01 — ARSENIC CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- ARSENIC PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL:
   CLASS 2 GW PCL: 0.01 mg/L
   CLASS 3 GW PCL: 1 mg/L

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - B-CZ/B-TZ ARSENIC - JULY 2019

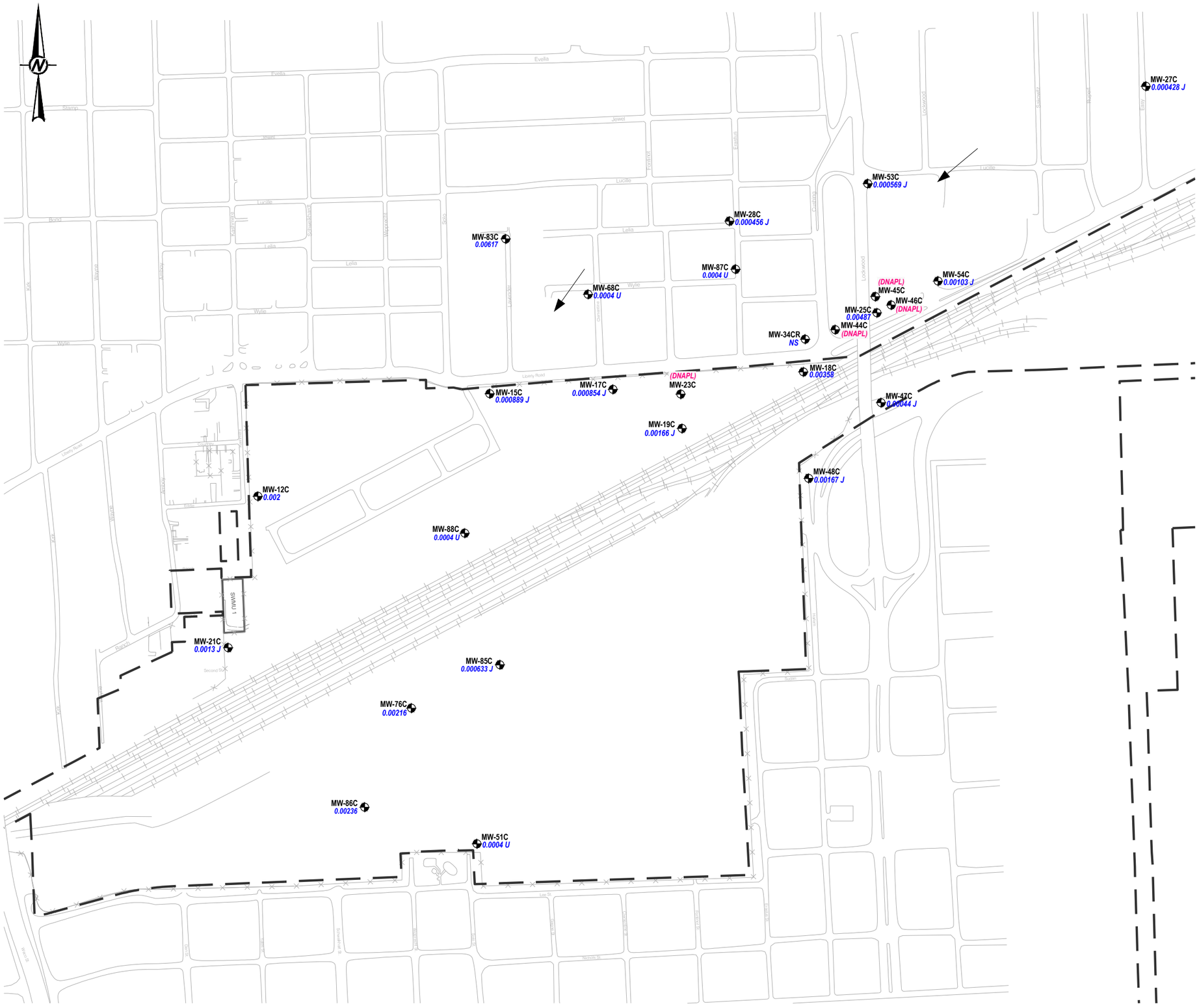
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-21

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\projects - round rock\ 19119119222 - hwpw\2020-1 jan\ | File Name: ARSENIC B-TZ and B-CZ JULY 2019.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:1:47:43 PM | Printed By: RSalazar Date: 2020-04-30 Time:1:51:51 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- C-TZ MONITORING WELL LOCATION
- 8.01 — ARSENIC CONCENTRATION (mg/L)
- 0.01 — ARSENIC CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JULY 2019).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.01 mg/L).

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - C-TZ
ARSENIC - JULY 2019

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

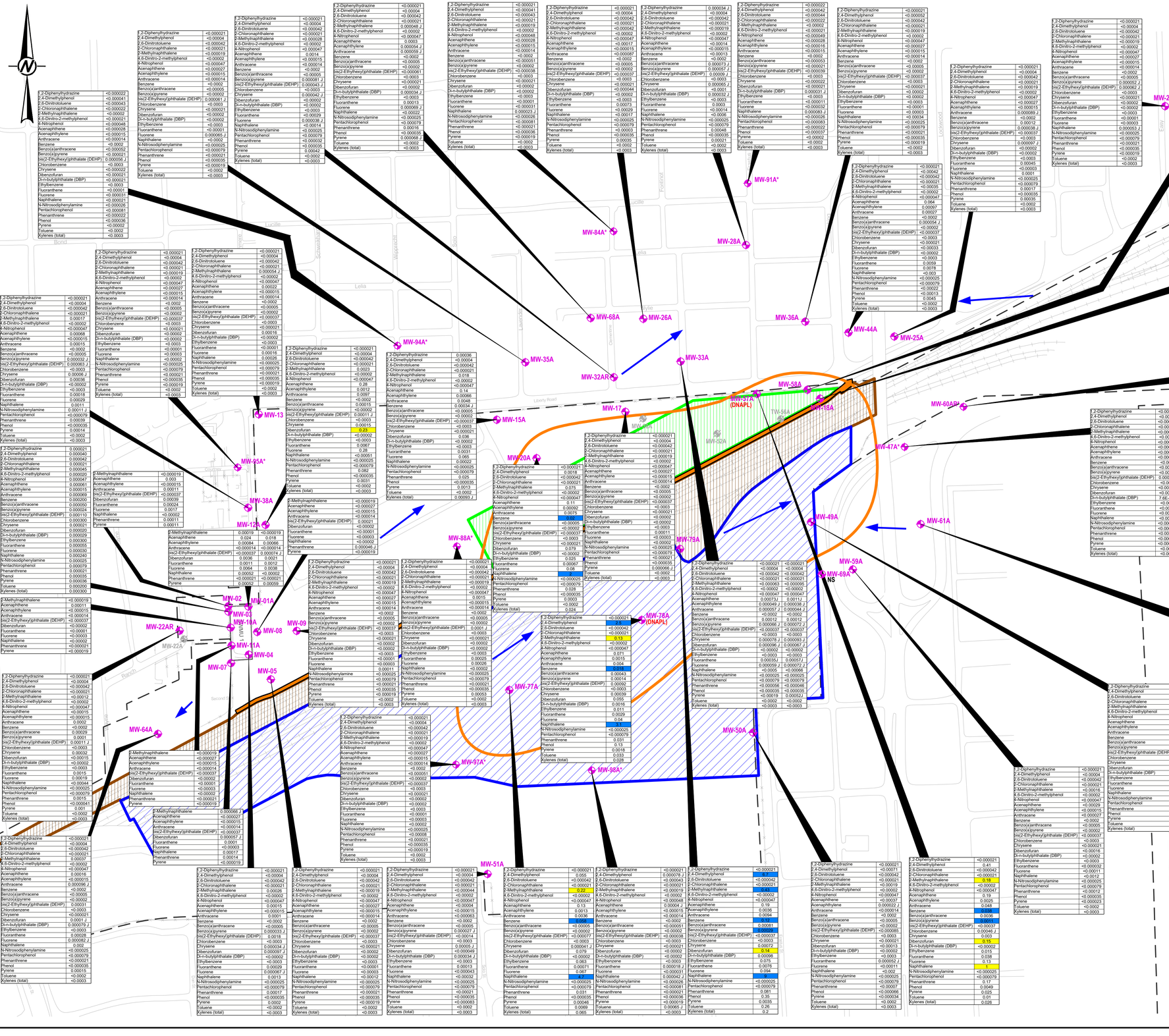
PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-22

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\projects - round rock\ 20191919119232 - houw\2020-1 jan\ | File Name: ARSENIC C-TZ JULY 2019.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:1:48:44 PM | Printed By: RSalazar Date: 2020-04-30 Time:1:52:45 PM

ATTACHMENT E

January-March 2020 Sampling Event COC Concentration Maps



LEGEND

- UPRR PROPERTY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION
- RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- SOIL CAP
- CONCRETE CAP AREA
- GW PCLE ZONE

NOTE(S)

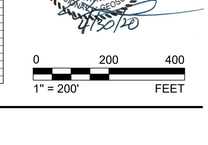
1. ALL CONCENTRATIONS ARE IN mg/L.
2. J - ESTIMATED VALUE BETWEEN SQL AND MDL.
3. < - NOT DETECTED (RL/SQL REPORTED).
4. NA - NOT ANALYZED.
5. NS - NOT SAMPLED.
6. BLUE HIGHLIGHTED CONCENTRATIONS EXCEED COMMERCIAL INDUSTRIAL PCLs (FOR ON-SITE WELLS ONLY).
7. YELLOW HIGHLIGHTED CONCENTRATIONS EXCEED RESIDENTIAL ASSESSMENT LEVEL (RALs).
8. DNAPL = DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
9. * - SAMPLE COLLECTED IN MARCH 2020.

SWNU AREA

NO.	DESCRIPTION
SWMU 1	CLOSED SURFACE IMPOUNDMENT

PROTECTIVE CONCENTRATION LEVELS (PCLs)

PARAMETER	CAS NUMBER	RAL (mg/L)	C/I PCL (mg/L)
1,2-Diphenylhydrazine	122-66-7	0.0011	0.0026
2,4-Dimethylphenol	105-67-9	0.49	1.5
2,6-Dinitrotoluene	606-20-2	0.0013	0.003
2-Chloronaphthalene	91-58-7	2	5.8
2-Methylnaphthalene	91-57-6	0.098	0.29
4,6-Dinitro-2-methylphenol	534-52-1	0.0024	0.0073
4-Nitrophenol	100-02-7	0.049	0.15
Acenaphthene	83-32-9	1.5	4.4
Acenaphthylene	208-96-8	1.5	4.4
Anthracene	120-12-7	7.5	22
Benzene	71-43-2	0.005	0.005
Benzo(a)anthracene	56-55-3	0.0091	0.02
Benzo(a)pyrene	50-32-8	0.0002	0.0002
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	0.006	0.006
Chlorobenzene	108-90-7	0.11	0.1
Chrysene	218-01-9	0.91	2
Dibenzofuran	132-64-9	0.098	0.29
Di-n-butylphthalate (DBP)	84-74-2	2.4	7.3
Ethylbenzene	100-41-4	0.7	0.7
Fluoranthene	206-44-0	0.98	2.9
Fluorene	86-73-7	0.98	2.9
Naphthalene	91-20-3	0.49	1.5
N-Nitrosodiphenylamine	86-30-6	0.19	0.40
Pentachlorophenol	87-86-5	0.001	0.001
Phenanthrene	85-01-8	0.73	2.2
Phenol	108-95-2	7.3	22
Pyrene	129-00-0	0.73	2.2
Toluene	108-88-3	1	1
Xylenes (total)	1330-20-7	10	10



0 200 400
1" = 200' FEET

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

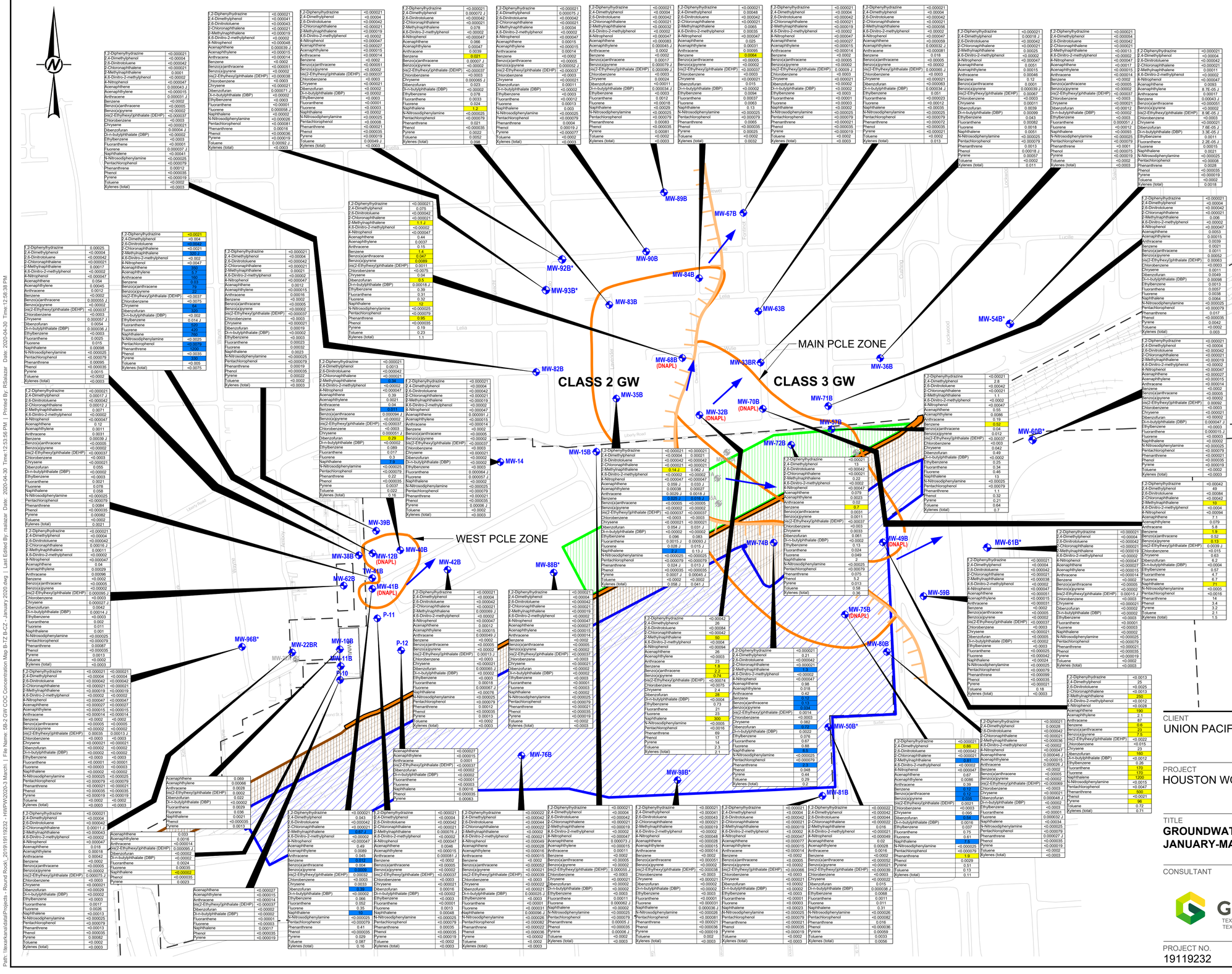
TITLE
GROUNDWATER COC CONCENTRATION MAP - A-TZ JANUARY-MARCH 2020

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232
REV. 0
FIGURE 5B-1

Path: \\texarkana\data\Projects - Round Rock_2019\19119232 - HWPWY\2020-3 March\ | File Name: 5B-1 GW COC Concentration Map A-TZ - January 2020.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time: 12:49:43 PM | Printed By: RSalazar Date: 2020-04-30 Time: 12:51:34 PM



LEGEND

- UPRR PROPERTY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- B-CZ (CLASS 3 GW) / B-TZ (CLASS 2 GW) — B-TZ/B-CZ BOUNDARY
- B-TZ AND B-CZ MONITORING WELL LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION
- RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- SOIL CAP
- CONCRETE CAP AREA
- GW PCLE ZONE

NOTE(S)

1. ALL CONCENTRATIONS ARE IN mg/L.
2. J - ESTIMATED VALUE BETWEEN SQL AND MDL.
3. < - NOT DETECTED (RL/SQL REPORTED).
4. NA - NOT ANALYZED.
5. NS - NOT SAMPLED.
6. BLUE HIGHLIGHTED CONCENTRATIONS EXCEED COMMERCIAL INDUSTRIAL PCLs (FOR ON-SITE WELLS ONLY).
7. YELLOW HIGHLIGHTED CONCENTRATIONS EXCEED RESIDENTIAL ASSESSMENT LEVEL (RALs).
8. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
9. * - SAMPLE COLLECTED IN MARCH 2020.

SWNU AREA

NO.	DESCRIPTION
SWMU 1	CLOSED SURFACE IMPOUNDMENT

PROTECTIVE CONCENTRATION LEVELS (PCLs)

PARAMETER	CAS NUMBER	RAL (mg/L)	C/I PCL (mg/L)	GW_{CLASS1} (mg/L)
1,2-Diphenylhydrazine	122-66-7	0.0011	0.0026	0.11
2,4-Dimethylphenol	105-67-9	0.49	1.5	49
2,6-Dinitrotoluene	606-20-2	0.0013	0.003	0.13
2-Chloronaphthalene	91-58-7	2	5.8	200
2-Methylnaphthalene	91-57-6	0.098	0.29	9.8
4,6-Dinitro-2-methylphenol	534-52-1	0.0024	0.0073	0.24
4-Nitrophenol	100-02-7	0.049	0.15	4.9
Acenaphthene	83-32-9	1.5	4.4	150
Acenaphthylene	208-96-8	1.5	4.4	150
Anthracene	120-12-7	7.3	22	730
Benzene	71-43-2	0.005	0.005	0.5
Benzo(a)anthracene	56-55-3	0.0091	0.02	0.91
Benzo(a)pyrene	50-32-8	0.0002	0.0002	0.02
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	0.006	0.006	0.6
Chlorobenzene	108-90-7	0.1	0.1	10
Chrysene	218-01-9	0.91	2	91
Dibenzofuran	132-64-9	0.098	0.29	9.8
Di-n-butylphthalate (DBP)	84-74-2	2.4	7.3	240
Ethylbenzene	100-41-4	0.7	0.7	70
Fluoranthene	206-44-0	0.98	2.9	98
Fluorene	86-73-7	0.98	2.9	98
Naphthalene	91-20-3	0.49	1.5	49
N-Nitrosodiphenylamine	86-30-6	0.19	0.42	19
Pentachlorophenol	87-86-5	0.001	0.001	0.1
Phenanthrene	85-01-8	0.73	2.2	73
Phenol	108-95-2	7.3	22	730
Pyrene	129-00-0	0.73	2.2	73
Toluene	108-88-3	1	1	100
Xylenes (total)	1330-20-7	10	10	1000

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 7995
LICENSED PROFESSIONAL GEOLOGIST
4/30/20

0 200 400
1" = 200' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - B-TZ/B-CZ JANUARY-MARCH 2020

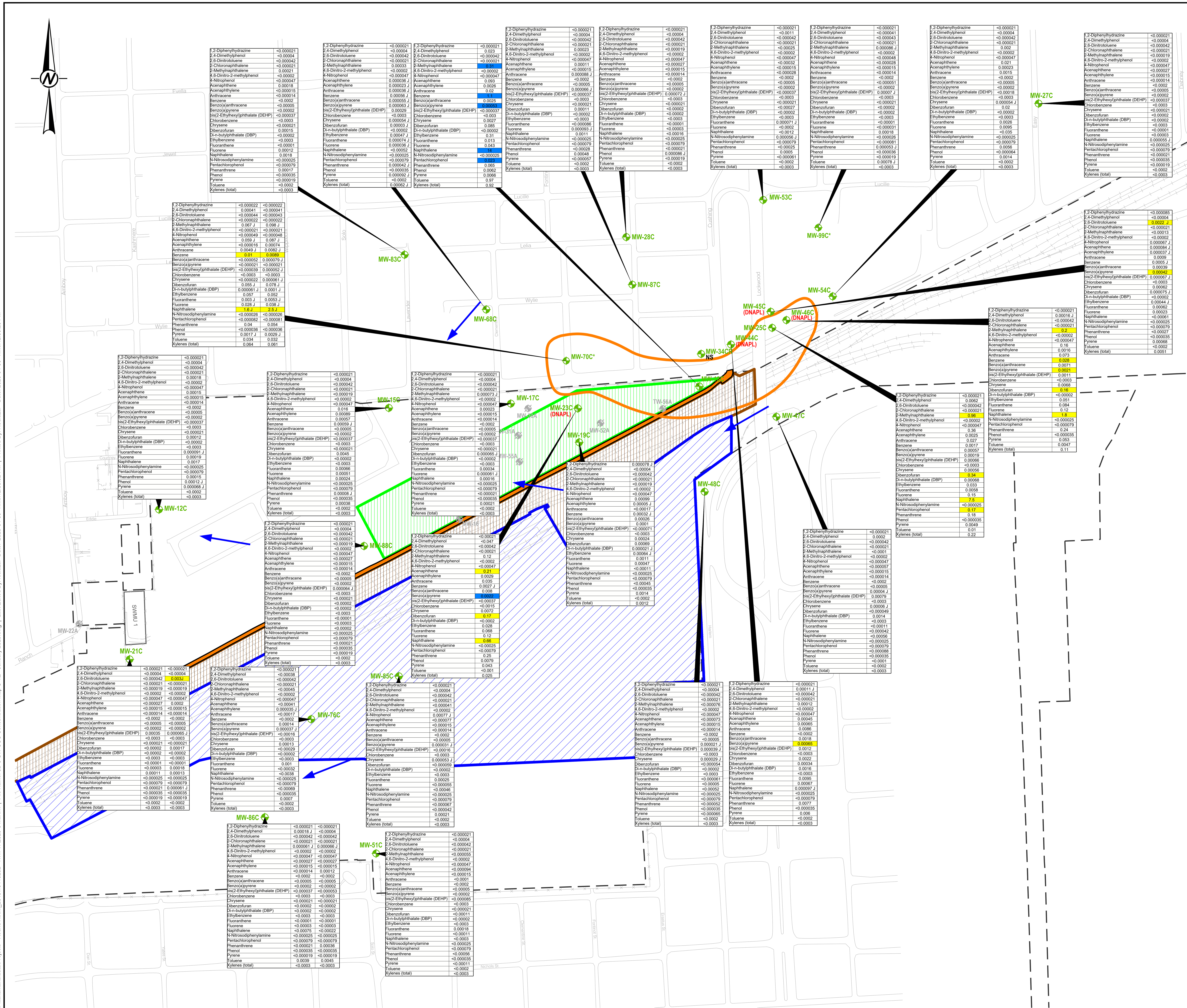
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM
PROJECT NO.	19119232
REV.	0
FIGURE	5B-2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI D

0 1in

Path: \\awarkamadata\Projects - Round Rock_20191911\19232 - HWPW\2020-3 March\ | File Name: 5B-2 GW COC Concentration Map B-TZ B-CZ - January 2020.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time: 12:53:56 PM | Printed By: RSalazar Date: 2020-04-30 Time: 12:58:38 PM



MW-83C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	0.00021
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	0.00018
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.00015
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	0.00012
Naphthalene	0.0018
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	0.00017
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

MW-68C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	0.00033
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	0.000036 J
Acenaphthylene	0.000023 J
Anthracene	0.000036 J
Benzene	0.00056 J
Benzo(a)anthracene	0.000055 J
Benzo(a)pyrene	0.000063 J
bis(2-Ethylhexyl)phthalate (DEHP)	0.00029
Chlorobenzene	<0.0003
Chrysene	0.000054 J
Dibenzofuran	0.00003 J
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	0.00047 J
Fluoranthene	0.000074 J
Fluorene	0.000036 J
Naphthalene	<0.00052
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	0.000042 J
Phenol	<0.000035
Pyrene	0.000092 J
Toluene	<0.0002
Xylenes (total)	0.00062 J

MW-18C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	0.023
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	0.31
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	0.093
Acenaphthylene	0.0026
Anthracene	0.02
Benzene	1.1
Benzo(a)anthracene	0.0025
Benzo(a)pyrene	0.00053
bis(2-Ethylhexyl)phthalate (DEHP)	<0.000037
Chlorobenzene	<0.003
Chrysene	0.0027
Dibenzofuran	0.085
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	0.31
Fluoranthene	0.013
Fluorene	0.043
Naphthalene	14
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	0.023
Phenanthrene	0.065
Phenol	0.0062
Pyrene	0.0066
Toluene	0.97
Xylenes (total)	0.92

MW-87C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	0.00023
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	0.00011
Acenaphthylene	<0.000015
Anthracene	0.000088 J
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	0.000066 J
bis(2-Ethylhexyl)phthalate (DEHP)	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.00011
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.000086
Fluorene	0.000093 J
Naphthalene	0.0011
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	<0.00028
Phenol	0.00048
Pyrene	<0.000057
Toluene	<0.0002
Xylenes (total)	<0.0003

MW-28C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	<0.000019
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	0.000072 J
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	<0.00016
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	0.000086 J
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

MW-53C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.0011
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	<0.00025
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	<0.00032
Acenaphthylene	<0.000015
Anthracene	<0.000028
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00027
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	0.000071 J
Fluorene	<0.0002
Naphthalene	<0.0012
N-Nitrosodiphenylamine	0.000056 J
Pentachlorophenol	<0.000079
Phenanthrene	<0.00025
Phenol	0.0005
Pyrene	<0.000061
Toluene	<0.0002
Xylenes (total)	<0.0003

MW-99C*

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.000041
2,6-Dinitrotoluene	<0.000043
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	0.000086 J
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000048
Acenaphthene	<0.000028
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.000051
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	0.00007 J
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.000031
Naphthalene	0.00018
N-Nitrosodiphenylamine	<0.000026
Pentachlorophenol	<0.000081
Phenanthrene	0.000053 J
Phenol	<0.000036
Pyrene	<0.000019
Toluene	0.00078 J
Xylenes (total)	<0.0003

MW-54C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	0.002
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	0.021
Acenaphthylene	0.00023
Anthracene	0.0015
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	<0.00018
Chlorobenzene	<0.0003
Chrysene	0.000054 J
Dibenzofuran	0.02
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	0.0026
Fluorene	0.0095
Naphthalene	<0.035
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	0.0056
Phenol	<0.000064
Pyrene	0.0014
Toluene	<0.0002
Xylenes (total)	<0.0003

MW-27C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	<0.000019
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	0.000055 J
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

MW-45C

1,2-Diphenylhydrazine	<0.000085
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	0.0022 J
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	<0.00013
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	0.000067 J
Acenaphthene	0.000084 J
Acenaphthylene	0.000037 J
Anthracene	0.0009
Benzene	0.0005 J
Benzo(a)anthracene	0.00039
Benzo(a)pyrene	0.00042
bis(2-Ethylhexyl)phthalate (DEHP)	0.000067 J
Chlorobenzene	<0.0003
Chrysene	0.00062
Dibenzofuran	0.000075 J
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	0.00044 J
Fluoranthene	0.00062
Fluorene	0.00023
Naphthalene	<0.00061
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	<0.00027
Phenol	<0.000035
Pyrene	0.00068
Toluene	<0.0002
Xylenes (total)	0.0051

MW-46C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	0.00016 J
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	0.2
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	0.16
Acenaphthylene	0.0016
Anthracene	0.073
Benzene	0.028
Benzo(a)anthracene	0.0071
Benzo(a)pyrene	0.0021
bis(2-Ethylhexyl)phthalate (DEHP)	0.0011
Chlorobenzene	<0.0003
Chrysene	0.0068
Dibenzofuran	0.16
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	0.051
Fluoranthene	0.084
Fluorene	0.12
Naphthalene	1.8
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	0.24
Phenol	<0.000035
Pyrene	0.053
Toluene	0.0047
Xylenes (total)	0.11

MW-25C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	0.0062
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	0.96
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	0.36
Acenaphthylene	0.0025
Anthracene	0.027
Benzene	0.0017
Benzo(a)anthracene	0.00057
Benzo(a)pyrene	0.00019
bis(2-Ethylhexyl)phthalate (DEHP)	0.00066
Chlorobenzene	<0.0003
Chrysene	0.00056
Dibenzofuran	0.34
Di-n-butylphthalate (DBP)	0.00068
Ethylbenzene	0.033
Fluoranthene	0.0058
Fluorene	0.15
Naphthalene	7.5
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	0.17
Phenanthrene	0.18
Phenol	<0.000035
Pyrene	0.0049
Toluene	0.01
Xylenes (total)	0.22

MW-47C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	0.0002
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	<0.0001
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	<0.000057
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	0.00004 J
bis(2-Ethylhexyl)phthalate (DEHP)	0.00079
Chlorobenzene	<0.0003
Chrysene	0.00006 J
Dibenzofuran	<0.000049
Di-n-butylphthalate (DBP)	0.0014
Ethylbenzene	<0.0003
Fluoranthene	<0.00011
Fluorene	<0.000042
Naphthalene	<0.00056
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	<0.000088
Phenol	<0.000035
Pyrene	<0.0001
Toluene	<0.0002
Xylenes (total)	<0.0003

MW-70C*

1,2-Diphenylhydrazine	<0.000022	<0.000022
2,4-Dimethylphenol	0.00041	<0.000041
2,6-Dinitrotoluene	<0.000044	<0.000043
2-Chloronaphthalene	<0.000022	<0.000022
2-Methylnaphthalene	0.067 J	0.098 J
4,6-Dinitro-2-methylphenol	<0.000021	<0.000021
4-Nitrophenol	<0.000049	<0.000048
Acenaphthene	0.059 J	0.087 J
Acenaphthylene	<0.000016	0.00074
Anthracene	0.0049 J	0.0082 J
Benzene	0.01	0.0089
Benzo(a)anthracene	<0.000052	0.000079 J
Benzo(a)pyrene	<0.000021	<0.000021
bis(2-Ethylhexyl)phthalate (DEHP)	<0.000039	0.000052 J
Chlorobenzene	<0.0003	<0.0003
Chrysene	<0.000022	0.000061 J
Dibenzofuran	0.055 J	0.078 J
Di-n-butylphthalate (DBP)	0.000061 J	0.0001 J
Ethylbenzene	0.057	0.052
Fluoranthene	0.003 J	0.0053 J
Fluorene	0.028 J	0.038 J
Naphthalene	1.6 J	2.5 J
N-Nitrosodiphenylamine	<0.000026	<0.000026
Pentachlorophenol	<0.000082	<0.000081
Phenanthrene	0.04	0.054
Phenol	<0.000036	<0.000036
Pyrene	0.0017 J	0.0029 J
Toluene	0.034	0.032
Xylenes (total)	0.064	0.061

MW-12C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	0.00018
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	0.00015
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.00012
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	0.000091 J
Fluorene	0.00019
Naphthalene	0.0017
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	0.00015
Phenol	0.00012 J
Pyrene	0.000068 J
Toluene	<0.0002
Xylenes (total)	<0.0003

MW-15C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	<0.000019
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	0.016
Acenaphthylene	0.00089
Anthracene	0.00057
Benzene	0.00059 J
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.0045
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	0.00066
Fluorene	0.00051
Naphthalene	0.00024
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	0.00008 J
Phenol	<0.000035
Pyrene	0.00038
Toluene	<0.0002
Xylenes (total)	<0.0003

MW-17C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	0.000073 J
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	0.00023
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	0.000065 J
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	0.00034
Fluorene	0.000061 J
Naphthalene	0.00016
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	0.00021
Toluene	<0.0002
Xylenes (total)	<0.0003

MW-19C

1,2-Diphenylhydrazine	0.000078 J
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	<0.000019
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	0.00099
Acenaphthylene	0.00005 J
Anthracene	<0.00017
Benzene	0.00032 J
Benzo(a)anthracene	0.00026
Benzo(a)pyrene	0.0001
bis(2-Ethylhexyl)phthalate (DEHP)	<0.000071
Chlorobenzene	<0.0003
Chrysene	0.00024
Dibenzofuran	0.00069
Di-n-butylphthalate (DBP)	0.000021 J
Ethylbenzene	0.00064 J
Fluoranthene	0.0011
Fluorene	0.00047
Naphthalene	<0.00011
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	<0.00045
Phenol	<0.000035
Pyrene	0.0014
Toluene	<0.0002
Xylenes (total)	0.0012

MW-88C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	<0.000019
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	0.000064 J
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	<0.00002
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

MW-23C

1,2-Diphenylhydrazine	<0.00021
2,4-Dimethylphenol	<0.047
2,6-Dinitrotoluene	<0.00042
2-Chloronaphthalene	<0.00021
2-Methylnaphthalene	0.12
4,6-Dinitro-2-methylphenol	<0.0002
4-Nitrophenol	<0.00047
Acenaphthene	0.21
Acenaphthylene	0.0029
Anthracene	0.035
Benzene	0.0027 J
Benzo(a)anthracene	0.008
Benzo(a)pyrene	0.0022
bis(2-Ethylhexyl)phthalate (DEHP)	<0.00037
Chlorobenzene	<0.0015
Chrysene	0.0072
Dibenzofuran	0.17
Di-n-butylphthalate (DBP)	<0.0002
Ethylbenzene	0.028
Fluoranthene	0.068
Fluorene	0.12
Naphthalene	0.66
N-Nitrosodiphenylamine	<0.00025
Pentachlorophenol	<0.00079
Phenanthrene	0.25
Phenol	0.0079
Pyrene	0.043
Toluene	<0.001
Xylenes (total)	0.025

MW-21C

1,2-Diphenylhydrazine	<0.000021	<0.000021
2,4-Dimethylphenol	<0.00004	<0.00004
2,6-Dinitrotoluene	<0.000042	0.003J
2-Chloronaphthalene	<0.000021	<0.000021
2-Methylnaphthalene	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	<0.00002	<0.00002
4-Nitrophenol	<0.000047	<0.000047
Acenaphthene	<0.000027	0.0002
Acenaphthylene	<0.000015	<0.000015
Anthracene	<0.000014	<0.000014
Benzene	<0.0002	<0.0002
Benzo(a)anthracene	<0.00005	<0.00005
Benzo(a)pyrene	<0.00002	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	0.00035	0.000065 J
Chlorobenzene	<0.0003	<0.0003
Chrysene	<0.000021	<0.000021
Dibenzofuran	<0.00002	0.00017
Di-n-butylphthalate (DBP)	<0.00002	<0.00002
Ethylbenzene	<0.0003	<0.0003
Fluoranthene	<0.00001	<0.00001
Fluorene	<0.00003	0.00018
Naphthalene	0.00011	0.00013
N-Nitrosodiphenylamine	<0.000025	<0.000025
Pentachlorophenol	<0.000079	<0.000079
Phenanthrene	<0.000021	0.000061 J
Phenol	<0.000035	<0.000035
Pyrene	<0.000019	<0.000019
Toluene	<0.0002	<0.0002
Xylenes (total)	<0.0003	<0.0003

MW-76C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00038
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	<0.00045
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	<0.00041
Acenaphthylene	0.000035 J
Anthracene	<0.00017
Benzene	<0.0002
Benzo(a)anthracene	0.00014
Benzo(a)pyrene	0.000037 J
bis(2-Ethylhexyl)phthalate (DEHP)	<0.00016
Chlorobenzene	<0.0003
Chrysene	0.00013
Dibenzofuran	<0.00029
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	0.001
Fluorene	<0.00032
Naphthalene	<0.0038
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	<0.00069
Phenol	<0.000035
Pyrene	0.0007
Toluene	<0.0002
Xylenes (total)	<0.0003

MW-85C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	<0.000041
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	0.00077 J
Acenaphthene	<0.000077
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	0.000031 J
bis(2-Ethylhexyl)phthalate (DEHP)	<0.00016
Chlorobenzene	<0.0003
Chrysene	0.000053 J
Dibenzofuran	<0.000059
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	0.00025
Fluorene	<0.000055
Naphthalene	<0.00046
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	<0.000067
Phenol	<0.000042
Pyrene	0.00021
Toluene	<0.0002
Xylenes (total)	<0.0003

MW-48C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	<0.000076
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	<0.000073
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	0.000021 J
bis(2-Ethylhexyl)phthalate (DEHP)	0.000039 J
Chlorobenzene	<0.0003
Chrysene	0.000029 J
Dibenzofuran	<0.000054
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.000061
Fluorene	<0.00005
Naphthalene	<0.00052
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	<0.000052
Phenol	<0.000035
Pyrene	<0.000065
Toluene	<0.0002
Xylenes (total)	<0.0003

MW-44C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	0.00011 J
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	0.00012
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	0.00045
Acenaphthylene	0.00065
Anthracene	0.0086
Benzene	<0.0002
Benzo(a)anthracene	0.0018
Benzo(a)pyrene	0.00065
bis(2-Ethylhexyl)phthalate (DEHP)	0.0012
Chlorobenzene	<0.0003
Chrysene	0.0022
Dibenzofuran	0.00034
Di-n-butylphthalate (DBP)	0.0016
Ethylbenzene	<0.0003
Fluoranthene	0.0095
Fluorene	0.00067
Naphthalene	0.000097 J
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	0.0077
Phenol	<0.000035
Pyrene	0.006
Toluene	<0.0002
Xylenes (total)	<0.0003

MW-86C

1,2-Diphenylhydrazine	<0.000021	<0.000021
2,4-Dimethylphenol	0.00018 J	<0.00004
2,6-Dinitrotoluene	<0.000042	<0.000042
2-Chloronaphthalene	<0.000021	<0.000021
2-Methylnaphthalene	0.000061 J	0.000066 J
4,6-Dinitro-2-methylphenol	<0.00002	<0.00002
4-Nitrophenol	<0.000047	<0.000047
Acenaphthene	<0.000027	<0.000027
Acenaphthylene	<0.000015	<0.000015
Anthracene	<0.000014	0.00012
Benzene	<0.0002	<0.0002
Benzo(a)anthracene	<0.00005	<0.00005
Benzo(a)pyrene	<0.00002	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	<0.000037	<0.000053
Chlorobenzene	<0.0003	<0.0003
Chrysene	<0.000021	<0.000021
Dibenzofuran	<0.00002	<0.00002
Di-n-butylphthalate (DBP)	<0.00002	<0.00002
Ethylbenzene	<0.0003	<0.0003
Fluoranthene	<0.00001	<0.00001
Fluorene	<0.00003	<0.00003
Naphthalene	<0.00075	<0.00022
N-Nitrosodiphenylamine	<0.000025	<0.000025
Pentachlorophenol	<0.000079	<0.000079
Phenanthrene	<0.000021	0.00036
Phenol	<0.000035	<0.000035
Pyrene	<0.000019	<0.000019
Toluene	0.0039	0.0045
Xylenes (total)	<0.0003	<0.0003

MW-51C

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	<0.000055
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	<0.000094
Acenaphthylene	<0.000015
Anthracene	<0.0001
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	<0.000085
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00011
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	0.00018
Fluorene	<0.00011
Naphthalene	<0.0003
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	<0.00056
Phenol	<0.000035
Pyrene	<0.00011
Toluene	<0.0002
Xylenes (total)	<0.0003

LEGEND

- UPRR PROPERTY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- C-TZ MONITORING WELL LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION
- RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- SOIL CAP
- CONCRETE CAP AREA
- GW PCLE ZONE

NOTE(S)

1. ALL CONCENTRATIONS ARE IN mg/L.
2. J - ESTIMATED VALUE BETWEEN SQL AND MDL.
3. < - NOT DETECTED (RL/SQL REPORTED).
4. NA - NOT ANALYZED.
5. NS - NOT SAMPLED.
6. BLUE HIGHLIGHTED CONCENTRATIONS EXCEED COMMERCIAL INDUSTRIAL PCLs (FOR ON-SITE WELLS ONLY).
7. YELLOW HIGHLIGHTED CONCENTRATIONS EXCEED RESIDENTIAL ASSESSMENT LEVEL (RALs).
8. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
9. * - SAMPLE COLLECTED IN MARCH 2020.

SWNU AREA

NO.	DESCRIPTION
SWMU 1	CLOSED SURFACE IMPOUNDMENT

PROTECTIVE CONCENTRATION LEVELS (PCLs)

PARAMETER	CAS NUMBER	RAL (mg/L)	C/I PCL (mg/L)
1,2-Diphenylhydrazine	122-66-7	0.0011	0.0026
2,4-Dimethylphenol	105-67-9	0.49	1.5
2,6-Dinitrotoluene	606-20-2	0.0013	0.003
2-Chloronaphthalene	91-58-7	2	5.8
2-Methylnaphthalene	91-57-6	0.098	0.29
4,6-Dinitro-2-methylphenol	534-52-1	0.0024	0.0073
4-Nitrophenol	100-02-7	0.049	0.15
Acenaphthene	83-32-9	1.5	4.4
Acenaphthylene	208-96-8	1.5	4.4
Anthracene	120-12-7	7.3	22
Benzene	71-43-2	0.005	0.005
Benzo(a)anthracene	56-55-3	0.0091	0.02
Benzo(a)pyrene	50-32-8	0.0002	0.0002
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	0.006	0.006
Chlorobenzene	108-90-7	0.1	0.1
Chrysene	218-01-9	0.91	2
Dibenzofuran	132-64-9	0.098	0.29
Di-n-butylphthalate (DBP)	84-74-2	2.4	7.3
Ethylbenzene	100-41-4	0.7	0.7
Fluoranthene	206-44-0	0.98	2.9
Fluorene	86-73-7	0.98	2.9
Naphthalene	91-20-3	0.49	1.5
N-Nitrosodiphenylamine	86-30-6	0.19	0.42
Pentachlorophenol	87-86-5	0.001	0.001
Phenanthrene	85-01-8	0.73	2.2
Phenol	108-95-2	7.3	22
Pyrene	129-00-0	0.73	2.2
Toluene	108-88-3	1	1
Xylenes (total)	1330-20-7	10	10

STATE OF TEXAS ★ ERIC C. MATZNER GEOLOGY LIC. # 795 LICENSED PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 200' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

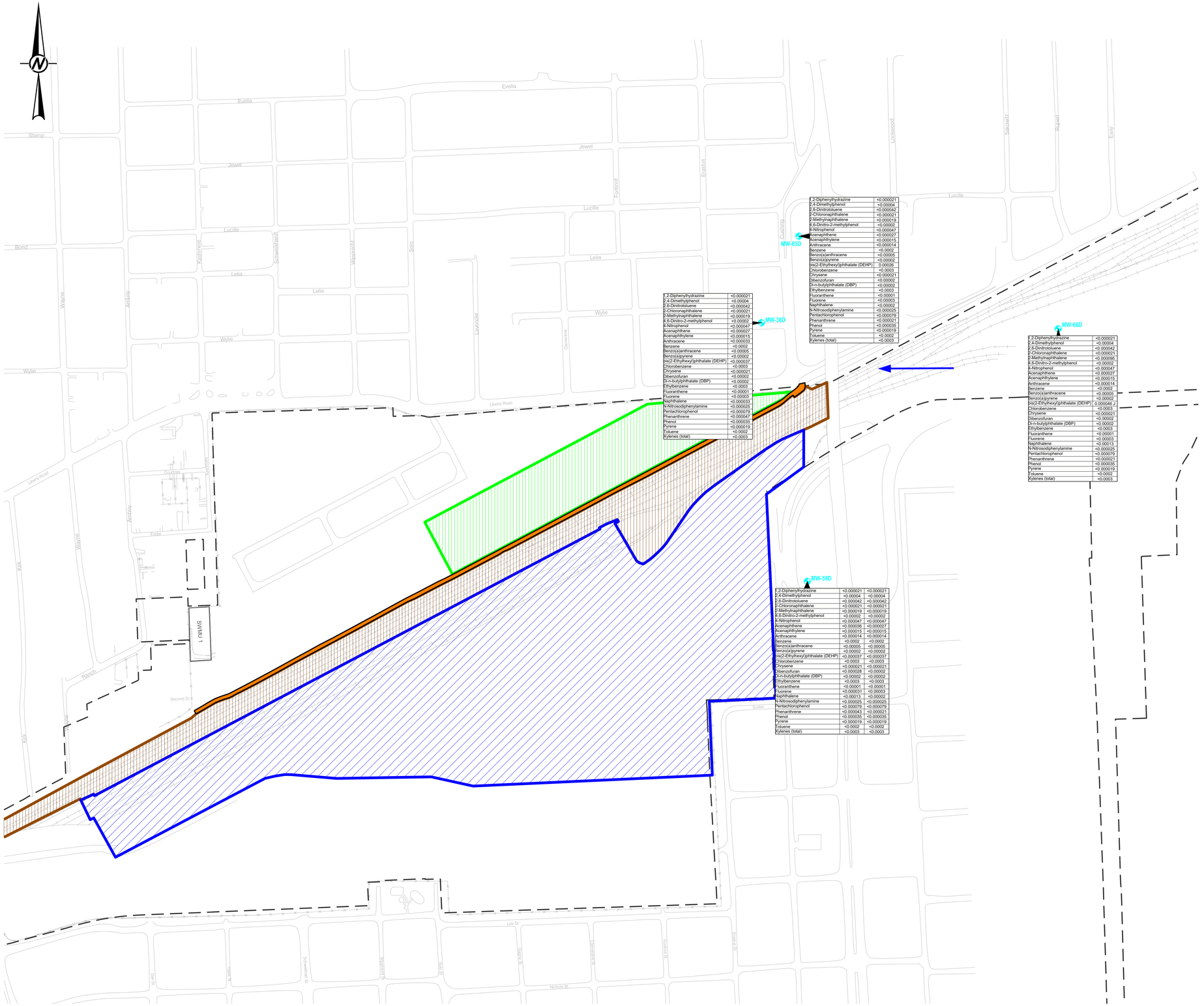
TITLE
GROUNDWATER COC CONCENTRATION MAP - C-TZ JANUARY-MARCH 2020

CONSULTANT

GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO.	REV.	FIGURE
19119232	0	5B-3



1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	<0.000019
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	0.00026
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	<0.00013
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	<0.000019
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	0.00046 J
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	<0.00013
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	<0.000019
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.000028
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.000031
Naphthalene	<0.00013
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	<0.000043
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	<0.000019
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	0.000046 J
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	<0.00013
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

1,2-Diphenylhydrazine	<0.000021
2,4-Dimethylphenol	<0.00004
2,6-Dinitrotoluene	<0.000042
2-Chloronaphthalene	<0.000021
2-Methylnaphthalene	<0.000019
4,6-Dinitro-2-methylphenol	<0.00002
4-Nitrophenol	<0.000047
Acenaphthene	<0.000027
Acenaphthylene	<0.000015
Anthracene	<0.000014
Benzene	<0.0002
Benzo(a)anthracene	<0.00005
Benzo(a)pyrene	<0.00002
bis(2-Ethylhexyl)phthalate (DEHP)	<0.000037
Chlorobenzene	<0.0003
Chrysene	<0.000021
Dibenzofuran	<0.00002
Di-n-butylphthalate (DBP)	<0.00002
Ethylbenzene	<0.0003
Fluoranthene	<0.00001
Fluorene	<0.00003
Naphthalene	<0.00013
N-Nitrosodiphenylamine	<0.000025
Pentachlorophenol	<0.000079
Phenanthrene	<0.000021
Phenol	<0.000035
Pyrene	<0.000019
Toluene	<0.0002
Xylenes (total)	<0.0003

LEGEND

- UPRR PROPERTY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- D-TZ MONITORING WELL LOCATION
- INFERRED GROUNDWATER FLOW DIRECTION
- RAILROAD BALLAST CAP AREA
- ASPHALT CAP AREA
- SOIL CAP
- CONCRETE CAP AREA

NOTE(S)

1. ALL CONCENTRATIONS ARE IN mg/L.
2. J - ESTIMATED VALUE BETWEEN SQL AND MDL.
3. < - NOT DETECTED (RL/SQL REPORTED).
4. NA - NOT ANALYZED.
5. NS - NOT SAMPLED.
6. BLUE HIGHLIGHTED CONCENTRATIONS EXCEED COMMERCIAL INDUSTRIAL PCLs (FOR ON-SITE WELLS ONLY).
7. YELLOW HIGHLIGHTED CONCENTRATIONS EXCEED RESIDENTIAL ASSESSMENT LEVEL (RALs).
8. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
9. * - SAMPLE COLLECTED IN MARCH 2020.

SWNU AREA

NO.	DESCRIPTION
SWMU 1	CLOSED SURFACE IMPOUNDMENT

PROTECTIVE CONCENTRATION LEVELS (PCLs)

PARAMETER	CAS NUMBER	RAL (mg/L)	GI PCL (mg/L)
1,2-Diphenylhydrazine	122-66-7	0.0011	0.0026
2,4-Dimethylphenol	105-67-9	0.49	1.5
2,6-Dinitrotoluene	606-20-2	0.0013	0.003
2-Chloronaphthalene	91-58-7	2	5.8
2-Methylnaphthalene	91-57-6	0.098	0.29
4,6-Dinitro-2-methylphenol	534-52-1	0.0024	0.0073
4-Nitrophenol	100-02-7	0.049	0.15
Acenaphthene	83-32-9	1.5	4.4
Acenaphthylene	208-96-8	1.5	4.4
Anthracene	120-12-7	7.3	22
Benzene	71-43-2	0.005	0.005
Benzo(a)anthracene	56-55-3	0.0091	0.02
Benzo(a)pyrene	50-32-8	0.002	0.0002
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	0.006	0.006
Chlorobenzene	108-90-7	0.1	0.1
Chrysene	218-01-9	0.91	2
Dibenzofuran	132-64-9	0.098	0.29
Di-n-butylphthalate (DBP)	84-74-2	2.4	7.3
Ethylbenzene	100-41-4	0.7	0.7
Fluoranthene	206-44-0	0.98	2.9
Fluorene	86-73-7	0.98	2.9
Naphthalene	91-20-3	0.49	1.5
N-Nitrosodiphenylamine	86-30-6	0.19	0.42
Pentachlorophenol	87-86-5	0.001	0.001
Phenanthrene	85-01-8	0.73	2.2
Phenol	108-95-2	7.3	22
Pyrene	129-00-0	0.73	2.2
Toluene	108-88-3	1	1
Xylenes (total)	1330-20-7	10	10

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOLOGIST
4/15/20

0 200 400
1" = 200' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

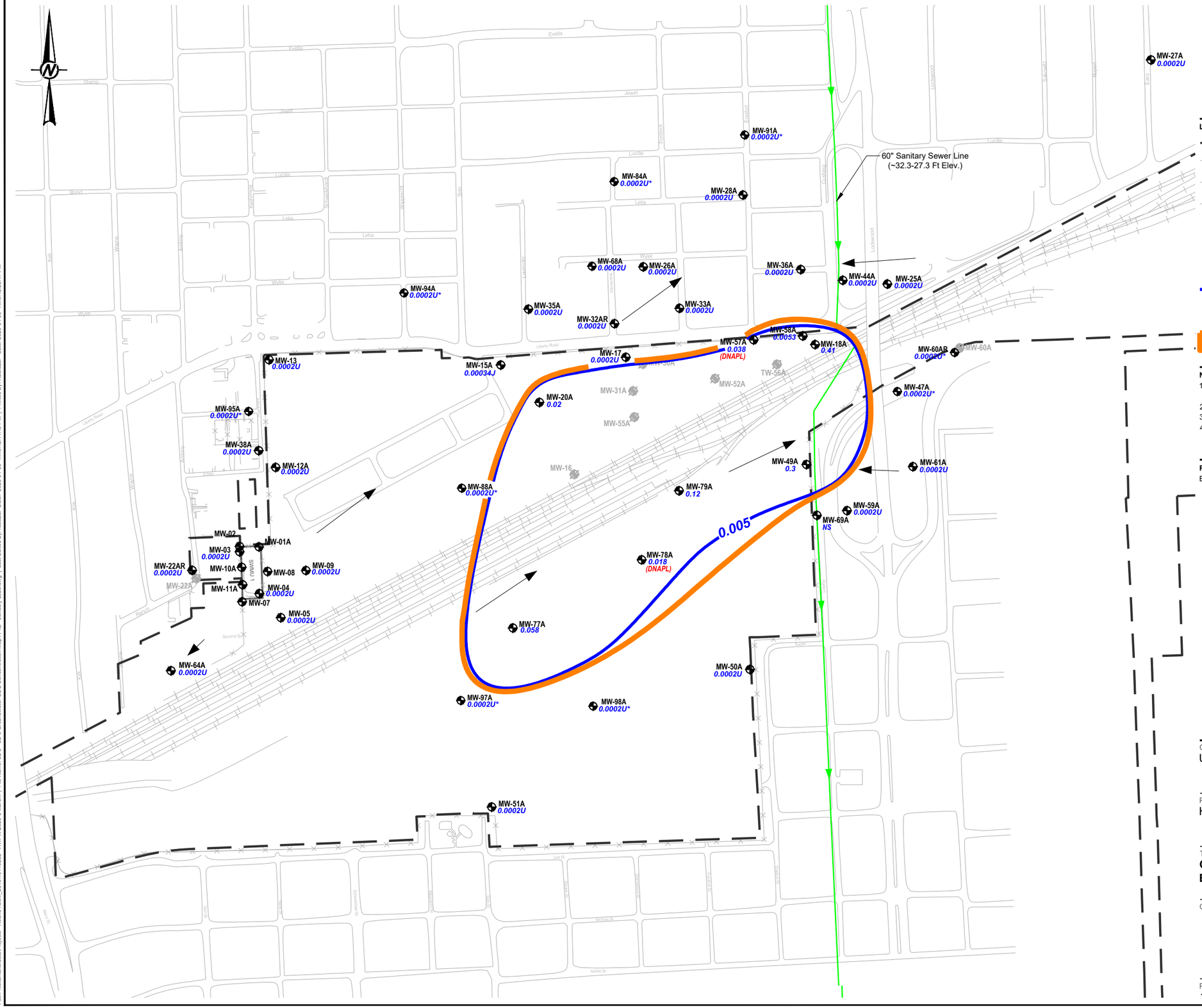
PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - D-TZ
JANUARY-MARCH 2020

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5B-4



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- 0.038 — BENZENE CONCENTRATION (mg/L)
- 0.005 — BENZENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.005 mg/L)
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - A-TZ
BENZENE - JANUARY-MARCH 2020

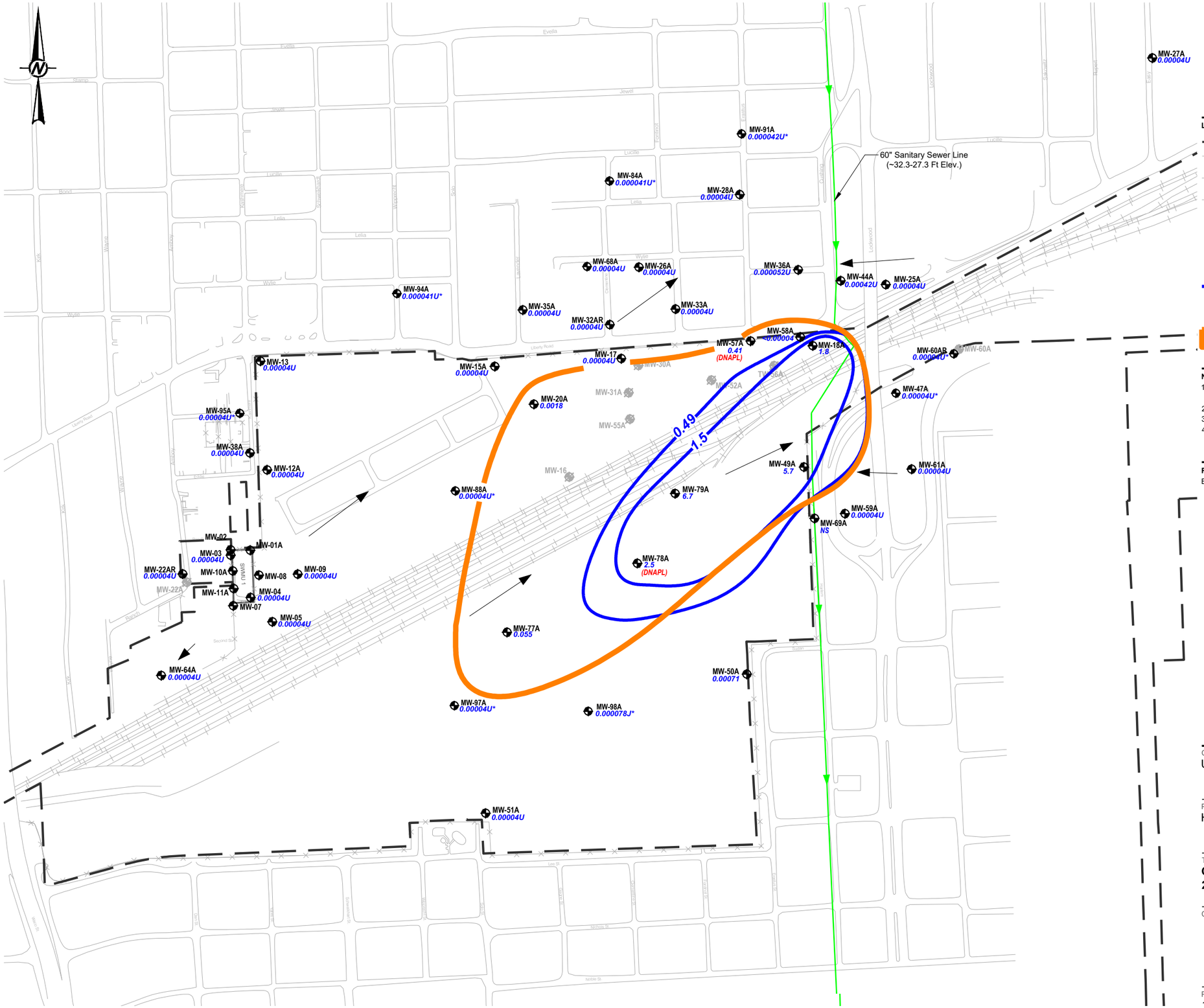
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-5

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\Projects - Round Rock_2019\19119232 - HWPW\2020-3 March\ | File Name: 5B-5 - 5B-9 Groundwater COC Concentration Map A-TZ - January 2020.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:12:14:40 PM | Printed By: RSalazar Date: 2020-04-30 Time:12:25:47 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- 0.41 — 2,4 DIMETHYLPHENOL CONCENTRATION (mg/L)
- 0.49 — 2,4 DIMETHYLPHENOL CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.49 mg/L AND 1.5 mg/L)
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - A-TZ
2,4-DIMETHYLPHENOL - JANUARY-MARCH 2020

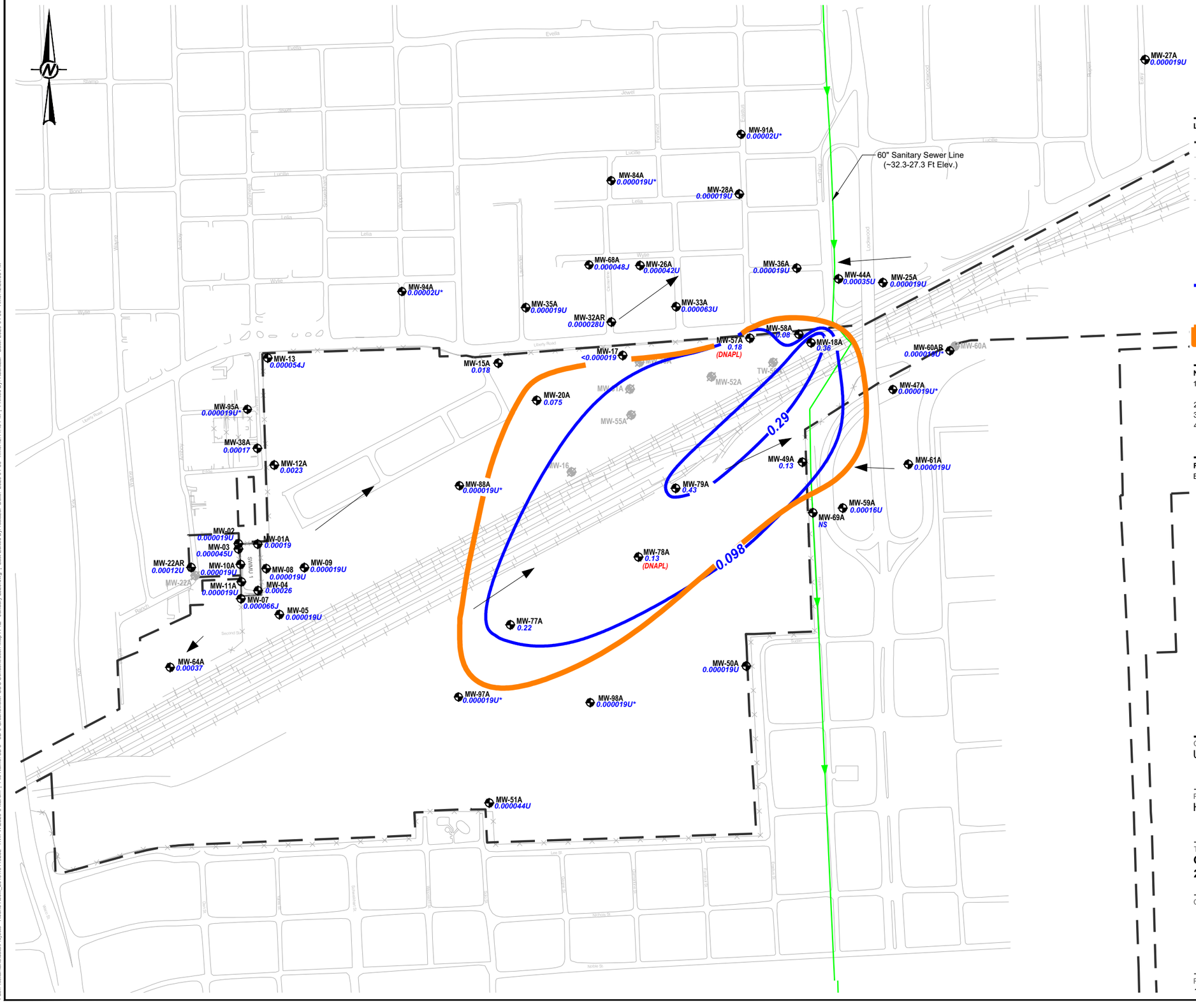
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5B-6

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\Projects - Round Rock_2019\19119232 - HWPW\2020-3 March\ | File Name: 5B-5 - 5B-9 Groundwater COC Concentration Map A-TZ - January 2020.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:12:14:40 PM | Printed By: RSalazar Date: 2020-04-30 Time:12:25:58 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- 0.18 — 2-METHYLNAPHTHALENE CONCENTRATION (mg/L)
- 0.098 — 2-METHYLNAPHTHALENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.098 mg/L AND 0.29 mg/L)
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - A-TZ
2-METHYLNAPHTHALENE - JANUARY-MARCH 2020

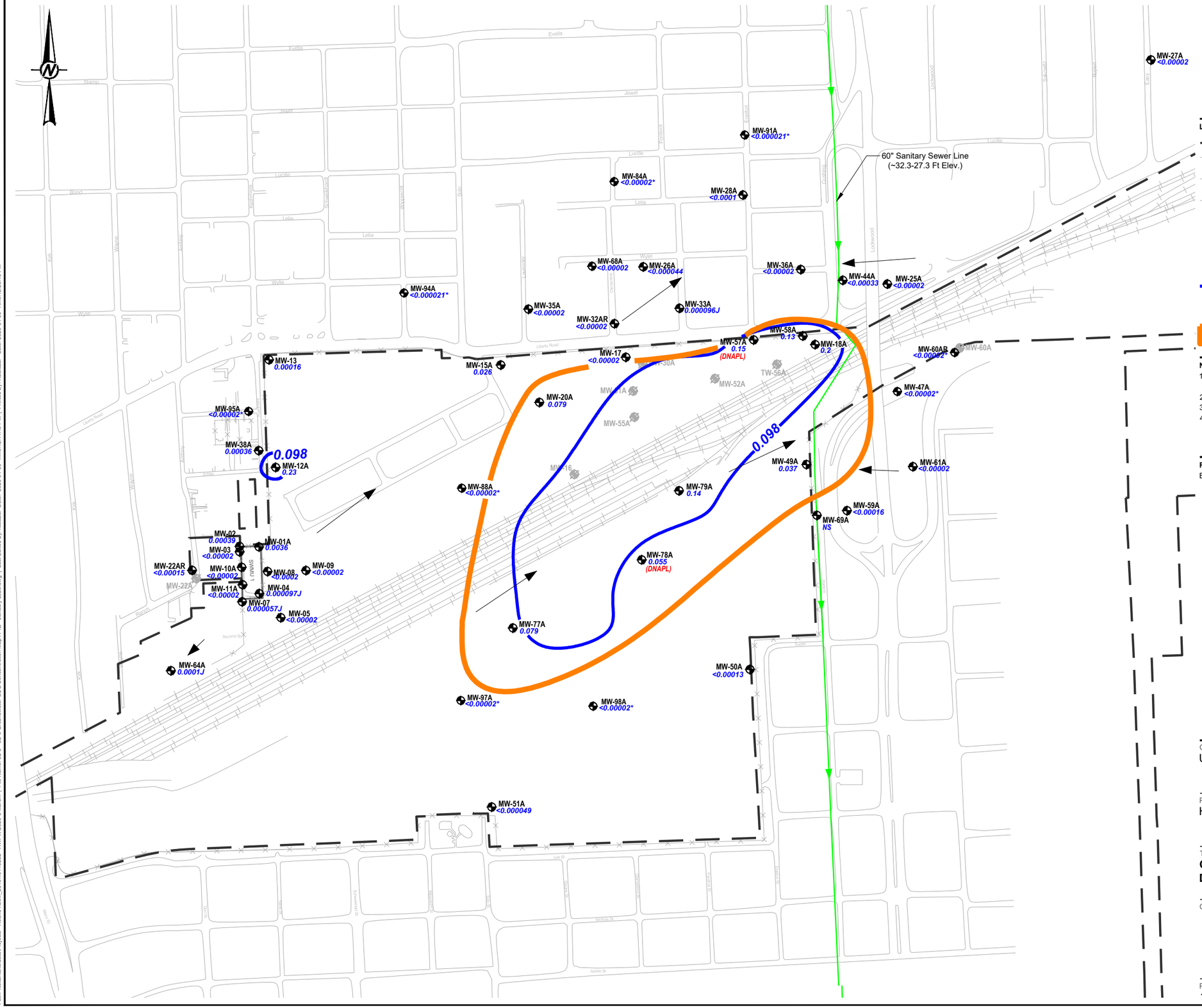
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-7

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\Projects - Round Rock_2019\19119232 - HWPW\2020-3 March\ | File Name: 5B-5 - 5B-9 Groundwater COC Concentration Map A-TZ - January 2020.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:12:14:40 PM | Printed By: RSalazar Date: 2020-04-30 Time:12:26:08 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- 0.15 — DIBENZOFURAN CONCENTRATION (mg/L)
- 0.098 — DIBENZOFURAN CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.098 mg/L AND 0.29 mg/L)
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

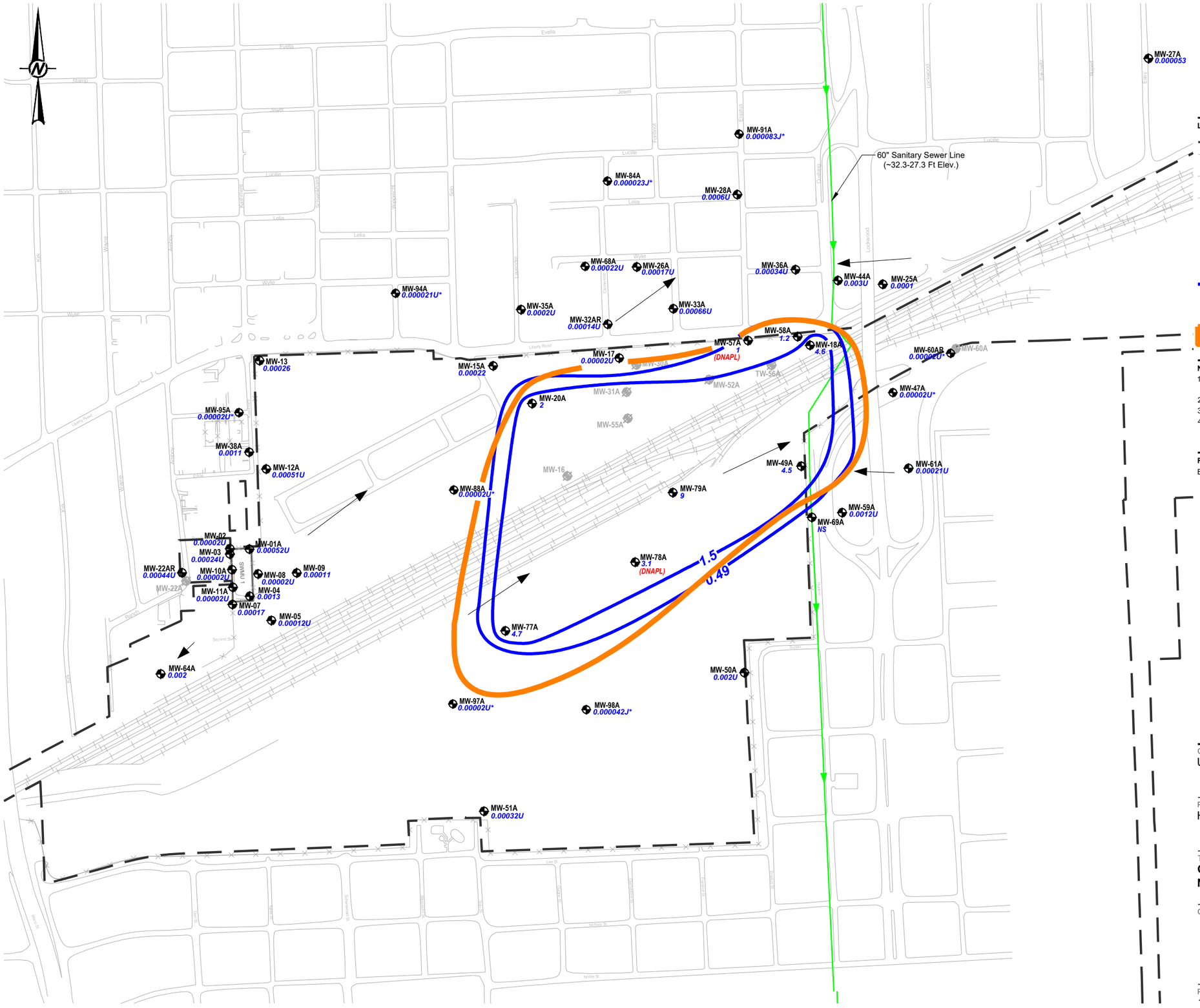
PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - A-TZ
DIBENZOFURAN - JANUARY-MARCH 2020

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-8



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- <0.003 NAPHTHALENE CONCENTRATION (mg/L)
- 0.49 NAPHTHALENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.49 mg/L AND 1.5 mg/L)
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - A-TZ NAPHTHALENE - JANUARY-MARCH 2020

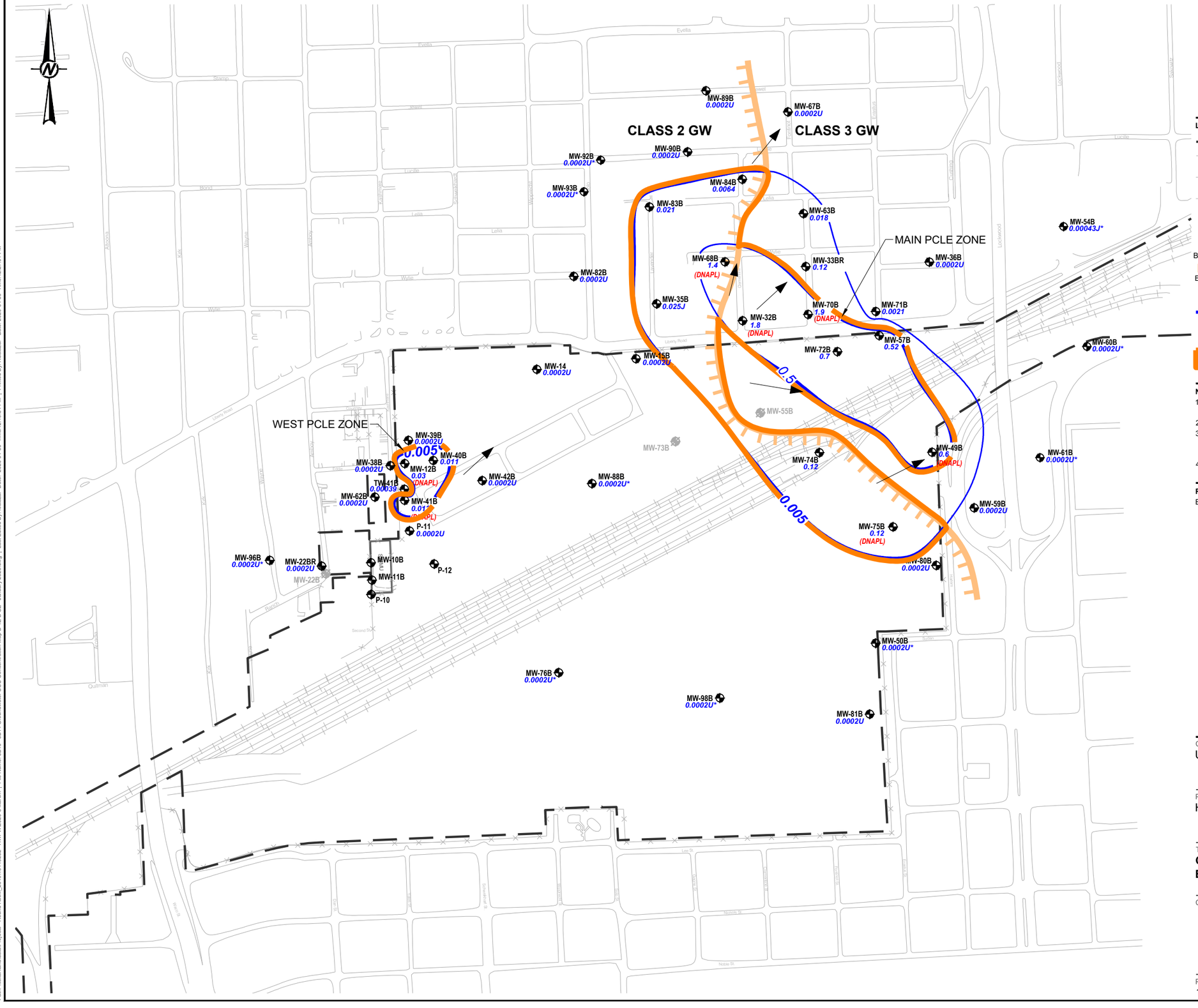
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5B-9

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\Projects - Round Rock_2019\19119232 - HWPW\2020-3 March\ | File Name: 5B-5 - 5B-9 Groundwater COC Concentration Map A-TZ - January 2020.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:12:14:40 PM | Printed By: RSalazar Date: 2020-04-30 Time:12:26:28 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- B-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- B-CZ (CLASS 3 GW) / B-TZ/B-CZ BOUNDARY / B-TZ (CLASS 2 GW)
- <0.002 BENZENE CONCENTRATION (mg/L)
- 0.005 BENZENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL:
   CLASS 2 GW PCL: 0.005 mg/L
   CLASS 3 GW PCL: 0.5 mg/L
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - B-CZ/B-TZ BENZENE - JANUARY-MARCH 2020

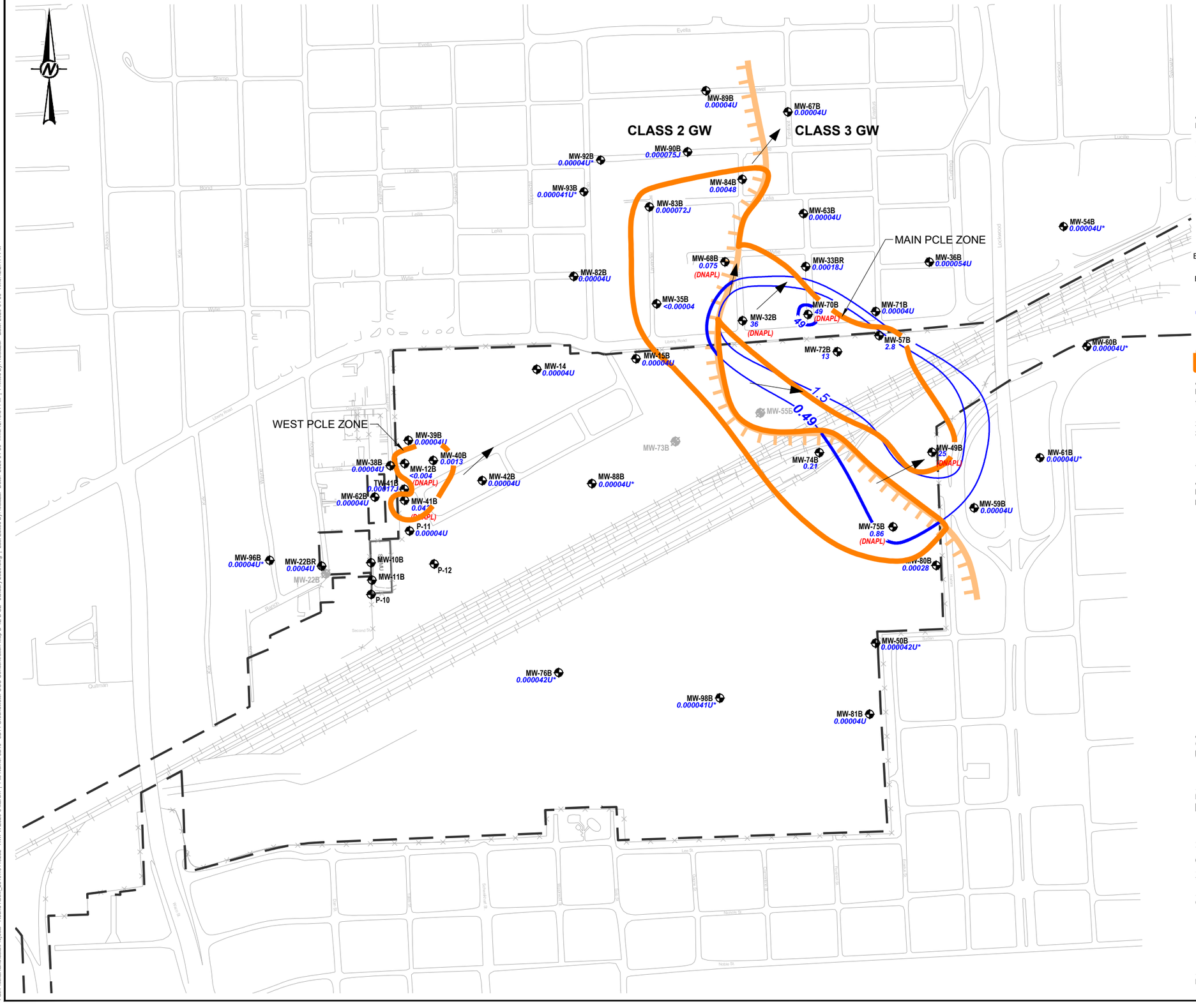
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-10

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\Projects - Round Rock_2019\19119232 - HWPW\2020-3 March\ | File Name: 5B10 - 5B14 Groundwater COC Concentration Map B-TZ B-CZ - January 2020.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:12:19:34 PM | Printed By: RSalazar Date: 2020-04-30 Time:12:27:01 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- B-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- B-CZ (CLASS 3 GW) / B-TZ (CLASS 2 GW) — B-TZ/B-CZ BOUNDARY
- 0.21 — 2,4-DIMETHYLPHENOL CONCENTRATION (mg/L)
- 0.49 — 2,4-DIMETHYLPHENOL CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL:
   CLASS 2 GW PCL: 0.49 mg/L (Res.) & 1.5 mg/L (C/I)
   CLASS 3 BW PCL: 49 mg/L (Res.) & 150 mg/L (C/I)
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - B-CZ/B-TZ
2,4-DIMETHYLPHENOL - JANUARY-MARCH 2020

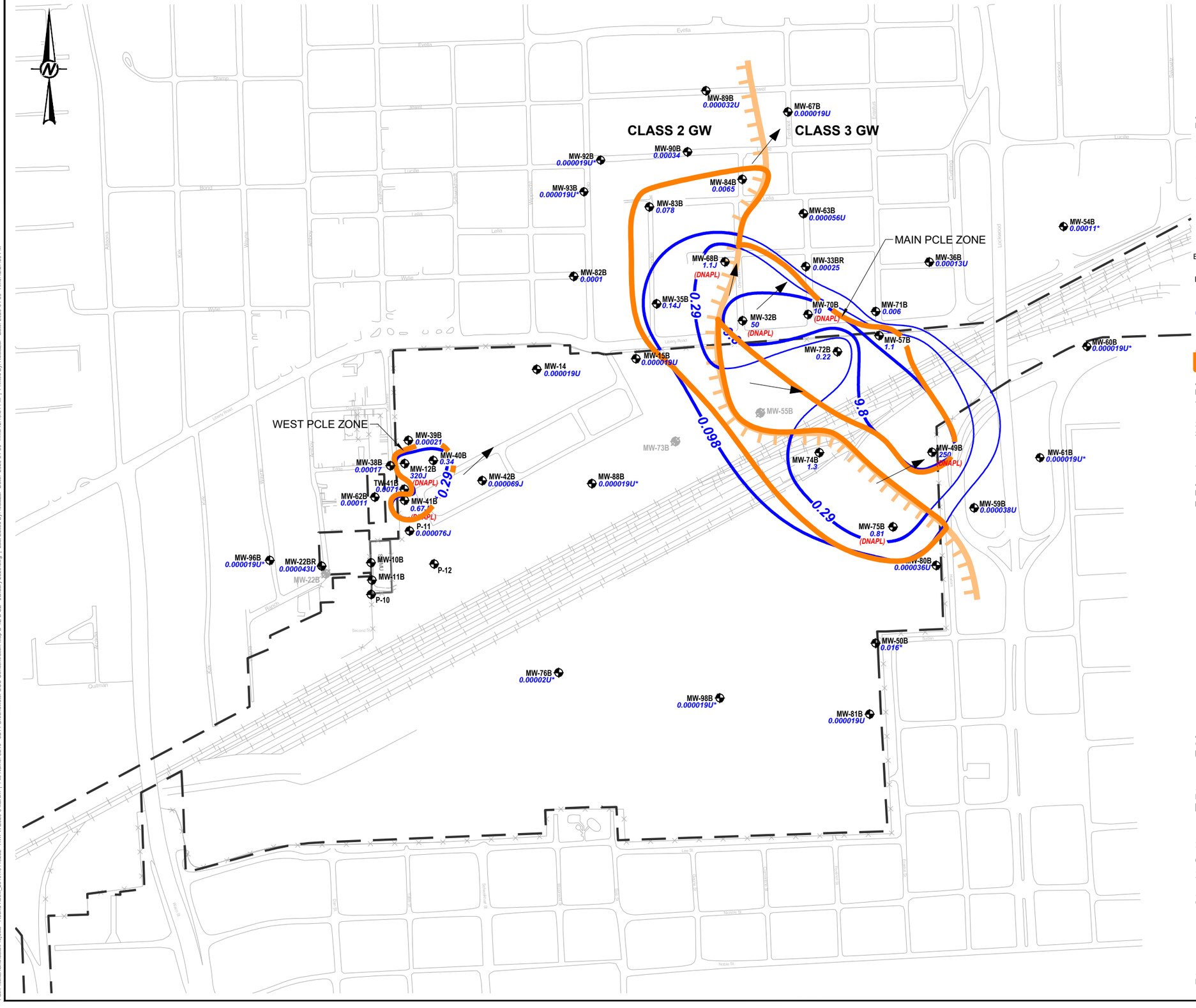
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-11

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\Projects - Round Rock_2019\19119232 - HWPW\2020-3 March\ | File Name: 5B10 - 5B14 Groundwater COC Concentration Map B-TZ B-CZ - January 2020.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:12:19:34 PM | Printed By: RSalazar Date: 2020-04-30 Time:12:27:14 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- B-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- B-CZ (CLASS 3 GW) / B-TZ (CLASS 2 GW) — B-TZ/B-CZ BOUNDARY
- 0.006 — 2-METHYLNAPHTHALENE CONCENTRATION (mg/L)
- 0.098 — 2-METHYLNAPHTHALENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL:
   CLASS 2 GW PCL: 0.098 mg/L (Res.) & 0.29 mg/L (C/I)
   CLASS 3 GW PCL: 9.8 mG/L (Res.) & 29 mg/L (C/I)
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

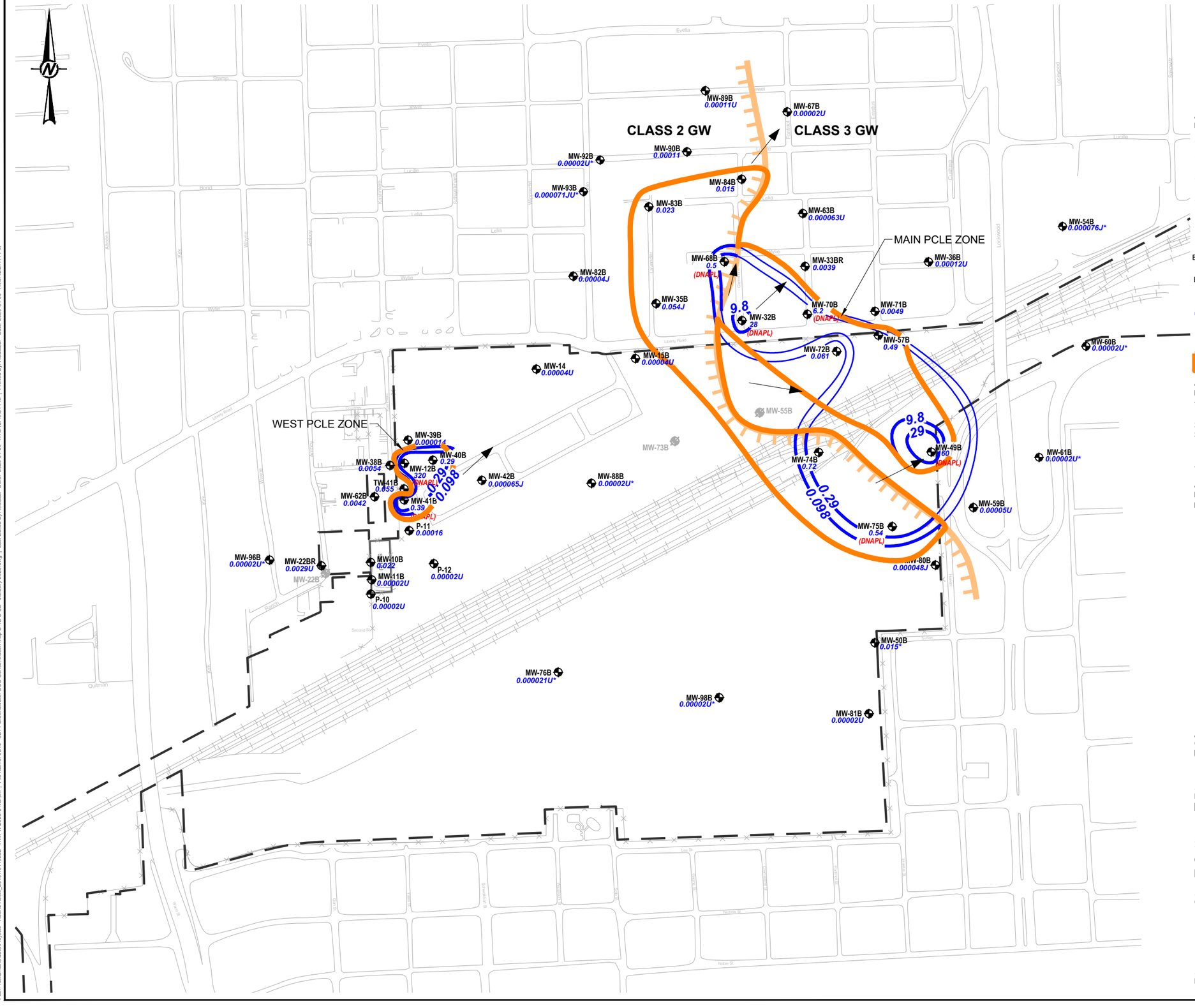
PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - B-CZ/B-TZ
2-METHYLNAPHTHALENE - JANUARY-MARCH 2020

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-12



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- B-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- B-CZ (CLASS 3 GW) / B-TZ (CLASS 2 GW) — B-TZ/B-CZ BOUNDARY
- 0.0049 — DIBENZOFURAN CONCENTRATION (mg/L)
- 0.098 — DIBENZOFURAN CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL:
   CLASS 2 GW PCL: 0.098 mg/L (Res.) & 0.29 mg/L (C/I)
   CLASS 3 GW PCL: 9.8 mg/L (Res.) & 29 mg/L (C/I)
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - B-CZ/B-TZ DIBENZOFURAN - JANUARY-MARCH 2020

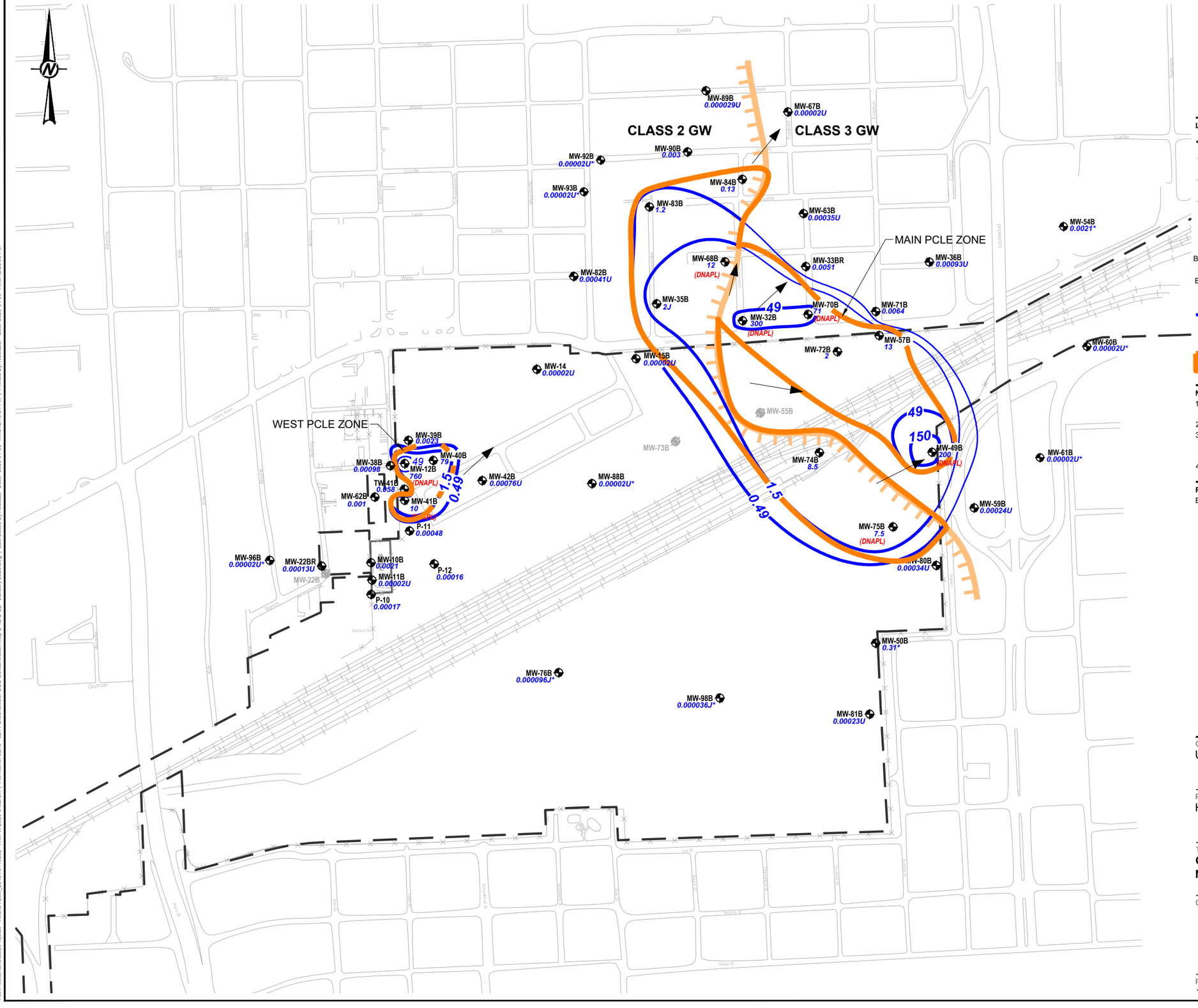
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-13

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\Projects - Round Rock_2019\19119232 - HWPW\2020-3 March\ | File Name: 5B10 - 5B14 Groundwater COC Concentration Map B-TZ B-CZ - January 2020.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:12:19:34 PM | Printed By: RSalazar Date: 2020-04-30 Time:12:27:44 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- B-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- B-CZ (CLASS 3 GW) / B-TZ (CLASS 2 GW): B-TZ/B-CZ BOUNDARY
- 0.0021: NAPHTHALENE CONCENTRATION (mg/L)
- 0.49: NAPHTHALENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL:
   CLASS 2 GW PCL: 0.49 mg/L (Res.) & 1.5 mg/L (C/I)
   CLASS 3 GW PCL: 49 mg/L (Res.) & 150 mg/L (C/I)
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - B-CZ/B-TZ NAPHTHALENE - JANUARY-MARCH 2020

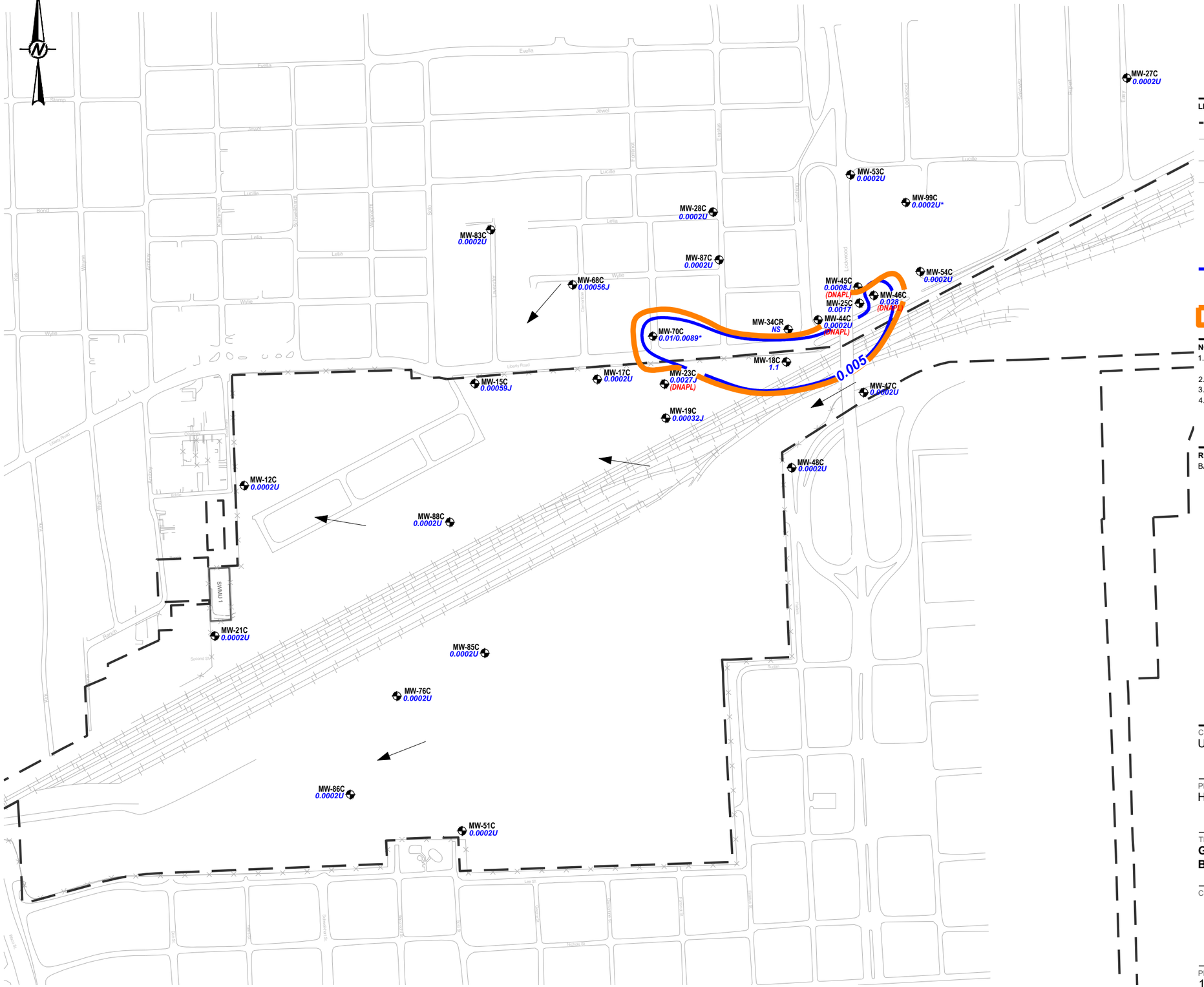
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-14

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\Projects - Round Rock_2019\19119232 - HWPW\2020-3 March\ | File Name: 5B10 - 5B14 Groundwater COC Concentration Map B-TZ B-CZ - January 2020.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:12:19:34 PM | Printed By: RSalazar Date: 2020-04-30 Time:12:28:00 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- C-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- <0.0002 — BENZENE CONCENTRATION (mg/L)
- 0.005 — BENZENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.005 mg/L)
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - C-TZ
BENZENE - JANUARY-MARCH 2020

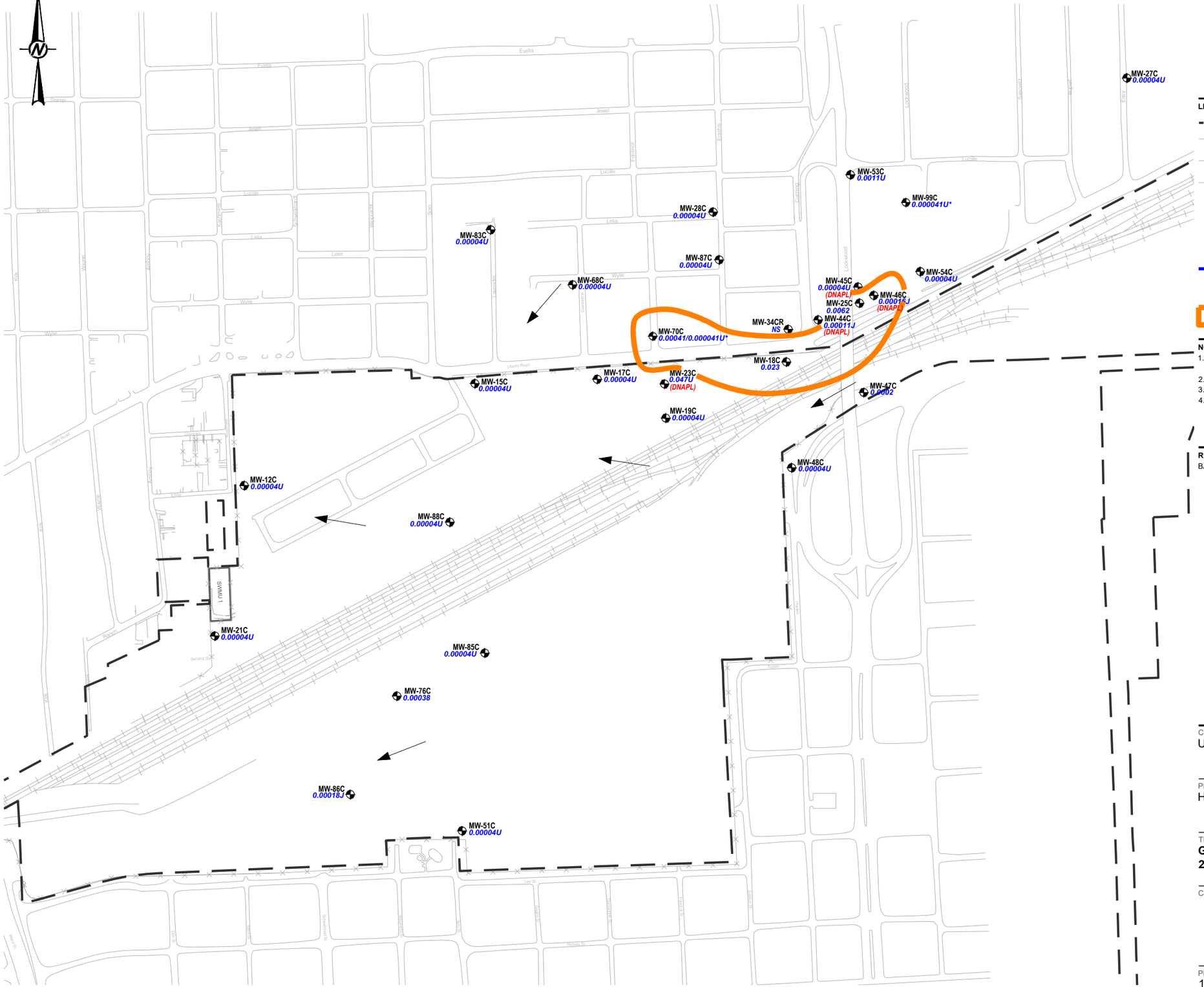
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-15

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\saxarkana\data\Projects - Round Rock_20191911\19232 - HWPW\2020-3 March\ | File Name: 5B15 - 5B19 Groundwater COC Concentration Map C-TZ - January 2020.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:12:23:14 PM | Printed By: RSalazar Date: 2020-04-30 Time:12:28:38 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- C-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- <0.002 — 2,4-DIMETHYLPHENOL CONCENTRATION (mg/L)
- 0.49 — 2,4-DIMETHYLPHENOL CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.49 mg/L AND 1.5 mg/L)
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - C-TZ
2,4-DIMETHYLPHENOL - JANUARY-MARCH 2020

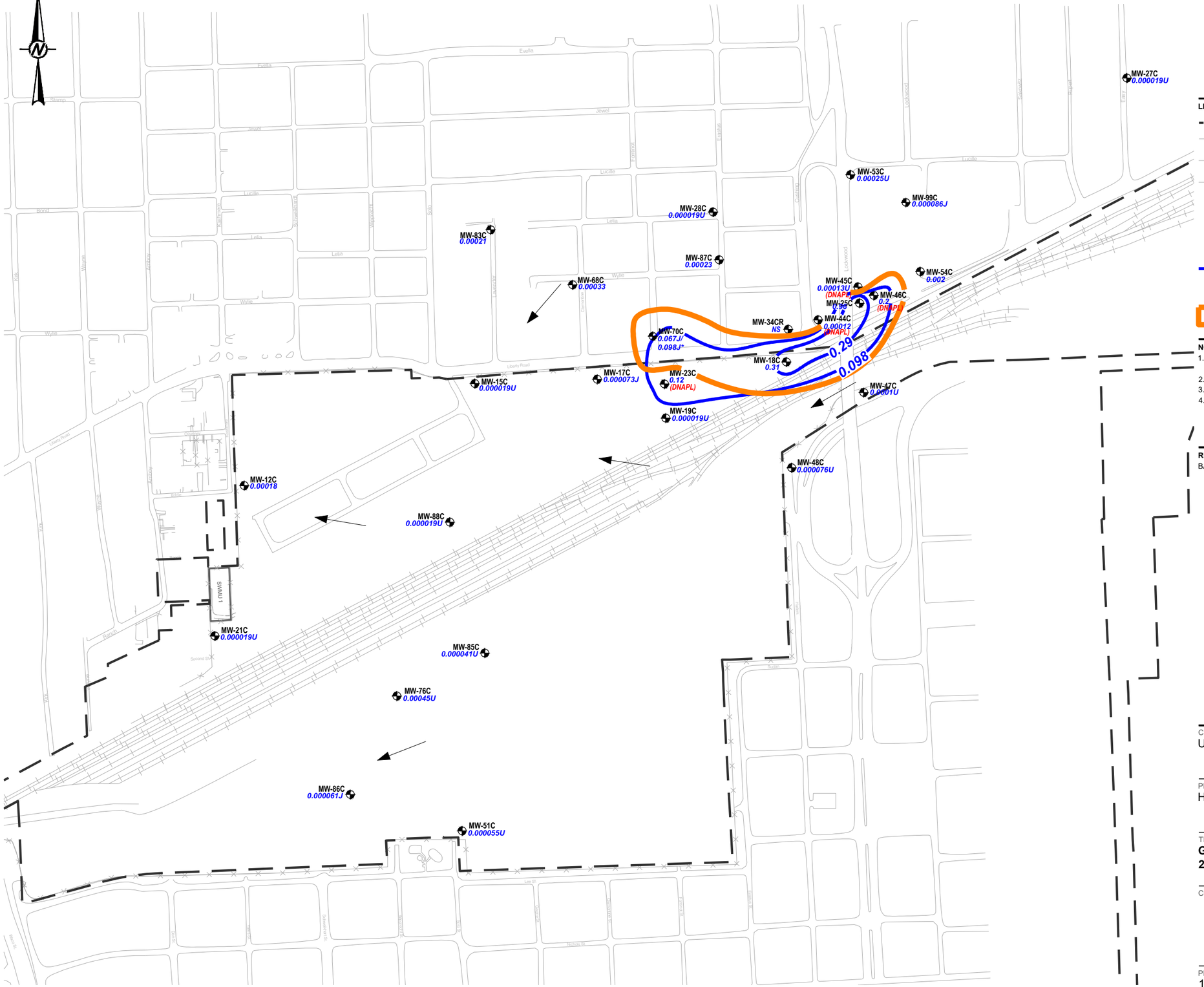
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5B-16

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\laxarkana\data\Projects - Round Rock_20191911\19232 - HWPW\2020-3 March\ | File Name: 5B15 - 5B19 Groundwater COC Concentration Map C-TZ - January 2020.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:12:23:14 PM | Printed By: RSalazar Date: 2020-04-30 Time:12:28:50 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- C-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- <0.002 — 2-METHYLNAPHTHALENE CONCENTRATION (mg/L)
- 0.098 — 2-METHYLNAPHTHALENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.098 mg/L AND 0.29 mg/L)
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

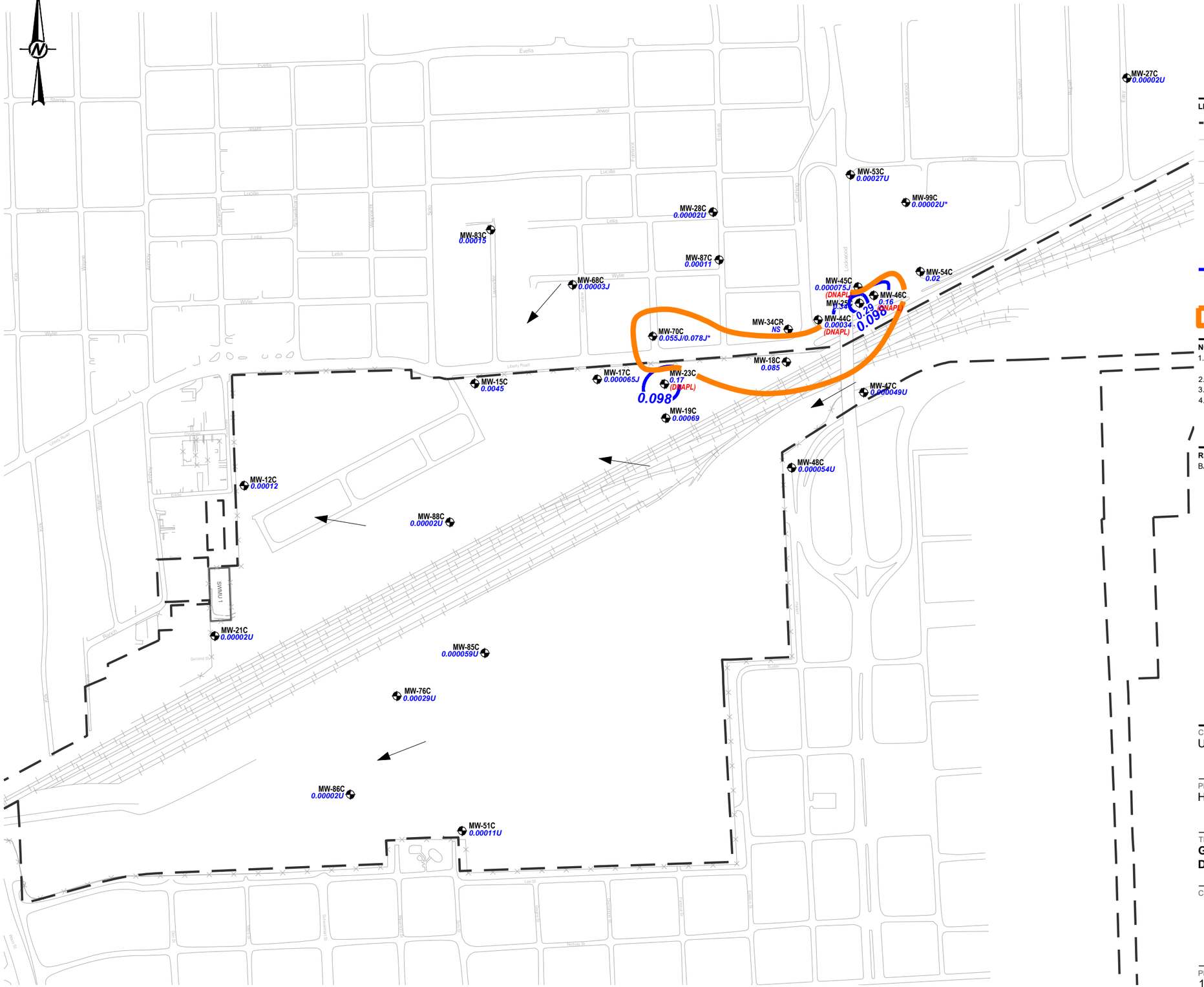
PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - C-TZ
2-METHYLNAPHTHALENE - JANUARY-MARCH 2020

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5B-17



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- C-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- <0.002 DIBENZOFURAN CONCENTRATION (mg/L)
- 0.098 DIBENZOFURAN CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.098 mg/L AND 0.29 mg/L)
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

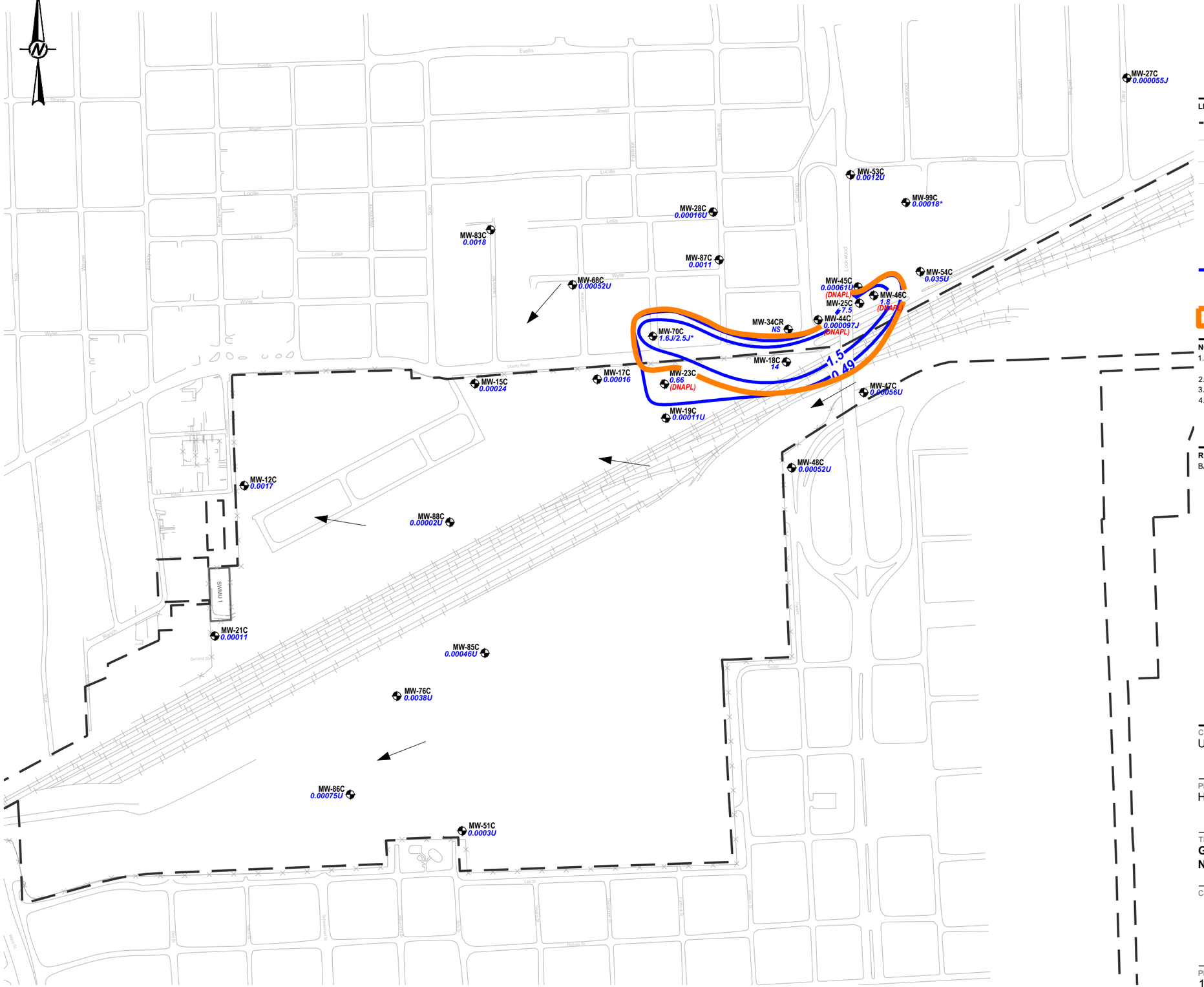
PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - C-TZ DIBENZOFURAN - JANUARY-MARCH 2020

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5B-18



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- C-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- <0.002 — NAPHTHALENE CONCENTRATION (mg/L)
- 0.49 — NAPHTHALENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- GW PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.49 mg/L AND 1.5 mg/L)
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - C-TZ
NAPHTHALENE - JANUARY-MARCH 2020

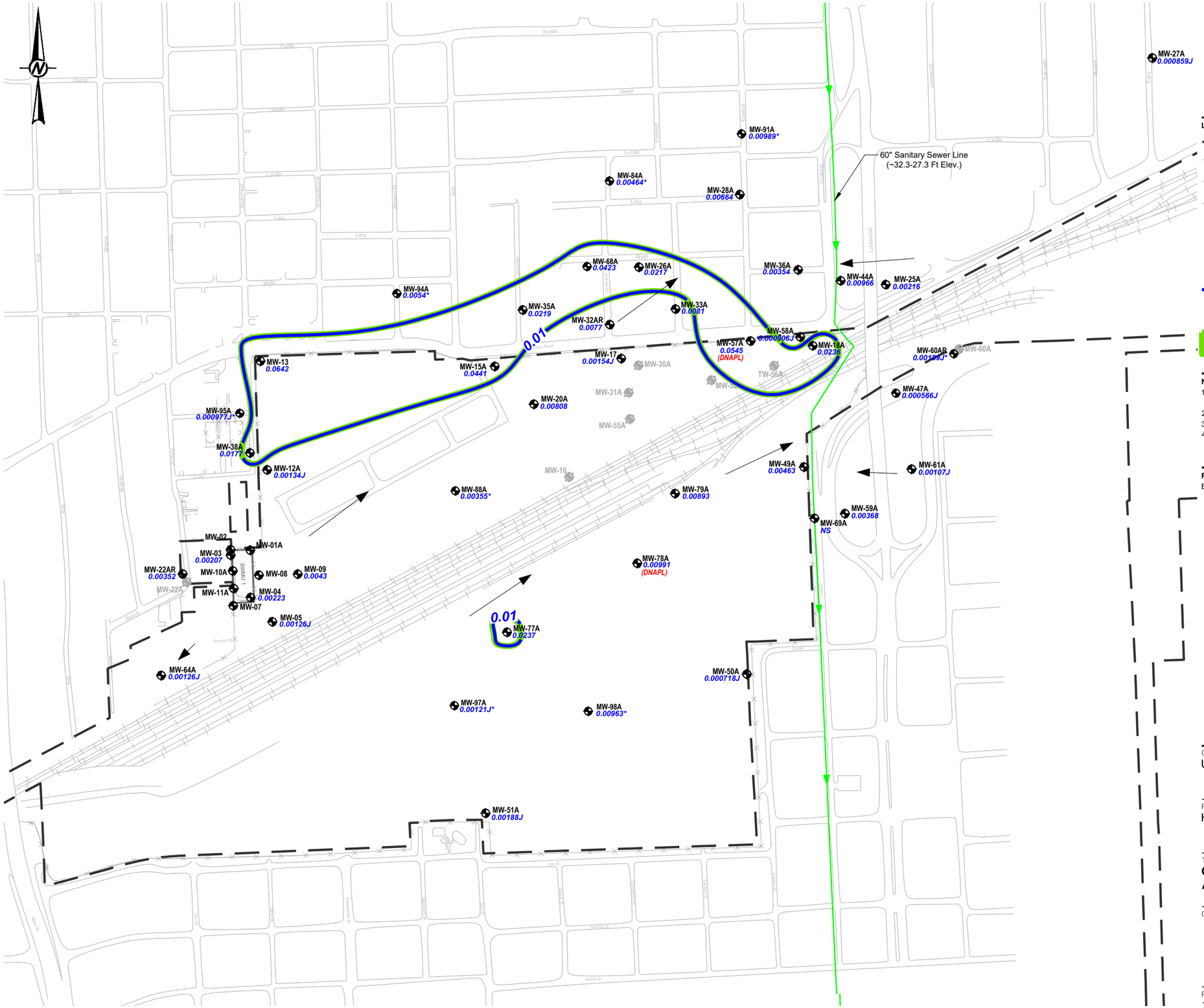
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-19

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\laxarkana\data\Projects - Round Rock_2019\19119232 - HWPW\2020-3 March\ | File Name: 5B15 - 5B19 Groundwater COC Concentration Map C-TZ - January 2020.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:12:23:14 PM | Printed By: RSalazar Date: 2020-04-30 Time:12:29:41 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- 0.0077 — ARSENIC CONCENTRATION IN (mg/L)
- 0.01 — ARSENIC CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- ARSENIC PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.01 mg/L)
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

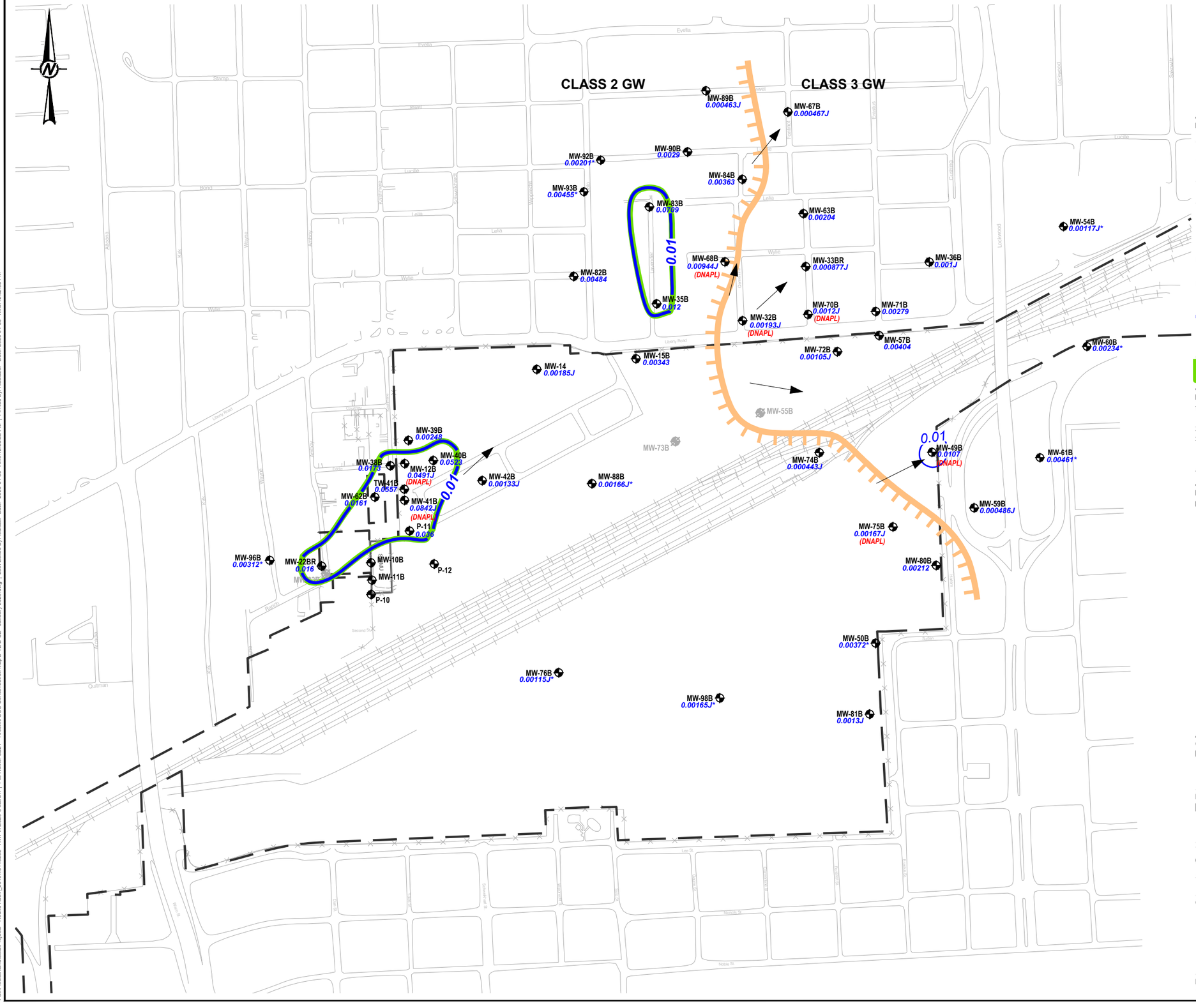
PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - A-TZ
ARSENIC - JANUARY-MARCH 2020

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5B-20



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- B-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- B-CZ (CLASS 3 GW)
- B-TZ/B-CZ BOUNDARY
- B-TZ (CLASS 2 GW)
- 0.001J — ARSENIC CONCENTRATION (mg/L)
- 0.01 — ARSENIC CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION
- ARSENIC PCLE ZONE

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL:
   CLASS 2 GW PCL: 0.01 mg/L
   CLASS 3 GW PCL: 1 mg/L
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - B-CZ/B-TZ ARSENIC - JANUARY-MARCH 2020

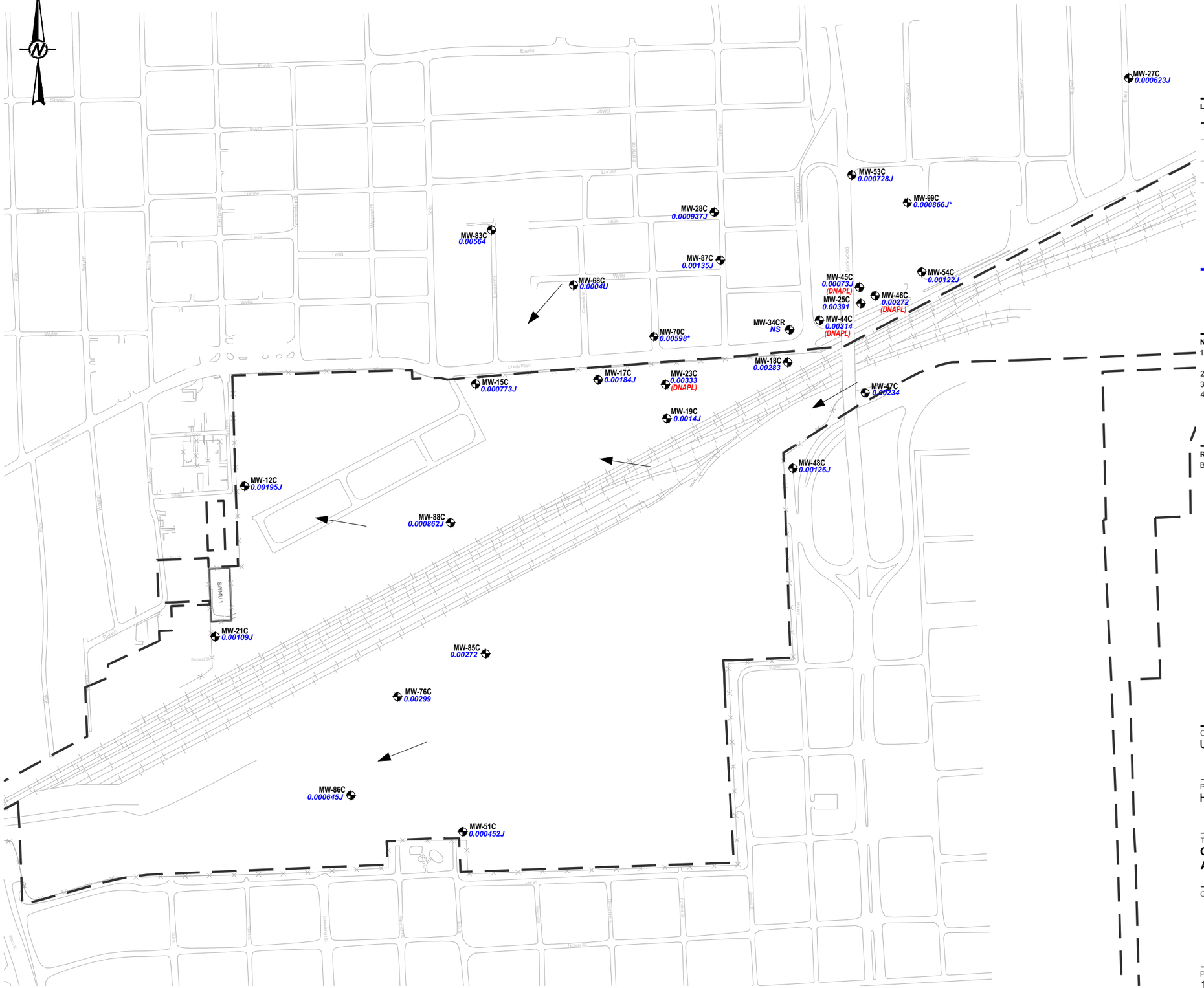
CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-21

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\Projects - Round Rock_2019\19119232 - HWPW\2020-3 March\ | File Name: 5B21 - Arsenic COC Concentration Map B-TZ B-CZ - January 2020.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:12:32:05 PM | Printed By: RSalazar Date: 2020-04-30 Time:12:28:22 PM



LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- C-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- 0.00272 — ARSENIC CONCENTRATION (mg/L)
- 0.01 — ARSENIC CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION

NOTE(S)

1. DNAPL - DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2020).
2. NS - NOT SAMPLED
3. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.01 mg/L)
4. * - SAMPLE COLLECTED IN MARCH 2020.

REFERENCE(S)

BASE MAP FROM ERM-SOUTHWEST, INC APAR ADDENDUM, FIG 3-1, DATED JUNE 2004.

STATE OF TEXAS
ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
4/30/20

0 200 400
1" = 400' FEET

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER COC CONCENTRATION MAP - C-TZ
ARSENIC - JANUARY-MARCH 2020

CONSULTANT
GOLDER
TEXAS GEOSCIENCE FIRM NO. 50369
TEXAS ENGINEERING FIRM NO. 2578

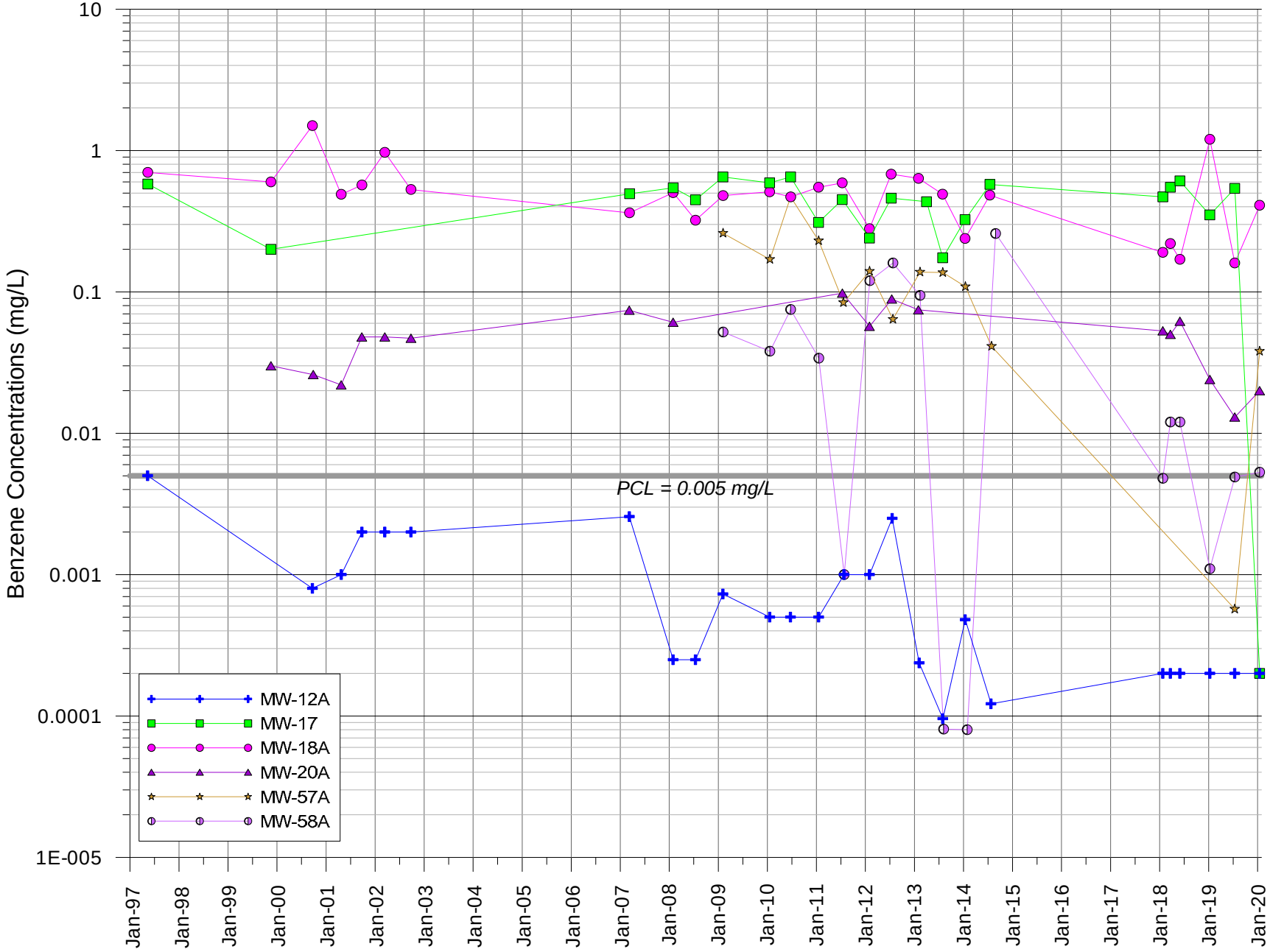
YYYY-MM-DD	2020-04-30
DESIGNED	
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 5B-22

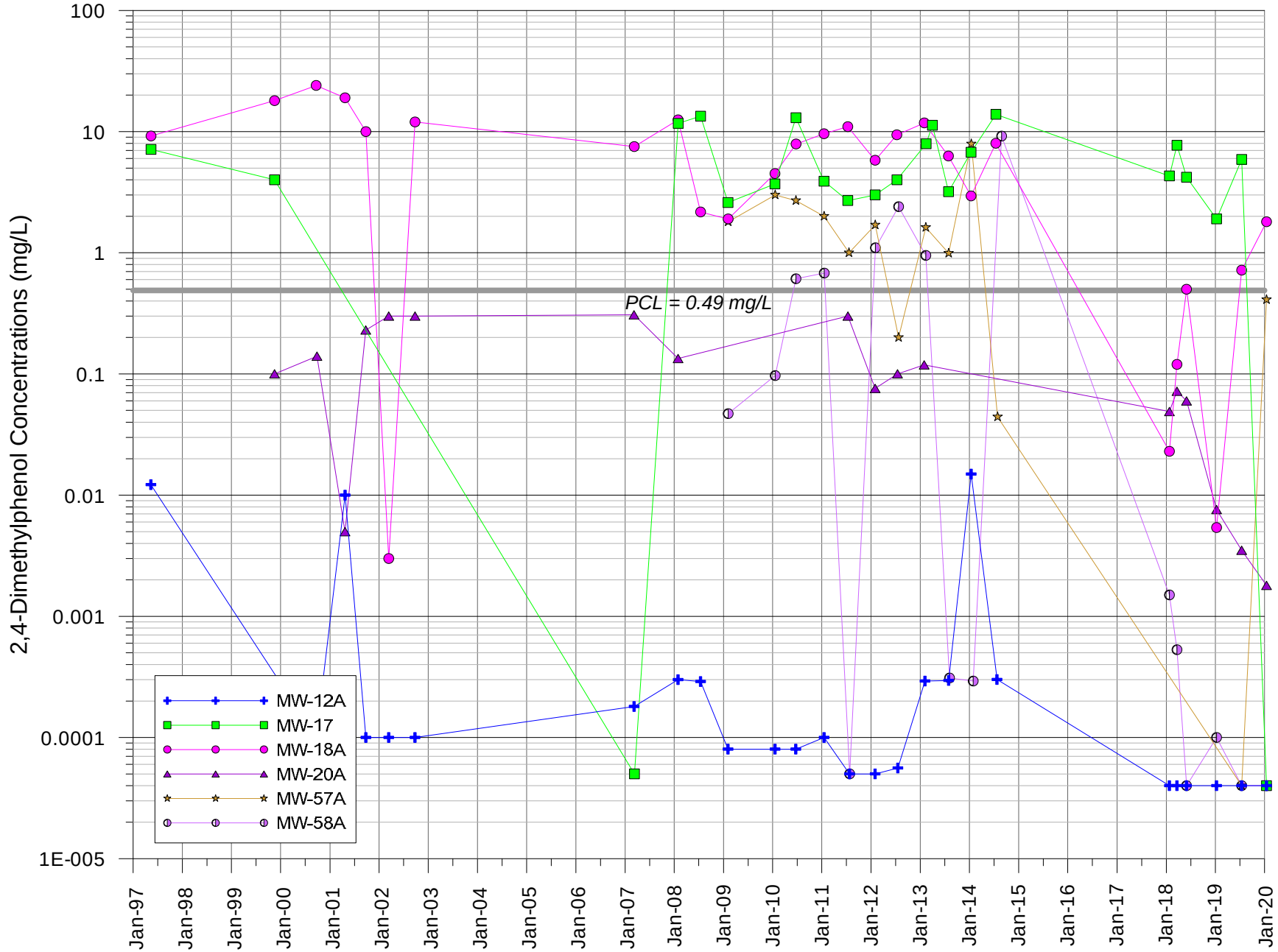
ATTACHMENT F

COC Concentration Graphs

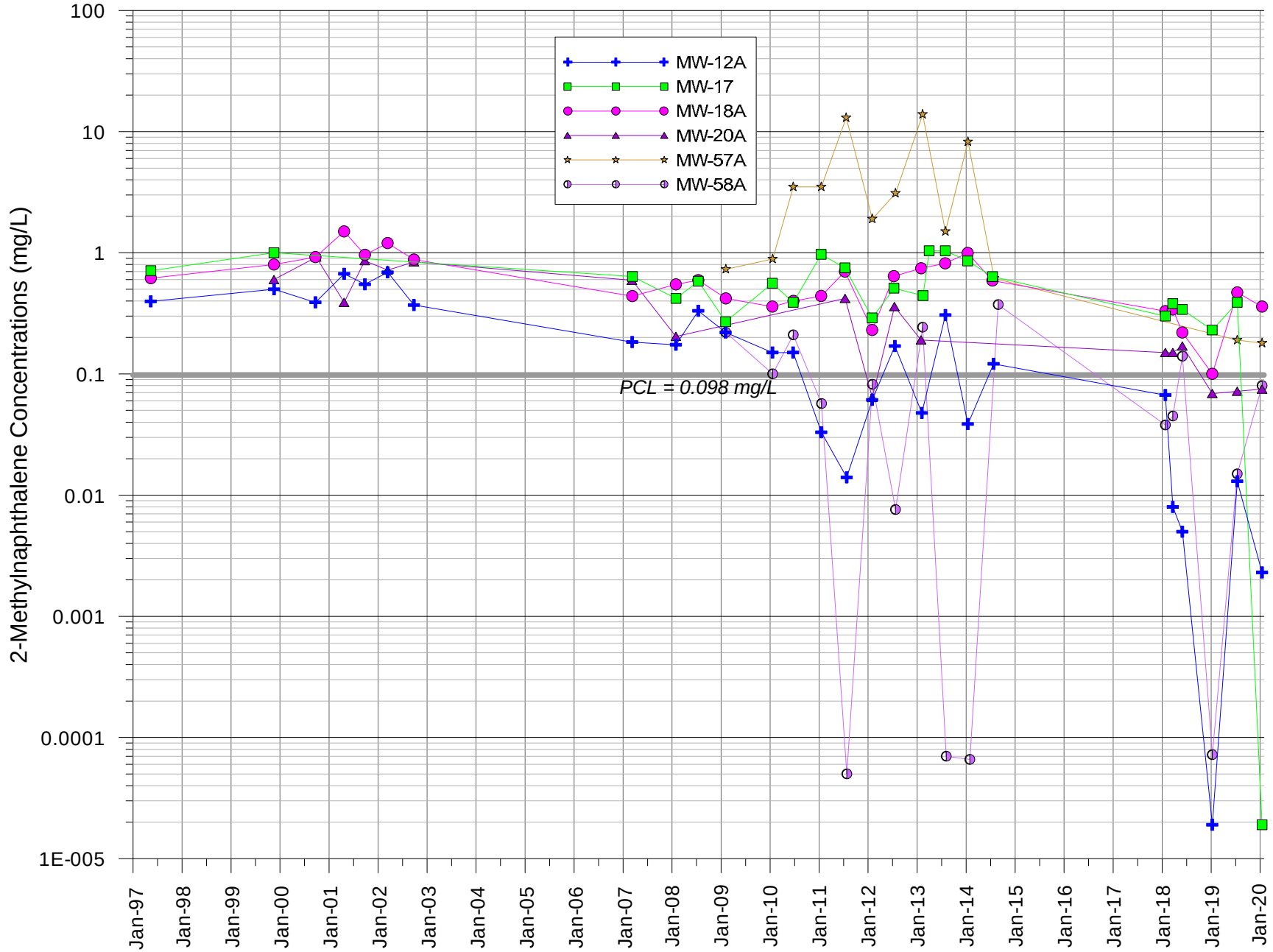
ATTACHMENT 1B-1
Benzene Concentrations at Source Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



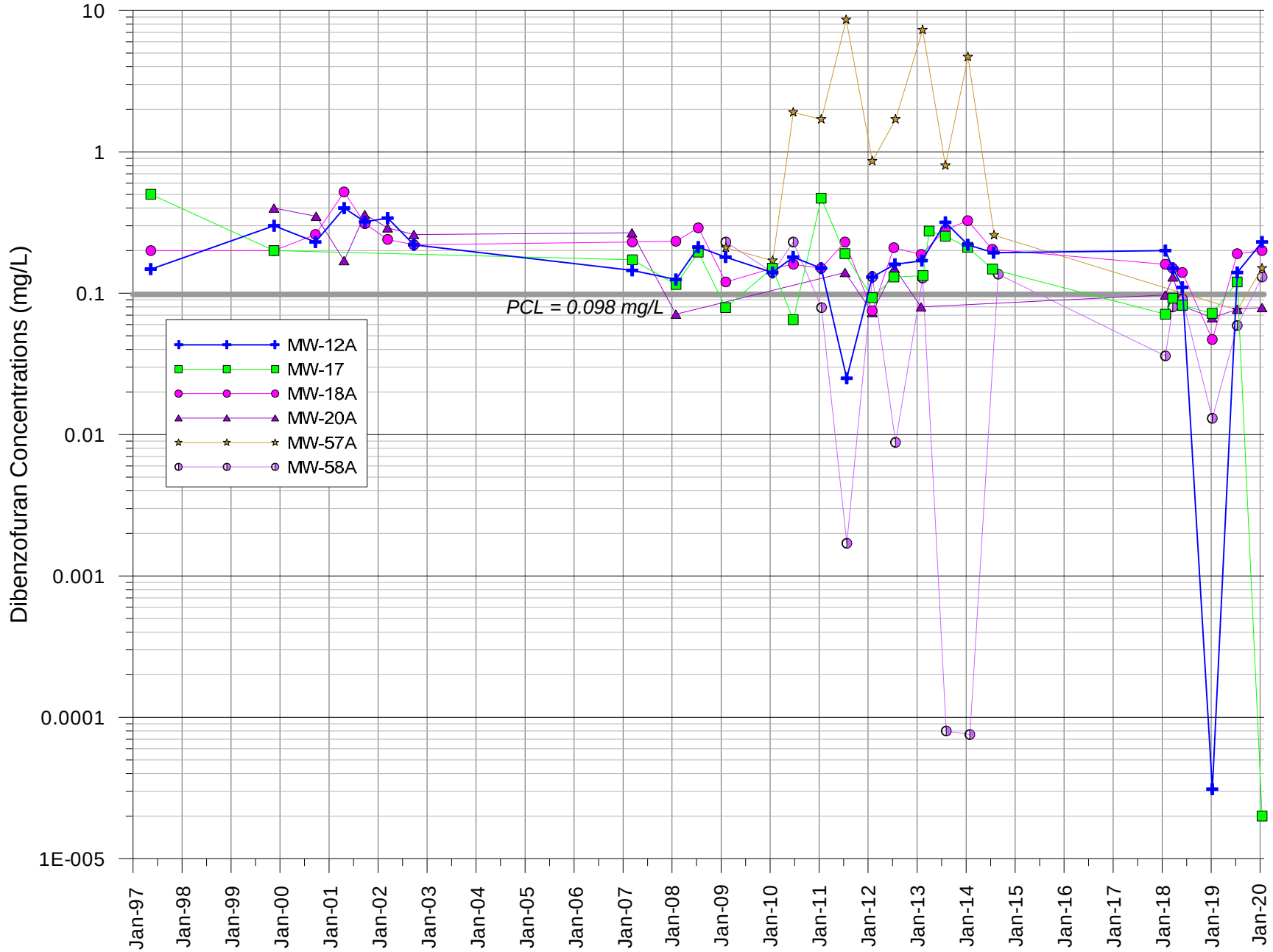
ATTACHMENT 1B-2
2,4-Dimethylphenol Concentrations at Source Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



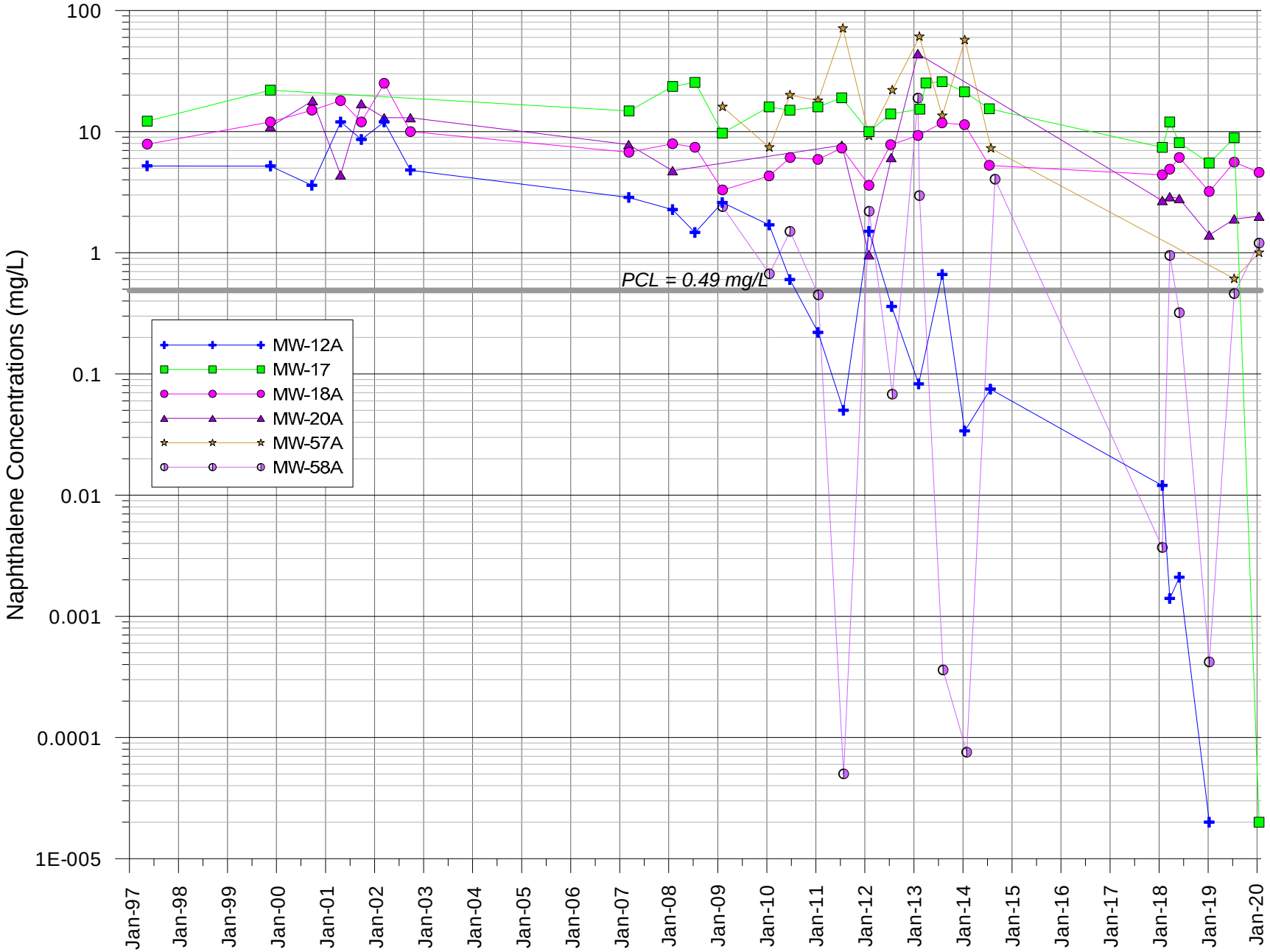
ATTACHMENT 1B-3
2-Methylnaphthalene Concentrations at Source Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



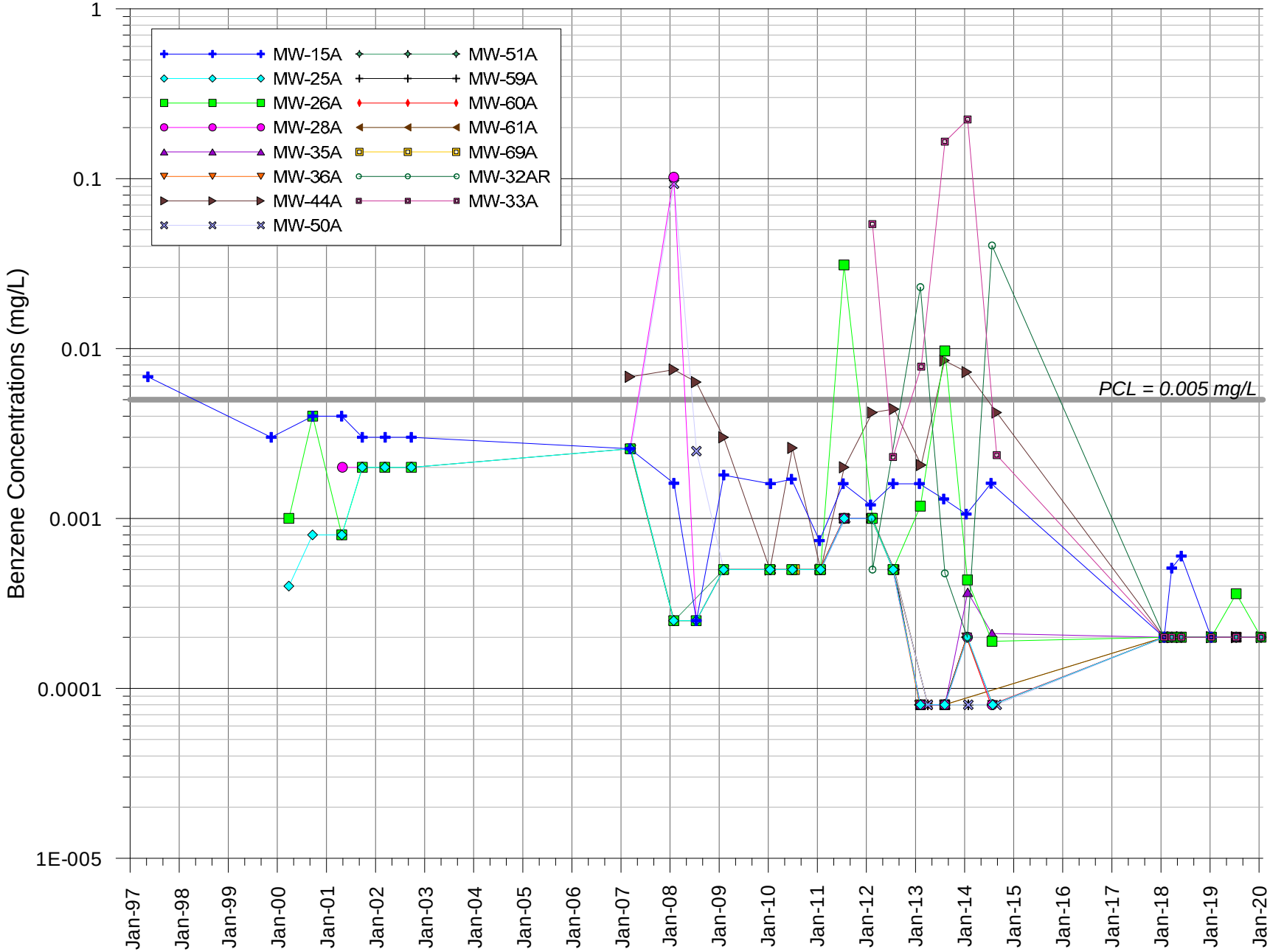
ATTACHMENT 1B-4
Dibenzofuran Concentrations at Source Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



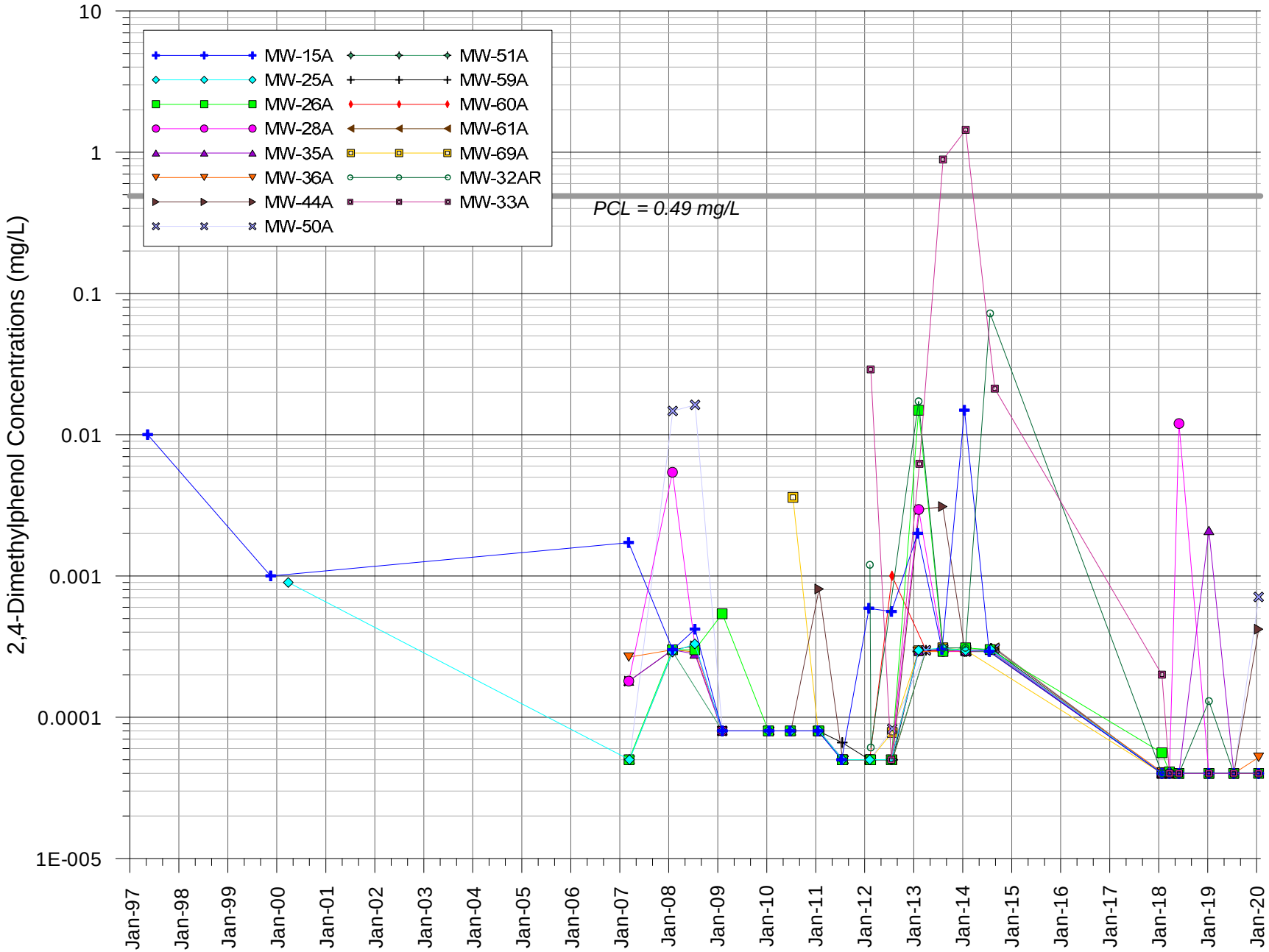
ATTACHMENT 1B-5
Naphthalene Concentrations at Source Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



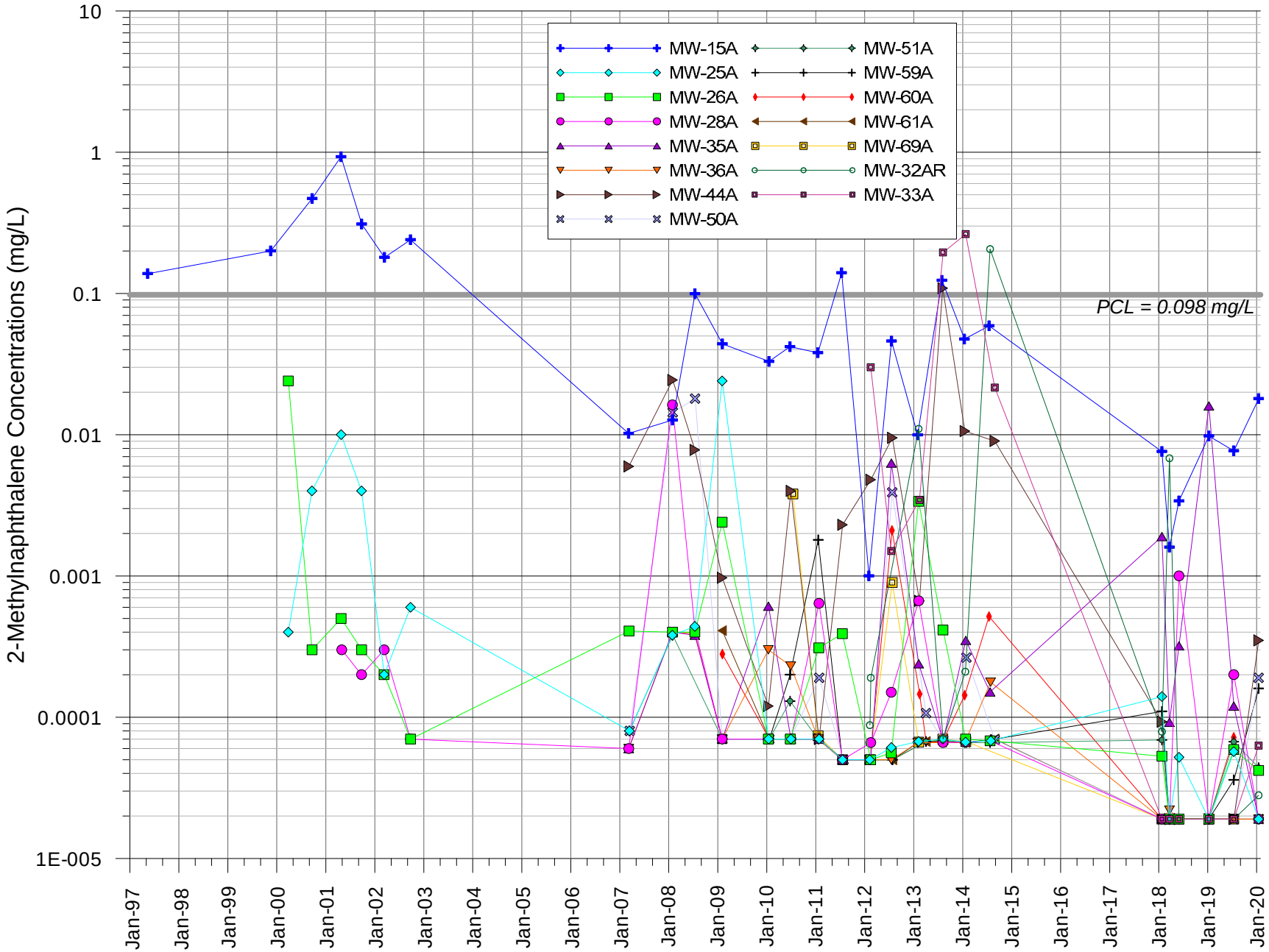
ATTACHMENT 1B-6
Benzene Concentrations at Perimeter Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



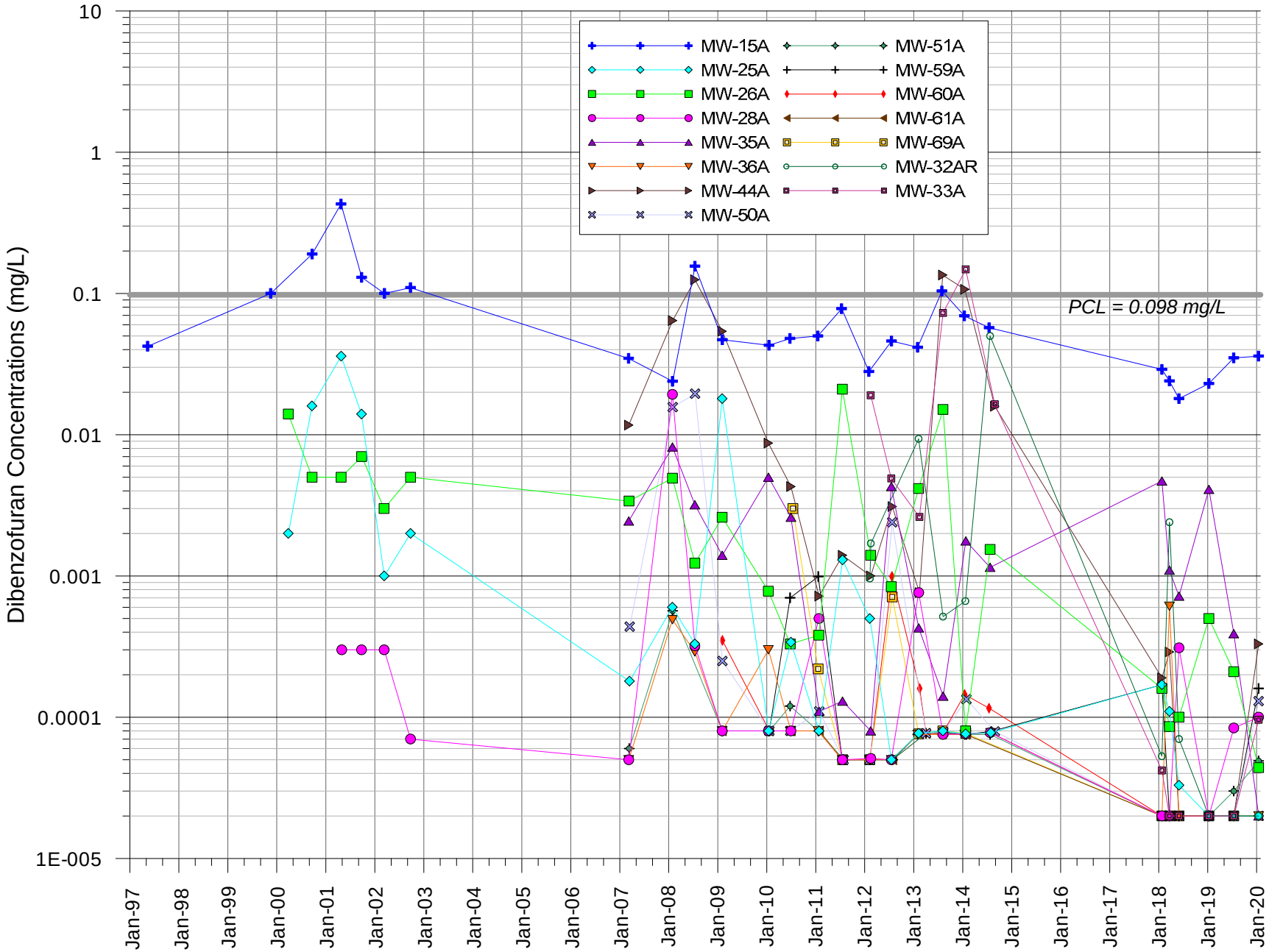
ATTACHMENT 1B-7
2,4-Dimethylphenol Concentrations at Perimeter Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



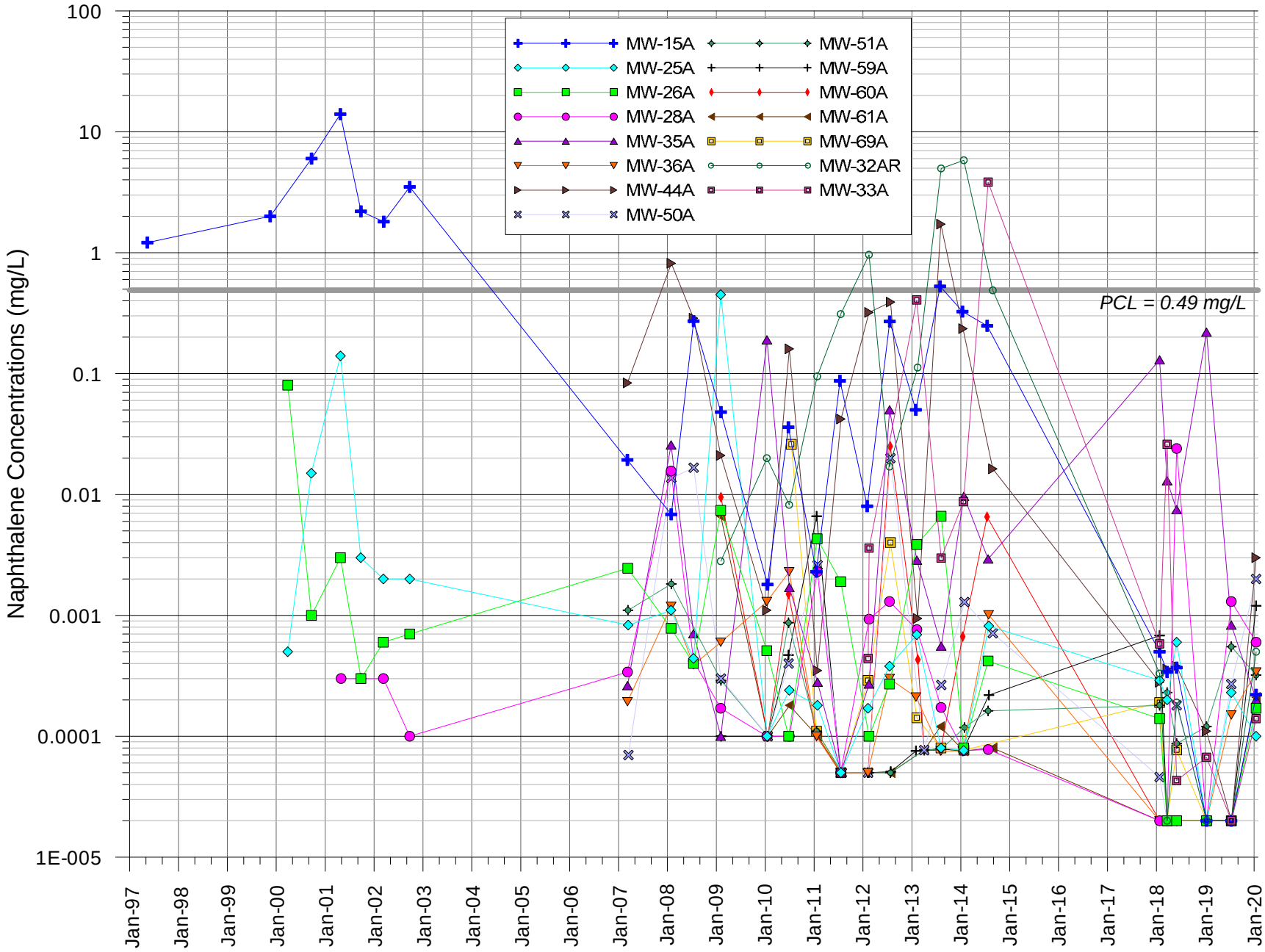
ATTACHMENT 1B-8
2-Methylnapthalene Concentrations at Perimeter Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



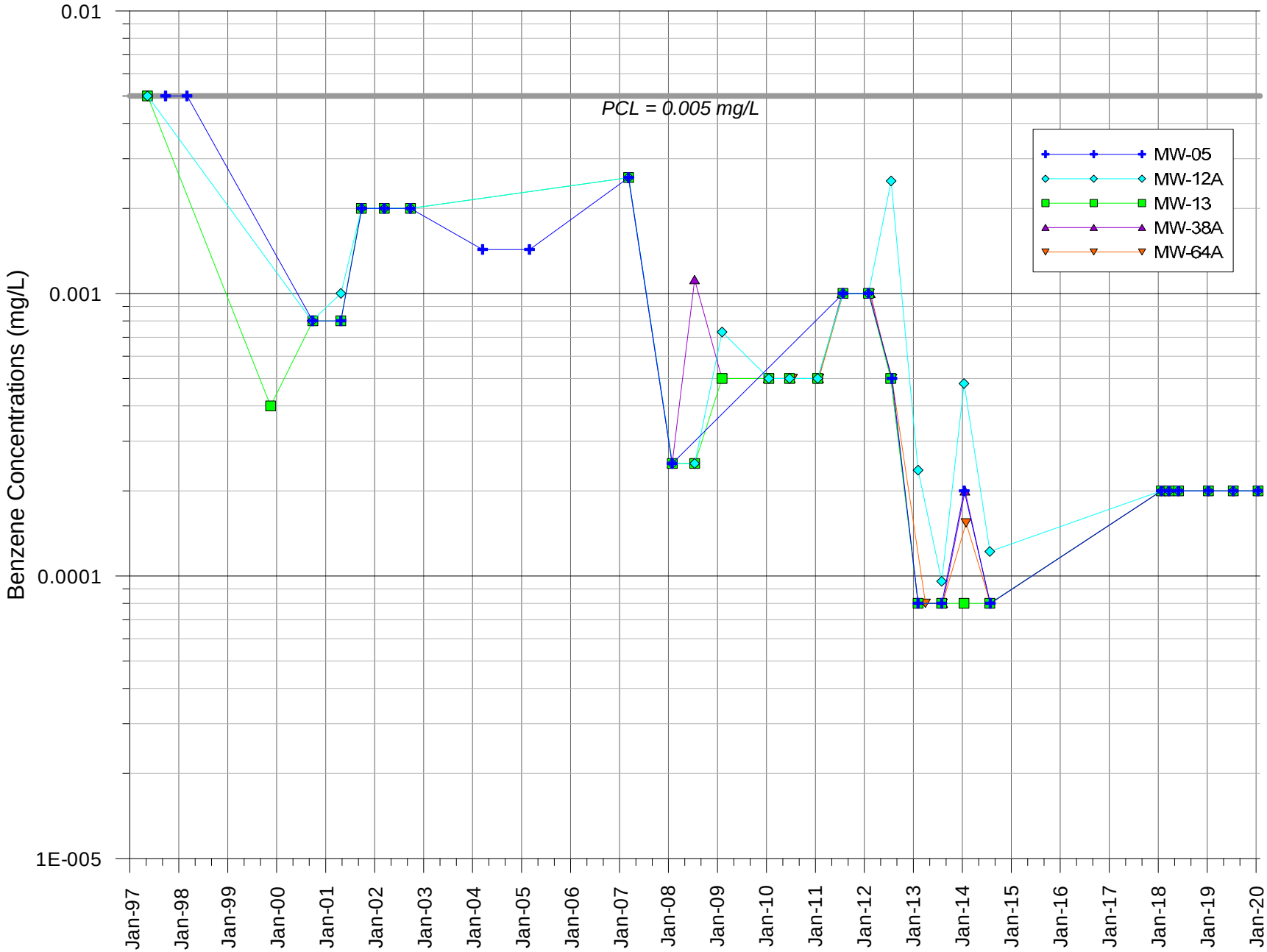
ATTACHMENT 1B-9
Dibenzofuran Concentrations at Perimeter Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



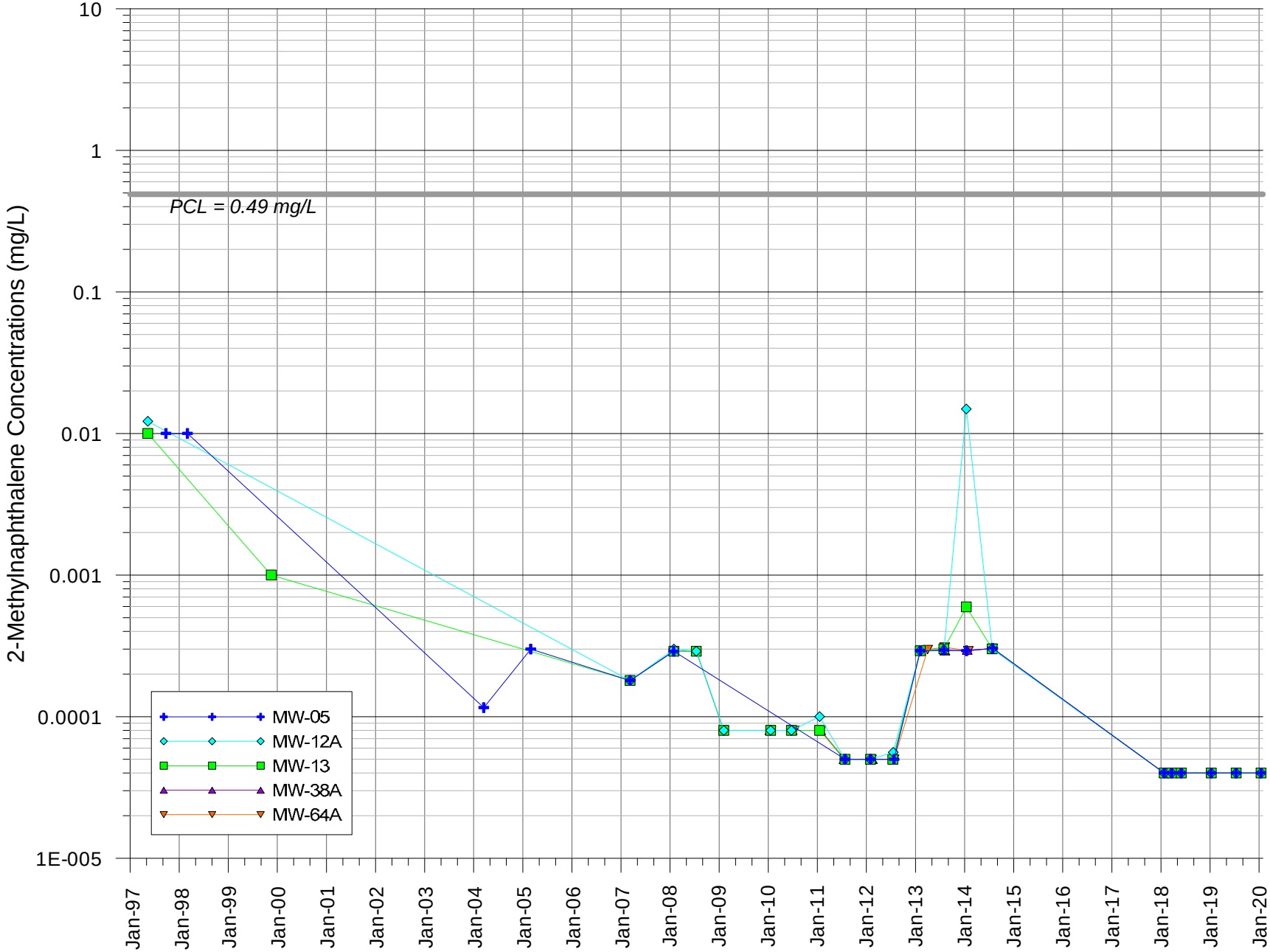
ATTACHMENT 1B-10
Naphthalene Concentrations at Perimeter Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



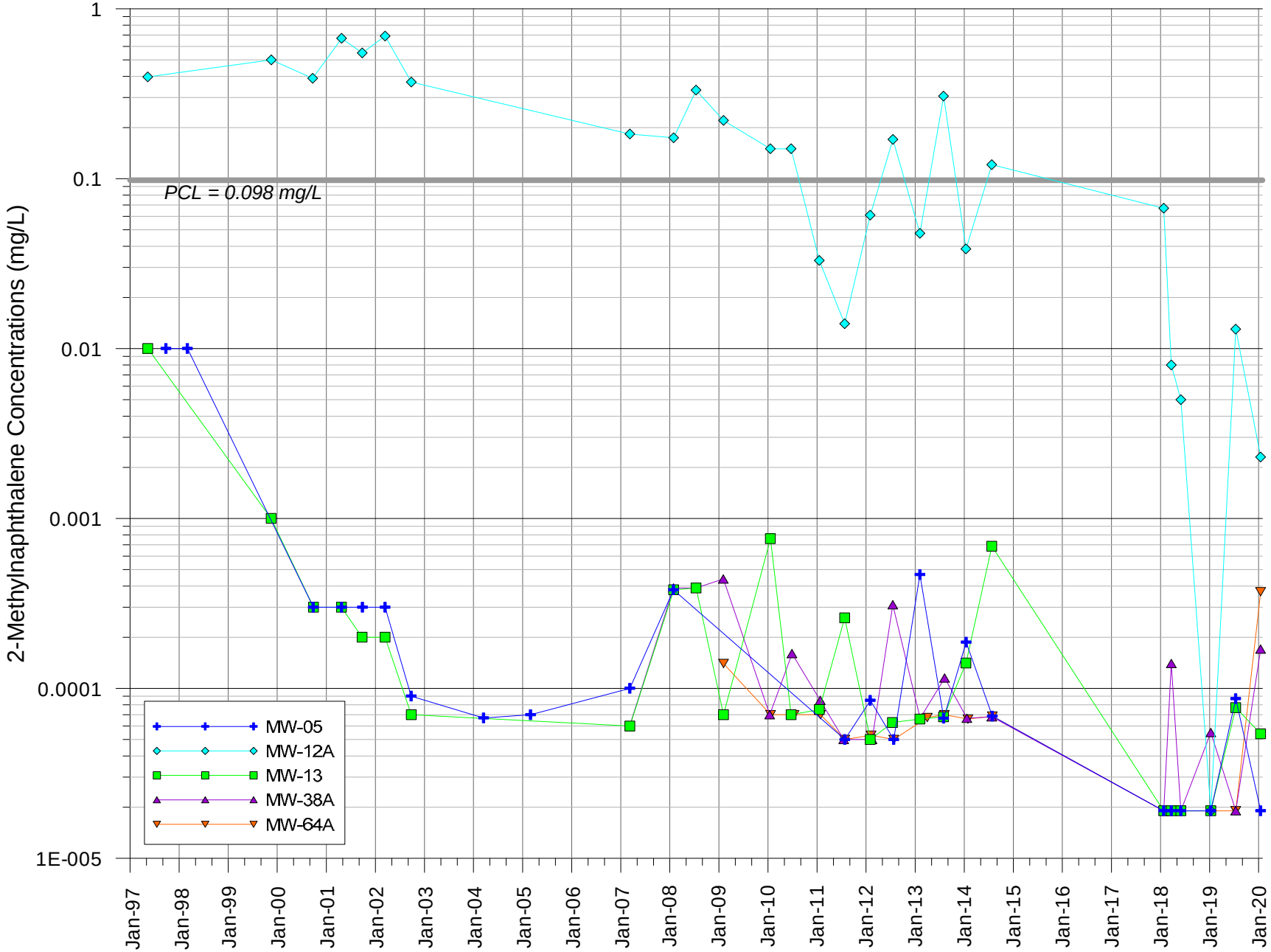
ATTACHMENT 1B-11
Benzene Concentrations at West End Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



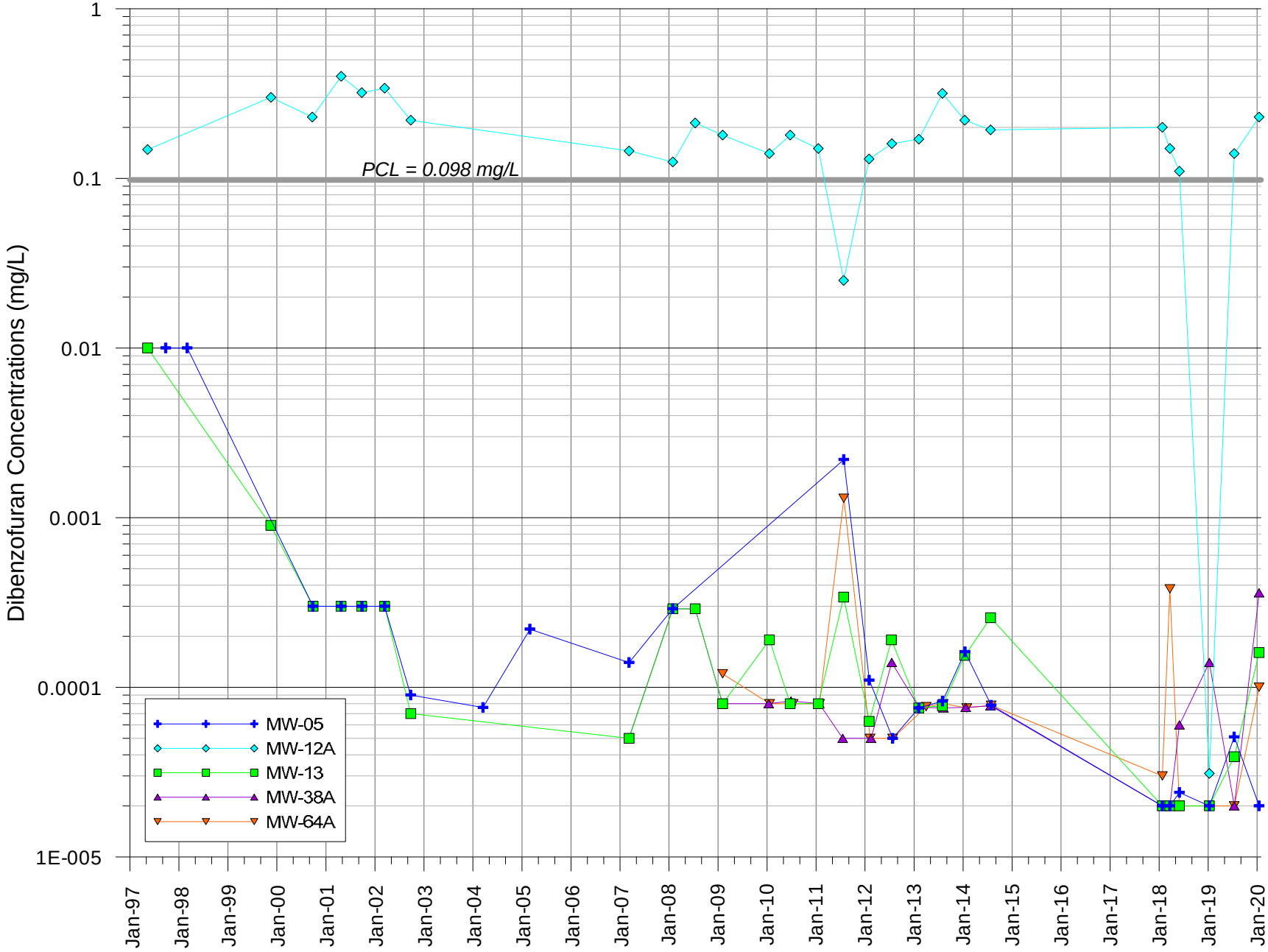
ATTACHMENT 1B-12
2,4-Dimethylphenol Concentrations at West End Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



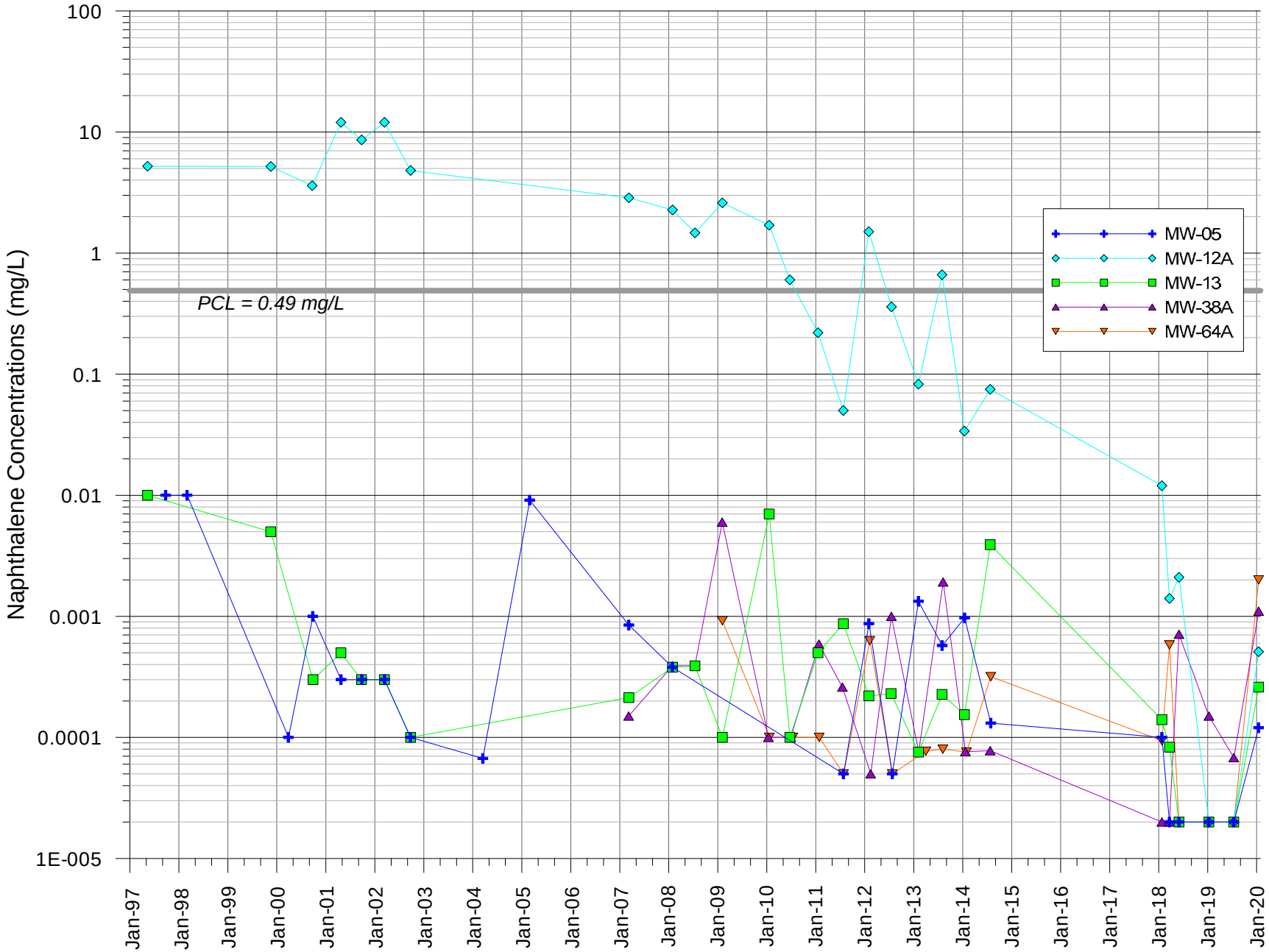
ATTACHMENT 1B-13
2-Methylnaphthalene Concentrations at West End Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



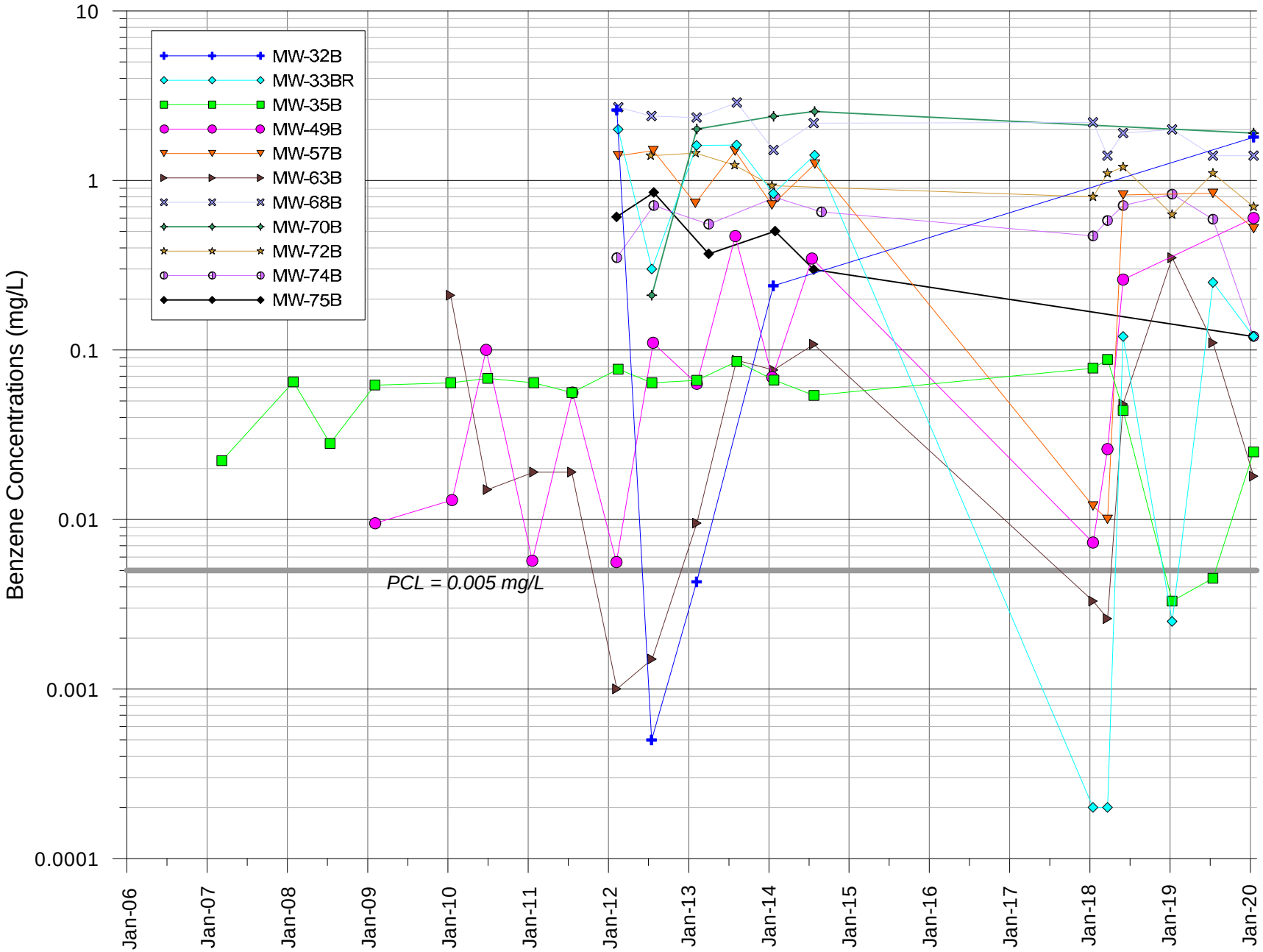
ATTACHMENT 1B-14
Dibenzofuran Concentrations at West End Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



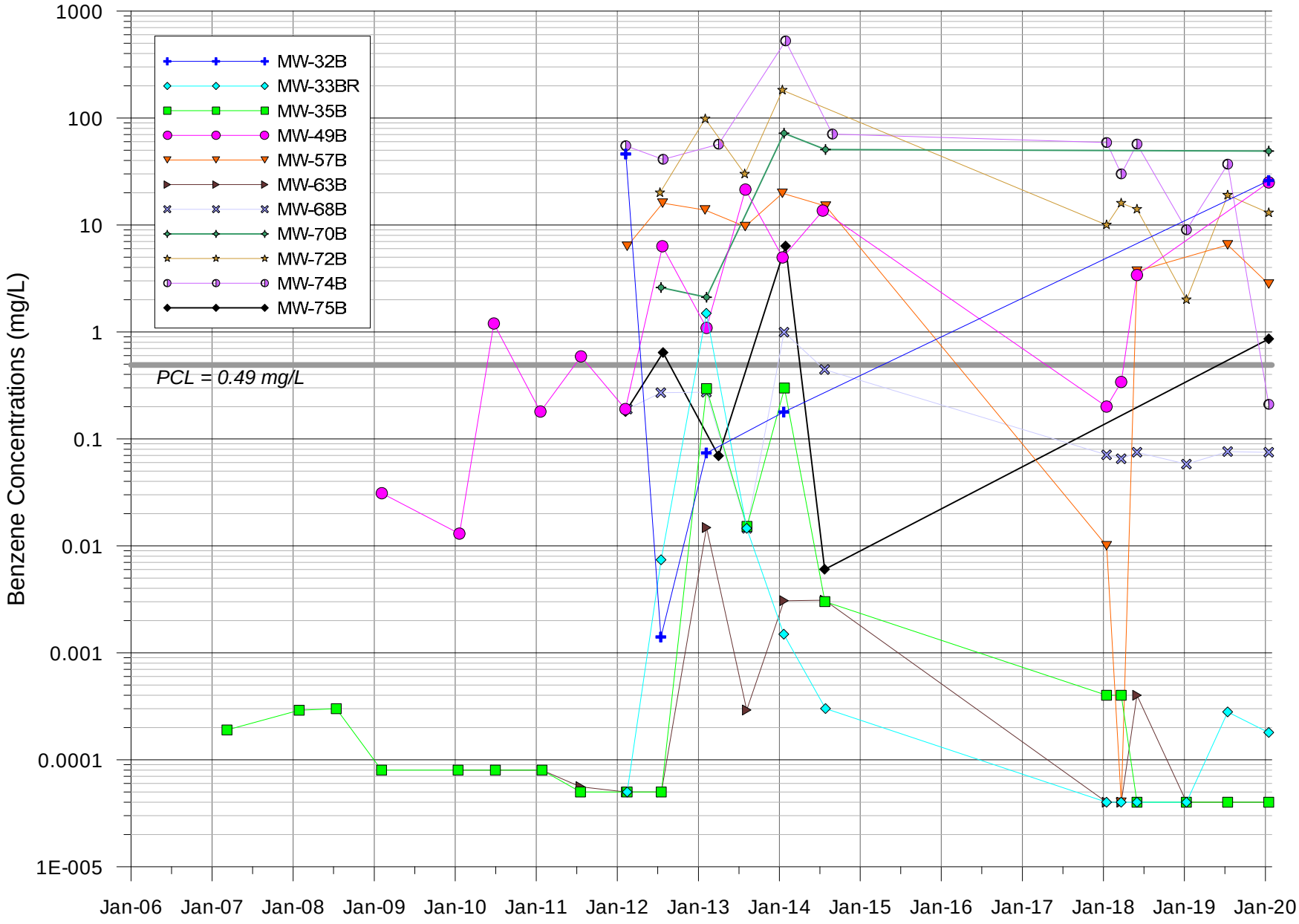
ATTACHMENT 1B-15
Naphthalene Concentrations at West End Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



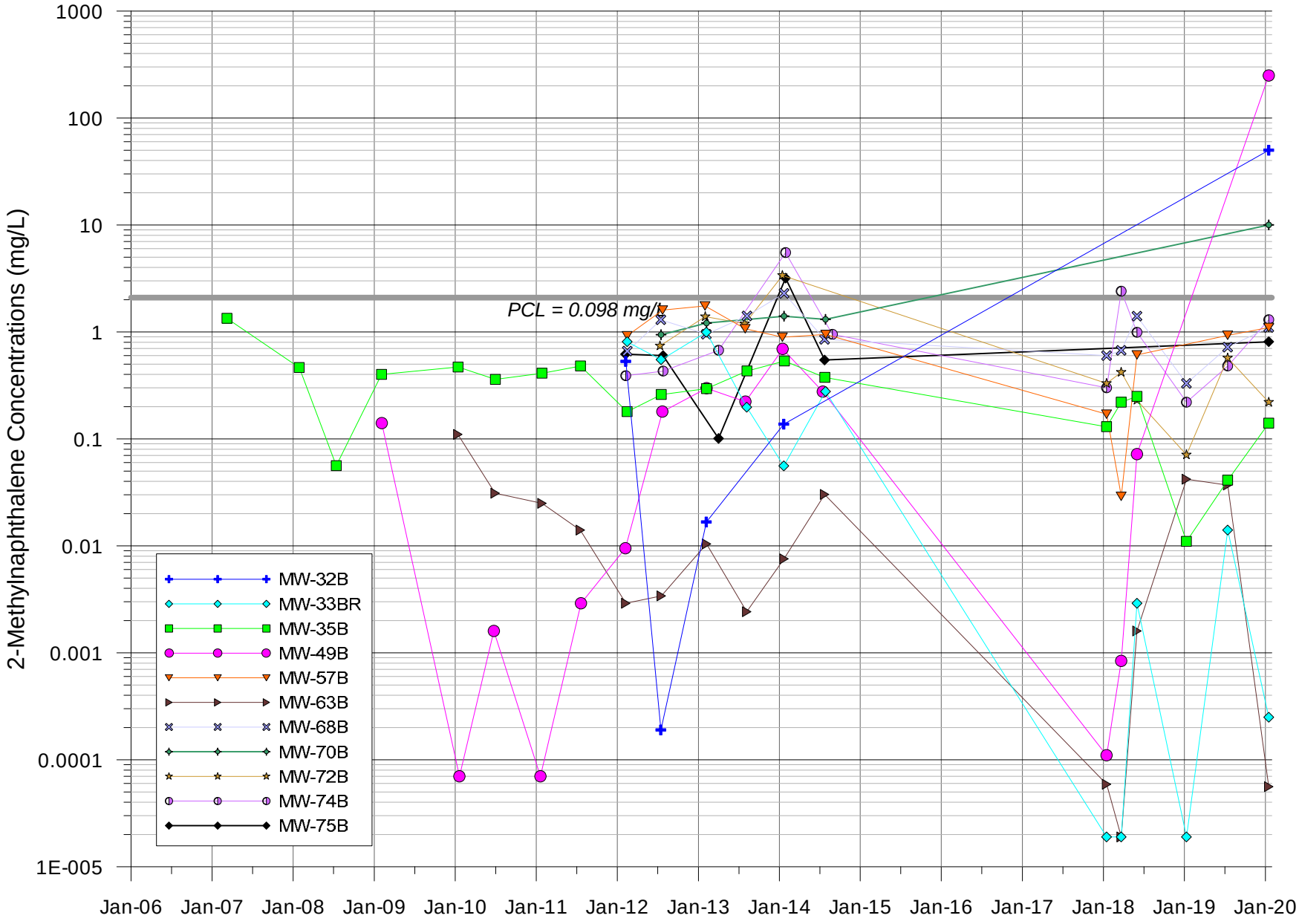
ATTACHMENT 1B-16
Benzene Concentrations at Source Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



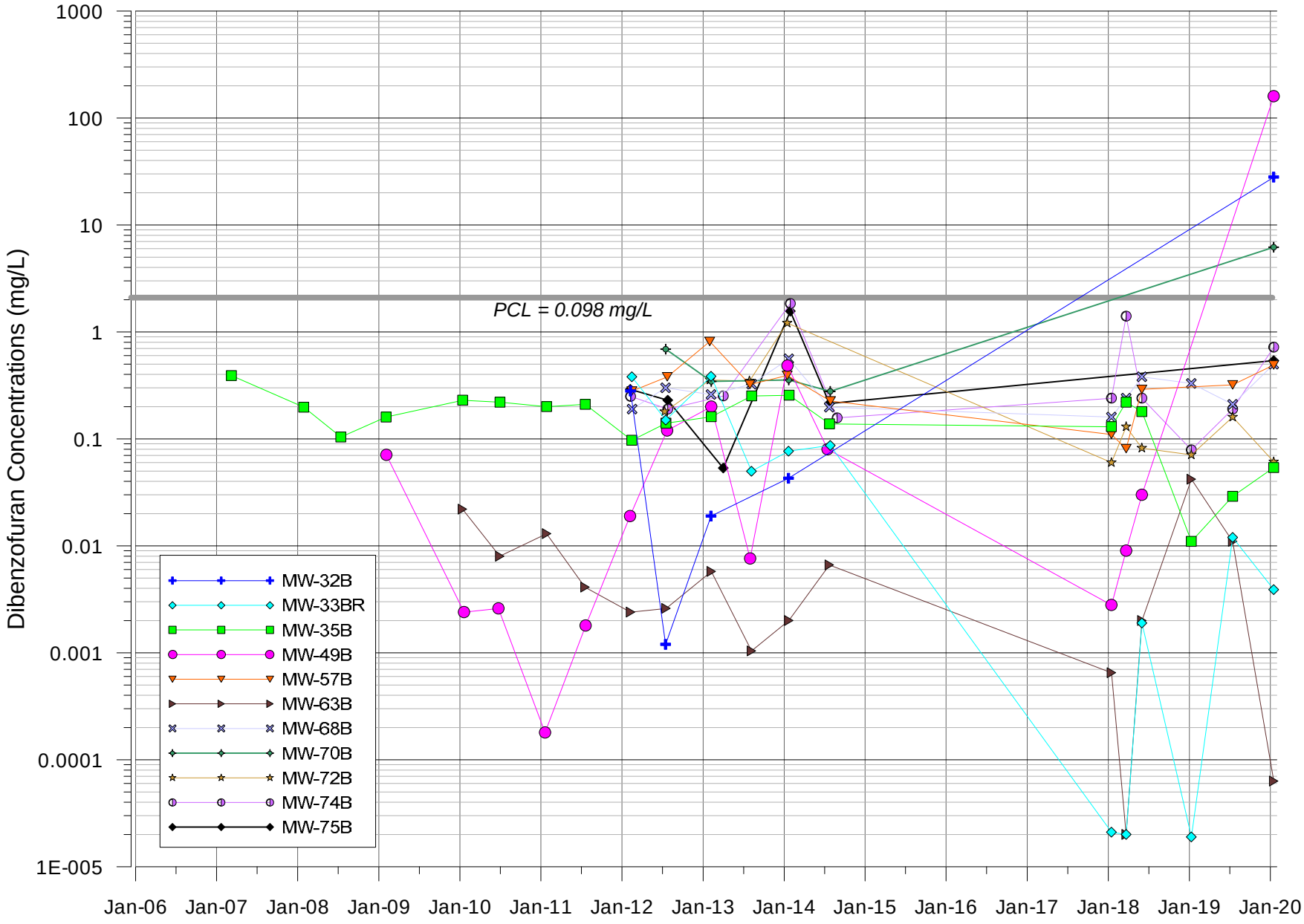
ATTACHMENT 1B-17
2,4-Dimethylphenol Concentrations at Source Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



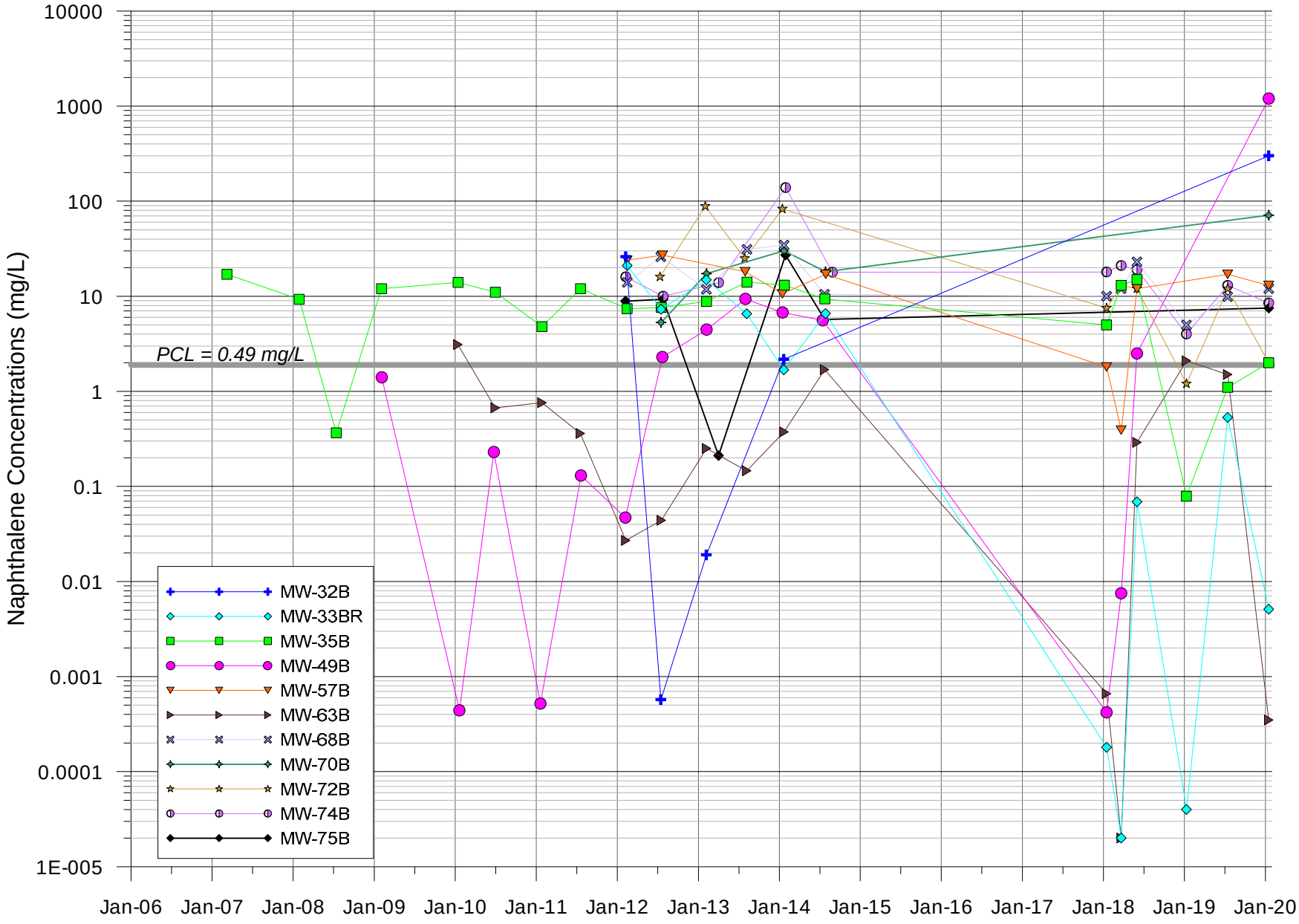
ATTACHMENT 1B-18
2-Methylnaphthalene Concentrations at Source Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



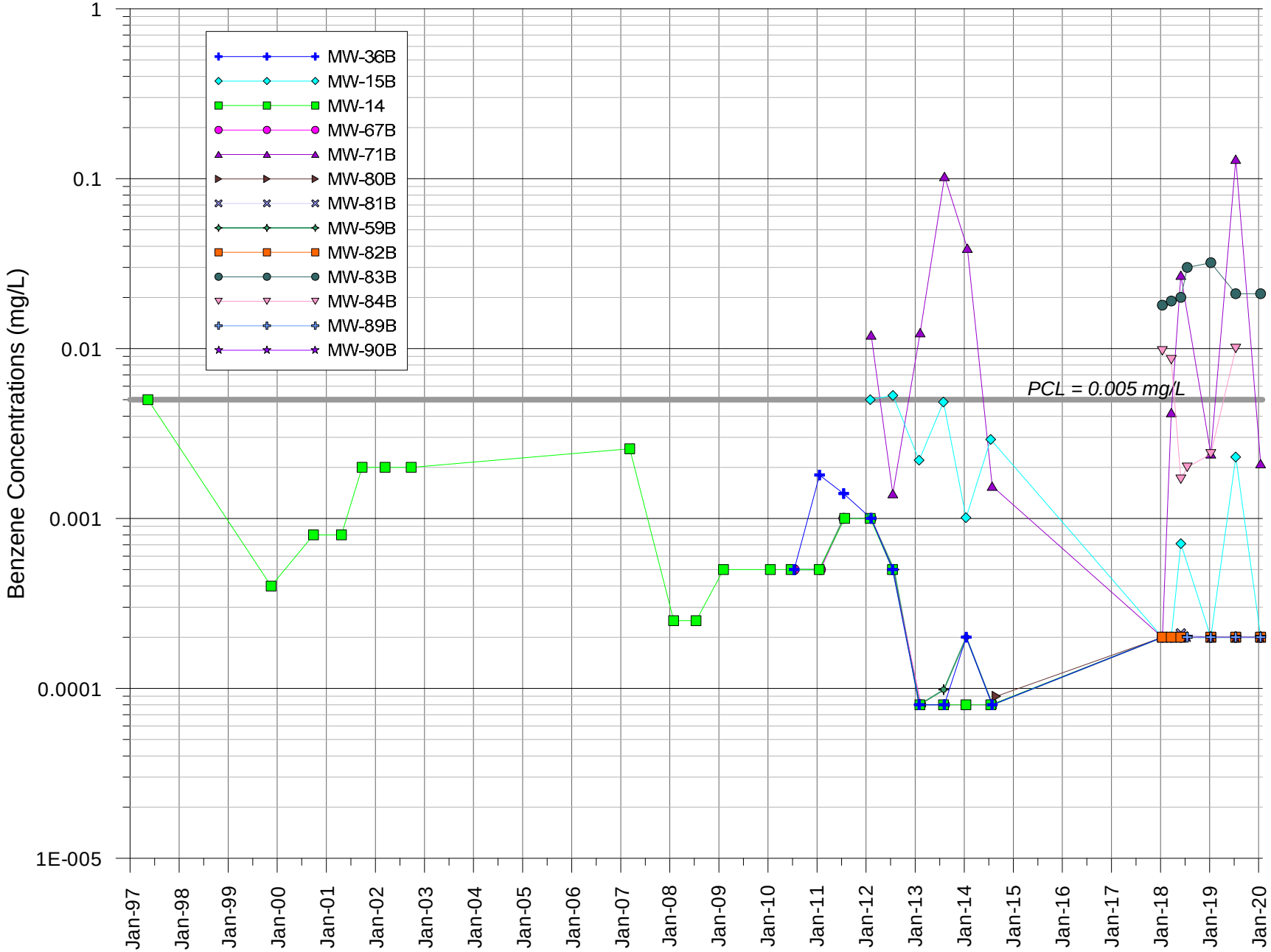
ATTACHMENT 1B-19
Dibenzofuran Concentrations at Source Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



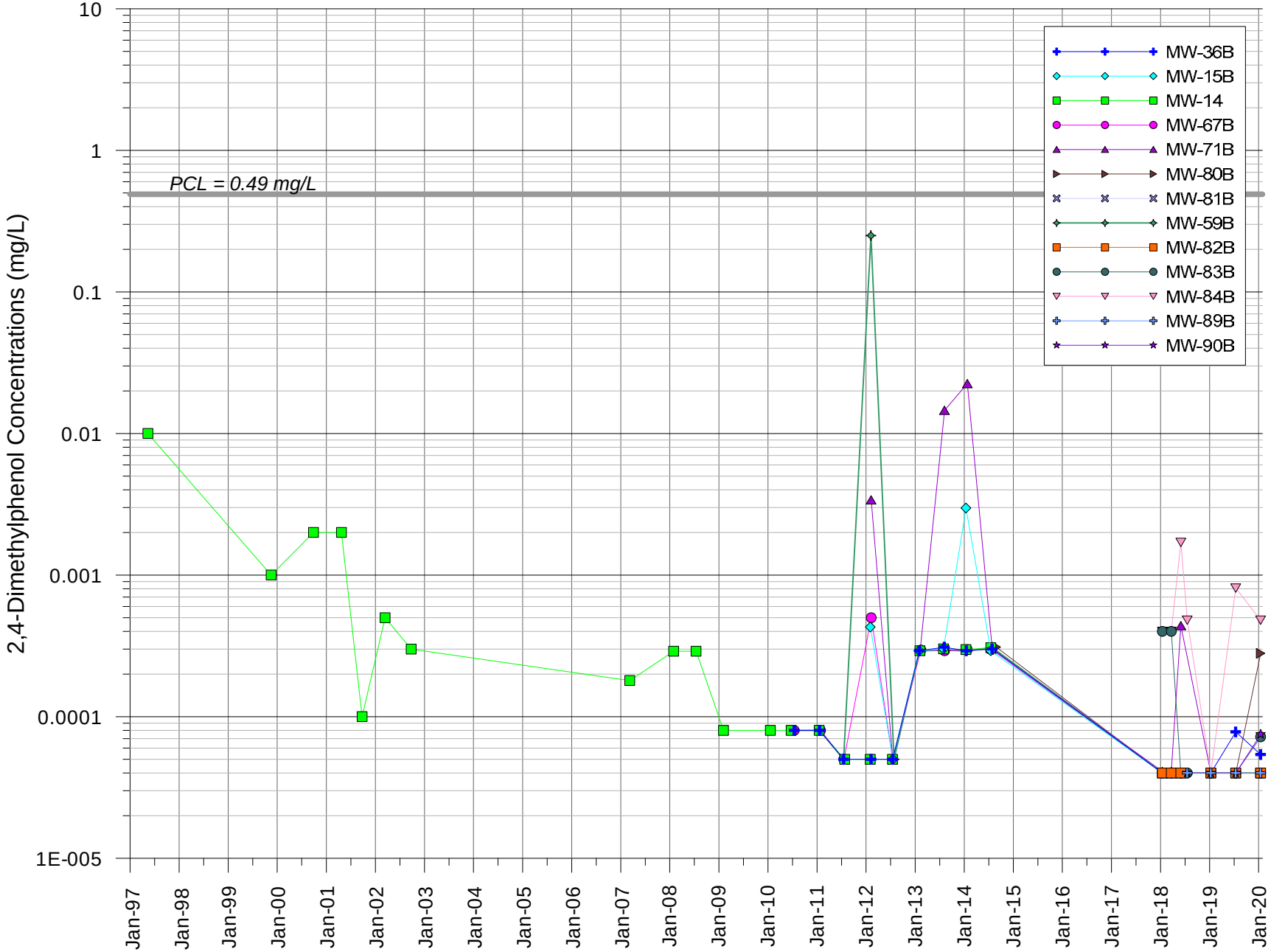
ATTACHMENT 1B-20
Naphthalene Concentrations at Source Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



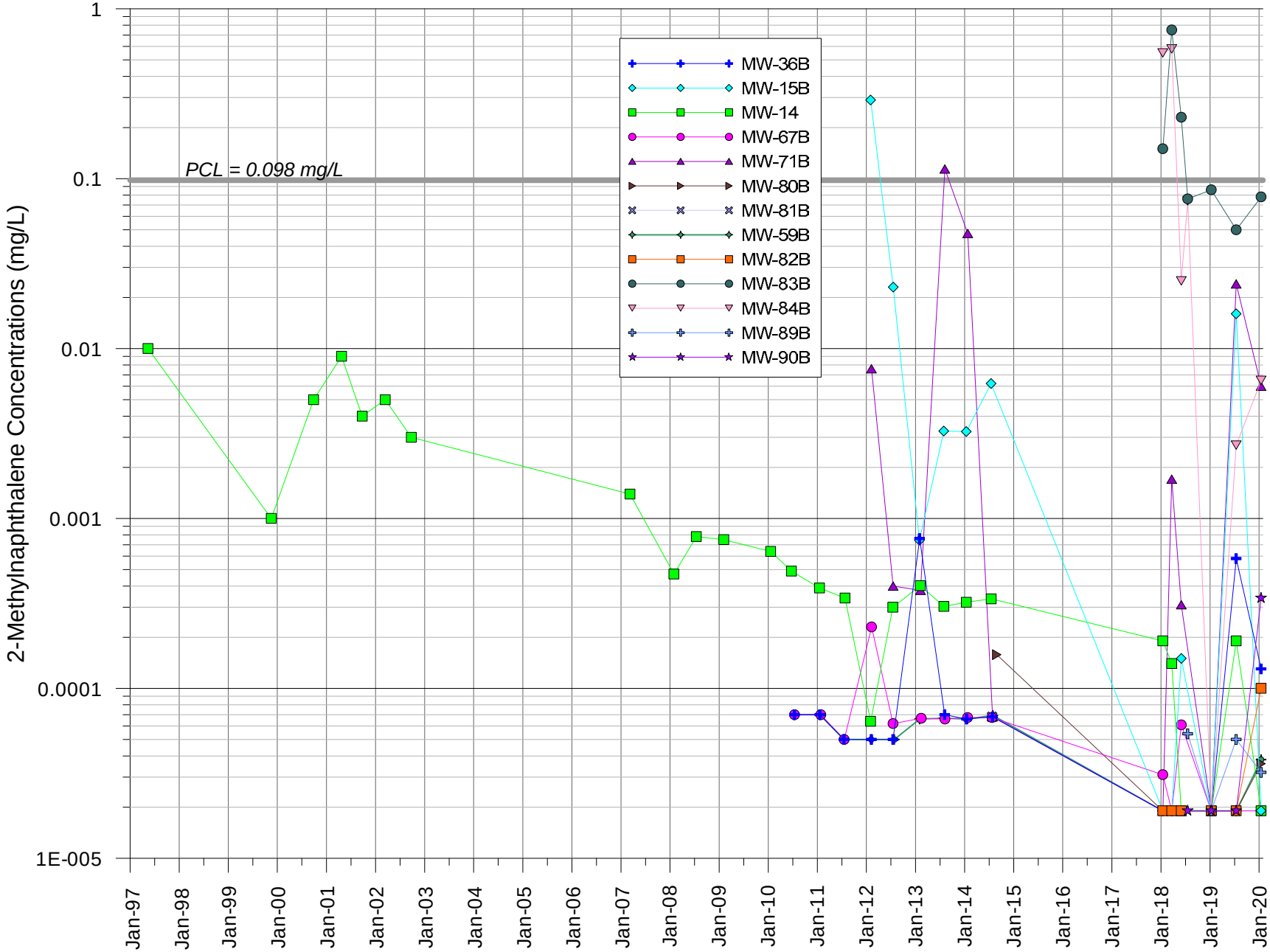
ATTACHMENT 1B-21
Benzene Concentrations at Perimeter Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



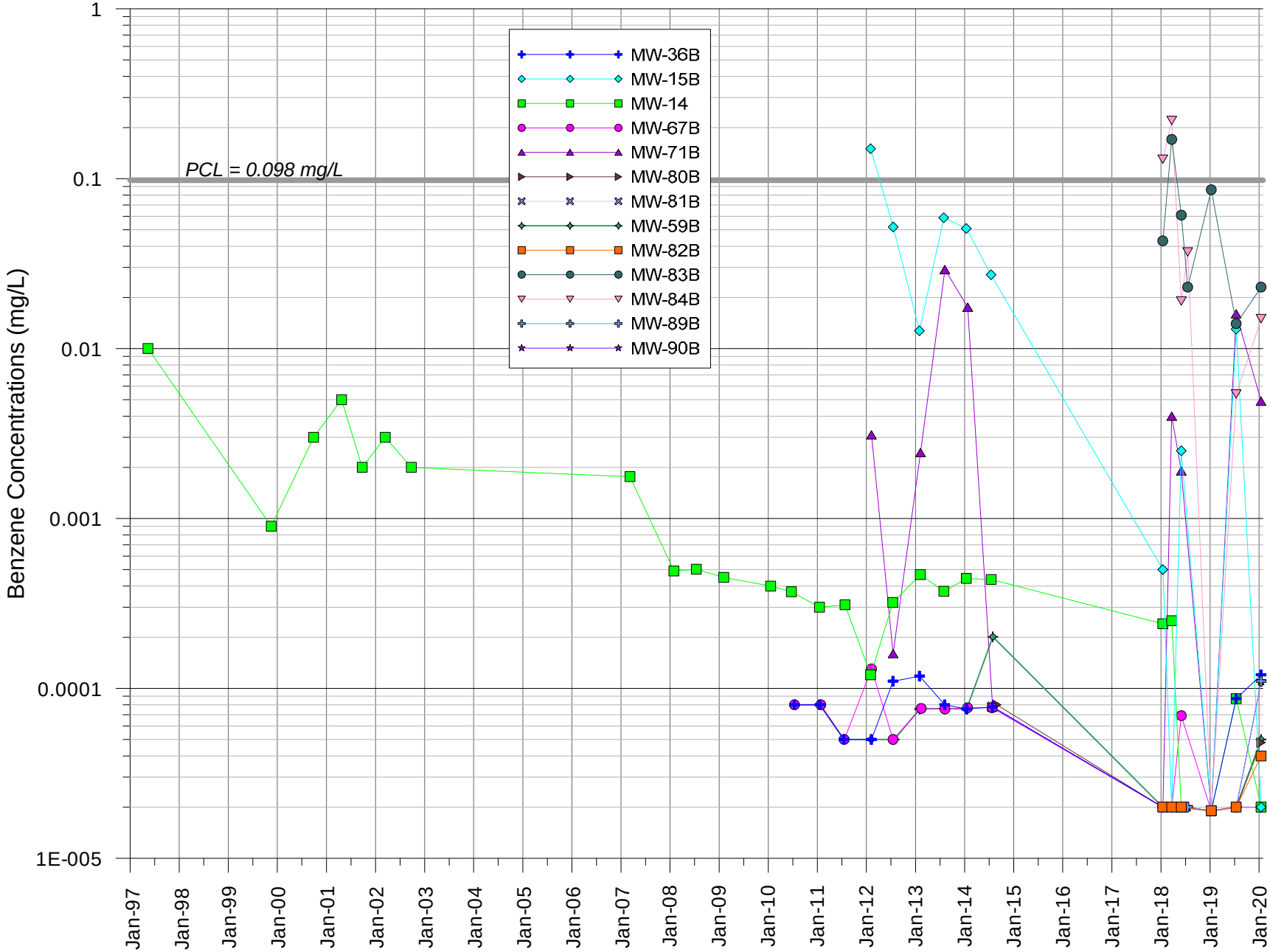
ATTACHMENT 1B-22
2,4-Dimethylphenol Concentrations at Perimeter Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



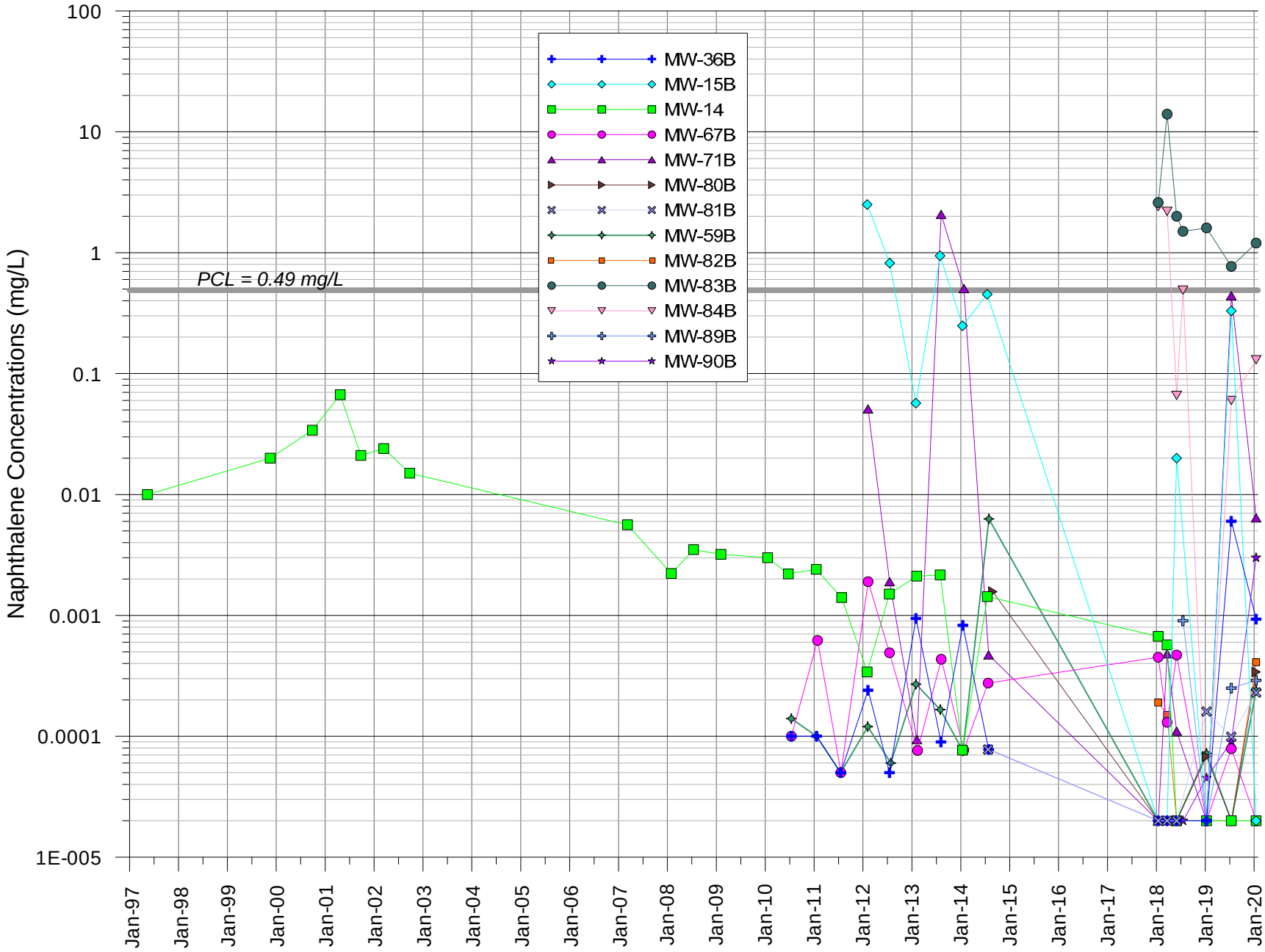
ATTACHMENT 1B-23
2-Methylnaphthalene Concentrations at Perimeter Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



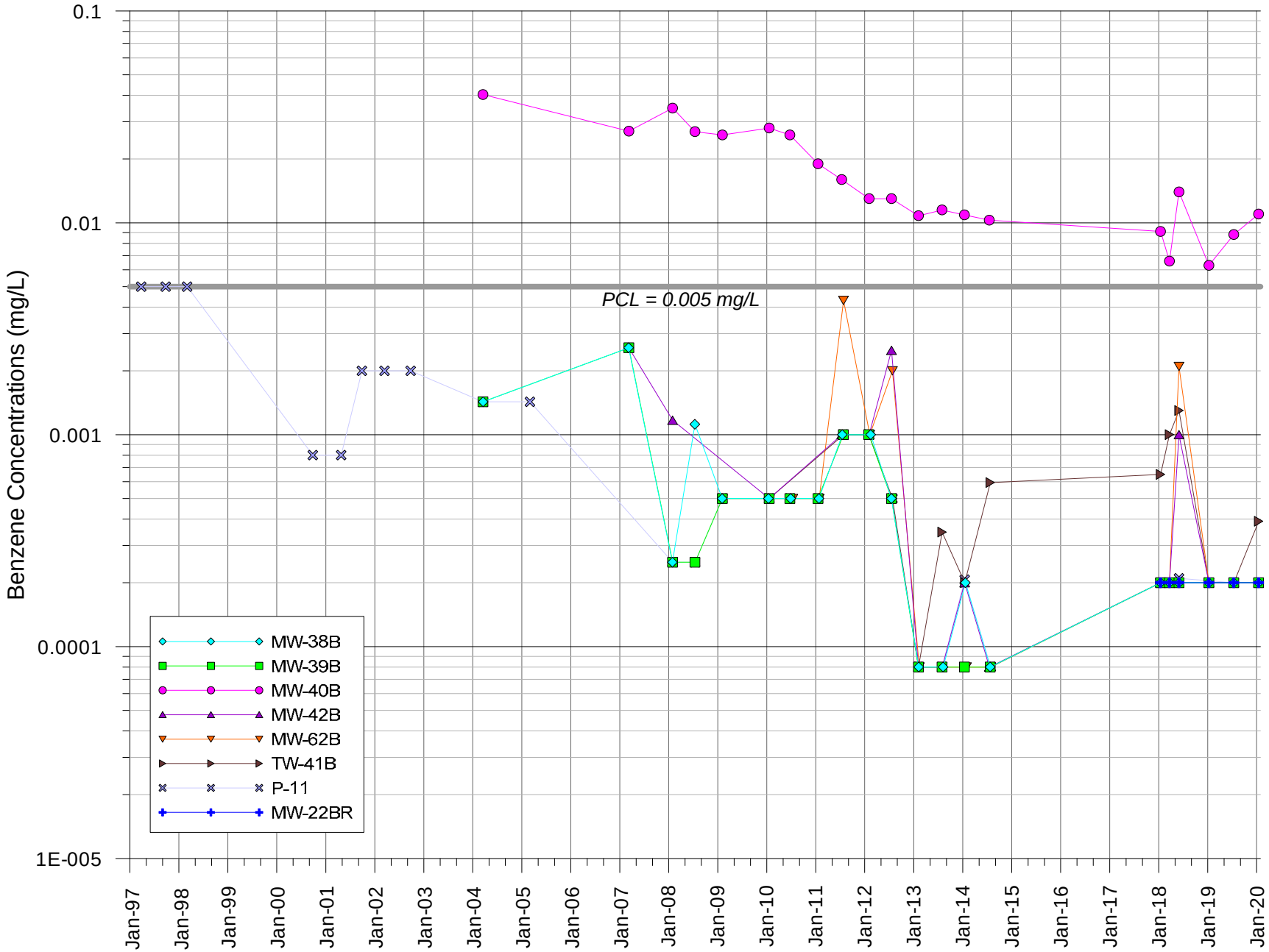
ATTACHMENT 1B-24
Dibenzofuran Concentrations at Perimeter Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



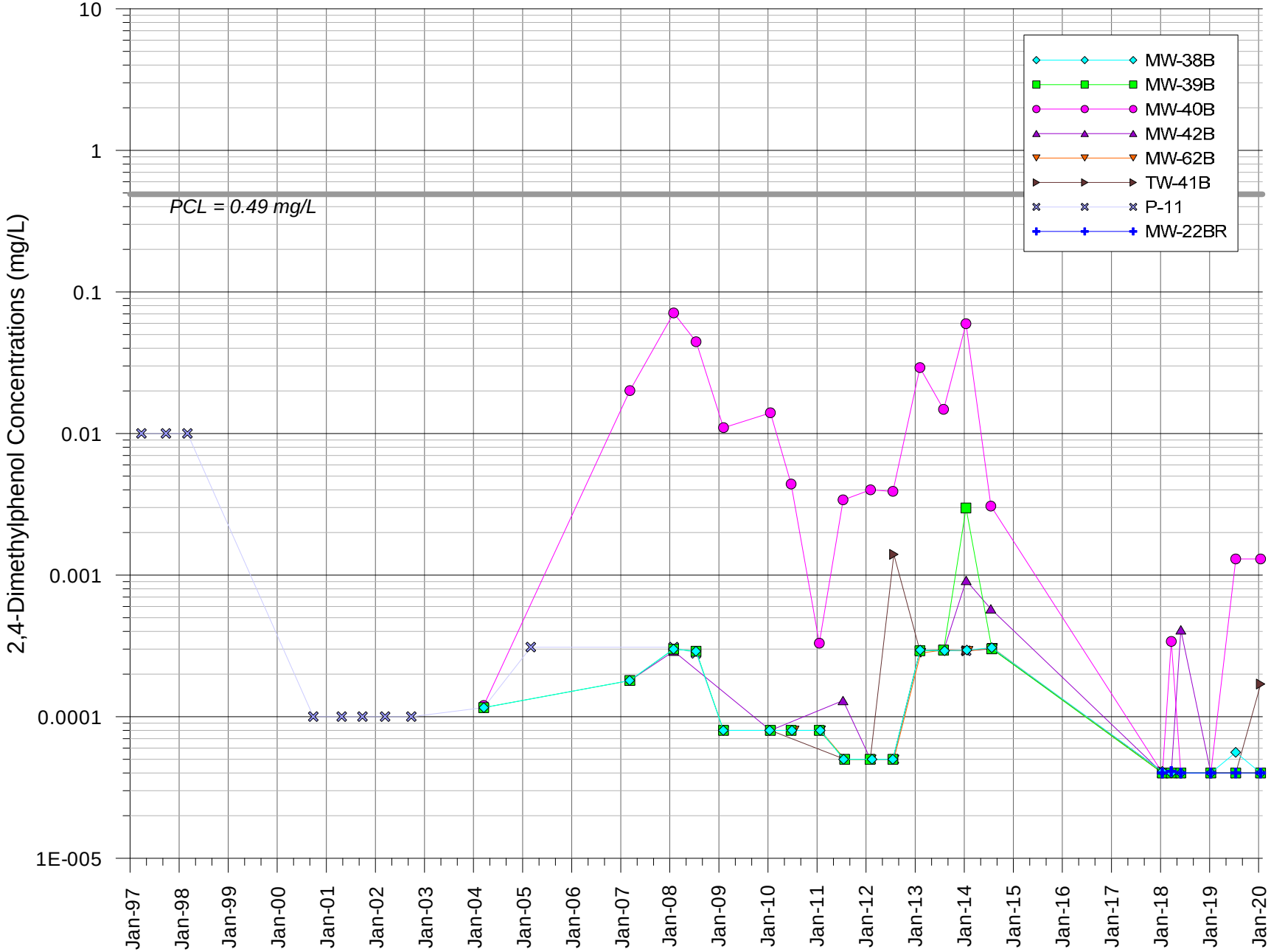
ATTACHMENT 1B-25
Naphthalene Concentrations at Perimeter Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



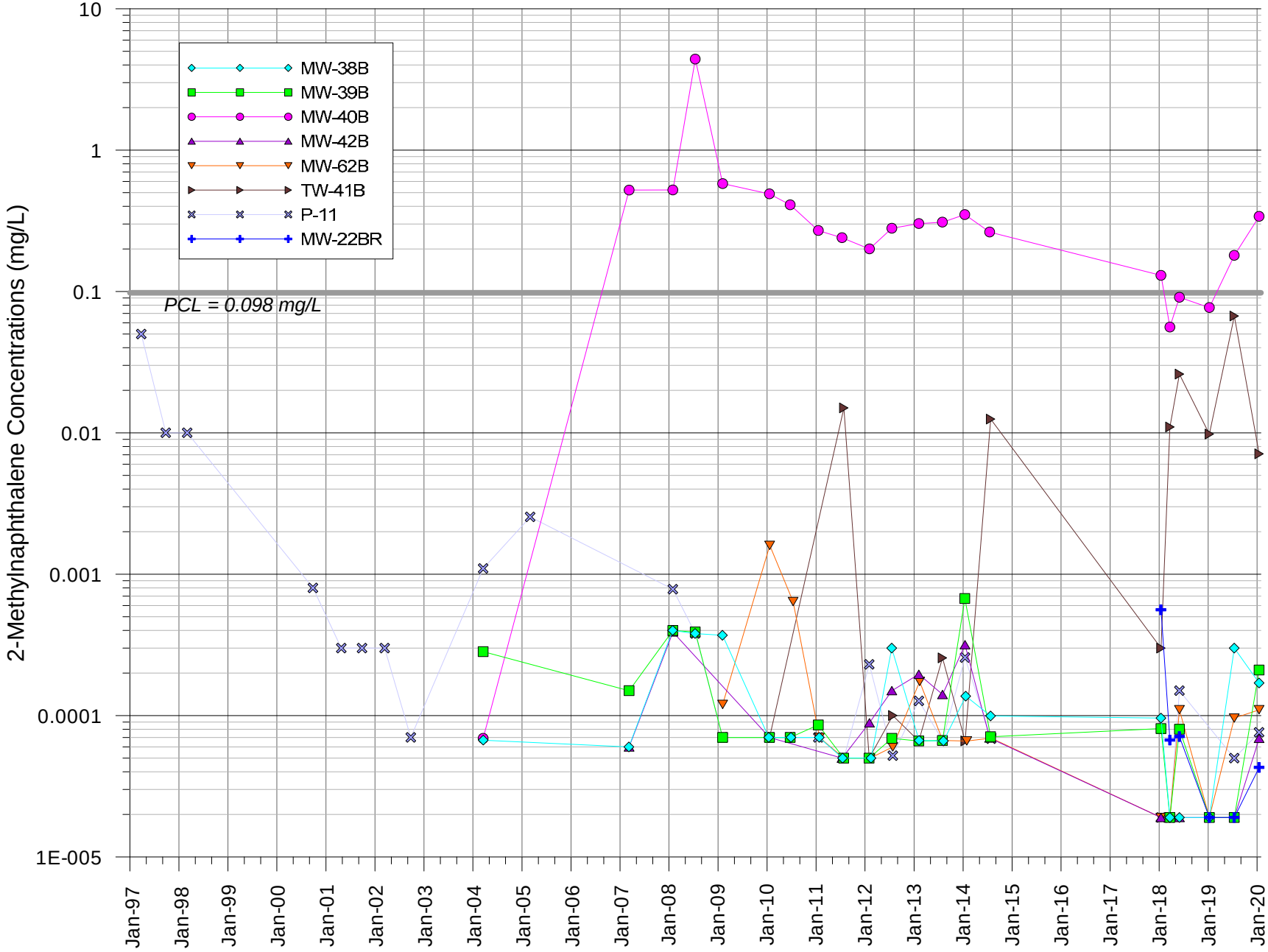
ATTACHMENT 1B-26
Benzene Concentrations at West End Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



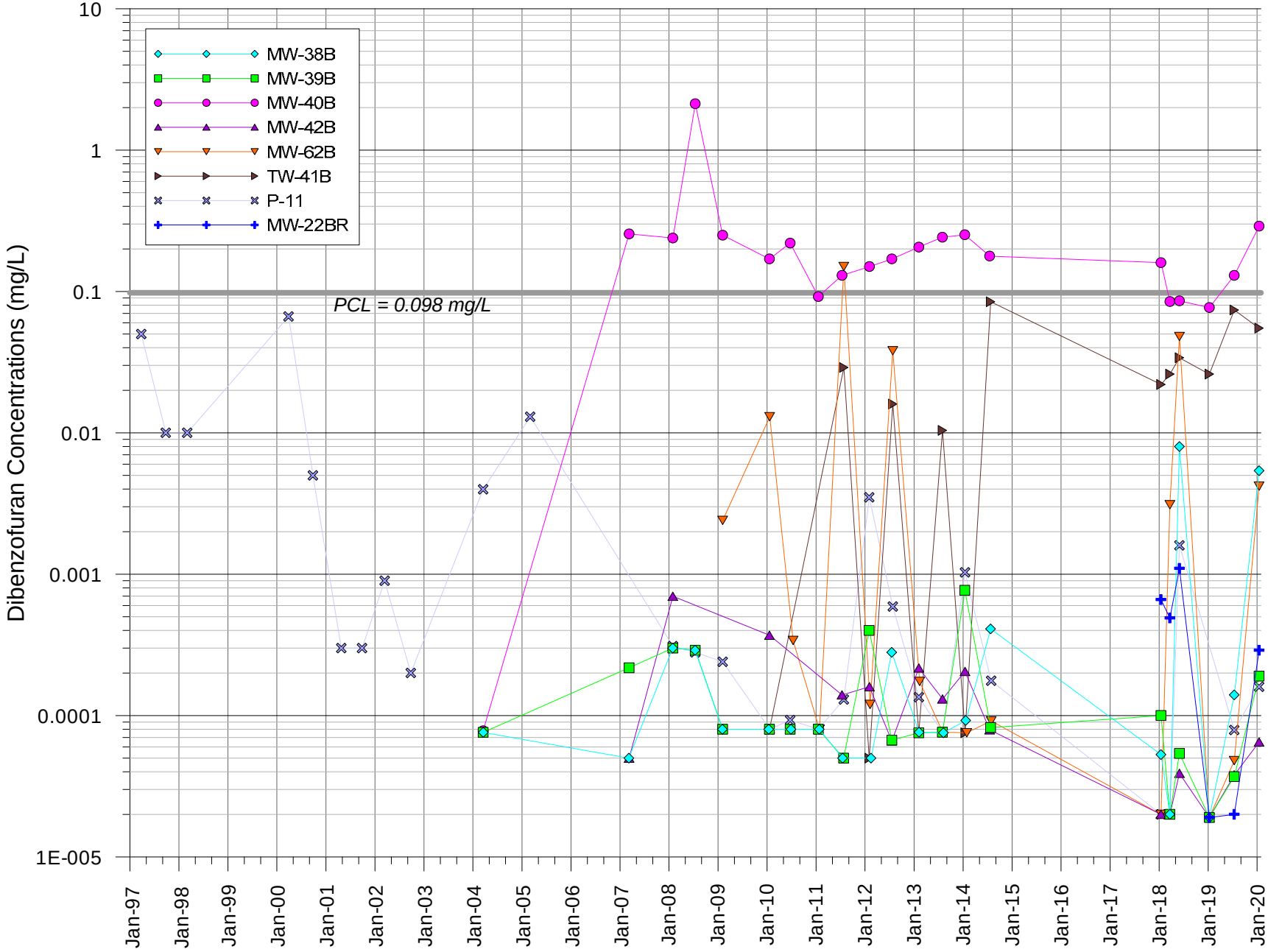
ATTACHMENT 1B-27
2,4-Dimethylphenol Concentrations at West End Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



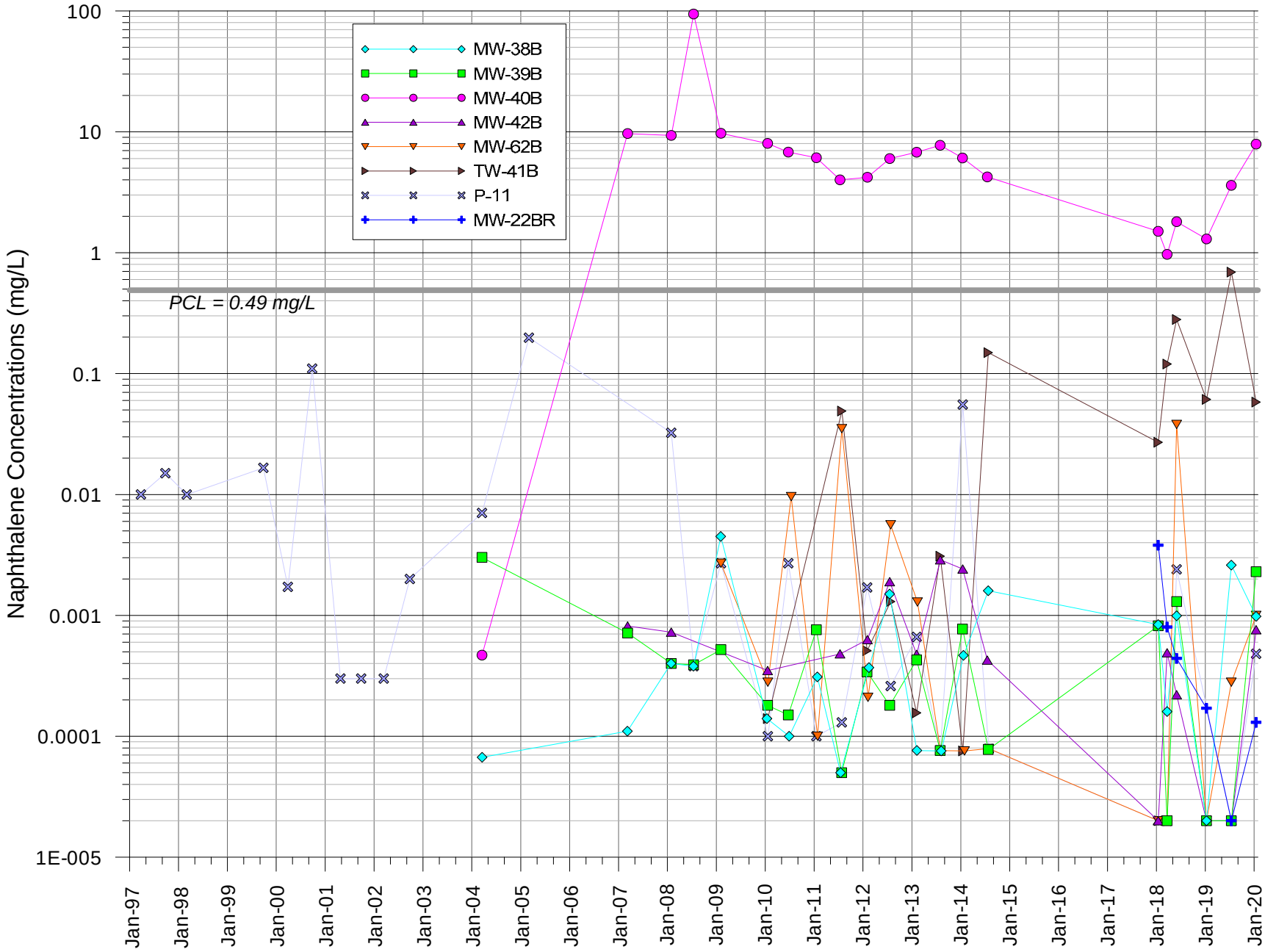
ATTACHMENT 1B-28
2-Methylnaphthalene Concentrations at West End Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



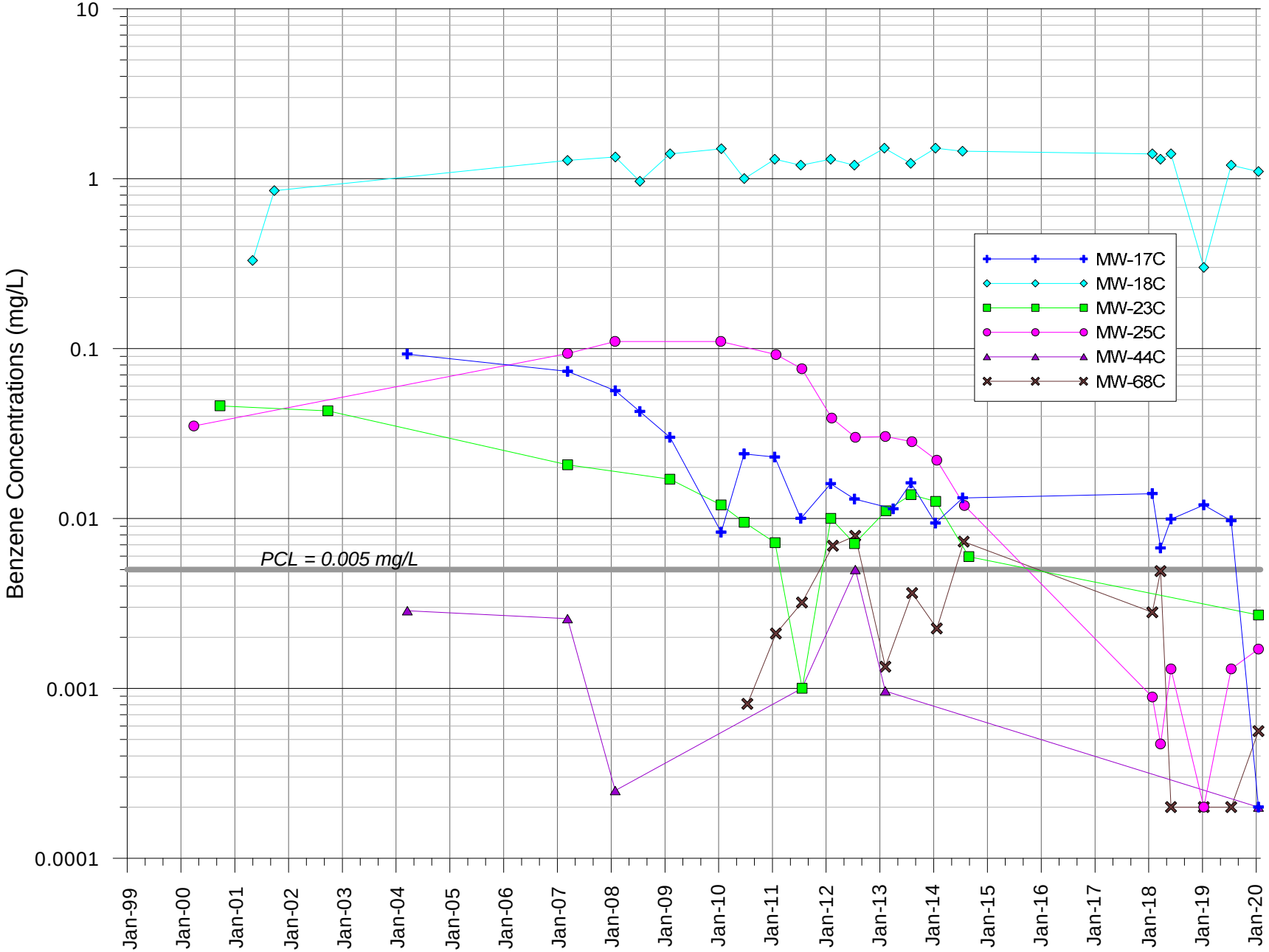
ATTACHMENT 1B-29
Dibenzofuran Concentrations at West End Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



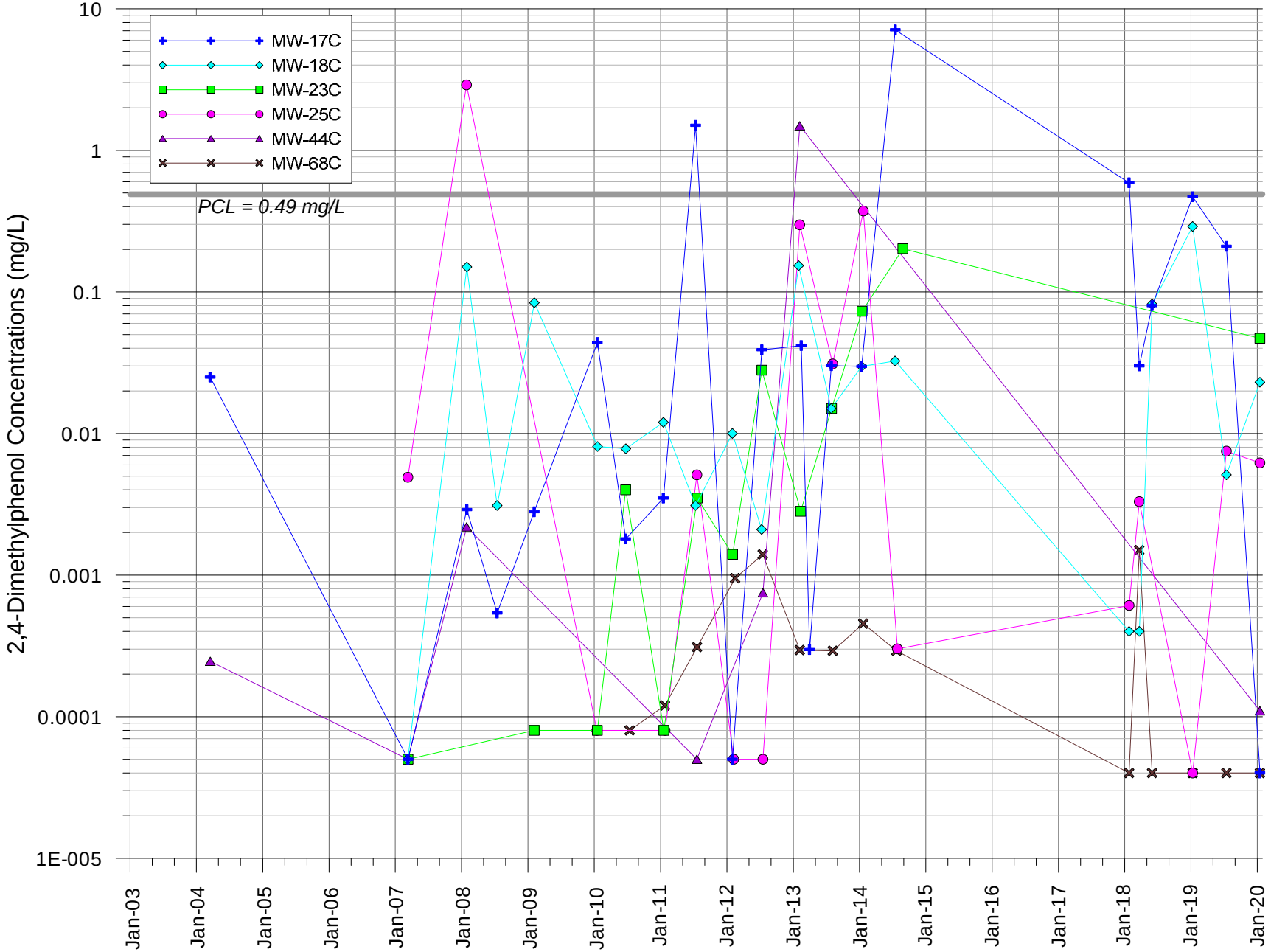
ATTACHMENT 1B-30
Naphthalene Concentrations at West End Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



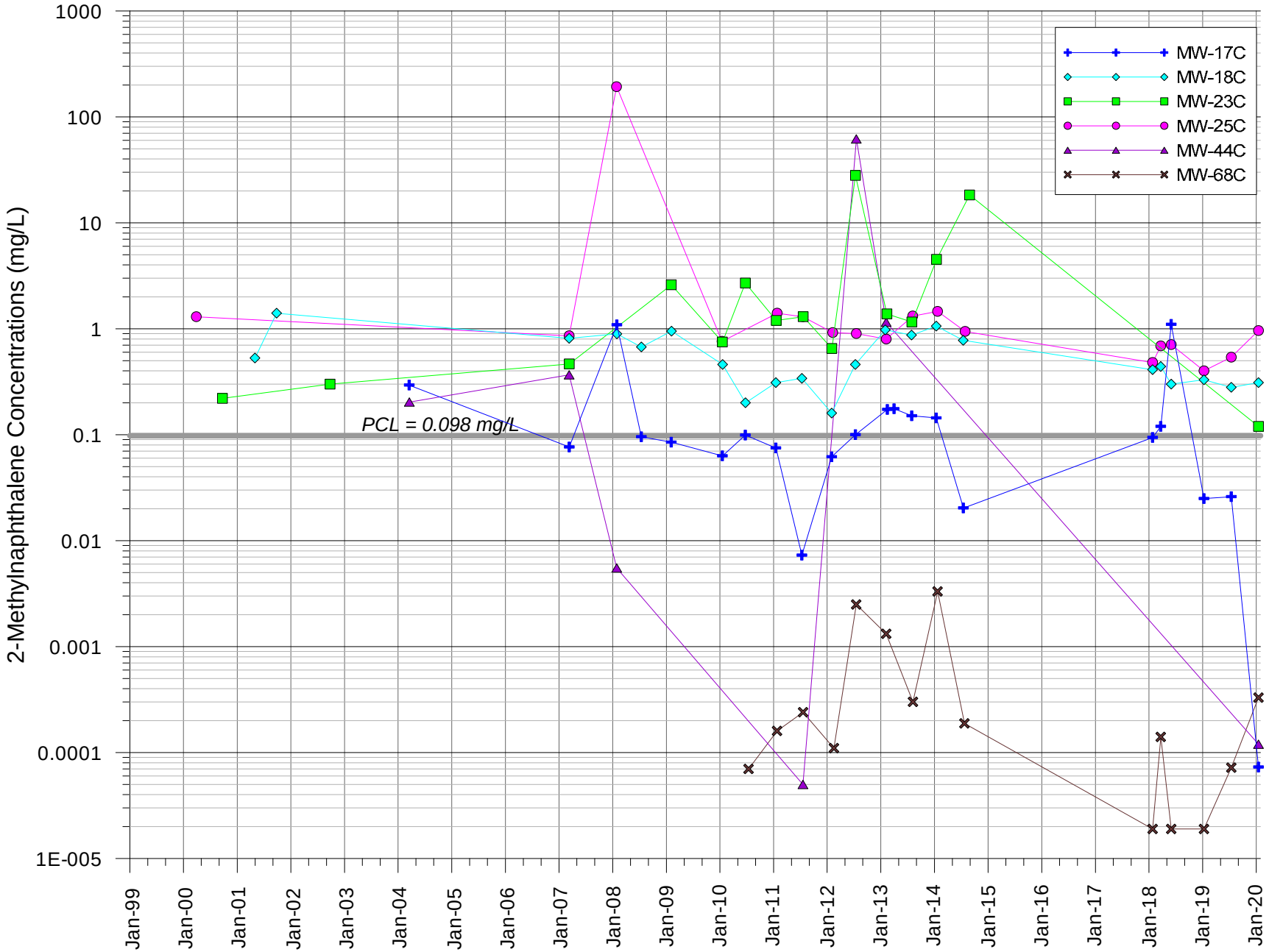
ATTACHMENT 1B-31
Benzene Concentrations at Source Area Wells - C-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



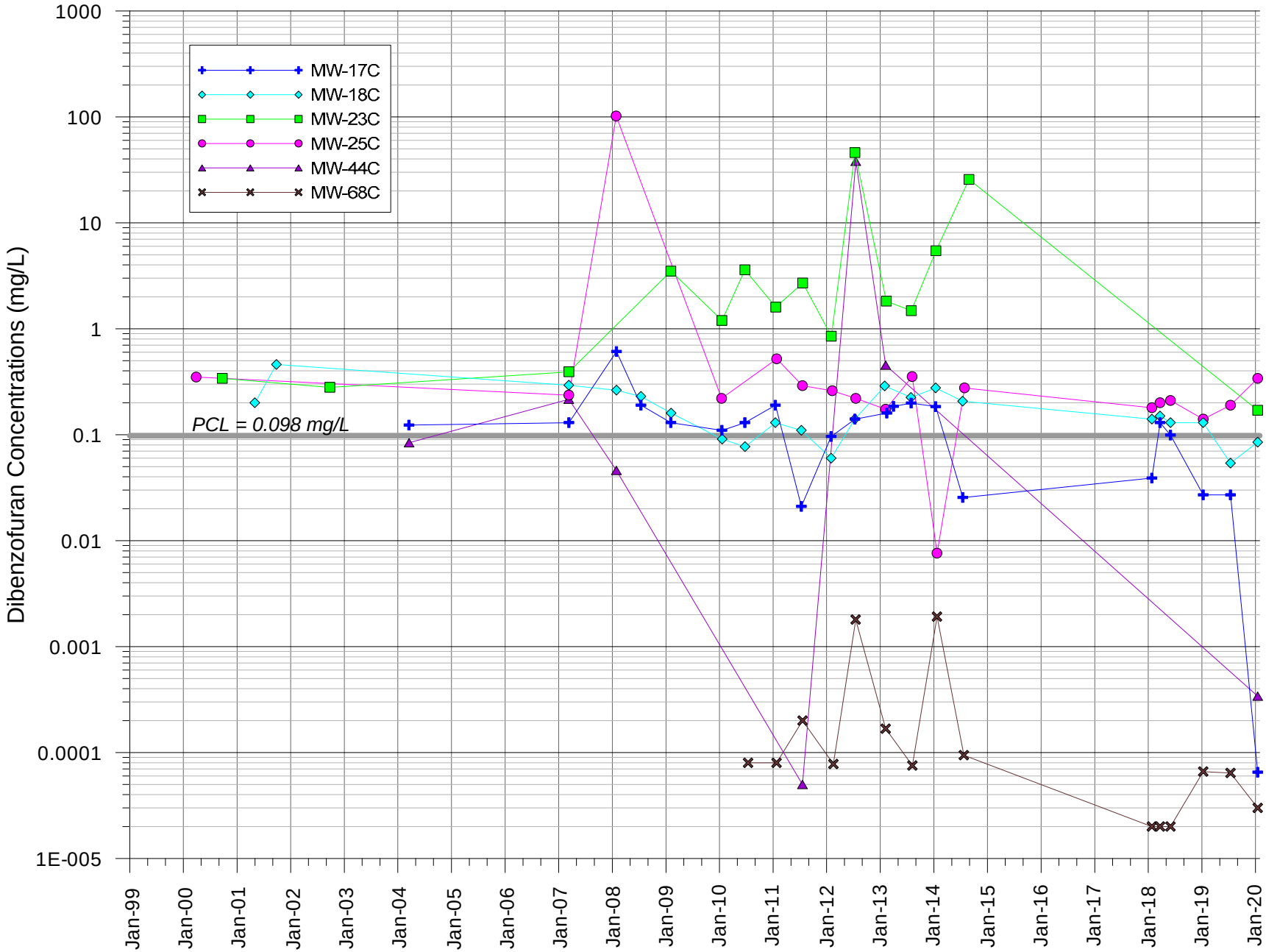
ATTACHMENT 1B-32
2,4-Dimethylphenol Concentrations at Source Area Wells - C-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



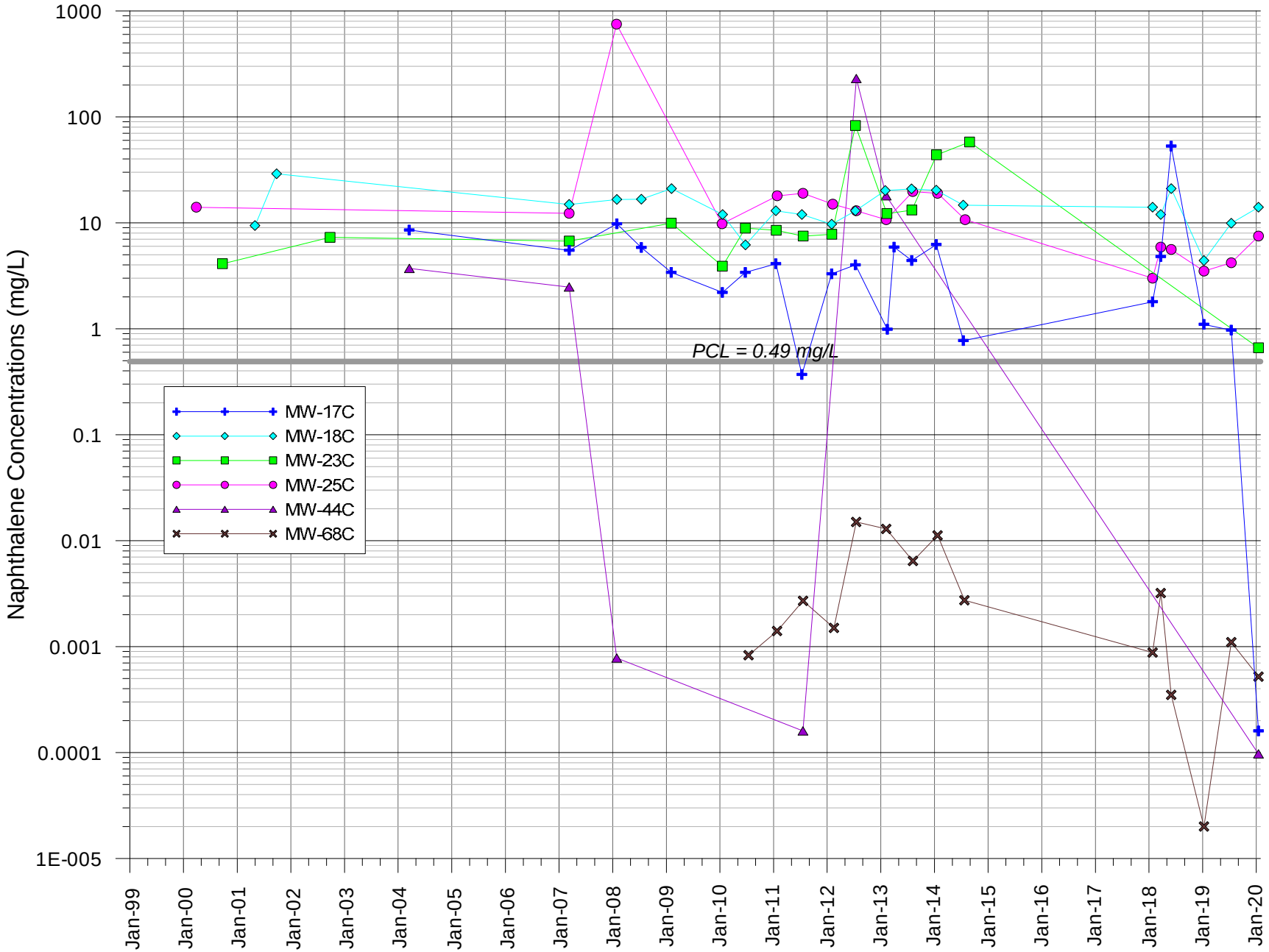
ATTACHMENT 1B-33
2-Methylnaphthalene Concentrations at Source Area Wells - C-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



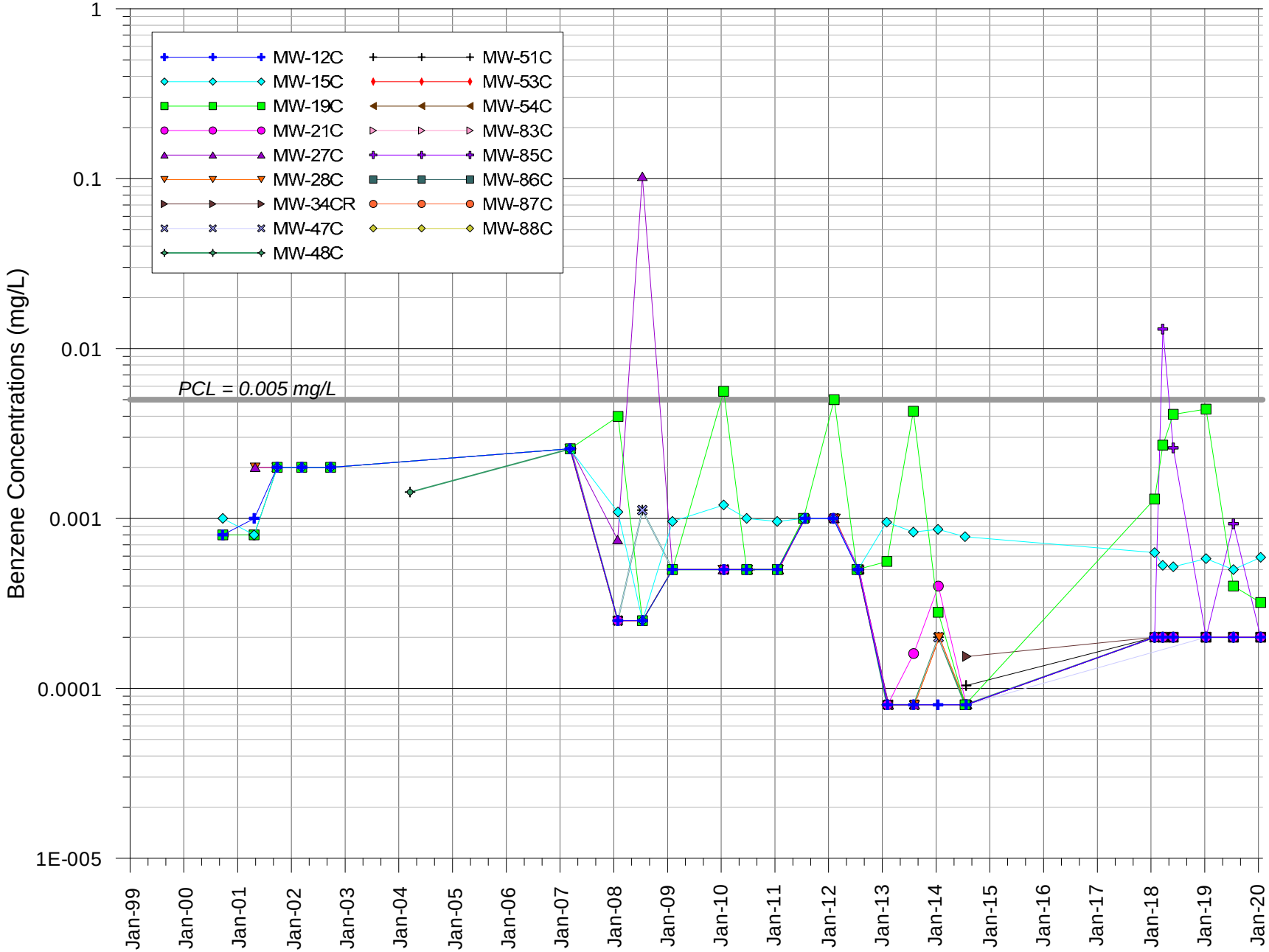
ATTACHMENT 1B-34
Dibenzofuran Concentrations at Source Area Wells - C-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



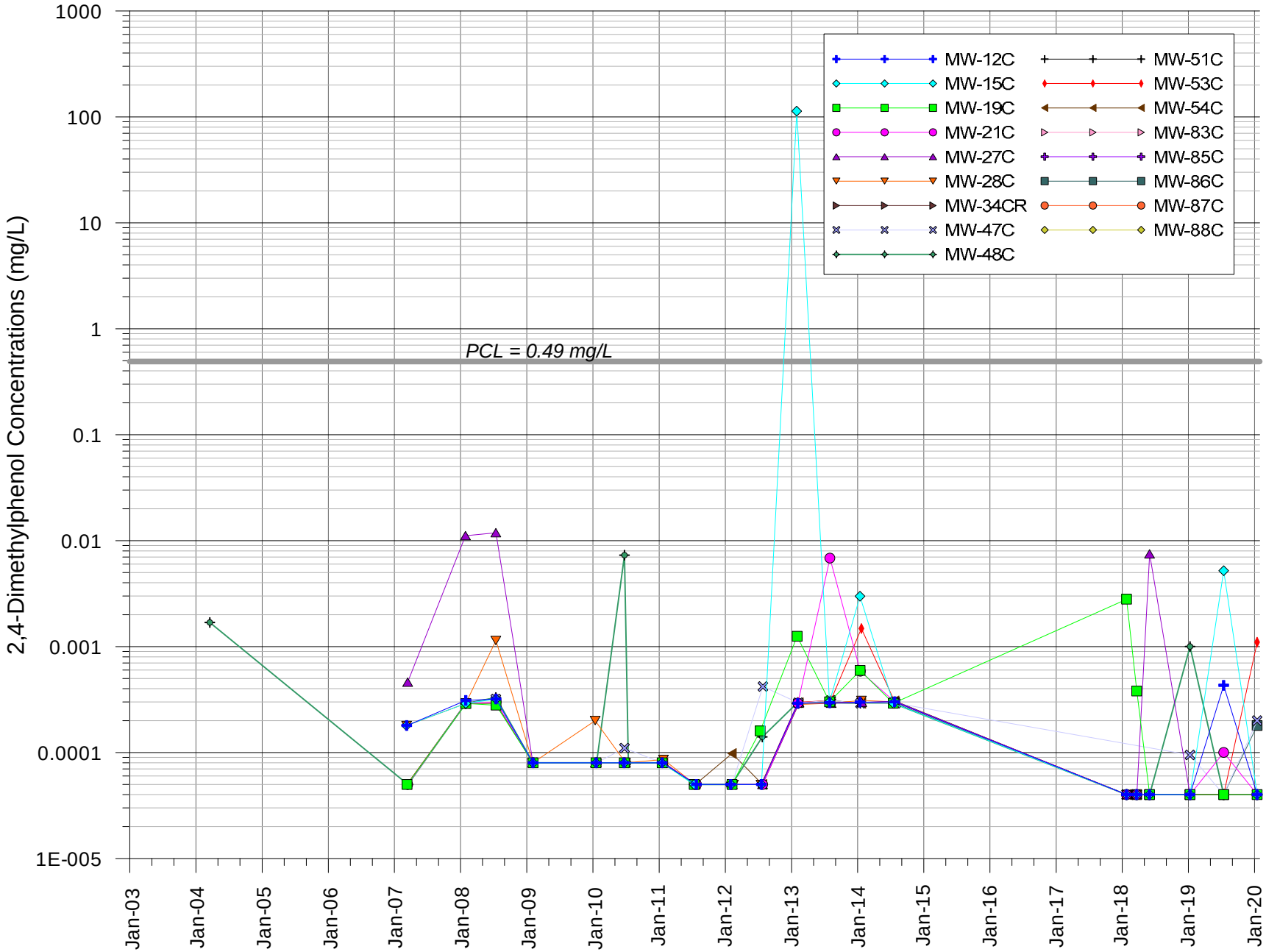
ATTACHMENT 1B-35
Naphthalene Concentrations at Source Area Wells - C-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



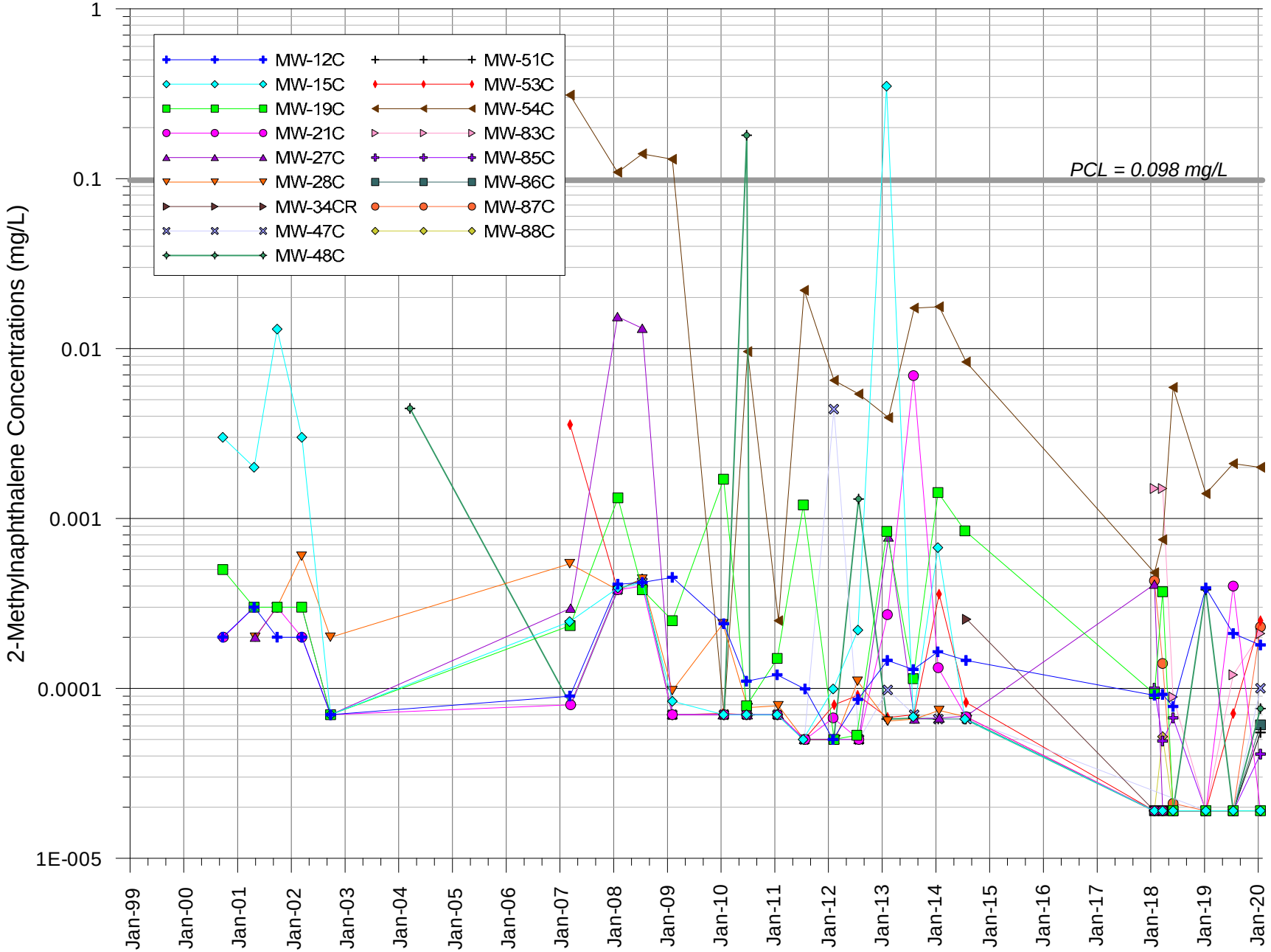
ATTACHMENT 1B-36
Benzene Concentrations at Perimeter Wells - C-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



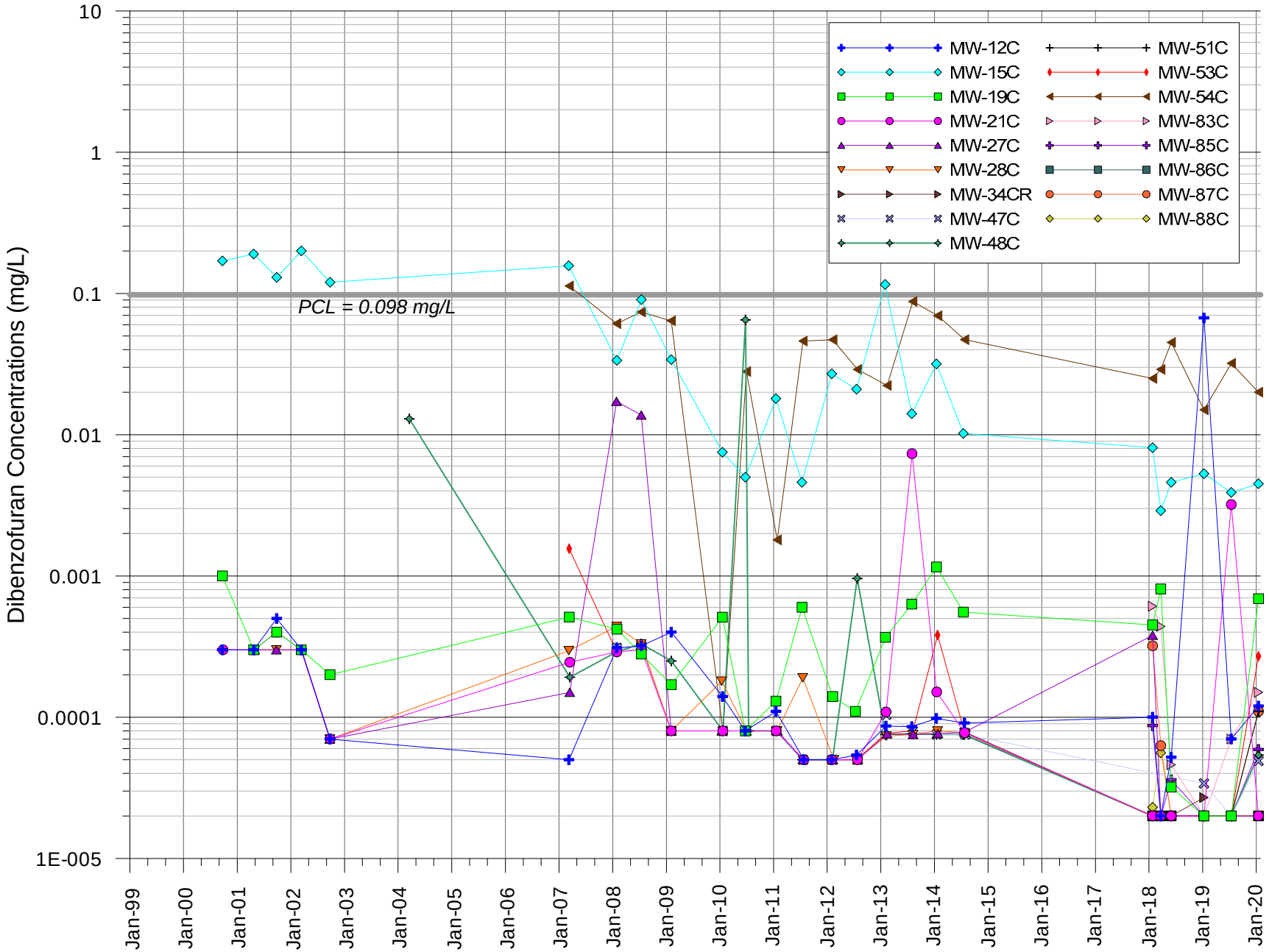
ATTACHMENT 1B-37
2,4-Dimethylphenol Concentrations at Perimeter Wells - C-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



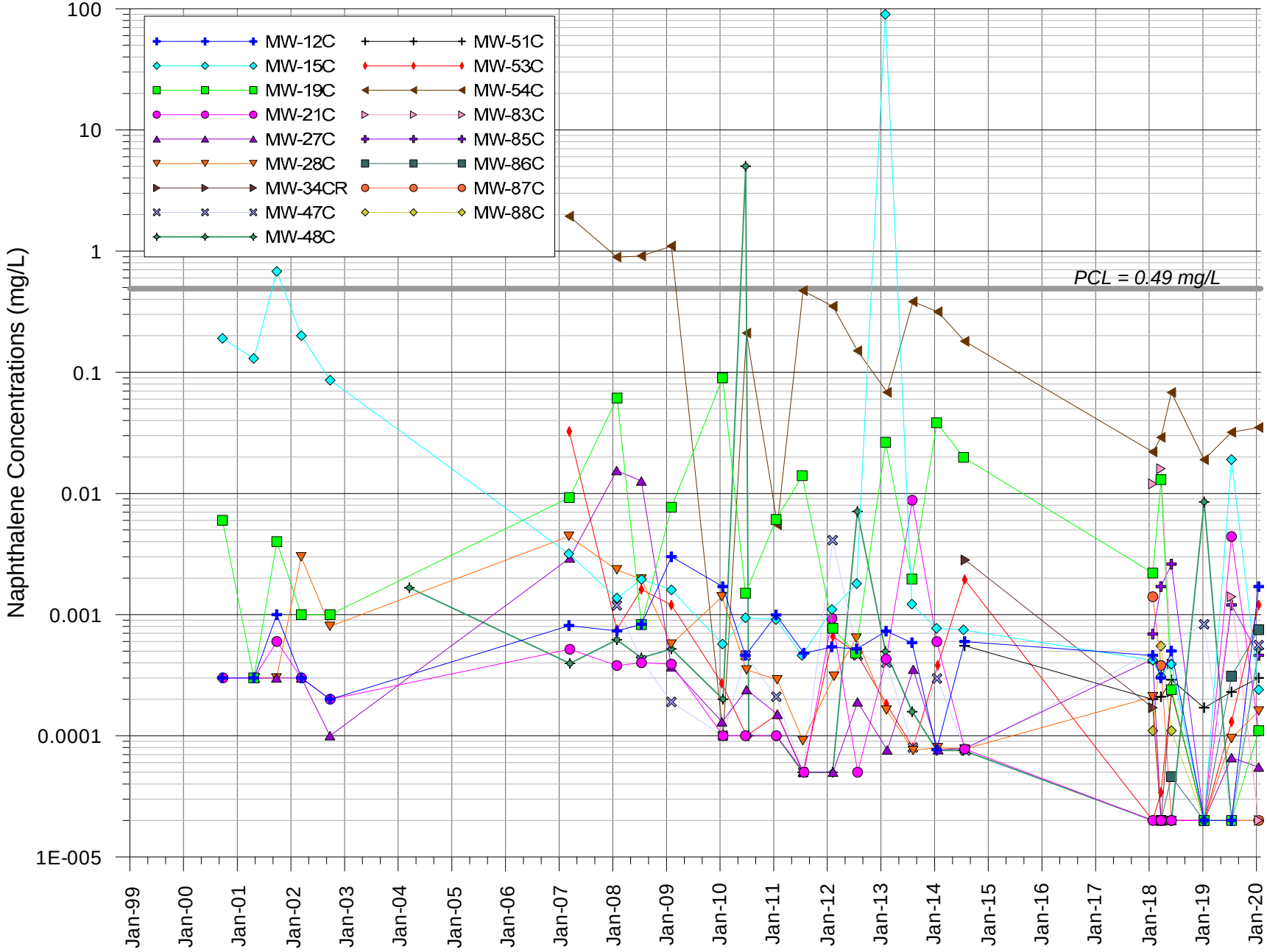
ATTACHMENT 1B-38
2-Methylnaphthalene Concentrations at Perimeter Wells - C-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



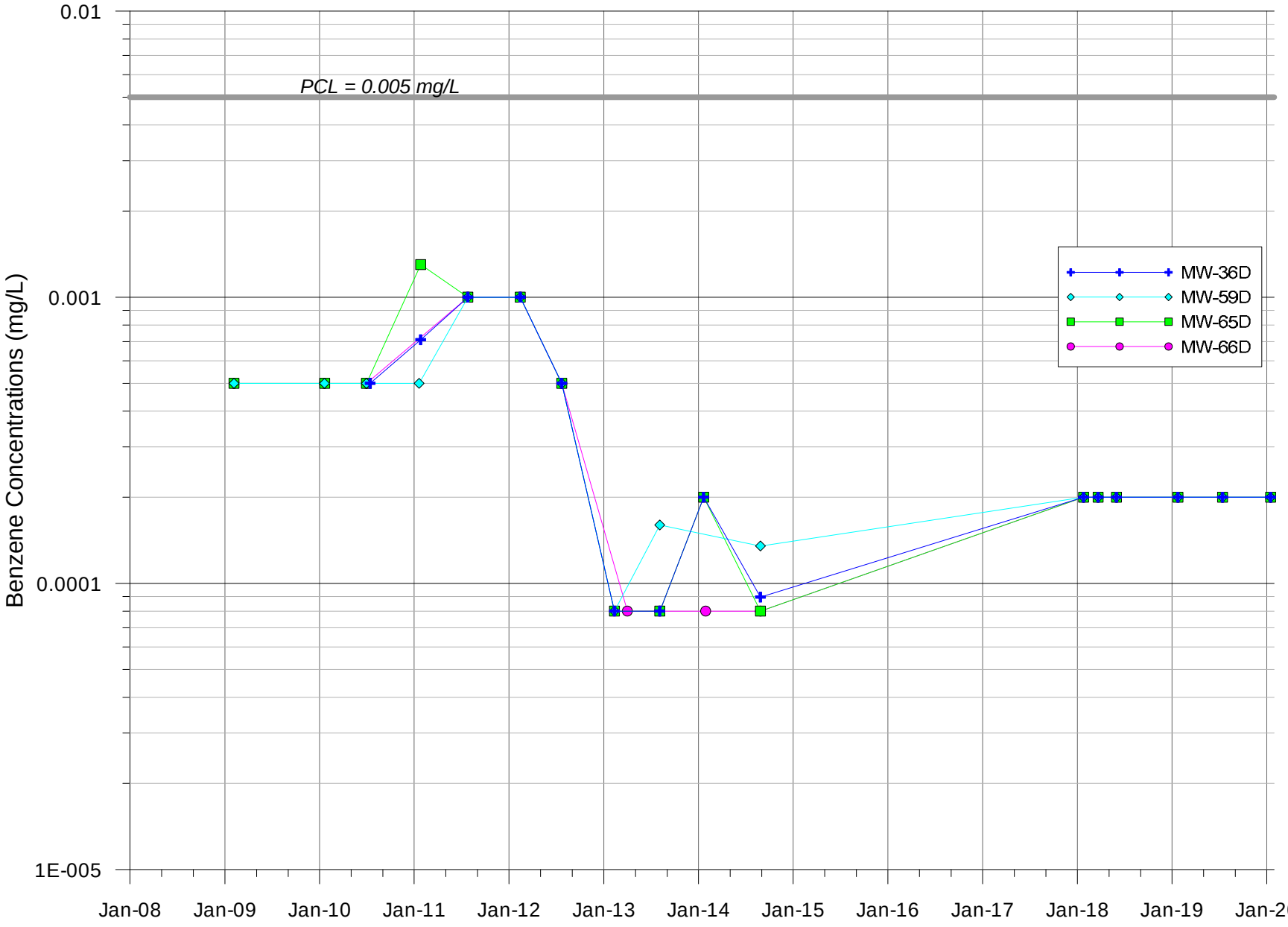
ATTACHMENT 1B-39
Dibenzofuran Concentrations at Perimeter Wells - C-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



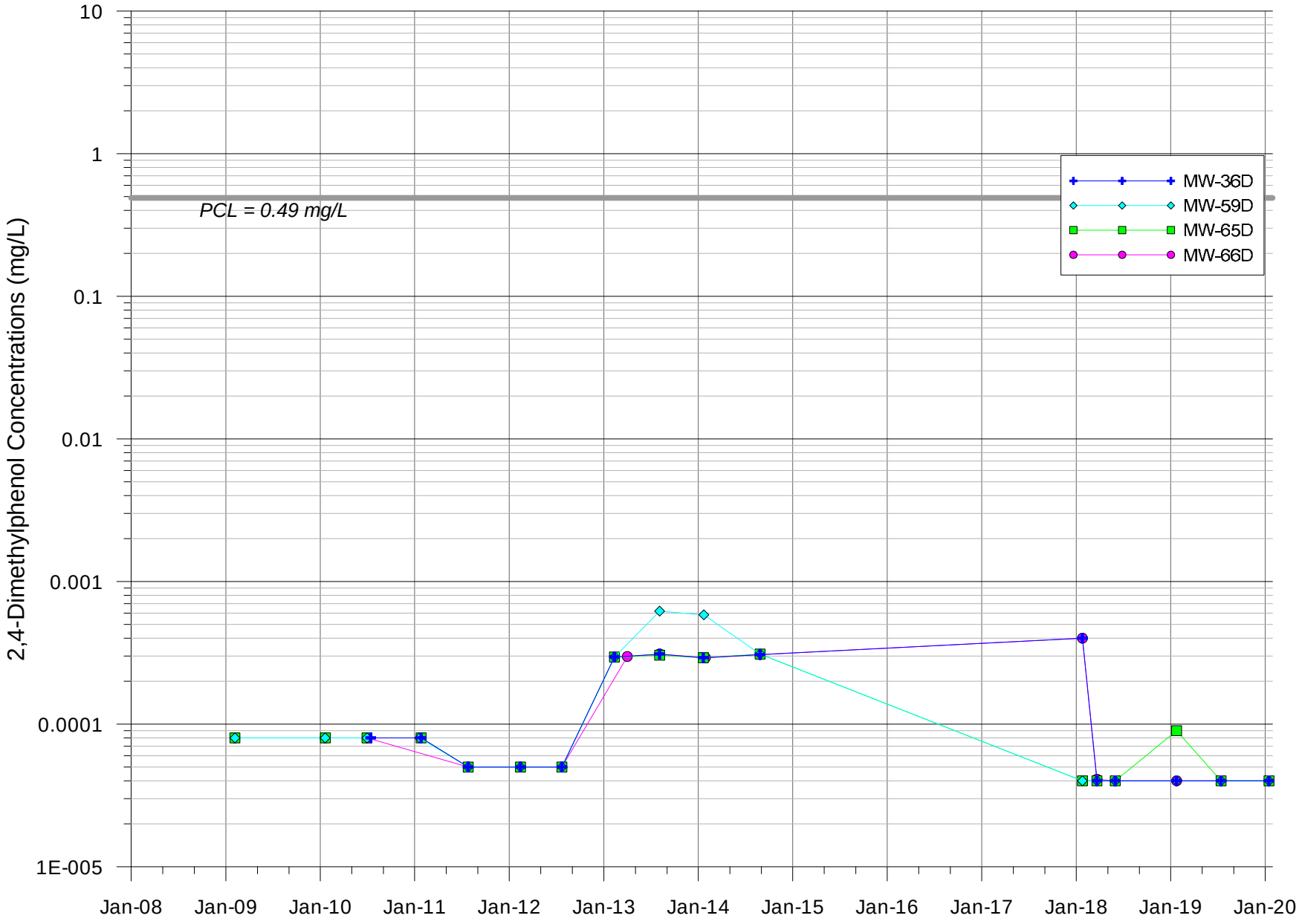
ATTACHMENT 1B-40
Naphthalene Concentrations at Perimeter Wells - C-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



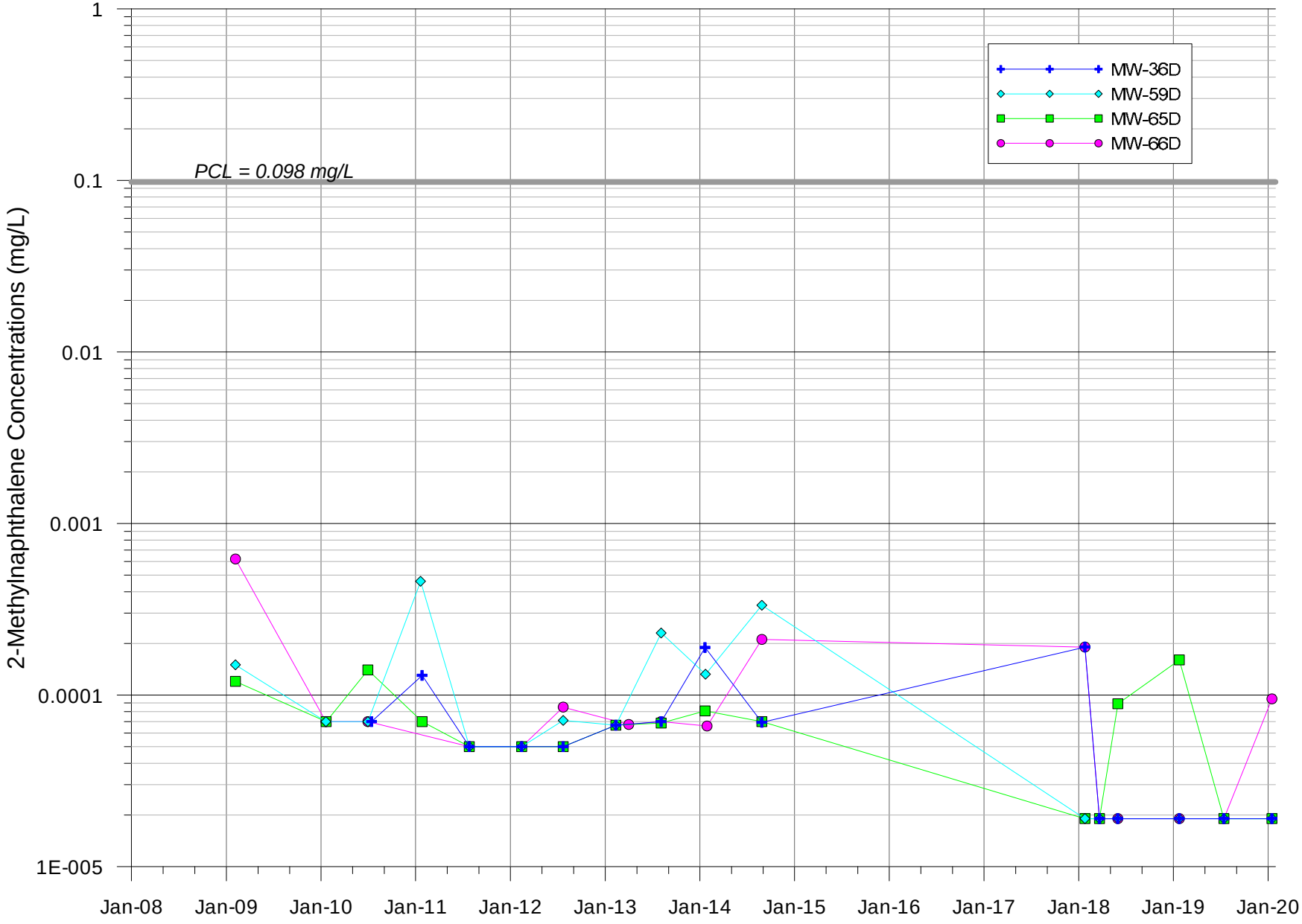
ATTACHMENT 1B-41
Benzene Concentrations at Source Area Wells - D-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



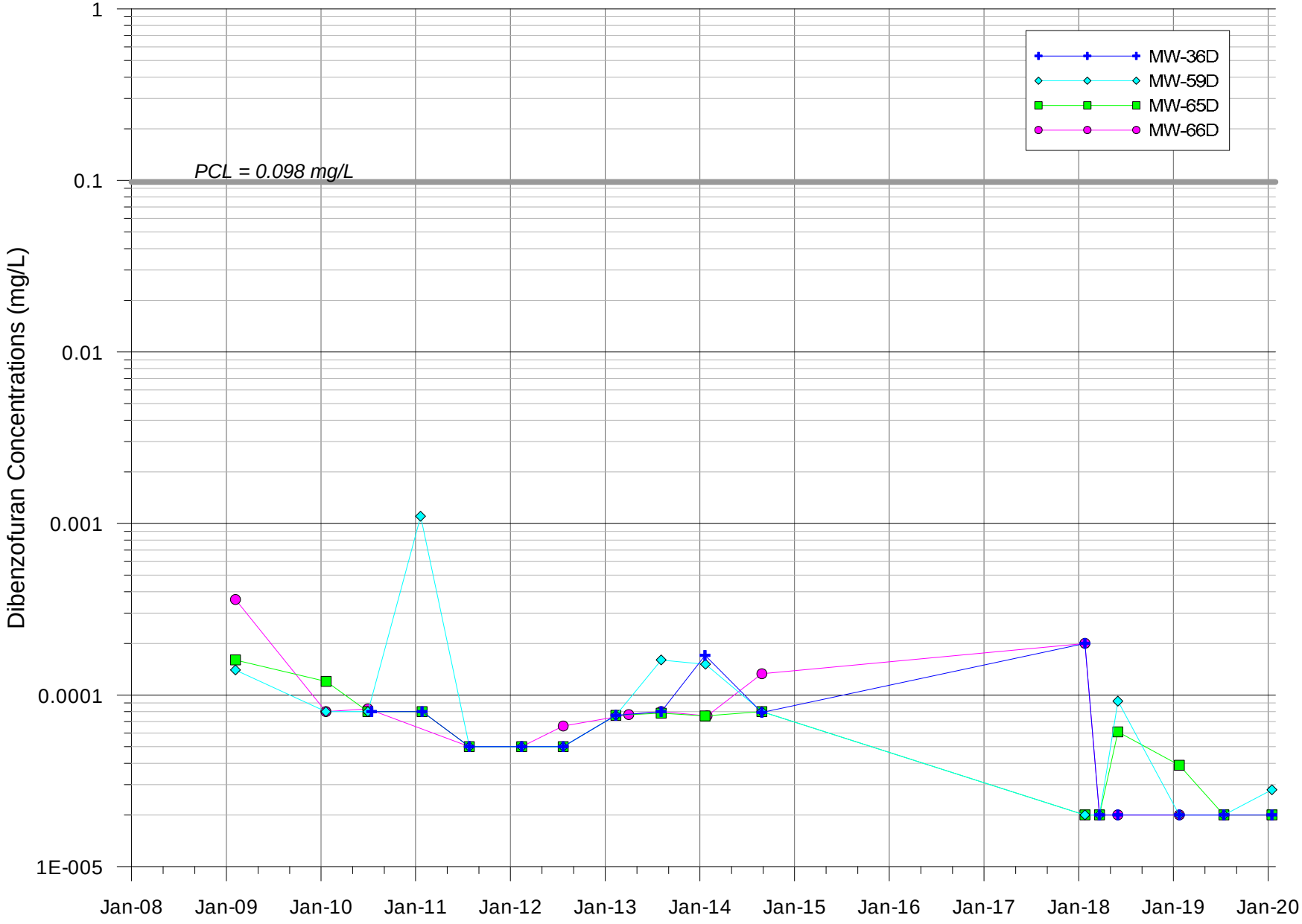
ATTACHMENT 1B-42
2,4-Dimethylphenol Concentrations at Source Area Wells - D-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



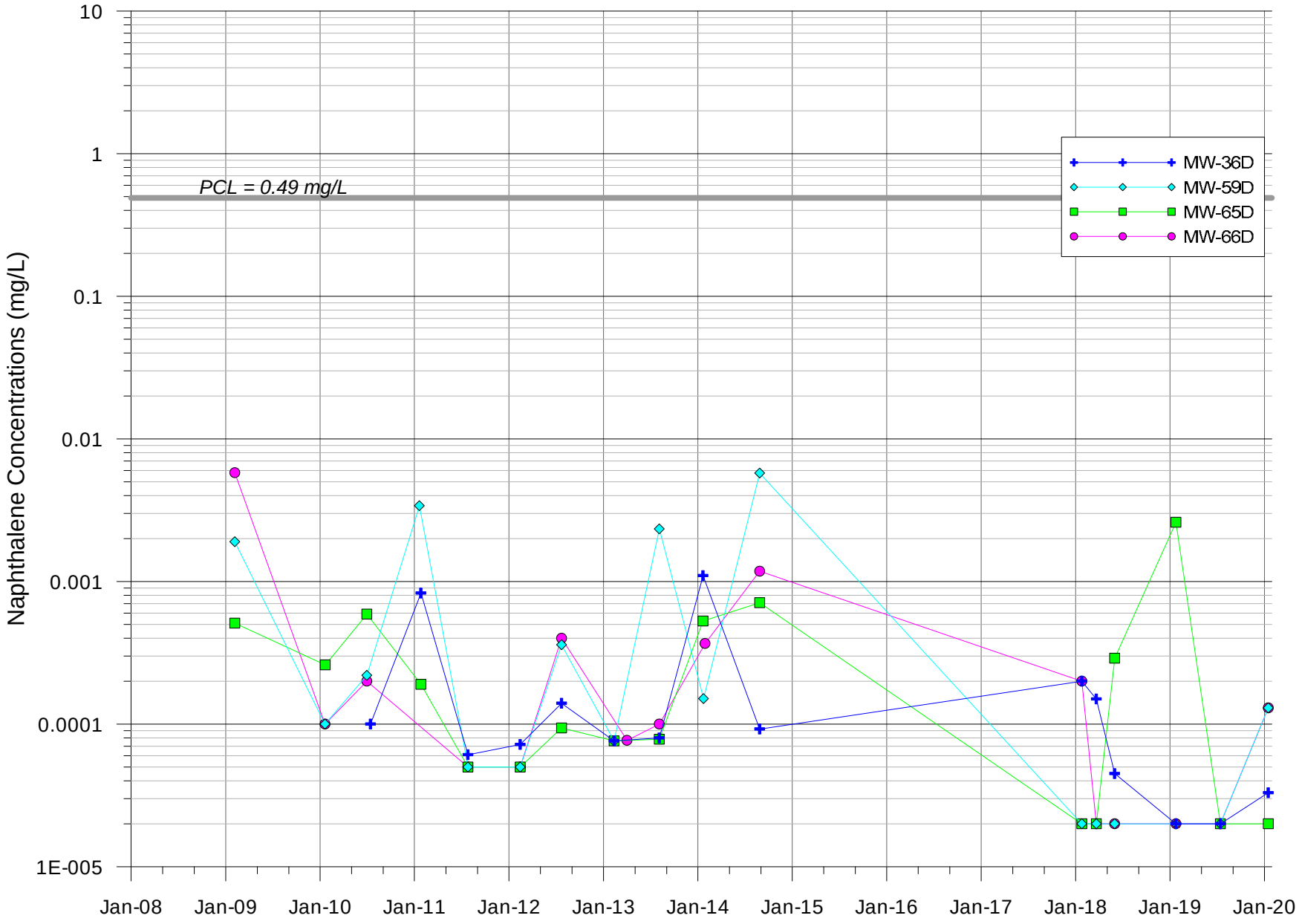
ATTACHMENT 1B-43
2-Methylnaphthatlene Concentrations at Source Area Wells - D-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



ATTACHMENT 1B-44
Dibenzofuran Concentrations at Source Area Wells - D-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



ATTACHMENT 1B-45
Naphthalene Concentrations at Source Area Wells - D-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



ATTACHMENT G

Mann-Kendall Trend Test Results

MAROS Mann-Kendall Statistics Summary

Project: HWPW **User Name:** MHH

Location: Houston **State:** Texas

Time Period: 1/22/2009 **to** 1/7/2020
Consolidation Period: No Time Consolidation
Consolidation Type: Median
Duplicate Consolidation: Average
ND Values: Detection Limit
J Flag Values : Actual Value

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
2,4-DIMETHYLPHENOL								
MW-03	T	6	0	0.00	0	42.3%	Yes	ND
MW-04	T	6	0	0.55	-5	76.5%	Yes	ND
MW-05	T	13	0	0.98	-18	84.7%	Yes	ND
MW-09	T	10	0	1.17	-21	96.4%	Yes	ND
MW-12A	T	17	2	3.69	-41	95.0%	No	D
MW-12C	T	17	1	0.97	-19	76.8%	No	S
MW-13	T	17	1	1.17	-38	93.6%	No	PD
MW-14	T	17	1	1.11	-31	89.0%	No	NT
MW-15A	T	17	3	3.13	-30	88.2%	No	NT
MW-15B	T	12	0	2.11	-29	97.4%	Yes	ND
MW-15C	T	17	2	4.12	-31	89.0%	No	NT
MW-17	S	18	17	0.69	9	61.7%	No	NT
MW-17C	S	18	13	2.96	25	81.6%	No	NT
MW-18A	S	17	17	0.86	-46	96.8%	No	D
MW-18C	S	17	11	1.69	9	62.7%	No	NT
MW-19C	S	17	3	1.63	26	84.6%	No	NT
MW-20A	S	10	10	1.11	-35	100.0%	No	D
MW-21C	T	17	2	2.73	-40	94.6%	No	PD
MW-22AR	T	6	0	0.01	-3	64.0%	Yes	ND
MW-22BR	T	6	0	0.01	-3	64.0%	Yes	ND
MW-23C	S	12	4	1.86	43	99.9%	No	I
MW-25A	T	17	1	2.56	-31	89.0%	No	NT
MW-25C	S	15	6	2.42	6	59.6%	No	NT
MW-26A	T	17	2	3.59	-64	99.6%	No	D
MW-27A	T	5	0	0.00	0	40.8%	Yes	ND
MW-27C	T	17	0	0.96	-46	96.8%	Yes	ND

MAROS Mann-Kendall Statistics Summary

Project: HWPW **User Name:** MHH

Location: Houston **State:** Texas

2,4-DIMETHYLPHENOL

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
MW-28A	T	17	1	3.01	-29	87.4%	No	NT
MW-28C	T	17	2	0.91	-45	96.5%	No	D
MW-32AR	T	12	5	2.74	-29	97.4%	No	D
MW-32B	S	5	4	1.45	2	59.2%	No	NT
MW-33A	T	17	7	2.83	-29	87.4%	No	NT
MW-33BR	T	10	2	3.12	-23	97.7%	No	D
MW-34CR	T	5	0	1.27	-4	75.8%	Yes	ND
MW-35A	T	17	1	2.12	-27	85.6%	No	NT
MW-35B	T	17	1	2.72	-15	71.5%	No	NT
MW-36A	T	17	0	0.94	-40	94.6%	Yes	ND
MW-36B	T	15	1	0.94	-20	82.3%	No	S
MW-36D	T	15	0	0.95	-27	89.9%	Yes	ND
MW-38A	T	17	0	0.96	-47	97.1%	Yes	ND
MW-38B	T	17	1	0.95	-42	95.4%	No	D
MW-39B	T	17	0	2.62	-46	96.8%	Yes	ND
MW-40B	T	17	10	1.71	-48	97.4%	No	D
MW-42B	T	14	3	1.23	-20	84.8%	No	NT
MW-44A	T	17	1	1.95	-34	91.2%	No	PD
MW-44C	S	4	1	2.00	2	62.5%	No	NT
MW-47C	T	14	6	0.74	6	60.6%	No	NT
MW-48C	T	17	3	2.30	-29	87.4%	No	NT
MW-49A	T	17	14	1.37	-46	96.8%	No	D
MW-49B	S	15	15	1.56	49	99.2%	No	I
MW-50A	T	17	1	1.16	-11	65.7%	No	NT
MW-51A	T	17	0	0.96	-53	98.5%	Yes	ND
MW-51C	T	7	0	1.25	-6	76.4%	Yes	ND
MW-53C	T	17	0	1.68	-23	81.5%	Yes	ND
MW-54C	T	17	1	0.93	-42	95.4%	No	D
MW-57A	S	13	12	1.15	-40	99.3%	No	D
MW-57B	S	11	10	0.80	-19	91.8%	No	PD
MW-58A	T	17	11	2.52	-49	97.7%	No	D
MW-59A	T	17	1	0.95	-52	98.3%	No	D
MW-59B	T	15	2	3.85	-41	97.7%	No	D

MAROS Mann-Kendall Statistics Summary

Project: HWPW **User Name:** MHH

Location: Houston **State:** Texas

2,4-DIMETHYLPHENOL

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
MW-59D	T	17	0	0.97	-49	97.7%	Yes	ND
MW-60A	T	17	1	1.35	-40	94.6%	No	PD
MW-61A	T	17	0	0.96	-50	97.9%	Yes	ND
MW-62B	T	17	0	0.95	-46	96.8%	Yes	ND
MW-63B	T	16	2	2.08	-12	68.7%	No	NT
MW-64A	T	17	0	0.97	-50	97.9%	Yes	ND
MW-65D	T	17	0	0.93	-33	90.5%	Yes	ND
MW-66D	T	17	0	0.90	-32	89.8%	Yes	ND
MW-67B	T	15	1	1.02	-41	97.7%	No	D
MW-68A	T	3	0	0.00	0	0.0%	Yes	ND
MW-68B	S	12	11	0.88	-14	81.0%	No	S
MW-68C	T	15	7	1.25	-32	93.7%	No	PD
MW-69A	T	14	2	2.49	-40	98.5%	No	D
MW-70B	S	5	4	0.89	2	59.2%	No	NT
MW-71B	T	12	3	2.10	-32	98.4%	No	D
MW-72B	S	10	10	1.40	-19	94.6%	No	PD
MW-74B	S	11	11	1.72	-21	94.0%	No	PD
MW-75B	S	6	5	1.83	1	50.0%	No	NT
MW-76C	T	8	2	1.63	1	50.0%	No	NT
MW-77A	S	7	5	1.01	3	61.4%	No	NT
MW-79A	S	7	7	0.79	-4	66.7%	No	S
MW-80B	T	7	1	1.11	-1	50.0%	No	NT
MW-81B	T	7	0	1.28	-6	76.4%	Yes	ND
MW-82B	T	6	0	0.00	0	42.3%	Yes	ND
MW-83B	T	7	1	1.17	-6	76.4%	No	NT
MW-83C	T	6	0	0.00	0	42.3%	Yes	ND
MW-84B	T	7	4	0.87	0	43.7%	No	S
MW-85C	T	6	0	0.01	1	50.0%	Yes	ND
MW-86C	T	6	1	0.55	5	76.5%	No	NT
MW-87C	T	6	0	0.00	0	42.3%	Yes	ND
MW-88C	T	6	0	0.00	0	42.3%	Yes	ND
MW-89B	T	4	0	0.00	0	37.5%	Yes	ND
MW-90B	T	4	1	0.36	3	72.9%	No	NT

MAROS Mann-Kendall Statistics Summary

Project: HWPW **User Name:** MHH

Location: Houston **State:** Texas

2,4-DIMETHYLPHENOL

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
P-11	T	17	1	0.96	-47	97.1%	No	D
TW-41B	T	14	2	1.60	-29	93.7%	No	PD
2-METHYLNAPHTHALENE								
MW-01A	T	23	19	1.69	-92	99.3%	No	D
MW-02	T	23	12	1.39	-105	99.7%	No	D
MW-03	T	6	1	0.43	9	93.2%	No	PI
MW-04	T	6	2	1.23	4	70.3%	No	NT
MW-05	T	13	4	1.38	-23	90.8%	No	PD
MW-07	T	23	3	1.28	-159	100.0%	No	D
MW-08	T	23	0	1.29	-178	100.0%	Yes	ND
MW-09	T	10	1	0.81	-21	96.4%	No	D
MW-10A	T	23	2	1.43	-147	100.0%	No	D
MW-11A	T	23	0	1.29	-182	100.0%	Yes	ND
MW-11B	T	1	1	0.00	0	0.0%	No	N/A
MW-12A	T	17	16	1.08	-69	99.8%	No	D
MW-12C	T	17	14	0.66	1	50.0%	No	NT
MW-13	T	17	7	1.52	-41	95.0%	No	D
MW-14	T	17	13	0.71	-94	100.0%	No	D
MW-15A	T	17	17	1.09	-30	88.2%	No	NT
MW-15B	T	12	7	2.89	-30	97.8%	No	D
MW-15C	T	17	4	4.10	-41	95.0%	No	D
MW-17	S	18	17	0.59	-37	91.2%	No	PD
MW-17C	S	18	18	1.78	-1	50.0%	No	NT
MW-18A	S	17	17	0.49	-18	75.5%	No	S
MW-18C	S	17	17	0.58	-24	82.6%	No	S
MW-19C	S	17	11	1.28	-47	97.1%	No	D
MW-20A	S	10	10	0.72	-18	93.4%	No	PD
MW-21C	T	17	5	2.99	-29	87.4%	No	NT
MW-22AR	T	6	0	1.15	5	76.5%	Yes	ND
MW-22BR	T	6	3	1.63	-8	89.8%	No	NT
MW-23C	S	12	12	1.67	2	52.7%	No	NT
MW-25A	T	17	5	3.97	-38	93.6%	No	PD
MW-25C	S	15	14	0.47	-31	93.0%	No	PD

MAROS Mann-Kendall Statistics Summary

Project: HWPW **User Name:** MHH

Location: Houston **State:** Texas

2-METHYLNAPHTHALENE

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
MW-26A	T	17	7	2.12	-54	98.6%	No	D
MW-27A	T	5	1	1.73	2	59.2%	No	NT
MW-27C	T	17	1	1.72	-59	99.2%	No	D
MW-28A	T	17	4	1.48	-25	83.6%	No	NT
MW-28C	T	17	6	0.85	-80	100.0%	No	D
MW-32AR	T	12	7	3.16	-23	93.3%	No	PD
MW-32B	S	5	4	2.20	4	75.8%	No	NT
MW-33A	T	17	11	2.27	-22	80.4%	No	NT
MW-33BR	T	10	7	2.02	-20	95.5%	No	D
MW-34CR	T	5	1	1.31	-1	50.0%	No	NT
MW-35A	T	17	10	2.58	14	70.1%	No	NT
MW-35B	T	17	17	0.55	-62	99.5%	No	D
MW-36A	T	17	3	1.05	-79	100.0%	No	D
MW-36B	T	15	1	1.49	-15	75.2%	No	NT
MW-36D	T	15	2	0.84	-36	95.9%	No	D
MW-38A	T	17	7	1.00	-37	93.0%	No	PD
MW-38B	T	17	5	0.93	-16	72.9%	No	S
MW-39B	T	17	4	1.46	-5	56.4%	No	NT
MW-40B	T	17	17	0.53	-60	99.3%	No	D
MW-42B	T	14	6	0.97	-31	95.0%	No	D
MW-44A	T	17	9	2.92	-32	89.8%	No	NT
MW-44C	S	4	3	1.95	0	37.5%	No	NT
MW-47C	T	14	3	3.11	-24	89.4%	No	NT
MW-48C	T	17	3	4.01	-41	95.0%	No	D
MW-49A	T	17	13	1.06	-64	99.6%	No	D
MW-49B	S	15	13	3.84	38	96.7%	No	I
MW-50A	T	17	4	3.04	-42	95.4%	No	D
MW-51A	T	17	3	0.45	-60	99.3%	No	D
MW-51C	T	7	0	0.66	-1	50.0%	Yes	ND
MW-53C	T	17	4	1.01	-13	68.7%	No	NT
MW-54C	T	17	16	2.23	-28	86.5%	No	NT
MW-57A	S	13	13	1.20	-17	83.2%	No	NT
MW-57B	S	11	11	0.57	-13	82.1%	No	S

MAROS Mann-Kendall Statistics Summary

Project: HWPW **User Name:** MHH

Location: Houston **State:** Texas

2-METHYLNAPHTHALENE

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
MW-58A	T	17	14	1.14	-20	78.0%	No	NT
MW-59A	T	17	4	2.43	-29	87.4%	No	NT
MW-59B	T	15	1	0.47	-48	99.1%	No	D
MW-59D	T	17	6	1.19	-66	99.7%	No	D
MW-60A	T	17	6	2.13	-38	93.6%	No	PD
MW-61A	T	17	1	1.34	-85	100.0%	No	D
MW-62B	T	17	6	1.98	-31	89.0%	No	NT
MW-63B	T	16	14	1.42	-40	96.1%	No	D
MW-64A	T	17	3	1.13	-58	99.1%	No	D
MW-65D	T	17	5	0.61	-34	91.2%	No	PD
MW-66D	T	17	3	1.36	-38	93.6%	No	PD
MW-67B	T	15	3	0.84	-59	99.9%	No	D
MW-68A	T	3	3	0.00	0	0.0%	No	N/A
MW-68B	S	12	12	0.37	-10	72.7%	No	S
MW-68C	T	15	10	1.70	-12	70.4%	No	NT
MW-69A	T	14	3	2.70	-54	99.9%	No	D
MW-70B	S	5	5	1.32	8	95.8%	No	I
MW-71B	T	12	8	2.00	-11	74.9%	No	NT
MW-72B	S	10	10	1.15	-23	97.7%	No	D
MW-74B	S	11	11	1.25	7	67.6%	No	NT
MW-75B	S	6	6	1.13	1	50.0%	No	NT
MW-76C	T	8	6	0.89	0	45.2%	No	S
MW-77A	S	7	6	0.68	4	66.7%	No	NT
MW-79A	S	7	7	0.68	-7	80.9%	No	S
MW-80B	T	7	1	1.26	-1	50.0%	No	NT
MW-81B	T	7	0	0.71	-6	76.4%	Yes	ND
MW-82B	T	6	1	1.02	5	76.5%	No	NT
MW-83B	T	7	7	1.23	-11	93.2%	No	PD
MW-83C	T	6	5	1.26	-4	70.3%	No	NT
MW-84B	T	7	6	1.42	-11	93.2%	No	PD
MW-85C	T	6	3	0.63	-8	89.8%	No	S
MW-86C	T	6	1	0.69	5	76.5%	No	NT
MW-87C	T	6	3	1.15	-4	70.3%	No	NT

MAROS Mann-Kendall Statistics Summary

Project: HWPW **User Name:** MHH

Location: Houston **State:** Texas

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
2-METHYLNAPHTHALENE								
MW-88C	T	6	1	0.55	-3	64.0%	No	S
MW-89B	T	4	2	0.42	-2	62.5%	No	S
MW-90B	T	4	1	1.62	3	72.9%	No	NT
P-10	T	1	1	0.00	0	0.0%	No	N/A
P-11	T	17	6	0.79	-22	80.4%	No	S
P-12	T	2	0	0.00	0	0.0%	Yes	ND
TW-41B	T	14	9	1.69	41	98.7%	No	I
BENZENE								
MW-03	T	6	0	0.00	0	42.3%	Yes	ND
MW-04	T	6	0	0.00	0	42.3%	Yes	ND
MW-05	T	13	0	1.01	-13	76.4%	Yes	ND
MW-09	T	10	0	0.91	-17	92.2%	Yes	ND
MW-12A	T	17	5	1.12	-59	99.2%	No	D
MW-12C	T	17	0	0.83	-44	96.2%	Yes	ND
MW-13	T	17	0	0.83	-44	96.2%	Yes	ND
MW-14	T	17	0	0.83	-44	96.2%	Yes	ND
MW-15A	T	17	15	0.53	-78	100.0%	No	D
MW-15B	T	12	7	0.96	-36	99.3%	No	D
MW-15C	T	17	14	0.29	-89	100.0%	No	D
MW-17	S	17	16	0.42	-23	81.5%	No	S
MW-17C	S	17	16	0.53	-60	99.3%	No	D
MW-18A	S	17	17	0.56	-40	94.6%	No	PD
MW-18C	S	17	17	0.23	-26	84.6%	No	S
MW-19C	S	17	12	1.05	-11	65.7%	No	NT
MW-20A	S	10	10	0.53	-33	99.9%	No	D
MW-21C	T	17	0	0.80	-49	97.7%	Yes	ND
MW-22AR	T	6	0	0.00	0	42.3%	Yes	ND
MW-22BR	T	6	0	0.00	0	42.3%	Yes	ND
MW-23C	S	12	10	0.39	-19	88.9%	No	S
MW-25A	T	17	1	0.76	-51	98.1%	No	D
MW-25C	S	15	13	1.20	-81	100.0%	No	D
MW-26A	T	20	9	2.30	-78	99.4%	No	D
MW-27A	T	5	0	0.00	0	40.8%	Yes	ND

MAROS Mann-Kendall Statistics Summary

Project: HWPW **User Name:** MHH

Location: Houston **State:** Texas

BENZENE

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
MW-27C	T	17	0	0.80	-49	97.7%	Yes	ND
MW-28A	T	17	0	0.80	-49	97.7%	Yes	ND
MW-28C	T	17	0	0.80	-49	97.7%	Yes	ND
MW-32AR	T	12	3	2.29	-31	98.1%	No	D
MW-32B	S	5	4	1.29	2	59.2%	No	NT
MW-33A	T	17	11	2.31	-37	93.0%	No	PD
MW-33BR	T	10	8	1.18	-17	92.2%	No	PD
MW-34CR	T	5	1	0.11	4	75.8%	No	NT
MW-35A	T	17	2	0.74	-65	99.7%	No	D
MW-35B	T	17	17	0.45	-25	83.6%	No	S
MW-36A	T	17	0	0.80	-49	97.7%	Yes	ND
MW-36B	T	15	2	1.15	-35	95.4%	No	D
MW-36D	T	15	2	0.88	-28	90.8%	No	PD
MW-38A	T	17	0	0.80	-49	97.7%	Yes	ND
MW-38B	T	17	0	0.80	-49	97.7%	Yes	ND
MW-39B	T	17	0	0.83	-44	96.2%	Yes	ND
MW-40B	T	17	17	0.48	-94	100.0%	No	D
MW-42B	T	14	0	1.26	-12	72.3%	Yes	ND
MW-44A	T	17	9	1.09	-41	95.0%	No	D
MW-44C	S	4	1	1.21	-4	83.3%	No	NT
MW-47C	T	14	0	0.78	-37	97.6%	Yes	ND
MW-48C	T	17	0	0.80	-49	97.7%	Yes	ND
MW-49A	T	17	15	0.97	-70	99.8%	No	D
MW-49B	S	15	15	1.32	39	97.1%	No	I
MW-50A	T	17	0	0.83	-44	96.2%	Yes	ND
MW-51A	T	17	0	0.83	-44	96.2%	Yes	ND
MW-51C	T	7	1	0.19	6	76.4%	No	NT
MW-53C	T	17	0	0.80	-49	97.7%	Yes	ND
MW-54C	T	17	0	0.80	-49	97.7%	Yes	ND
MW-57A	S	13	13	0.85	-56	100.0%	No	D
MW-57B	S	11	11	0.63	-23	95.7%	No	D
MW-58A	T	17	15	1.39	-35	91.8%	No	PD
MW-59A	T	17	0	0.80	-49	97.7%	Yes	ND

MAROS Mann-Kendall Statistics Summary

Project: HWPW **User Name:** MHH

Location: Houston **State:** Texas

BENZENE

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
MW-59B	T	15	1	0.88	-31	93.0%	No	PD
MW-59D	T	17	1	0.79	-47	97.1%	No	D
MW-60A	T	16	0	0.79	-45	97.7%	Yes	ND
MW-61A	T	17	0	0.80	-49	97.7%	Yes	ND
MW-62B	T	17	3	1.48	-24	82.6%	No	NT
MW-63B	T	16	15	1.40	18	77.5%	No	NT
MW-64A	T	17	1	0.81	-43	95.8%	No	D
MW-65D	T	17	1	0.90	-50	97.9%	No	D
MW-66D	T	16	0	0.87	-35	93.6%	Yes	ND
MW-67B	T	15	0	0.89	-31	93.0%	Yes	ND
MW-68A	T	3	0	0.00	0	0.0%	Yes	ND
MW-68B	S	12	12	0.25	-42	99.8%	No	D
MW-68C	T	16	13	0.92	-33	92.4%	No	PD
MW-69A	T	14	0	0.88	-29	93.7%	Yes	ND
MW-70B	S	5	5	0.52	4	75.8%	No	NT
MW-71B	T	12	11	1.55	2	52.7%	No	NT
MW-72B	S	10	10	0.27	-24	98.2%	No	D
MW-74B	S	11	11	0.36	2	53.0%	No	NT
MW-75B	S	6	6	0.56	-11	97.2%	No	D
MW-76C	T	7	2	0.10	5	71.9%	No	NT
MW-77A	S	7	5	0.69	6	76.4%	No	NT
MW-79A	S	7	7	1.04	-3	61.4%	No	NT
MW-80B	T	7	1	0.23	6	76.4%	No	NT
MW-81B	T	7	1	0.25	5	71.9%	No	NT
MW-82B	T	6	0	0.00	0	42.3%	Yes	ND
MW-83B	T	7	7	0.24	12	94.9%	No	PI
MW-83C	T	6	0	0.00	0	42.3%	Yes	ND
MW-84B	T	7	7	0.64	1	50.0%	No	NT
MW-85C	T	6	3	1.77	-4	70.3%	No	NT
MW-86C	T	6	0	0.00	0	42.3%	Yes	ND
MW-87C	T	6	0	0.00	0	42.3%	Yes	ND
MW-88C	T	6	0	0.00	0	42.3%	Yes	ND
MW-89B	T	4	0	0.00	0	37.5%	Yes	ND

MAROS Mann-Kendall Statistics Summary

Project: HWPW **User Name:** MHH

Location: Houston **State:** Texas

BENZENE

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
MW-90B	T	4	0	0.00	0	37.5%	Yes	ND
P-11	T	17	2	0.79	-54	98.6%	No	D
TW-41B	T	14	6	0.67	25	90.4%	No	PI
DIBENZOFURAN								
MW-01A	T	23	20	1.10	4	53.2%	No	NT
MW-02	T	23	16	1.67	-26	74.4%	No	NT
MW-03	T	6	0	0.00	0	42.3%	Yes	ND
MW-04	T	6	2	0.69	4	70.3%	No	NT
MW-05	T	13	6	2.66	-40	99.3%	No	D
MW-07	T	23	2	1.19	-175	100.0%	No	D
MW-08	T	23	1	1.17	-169	100.0%	No	D
MW-09	T	10	1	0.85	-21	96.4%	No	D
MW-10A	T	23	3	2.43	-153	100.0%	No	D
MW-10B	T	25	24	1.40	-4	52.8%	No	NT
MW-11A	T	23	3	1.04	-168	100.0%	No	D
MW-11B	T	23	17	1.04	-91	99.2%	No	D
MW-12A	T	17	17	0.46	1	50.0%	No	NT
MW-12C	T	17	11	4.02	-3	53.2%	No	NT
MW-13	T	17	6	0.84	-41	95.0%	No	D
MW-14	T	17	13	0.59	-65	99.7%	No	D
MW-15A	T	17	17	0.48	-42	95.4%	No	D
MW-15B	T	12	10	1.43	-41	99.8%	No	D
MW-15C	T	17	17	1.44	-53	98.5%	No	D
MW-17	S	18	17	0.73	-37	91.2%	No	PD
MW-17C	S	18	18	0.63	-41	93.4%	No	PD
MW-18A	S	17	17	0.38	5	56.4%	No	NT
MW-18C	S	17	17	0.48	-12	67.2%	No	S
MW-19C	S	17	11	0.77	22	80.4%	No	NT
MW-20A	S	10	10	0.32	-15	89.2%	No	S
MW-21C	T	17	5	2.41	-14	70.1%	No	NT
MW-22AR	T	6	1	1.22	7	86.4%	No	NT
MW-22BR	T	6	4	0.79	-8	89.8%	No	S
MW-23C	S	12	12	1.77	0	47.3%	No	NT

MAROS Mann-Kendall Statistics Summary

Project: HWPW **User Name:** MHH

Location: Houston **State:** Texas

DIBENZOFURAN

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
MW-25A	T	17	7	3.72	-66	99.7%	No	D
MW-25C	S	15	14	0.58	-29	91.6%	No	PD
MW-26A	T	17	14	2.03	-48	97.4%	No	D
MW-27A	T	5	1	1.22	2	59.2%	No	NT
MW-27C	T	17	1	1.12	-61	99.4%	No	D
MW-28A	T	17	3	1.33	5	56.4%	No	NT
MW-28C	T	17	2	0.77	-81	100.0%	No	D
MW-32AR	T	12	8	2.60	-33	98.7%	No	D
MW-32B	S	5	4	2.20	4	75.8%	No	NT
MW-33A	T	17	15	2.10	-29	87.4%	No	NT
MW-33BR	T	10	7	1.92	-15	89.2%	No	NT
MW-34CR	T	5	1	0.77	-1	50.0%	No	S
MW-35A	T	17	16	1.08	-16	72.9%	No	NT
MW-35B	T	17	17	0.48	-46	96.8%	No	D
MW-36A	T	17	2	1.46	-61	99.4%	No	D
MW-36B	T	15	2	1.07	-11	68.7%	No	NT
MW-36D	T	15	1	0.80	-37	96.3%	No	D
MW-38A	T	18	5	0.89	-20	76.2%	No	S
MW-38B	T	17	5	2.54	12	67.2%	No	NT
MW-39B	T	17	5	1.40	-19	76.8%	No	NT
MW-40B	T	17	17	0.39	-21	79.2%	No	S
MW-42B	T	14	8	0.90	-48	99.6%	No	D
MW-44A	T	17	12	2.08	-63	99.6%	No	D
MW-44C	S	4	3	1.97	0	37.5%	No	NT
MW-47C	T	14	3	0.35	-45	99.3%	No	D
MW-48C	T	17	3	3.88	-75	99.9%	No	D
MW-49A	T	17	14	1.01	-65	99.7%	No	D
MW-49B	S	15	14	3.85	37	96.3%	No	I
MW-50A	T	17	4	2.66	-50	97.9%	No	D
MW-51A	T	17	2	0.51	-75	99.9%	No	D
MW-51C	T	7	0	0.90	1	50.0%	Yes	ND
MW-53C	T	17	0	1.12	-47	97.1%	Yes	ND
MW-54C	T	17	16	0.65	-5	56.4%	No	S

MAROS Mann-Kendall Statistics Summary

Project: HWPW **User Name:** MHH

Location: Houston **State:** Texas

DIBENZOFURAN

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
MW-57A	S	13	13	1.31	-16	81.6%	No	NT
MW-57B	S	11	11	0.59	-5	61.9%	No	S
MW-58A	T	17	15	0.85	-30	88.2%	No	S
MW-59A	T	17	3	1.62	-34	91.2%	No	PD
MW-59B	T	15	0	0.50	-45	98.6%	Yes	ND
MW-59D	T	17	3	2.06	-57	99.0%	No	D
MW-60A	T	17	5	1.70	-62	99.5%	No	D
MW-61A	T	17	0	0.51	-82	100.0%	Yes	ND
MW-62B	T	18	13	2.29	-40	92.9%	No	PD
MW-63B	T	16	14	1.06	-41	96.5%	No	D
MW-64A	T	17	5	1.97	-51	98.1%	No	D
MW-65D	T	17	4	0.59	-80	100.0%	No	D
MW-66D	T	17	4	1.01	-53	98.5%	No	D
MW-67B	T	15	2	0.57	-54	99.7%	No	D
MW-68A	T	3	1	0.00	0	0.0%	No	N/A
MW-68B	S	12	12	0.41	0	47.3%	No	S
MW-68C	T	15	8	2.00	-43	98.2%	No	D
MW-69A	T	14	3	2.50	-54	99.9%	No	D
MW-70B	S	5	5	1.65	0	40.8%	No	NT
MW-71B	T	12	8	1.41	-3	55.4%	No	NT
MW-72B	S	10	10	1.36	-19	94.6%	No	PD
MW-74B	S	11	10	1.15	-5	61.9%	No	NT
MW-75B	S	6	6	1.15	1	50.0%	No	NT
MW-76C	T	8	6	0.91	-13	92.9%	No	PD
MW-77A	S	7	6	0.64	3	61.4%	No	NT
MW-79A	S	7	7	0.85	-10	90.7%	No	PD
MW-80B	T	7	1	0.72	-1	50.0%	No	S
MW-81B	T	7	0	0.77	-6	76.4%	Yes	ND
MW-82B	T	6	1	0.35	5	76.5%	No	NT
MW-83B	T	7	7	1.09	-12	94.9%	No	PD
MW-83C	T	6	5	1.10	-5	76.5%	No	NT
MW-84B	T	7	6	1.29	-11	93.2%	No	PD
MW-85C	T	6	2	0.68	-2	57.0%	No	S

MAROS Mann-Kendall Statistics Summary

Project: HWPW **User Name:** MHH

Location: Houston **State:** Texas

DIBENZOFURAN

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
MW-86C	T	6	0	0.00	0	42.3%	Yes	ND
MW-87C	T	6	3	1.27	-4	70.3%	No	NT
MW-88C	T	6	2	0.55	-7	86.4%	No	S
MW-89B	T	4	0	1.06	3	72.9%	Yes	ND
MW-90B	T	4	1	1.06	3	72.9%	No	NT
P-10	T	23	6	1.59	-107	99.8%	No	D
P-11	T	17	11	1.88	-16	72.9%	No	NT
P-12	T	23	0	1.20	-184	100.0%	Yes	ND
TW-41B	T	14	10	1.01	43	99.0%	No	I

NAPHTHALENE

MW-01A	T	23	13	3.84	-113	99.9%	No	D
MW-02	T	23	14	1.92	-131	100.0%	No	D
MW-03	T	6	0	1.25	7	86.4%	Yes	ND
MW-04	T	6	3	0.93	-1	50.0%	No	S
MW-05	T	13	5	1.18	-18	84.7%	No	NT
MW-07	T	23	4	1.10	-151	100.0%	No	D
MW-08	T	23	0	1.19	-186	100.0%	Yes	ND
MW-09	T	10	3	2.55	5	63.6%	No	NT
MW-10A	T	23	4	3.26	-149	100.0%	No	D
MW-10B	T	24	24	1.98	-64	94.1%	No	PD
MW-11A	T	23	3	1.09	-170	100.0%	No	D
MW-11B	T	24	13	2.66	-29	75.4%	No	NT
MW-12A	T	17	13	1.63	-104	100.0%	No	D
MW-12C	T	17	10	0.89	-14	70.1%	No	S
MW-13	T	17	6	1.89	-6	58.0%	No	NT
MW-14	T	17	10	0.67	-85	100.0%	No	D
MW-15A	T	17	12	1.62	-38	93.6%	No	PD
MW-15B	T	12	8	1.62	-34	99.0%	No	D
MW-15C	T	17	8	4.12	-36	92.4%	No	PD
MW-17	S	18	17	0.50	-52	97.4%	No	D
MW-17C	S	18	18	2.10	-10	63.2%	No	NT
MW-18A	S	17	17	0.42	0	48.4%	No	S
MW-18C	S	17	17	0.37	-2	51.6%	No	S

MAROS Mann-Kendall Statistics Summary

Project: HWPW **User Name:** MHH

Location: Houston **State:** Texas

NAPHTHALENE

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
MW-19C	S	17	10	1.70	-46	96.8%	No	D
MW-20A	S	10	10	1.80	-15	89.2%	No	NT
MW-21C	T	17	8	1.96	-7	59.6%	No	NT
MW-22AR	T	6	1	1.24	-2	57.0%	No	NT
MW-22BR	T	6	4	1.62	-13	99.2%	No	D
MW-23C	S	12	12	1.21	16	84.5%	No	NT
MW-25A	T	17	8	3.82	9	62.7%	No	NT
MW-25C	S	15	15	0.62	-43	98.2%	No	D
MW-26A	T	17	7	1.48	-45	96.5%	No	D
MW-27A	T	5	2	2.12	5	82.1%	No	NT
MW-27C	T	17	7	1.23	-38	93.6%	No	PD
MW-28A	T	17	5	2.80	11	65.7%	No	NT
MW-28C	T	17	7	1.17	-65	99.7%	No	D
MW-32AR	T	12	8	3.09	-22	92.4%	No	PD
MW-32B	S	5	3	2.00	4	75.8%	No	NT
MW-33A	T	17	12	2.19	-28	86.5%	No	NT
MW-33BR	T	10	8	1.63	-21	96.4%	No	D
MW-34CR	T	5	1	1.48	0	40.8%	No	NT
MW-35A	T	17	14	1.92	26	84.6%	No	NT
MW-35B	T	17	17	0.56	-30	88.2%	No	S
MW-36A	T	17	5	1.56	-37	93.0%	No	PD
MW-36B	T	15	3	2.41	-11	68.7%	No	NT
MW-36D	T	15	6	1.58	-30	92.3%	No	PD
MW-38A	T	17	7	2.00	-18	75.5%	No	NT
MW-38B	T	17	9	1.35	18	75.5%	No	NT
MW-39B	T	17	7	1.17	20	78.0%	No	NT
MW-40B	T	17	17	0.52	-58	99.1%	No	D
MW-42B	T	14	7	1.04	-4	56.4%	No	NT
MW-44A	T	17	12	2.44	-40	94.6%	No	PD
MW-44C	S	4	3	1.81	-2	62.5%	No	NT
MW-47C	T	14	7	1.87	-1	50.0%	No	NT
MW-48C	T	17	5	4.09	-42	95.4%	No	D
MW-49A	T	17	13	1.06	-47	97.1%	No	D

MAROS Mann-Kendall Statistics Summary

Project: HWPW **User Name:** MHH

Location: Houston **State:** Texas

NAPHTHALENE

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
MW-49B	S	15	14	3.77	33	94.3%	No	PI
MW-50A	T	17	8	2.87	-14	70.1%	No	NT
MW-51A	T	17	6	1.06	39	94.1%	No	PI
MW-51C	T	7	4	0.46	1	50.0%	No	NT
MW-53C	T	17	5	1.26	-6	58.0%	No	NT
MW-54C	T	17	15	1.36	-38	93.6%	No	PD
MW-57A	S	13	13	1.01	-18	84.7%	No	NT
MW-57B	S	11	11	0.57	-28	98.4%	No	D
MW-58A	T	17	15	1.20	-12	67.2%	No	NT
MW-59A	T	17	5	2.62	-5	56.4%	No	NT
MW-59B	T	15	4	0.69	-4	55.8%	No	S
MW-59D	T	17	5	1.62	-42	95.4%	No	D
MW-60A	T	17	6	2.14	-48	97.4%	No	D
MW-61A	T	17	1	3.21	-50	97.9%	No	D
MW-62B	T	17	8	2.15	-39	94.1%	No	PD
MW-63B	T	16	13	1.29	-24	84.7%	No	NT
MW-64A	T	17	3	1.54	-7	59.6%	No	NT
MW-65D	T	17	6	1.73	-29	87.4%	No	NT
MW-66D	T	17	4	2.68	-43	95.8%	No	D
MW-67B	T	15	8	1.23	-30	92.3%	No	PD
MW-68A	T	3	2	0.00	0	0.0%	No	N/A
MW-68B	S	12	12	0.51	-22	92.4%	No	PD
MW-68C	T	15	12	1.20	-27	89.9%	No	NT
MW-69A	T	14	2	3.03	-35	96.9%	No	D
MW-70B	S	5	5	0.90	8	95.8%	No	I
MW-71B	T	12	8	2.34	-11	74.9%	No	NT
MW-72B	S	10	10	1.24	-26	98.9%	No	D
MW-74B	S	11	11	1.49	-7	67.6%	No	NT
MW-75B	S	6	6	0.93	-1	50.0%	No	S
MW-76C	T	8	6	1.00	2	54.8%	No	NT
MW-77A	S	7	6	0.79	-3	61.4%	No	S
MW-79A	S	7	7	0.67	1	50.0%	No	NT
MW-80B	T	7	2	1.95	1	50.0%	No	NT

MAROS Mann-Kendall Statistics Summary

Project: HWPW **User Name:** MHH

Location: Houston **State:** Texas

NAPHTHALENE

Well	Source/ Tail	Number of Samples	Number of Detects	Coefficient of Variation	Mann-Kendall Statistic	Confidence in Trend	All Samples "ND" ?	Concentration Trend
MW-81B	T	7	2	0.91	10	90.7%	No	PI
MW-82B	T	6	1	1.14	-2	57.0%	No	NT
MW-83B	T	7	7	1.40	-15	98.5%	No	D
MW-83C	T	6	5	1.29	-3	64.0%	No	NT
MW-84B	T	7	6	1.33	-11	93.2%	No	PD
MW-85C	T	6	4	0.84	-3	64.0%	No	S
MW-86C	T	6	3	1.28	12	98.2%	No	I
MW-87C	T	6	3	1.15	-2	57.0%	No	NT
MW-88C	T	6	3	1.40	-11	97.2%	No	D
MW-89B	T	4	2	1.03	0	37.5%	No	NT
MW-90B	T	4	3	1.87	6	95.8%	No	I
P-10	T	23	6	3.35	-108	99.8%	No	D
P-11	T	17	8	3.29	-25	83.6%	No	NT
P-12	T	23	1	1.15	-169	100.0%	No	D
TW-41B	T	14	11	1.82	49	99.7%	No	I

Note: Increasing (I); Probably Increasing (PI); Stable (S); Probably Decreasing (PD); Decreasing (D); No Trend (NT); Not Applicable (N/A)-Due to insufficient Data (< 4 sampling events); Source/Tail (S/T)

The Number of Samples and Number of Detects shown above are post-consolidation values.

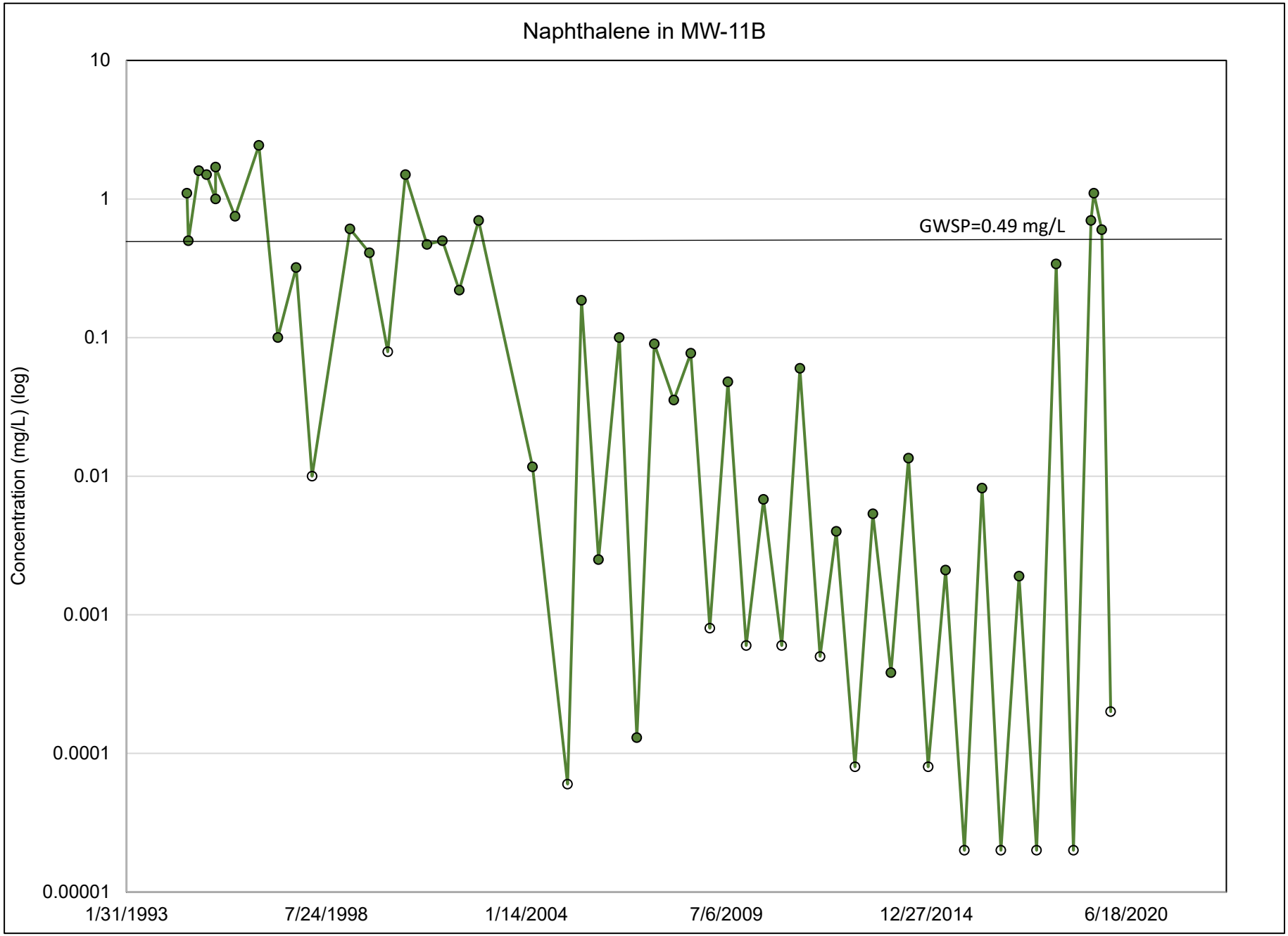
ATTACHMENT H

Naphthalene Concentrations in MW-11B

Table 1
Historical Naphthalene Concentrations at MW-11B
Houston Wood Preserving Works

Monitoring Well ID	Collection Date	Naphthalene (mg/L)	Qualifier
GWPS		**0.49**	
MW-11B	9/28/1994	**1.1**	
MW-11B	10/13/1994	**0.5**	
MW-11B	1/25/1995	**1.6**	
MW-11B	4/13/1995	**1.5**	
MW-11B	7/12/1995	**1**	
MW-11B	7/12/1995	**1.7**	
MW-11B	1/23/1996	**0.75**	
MW-11B	9/17/1996	**2.44**	
MW-11B	3/26/1997	0.1	U
MW-11B	9/25/1997	0.32	
MW-11B	3/3/1998	0.01	U
MW-11B	3/17/1999	**0.608**	
MW-11B	9/28/1999	0.409	D
MW-11B	3/29/2000	0.079	
MW-11B	9/22/2000	**1.5**	
MW-11B	4/25/2001	0.47	
MW-11B	9/27/2001	**0.5**	
MW-11B	3/14/2002	0.22	
MW-11B	9/24/2002	**0.7**	
MW-11B	3/16/2004	0.01168	
MW-11B	3/1/2005	0.00006	U
MW-11B	7/19/2005	0.186	
MW-11B	1/5/2006	0.0025	
MW-11B	7/31/2006	0.1	
MW-11B	1/23/2007	0.00013	
MW-11B	7/17/2007	0.0901	
MW-11B	1/28/2008	0.0354	
MW-11B	7/16/2008	0.0772	
MW-11B	1/22/2009	0.0008	U
MW-11B	7/22/2009	0.048	
MW-11B	1/21/2010	0.0006	U
MW-11B	7/13/2010	0.0068	
MW-11B	1/11/2011	0.0006	U
MW-11B	7/12/2011	0.06	
MW-11B	1/30/2012	0.0005	U
MW-11B	7/10/2012	0.004	J
MW-11B	1/13/2013	0.00008	U
MW-11B	7/11/2013	0.00535	
MW-11B	1/8/2014	0.000382	J
MW-11B	7/2/2014	0.0135	
MW-11B	1/15/2015	0.00008	U
MW-11B	7/8/2015	0.0021	
MW-11B	1/12/2016	0.00002	U
MW-11B	7/7/2016	0.0082	
MW-11B	1/11/2017	0.00002	U
MW-11B	7/12/2017	0.0019	
MW-11B	1/3/2018	0.00002	U
MW-11B	7/18/2018	0.34	
MW-11B	1/7/2019	0.00002	U
MW-11B	7/1/2019	**0.7**	
MW-11B	7/30/2019	**1.1**	
MW-11B	10/17/2019	**0.6**	
MW-11B	1/14/2020	**0.0002**	U

Notes:
1. Highlighted and bolded values exceed TCEQ Tier 1 Residential PCLs (November 2019)/ Groundwater Protection Standard (GWSP)
U - concentration below the method detection limit
J - estimate; concentration above the method detection limit & below the method quantitation limit

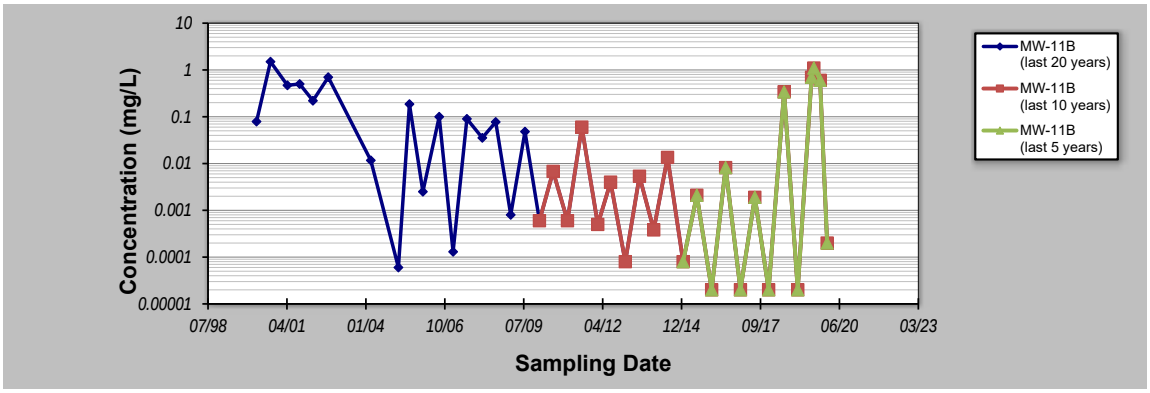


Note: Data points with no fill indicate that concentrations were below the method detection limit (MDL). The MDL is used as the result.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **26-Mar-20**
Facility Name: **Houston Wood Preserving Works**
Conducted By: **MHH**
Job ID: **19119232**
Constituent: **Naphthalene**
Concentration Units: **mg/L**

Sampling Point ID:	MW-11B	MW-11B	MW-11B				
Sampling Event	Sampling Date	NAPHTHALENE CONCENTRATION (mg/L)						
1	29-Mar-00	0.079						
2	22-Sep-00	1.5						
3	25-Apr-01	0.47						
4	27-Sep-01	0.5						
5	14-Mar-02	0.22						
6	24-Sep-02	0.7						
7	16-Mar-04	0.01168						
8	1-Mar-05	0.00006						
9	19-Jul-05	0.186						
10	5-Jan-06	0.0025						
11	31-Jul-06	0.1						
12	23-Jan-07	0.00013						
13	17-Jul-07	0.0901						
14	28-Jan-08	0.0354						
15	16-Jul-08	0.0772						
16	22-Jan-09	0.0008						
17	22-Jul-09	0.048						
18	21-Jan-10	0.0006	0.0006					
19	13-Jul-10	0.0068	0.0068					
20	11-Jan-11	0.0006	0.0006					
21	12-Jul-11	0.06	0.06					
22	30-Jan-12	0.0005	0.0005					
23	10-Jul-12	0.004	0.004					
24	13-Jan-13	0.00008	0.00008					
25	11-Jul-13	0.00535	0.00535					
26	8-Jan-14	0.000382	0.000382					
27	2-Jul-14	0.0135	0.0135					
28	15-Jan-15	0.00008	0.00008	0.00008				
29	8-Jul-15	0.0021	0.0021	0.0021				
30	12-Jan-16	0.00002	0.00002	0.00002				
31	7-Jul-16	0.0082	0.0082	0.0082				
32	11-Jan-17	0.00002	0.00002	0.00002				
33	12-Jul-17	0.0019	0.0019	0.0019				
34	3-Jan-18	0.00002	0.00002	0.00002				
35	18-Jul-18	0.34	0.34	0.34				
36	7-Jan-19	0.00002	0.00002	0.00002				
37	1-Jul-19	0.7	0.7	0.7				
38	30-Jul-19	1.1	1.1	1.1				
39	17-Oct-19	0.6	0.6	0.6				
40	14-Jan-20	0.0002	0.0002	0.0002				
Coefficient of Variation:		1.94	2.33	1.72				
Mann-Kendall Statistic (S):		-228	9	22				
Confidence Factor:		99.6%	58.3%	89.8%				
Concentration Trend:		Decreasing	No Trend	No Trend				



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

ATTACHMENT I

TRRP Notifications

Table I-1
TRRP NOTIFICATIONS - PROPERTY OWNERS
HOUSTON, TX - WOOD PRESERVING WORKS

MAP ID	PARCEL ADDRESS	PARCEL OWNER
1	4705 Liberty Rd	Hall, Joannetta
2	4713 Liberty Rd	Howell, Evan
3	2902 Wipprecht St # 18	2902 Wipprecht LLC % T Goffney
4	2909 Lavender St	2013 Cottage LLC
5	2922 Solo St	Chaves, Armando R et Al
6	2925 Lavender St	Ellis, Johnnie Estate Of
7	2930 Solo St	Howell, Evan S
8	2934 Solo St	Green, Billlie Joe
9	2938 Solo St	Ramos, Jose Rodolfo
10	2937 Lavender St	Limbrick, Mikell
11	2941 Lavender St	Brooks, Antonia Est Of % Patricia J Arthur
12	4910 Lucille St	Whitehead, Shirley A
13	5002 Lucille St	Toledano, Aristeo
14	5004 Lucille St	Fuentes, Maria I & Saul
15	2943 Lavender St	Apogee Real Estate Partners LLC
16	5006 Lucille St	Barrientos, Eine
17	5008 Lucille St	Norton Memorial Temple Cogic
18	2942 Lavender St	Hernandez, Roberto G
19	2938 Lavender St	Hutchins, Essie Lee
20	2934 Lavender St	Osborn, Zearlene
21	2926 Lavender St	Clark Investment Co
22	2924 Lavender St	Long, Lucille Estate Of
23	2922 Lavender St	Greater Mt Nebo Baptist Church
24	2910 Lavender St	Carrington, Ray
25	2906 Lavender St	Beal, Barbara
26	2904 Lavender St	Greater Mount Nebo Missionary Baptist
27	5005 Liberty	Greater Mount Nebo Baptist Church
28	0 Wylie St	Greater Mt Nebo Baptist Church
29	5006 Wylie St	Greater Mount Nebo Baptist Church
30	5010 Wylie St	Smith, Alberta
31	5005 Wylie St	Banda, Monico Duque & Martha Z
32	5007 Wylie St	Banda-Zuniga, Nancy G; Macia-Aranda, Guillermo
33	5011 Wylie St	Carr, Carrie Mae Estate Of
34	2901 Clementine St	Ross, Mary Bass
35	5002 Lelia St	Holmes Emitt & Laura Estate % Mildred Wilder
36	0 Lelia St	Heptullabhai, Mustafa
37	5014 Lelia St	Rivera, Guadalupe Jr; Rivera Flor Esthela
38	2921 1/2 Clementine	Rivera, Guadalupe
39	2921 Clementine St	Pineda, Rogelio R & Olivia
40	0 Lelia St	Lelia Street Trust
41	5009 Lelia St	Current Owner
42	0 Lelia	Beach Property LLC
43	5015 Lelia St	Castillo, Manuel M
44	5012 Lucille	Norton'S Temple Church Of God In Christ Inc
45	5014 Lucille St	Blue Gavel Inc
46	5016 Lucille St	Current Owner
47	0 Lucille	Wahsh, Belal
48	5005 Lucille St	Correa, Neftali; Correa, Eliseo Sr
49	5005 Lucille St	Bryant, Michael A; White, Karen Y; White, David A
50	5007 Lucille St	White, Karen Y

Table I-1
TRRP NOTIFICATIONS - PROPERTY OWNERS
HOUSTON, TX - WOOD PRESERVING WORKS

MAP ID	PARCEL ADDRESS	PARCEL OWNER
51	5009 Lucille St	White, David A
52	0 Lucille St	Vital, Percy L
53	0 Lelia	Schrinsky, Samuel J
54	705 Lucille	Pssw Construction Inc
55	0 Leila St	Greater True Vine Missionary Baptist Church
56	2918 Clementine St	City Of Houston
57	5116 Lelia St	Empire Holdings Real Estate Group LLC; CJO Investments LLC
58	5112 Lelia St	Potts, Avie
59	5118 Lelia St	Greater True Vine Baptist Church
60	5107 Wylie St	Potts, Maryland Estate
61	5107 Wylie St	Tolbert, Reginald & Leticia
62	5111 Wylie St	Perez, Aquilina Estate Of
63	2913 Fontinot St	Huerta, Noe; Rivera, Marely
64	5119 Wylie St	Gilliam, Martha
65	2820 Clementine St	Benson, Tillie Potts Estate Of
66	2813 Fontinot St	Coto, Jose A & Reina I; Coto, Christian A & Robin H
67	5101 Liberty Rd	Longoria, Wallace R & Janie
68	5105 Liberty Rd	Gonzalez, Alejandro
69	5109 Liberty Rd	Martinez, Joe H
70	5113 Liberty Rd	Medina, Claudia Elizabeth Delaportil; Leal, Jorge Daniel Rivera
71	5117 Liberty Rd	Rivera, Jorge D
72	5201 Liberty Rd	Full Gospel Christian Assn
73	5201 Liberty Rd	Full Gospel Christian Assn
74	2809 Erastus St # 1	Charity Baptist Church % Rev F W Mcilveen
75	5201 Wylie St	Charity Baptist Church
76	2809 Erastus St	Charity Baptist Church % Rev F W Mcilveen
77	5201 Wylie St	Barahona, Melvin
78	5202 Lelia St	Greater True Vine Mbc
79	5301 Liberty Rd	Jefferson, Sean
80	5311 Liberty Rd	Crawford Properties & States
81	2806 Erastus St	Roberts, Margaret et al
82	5304 Wylie St	Juarez, Irene Perez
83	5304 1/2 Wylie St	Delgado, Susie I Estate Of
84	5308 Wylie St	Brown, Audrey M
85	0 Liberty Rd	Crawford Properties & Estates
86	5311 Liberty Rd	Cls Enterprise Llc
87	3300 E Lockwood Dr	Damian, Robert
88	3300 E Lockwood	Damian, Robert
89	4518 Courtney St	Rosignon, Anthony Tyrone
90	2803 Kashmere St	Whitehead, Shirley A
91	4508 Eddie St	Henderson, Hester
92	0 Ranch St	Prince, James A
93	2604 Amboy St	Daniels, Joeed
94	0 Quitman St	Proler, L Michael
95	4425 Quitman St	Allende-Molina, Juan; Rodriguez-Campos, Micaela
96	0 1St St	Centerpoint Energy Intrastate Pipeline Inc

MAP ID	PARCEL ADDRESS	PARCEL OWNER
1	4705 Liberty Rd	Hall, Joannetta
2	4713 Liberty Rd	Howell, Evan
3	2902 Wipprecht St # 18	2902 Wipprecht LLC % T Goffney
4	2909 Lavender St	2013 Cottage LLC
5	2922 Solo St	Chaves, Armando R et Al
6	2925 Lavender St	Ellis, Johnnie Estate Of
7	2930 Solo St	Howell, Evan S
8	2934 Solo St	Green, Billlie Joe
9	2938 Solo St	Ramos, Jose Rodolfo
10	2937 Lavender St	Limbrick, Mikell
11	2941 Lavender St	Brooks, Antonia Est Of % Patricia J Arthur
12	4910 Lucille St	Whitehead, Shirley A
13	5002 Lucille St	Toledano, Aristeo
14	5004 Lucille St	Fuentes, Maria I & Saul
15	2943 Lavender St	Apogee Real Estate Partners LLC
16	5006 Lucille St	Barrientos, Eine
17	5008 Lucille St	Norton Memorial Temple Cogic
18	2942 Lavender St	Hernandez, Roberto G
19	2938 Lavender St	Hutchins, Essie Lee
20	2934 Lavender St	Osborn, Zearlene
21	2926 Lavender St	Clark Investment Co
22	2924 Lavender St	Long, Lucille Estate Of
23	2922 Lavender St	Greater Mt Nebo Baptist Church
24	2910 Lavender St	Carrington, Ray
25	2906 Lavender St	Beal, Barbara
26	2904 Lavender St	Greater Mount Nebo Missionary Baptist
27	5005 Liberty	Greater Mount Nebo Baptist Church
28	0 Wylie St	Greater Mt Nebo Baptist Church
29	5006 Wylie St	Greater Mount Nebo Baptist Church
30	5010 Wylie St	Smith, Alberta
31	5005 Wylie St	Banda, Monico Duque & Martha Z
32	5007 Wylie St	Banda-Zuniga, Nancy G; Macia-Aranda, Guillermo
33	5011 Wylie St	Carr, Carrie Mae Estate Of
34	2901 Clementine St	Ross, Mary Bass
35	5002 Lelia St	Holmes Emitt & Laura Estate % Mildred Wilder
36	0 Lelia St	Heptullabhai, Mustafa
37	5014 Lelia St	Rivera, Guadalupe Jr; Rivera Flor Esthela
38	2921 1/2 Clementine	Rivera, Guadalupe
39	2921 Clementine St	Pineda, Rogelio R & Olivia
40	0 Lelia St	Lelia Street Trust
41	5009 Lelia St	Current Owner
42	0 Lelia	Beach Property LLC
43	5015 Lelia St	Castillo, Manuel M
44	5012 Lucille	Norton'S Temple Church Of God In Christ Inc
45	5014 Lucille St	Blue Gavel Inc
46	5016 Lucille St	Current Owner
47	0 Lucille	Wahsh, Belal
48	5005 Lucille St	Correa, Neftali; Correa, Eliseo Sr
49	5005 Lucille St	Bryant, Michael A; White, Karen Y; White, David A
50	5007 Lucille St	White, Karen Y
51	5009 Lucille St	White, David A
52	0 Lucille St	Vital, Percy L
53	0 Lelia	Schrinsky, Samuel J
54	705 Lucille	Pssw Construction Inc
55	0 Leila St	Greater True Vine Missionary Baptist Church
56	2918 Clementine St	City Of Houston
57	5116 Lelia St	Empire Holdings Real Estate Group LLC; CJO Investments LLC
58	5112 Lelia St	Potts, Avie
59	5118 Lelia St	Greater True Vine Baptist Church
60	5107 Wylie St	Potts, Maryland Estate
61	5107 Wylie St	Tolbert, Reginald & Leticia
62	5111 Wylie St	Perez, Aquilina Estate Of
63	2913 Fontinot St	Huerta, Noe; Rivera, Marely
64	5119 Wylie St	Gilliam, Martha
65	2820 Clementine St	Benson, Tillie Potts Estate Of
66	2813 Fontinot St	Coto, Jose A & Reina I; Coto, Christian A & Robin H
67	5101 Liberty Rd	Longoria, Wallace R & Janie
68	5105 Liberty Rd	Gonzalez, Alejandro
69	5109 Liberty Rd	Martinez, Joe H
70	5113 Liberty Rd	Medina, Claudia Elizabeth Delaportil; Leal, Jorge Daniel Rivera
71	5117 Liberty Rd	Rivera, Jorge D
72	5201 Liberty Rd	Full Gospel Christian Assn
73	5201 Liberty Rd	Full Gospel Christian Assn
74	2809 Erastus St # 1	Charity Baptist Church % Rev F W Mcilveen
75	5201 Wylie St	Charity Baptist Church
76	2809 Erastus St	Charity Baptist Church % Rev F W Mcilveen
77	5201 Wylie St	Barahona, Melvin
78	5202 Lelia St	Greater True Vine Mbc
79	5301 Liberty Rd	Jefferson, Sean
80	5311 Liberty Rd	Crawford Properties & States
81	2806 Erastus St	Roberts, Margaret et al
82	5304 Wylie St	Juarez, Irene Perez
83	5304 1/2 Wylie St	Delgado, Susie I Estate Of
84	5308 Wylie St	Brown, Audrey M
85	0 Liberty Rd	Crawford Properties & Estates
86	5311 Liberty Rd	Cls Enterprise Llc
87	3300 E Lockwood Dr	Damian, Robert
88	3300 E Lockwood	Damian, Robert

REFERENCE(S)
AERIAL PHOTO FROM GOOGLE EARTH, IMAGERY DATED 2/23/19, AND PROPERTY INFORMATION FROM HARRIS COUNTY APPRAISAL DISTRICT (HCAD), 2018.

CLIENT
UNION PACIFIC RAILROAD CO.

CONSULTANT
GOLDER

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

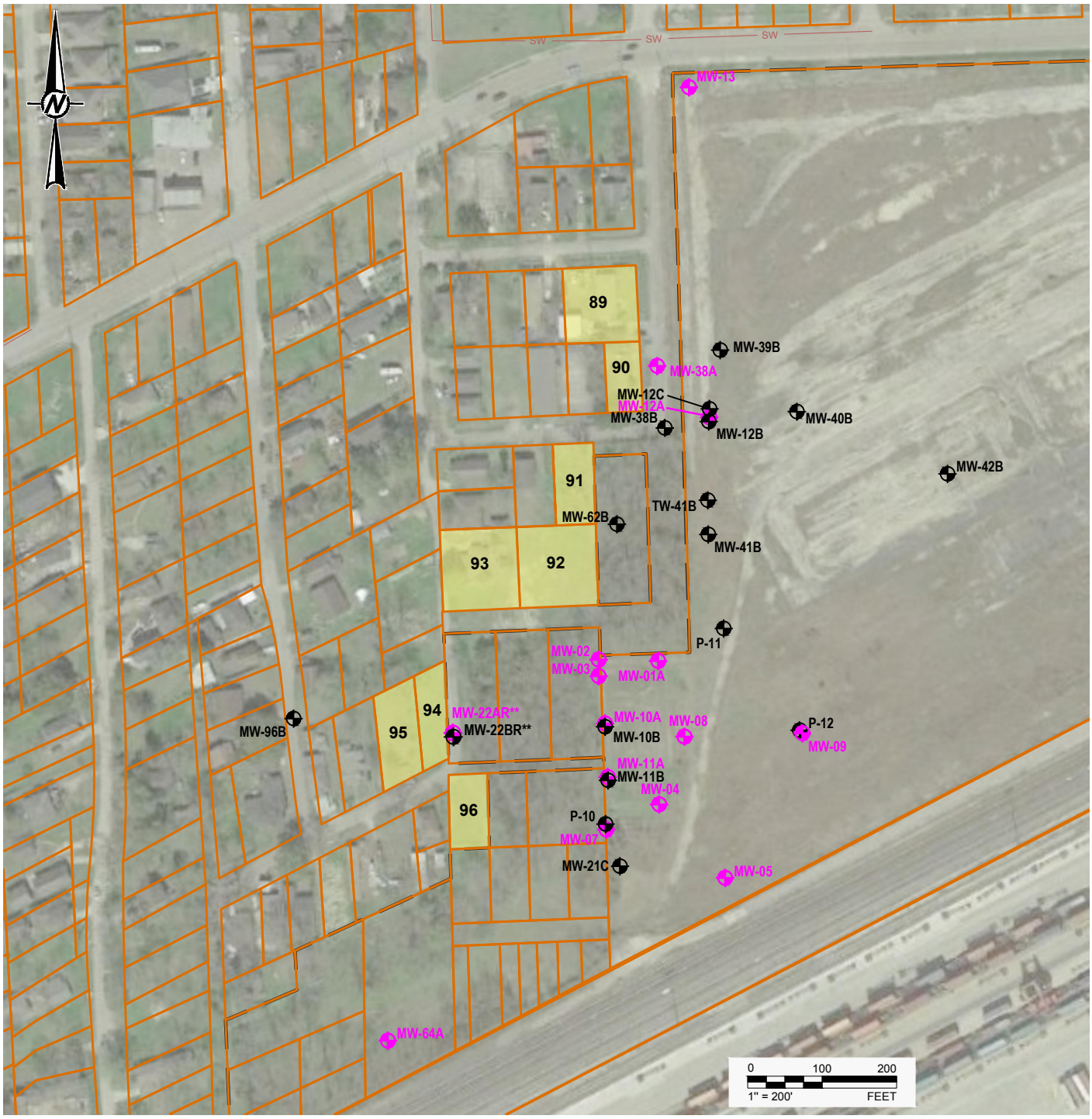
PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
OFF-SITE NOTIFICATION PROPERTIES

PROJECT NO. 19119232 | REV. 0 | FIGURE 1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Path: \\texarkana\data\Projects - Round Rock_2019\19119232 - HWPW\2019-7 July\ | File Name: FIG 1 - Off-Site Notification Properties.dwg | Last Edited By: rsalazar Date: 2020-04-30 Time:3:22:57 PM | Printed By: RSalazar Date: 2020-04-30 Time:3:37:21 PM



MAP ID	PARCEL ADDRESS	PARCEL OWNER
89	4518 Courtney St	Rosignon, Anthony Tyrone
90	2803 Kashmere St	Whitehead, Shirley A
91	4508 Eddie St	Henderson, Hester
92	0 Ranch St	Prince, James A
93	2604 Amboy St	Daniels, Joeed
94	0 Quitman St	Proler, L Michael
95	4425 Quitman St	Allende-Molina, Juan; Rodriguez-Campos, Micaela
96	0 1St St	Centerpoint Energy Intrastate Pipeline Inc

REFERENCE(S)

AERIAL PHOTO FROM GOOGLE EARTH, IMAGERY DATED 2/23/19, AND PROPERTY INFORMATION FROM HARRIS COUNTY APPRAISAL DISTRICT (HCAD), 2018.

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
OFF-SITE NOTIFICATION PROPERTIES

CONSULTANT
GOLDER

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	RS
REVIEWED	MH
APPROVED	ECM

PROJECT NO. 19119232 | REV. 0 | FIGURE 1