



January 2019 Groundwater Monitoring Report

Former Houston Wood Preserving Works Facility

Post-Closure Care Permit No HW-50343

Industrial SWR No. 31547

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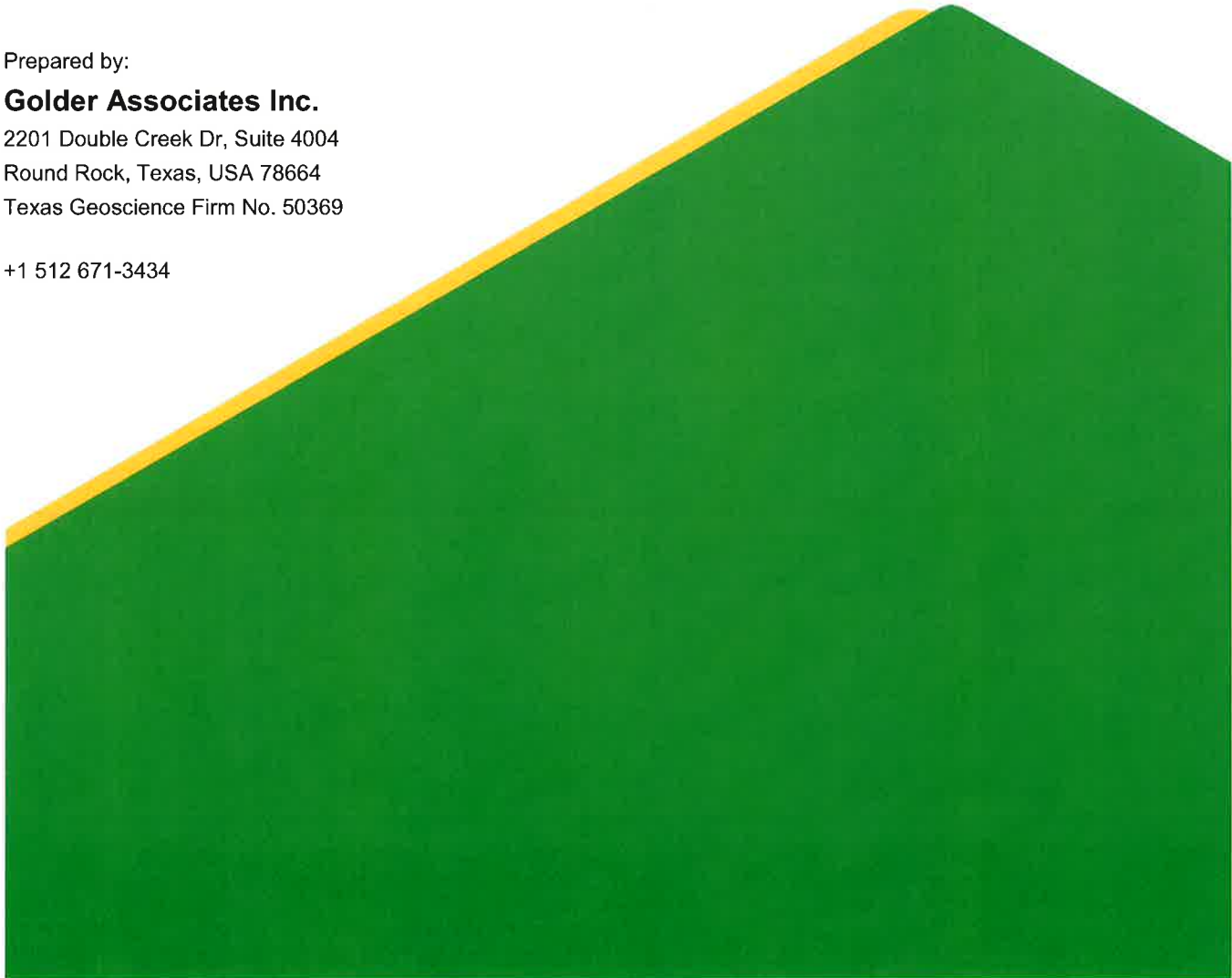


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1.0 INTRODUCTION

This groundwater monitoring report documents sampling activities conducted between January 8 and January 24, 2019 at the Union Pacific Railroad (UPRR) Houston Wood Preserving Works Facility (the Site). Golder Associates Inc. (Golder) conducted the sampling event on behalf of UPRR. Sampling activities included gauging water levels and collecting samples from groundwater monitoring wells at and near the Site. Monitoring well locations are presented on Figure 1.

Groundwater analytical data collected from the Site collected in January 2019 were compared to the Texas Commission on Environmental Quality (TCEQ) Texas Risk Reduction Program (TRRP) Residential Groundwater Protective Concentration Levels (PCLs) dated April 2018, assuming the source area is greater than 0.5 acres (30-acre size), to evaluate target COCs that exceeded the groundwater residential assessment levels (RALs). RALs were established as the lesser value of the Residential ^{GW}GW_{Ing} and ^{Air}GW_{Inh-v} PCLs. Even though most of the monitoring wells are within the boundaries of the Site, and the assumed land use for the Site is commercial/industrial land use, RALs were conservatively used to evaluate the COCs detected at the Site.

Groundwater flow direction and concentrations of the primary chemicals of concern (COCs) that exceed the appropriate RAL in each groundwater-bearing zone (A-TZ, B-TZ/B-CZ, C-TZ, and D-TZ) during the January 2019 groundwater monitoring event are described in Section 3.0 and Section 4.0 of this report.

This report serves as a supporting document to the responses to the Texas Commission on Environmental Quality (TCEQ) 4th Technical Notice of Deficiency (TNOD) dated April 11, 2019.

2.0 GROUNDWATER MONITORING ACTIVITIES

Golder conducted groundwater monitoring activities following the Sampling & Analysis Plan provided in the Response Action Plan (RAP) (Rev. 3) dated June 24, 2017.

During the sampling event, 84 groundwater monitoring wells were sampled from the following groundwater bearing units (GWBUs):

- Thirty-one (31) A-Transmissive Zone (A-TZ) monitoring wells;
- Twenty-seven (27) B-Cohesive Zone/ B-Transmissive Zone (B-TZ/B-CZ) monitoring wells;
- Twenty-two (22) C-Transmissive Zone (C-TZ) monitoring wells; and
- Four (4) D-Transmissive Zone (D-TZ) monitoring wells.

Monitoring wells MW-27A, MW-49B, and MW-57B were not sampled in January 2019 due to: (1) MW-27A was blocked by a vehicle on concrete blocks and (2) dense non-aqueous phase liquid (DNAPL) was observed during purging of MW-49B and MW-57B. Other monitoring wells with DNAPL detected were not sampled during this monitoring event.

Groundwater samples were submitted to ALS Environmental in Houston, Texas. Analytical laboratory reports and data validation documentation for the sampling event are provided in Attachment A.

3.0 GROUNDWATER ELEVATION DATA

Prior to purging and sampling, 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 January 2019 are summarized on Table 5D¹. Potentiometric surface maps for each groundwater-bearing unit (GWBU) are included as Figures 5A-1 through 5A-4. Groundwater flow directions are described below.

3.1 A-TZ Wells

The A-TZ is a continuous silty sand and sand layer beneath the Site, and is considered a Class 2 groundwater resource. Groundwater generally flows to the northwest, north and northeast in the western and center portion of the Site. On the east side of the Site, groundwater generally flows toward the east or west relative to the 60" sanitary sewer line as shown on Figure 5A-1.

3.2 B-CZ/B-TZ Wells

The B-CZ is a layer of cohesive soils of mostly clays, silty clays, sandy clays, and clayey silts containing thin seams of silty sand and carbonate nodules, and is classified as a Class 3 groundwater resource through aquifer testing. The B-TZ is a discontinuous sand layer in the western portion of the Site and western portion of the off-site area (north of the Site), and is considered a Class 2 groundwater resource. Groundwater generally flows to the northeast in the western and center portion of the Site and off-site area to the north where the B-TZ is present. On the east side of the divide between the B-TZ and B-CZ, groundwater flow in the B-CZ is variable with the flow gradient to the northwest in the eastern portion of the off-site area north of the Site and to the east-northeast on the east side of the Site within the Englewood Intermodal Yard (Figure 5A-2).

3.3 C-TZ Wells

The C-TZ is a silt and silty sand layer, and is a Class 2 groundwater resource. Groundwater in the C-TZ generally flows to the southwest across the Site. Groundwater elevations in wells where current DNAPL recovery efforts are being conducted (i.e., monthly recovery events) were lower than in surrounding wells (Figure 5A-3).

3.4 D-TZ Wells

The D-TZ is a series of silty sand layers with minor amounts of thin clay intervals. Groundwater in the D-TZ is considered a Class 2 groundwater resource and generally flows to the northeast (Figure 5A-4).

4.0 ANALYTICAL RESULTS

Groundwater samples were collected from monitoring wells installed in the four units of the uppermost GWBUs at the Site. Laboratory data packages for the data collected in January 2019 are provided in Attachment A. A complete summary of groundwater analytical data for the Site from 2009 through 2019 is presented on the following tables:

- Table 5B-1 (A-TZ wells)
- Table 5B-2a (B-CZ wells)
- Table 5B-2b (B-TZ wells)

¹ The table numbers follow the same labeling format used for submittal in the Response Action Plan (RAP) Revision 3.

- Table 5B-3 (C-TZ wells)
- Table 5B-4 (D-TZ wells)
- Table 5B-5 (Arsenic and Lead data – A-TZ wells)
- Table 5B-6 (Arsenic and Lead data – B-CZ/B-TZ wells)
- Table 5B-7 (Arsenic and Lead data – C-TZ wells); and
- Table 5B-8 (Arsenic and Lead data – D-TZ wells).

4.1 2019 COC Concentrations

COC concentration isopleth maps of the January 2019 data were prepared for the primary COCs at the Site (Figure 5B-1 through 5B-19) as shown below:

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

Monitoring wells in the four GWBUs were also sampled and analyzed for arsenic and lead as required under the RAP (PBW, November 21, 2014). Arsenic concentrations from the January 2019 sampling event were detected above the TCEQ TRRP Tier 1 PCLs in the A-TZ and B-CZ/B-CZ zones (Table 5B-5 and 5B-6). Arsenic isopleth maps were generated for the A-TZ, B-CZ/B-TZ, and C-TZ based on the 2019 data (Figure 5B-20 through Figure 5B-22). No lead concentrations were detected above the RAL during the January 2019 sampling event.

4.1.1 A-TZ Wells

Primary COCs

As shown on Figure 5B-5 through 5B-9, benzene, 2,4-dimethylphenol, 2-methynaphthalene, and naphthalene concentrations from the January 2019 sampling event were detected above RALs in A-TZ monitoring wells in the eastern portion of the Site extending into the Englewood Intermodal Yard. Concentrations of the primary COCs in A-TZ wells located off-site were all below RALs. Dibenzofuran concentrations were not detected above the RAL in A-TZ wells in January 2019.

Other COCs

Most concentrations of other COCs were either detected below RALs or below the sample detection limit (SDL) in the A-TZ wells from the January 2019 sampling event. One exception was pentachlorophenol that had a concentration detected in MW-18A (0.014 mg/L) above its RAL (0.001 mg/L). Pentachlorophenol had not been detected above the SDL over the past 10 years. The detection will be verified as part of the next sampling event planned for July 2019. Vinyl chloride concentrations in MW-18A had been detected above the RAL during previous sampling events but was below the RAL and was below the detection limit in the January 2019 sampling results.

Arsenic

Arsenic concentrations have generally fluctuated in A-TZ wells between sampling events (Table 5B-5). Of the A-TZ wells sampled, arsenic concentrations in six wells exceeded the RAL during all four sampling events in 2018 and 2019 (MW-15A, MW-17, MW-26A, MW-35A, and MW-44A). The January 2019 analytical results show arsenic concentrations in A-TZ wells exceeding the RAL in the northern and eastern portion of the Site, offsite to the north, and at one well in the western portion of the Site. Arsenic concentrations in the A-TZ wells do not appear correlate with the elevated concentrations of the primary COCs. Many wells with elevated arsenic concentrations (exceeding RAL) do not have exceedances in other COC concentrations, especially off-site to the north of the Site. For example, arsenic concentrations were highest at MW-26A and MW-13 in January 2019, but all other COC concentrations were below RALs at MW-26A and below detection limits at MW-13 in January 2019 (Table 5B-1).

4.1.2 B-CZ/B-TZ Wells

Primary COCs

Since groundwater in the B-CZ is classified as Class 3 and groundwater in the B-TZ is classified as Class 2, the groundwater COC concentrations detected were compared to the applicable RAL. In January 2019, benzene, 2-methylnaphthalene, and naphthalene concentrations were detected above RALs in the eastern portion of the Site and off-site north of the Site. Benzene and naphthalene concentrations were detected above their RALs on the west side of the Site in MW-40B. Dibenzofuran was detected above RALs in one monitoring well (MW-68B (B-TZ)) in January 2019. The concentration of 2,4-dimethylphenol at MW-74B (eastern side of the Englewood Intermodal Yard (B-CZ)) was above its RAL; concentrations of 2,4-dimethylphenol at all other B-CZ/B-TZ wells were below corresponding Class 2 and Class 3 RALs during the January 2019 sampling event.

Other COCs

Except for arsenic (discussed below) no other COCs were detected above the applicable RALs in the B-CZ or B-TZ wells during the January 2019 sampling event.

Arsenic

Similar to the A-TZ, arsenic concentrations have also fluctuated in B-CZ/B-TZ wells. Groundwater samples from six wells exceeded the arsenic RAL during the 2018 and 2019 sampling events (MW-22BR, MW-40B, MW-68B, MW-83B, P-11, and TW-41B). As with the A-TZ monitoring wells, arsenic levels in B-CZ/B-TZ wells do not appear correlate with the elevated concentrations of the primary COCs. Concentrations of primary COCs were above RALs in January 2019 in the eastern portion of the Site, where arsenic concentrations were below the arsenic RAL in that same area.

4.1.3 C-TZ Wells

Primary COCs

Benzene, 2-methylnaphthalene, dibenzofuran, and naphthalene concentrations were above RALs in C-TZ wells in the eastern portion of the Site and offsite to the northeast where DNAPL has been observed in the C-TZ. Concentrations of 2,4-dimethylphenol were below RALs for all C-TZ wells.

Other COCs

Benzo(a)pyrene was detected above the RAL at well MW-25C in January 2019. Benzo(a)pyrene concentrations at MW-25C have varied during previous sampling events (below detection limit or above RAL). Monitoring well

MW-25C is located between wells MW-44C and MW-46C; DNAPL has been detected in MW-44C and MW-46C since 2013.

Arsenic

Arsenic concentrations were detected in the C-TZ above the RAL in only one well, MW-18C at 0.0257 mg/L (Table 5B-7). This is the first RAL exceedance for arsenic in MW-18C. The detection will be verified as part of the next sampling event planned for July 2019. Arsenic concentrations in all other wells in the C-TZ were below the RAL (Table 5B-7).

4.1.4 D-TZ Wells

In January 2019, no COCs were detected above RALs in D-TZ wells. COC concentrations were below detection limits or J-flagged estimates except for 2-methylnaphthalene concentrations in MW-65D that were detected at 0.00016 mg/L, which is below the RAL (0.098 mg/L). 2-Mehtylnaphthalene results during previous events were below detection limit or estimates (J-flagged).

Benzo(a)pyrene at MW-36D was detected above its RAL (0.0002 mg/L) in March (0.0003 mg/L) and June 2018 (0.00024 mg/L). However, benzo(a)pyrene concentrations in MW-38D (0.000027J mg/L) from the January 2019 sampling event were below the RAL.

Groundwater samples from the four D-TZ wells were also analyzed for arsenic and lead. Arsenic and lead concentrations detected in D-TZ wells were all below RALs.

4.2 COC Concentration Graphs

Graphs of primary COC concentrations over time at each well are provided in Attachment B.

TABLES

Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

Constituent	CAS	Method	Residential Assessment Level	C/I Assessment Level	MW-03				MW-04			
			mg/L	mg/L	1/24/2018	3/27/2018	5/1/2018	1/9/2019	1/24/2018	3/23/2018	5/25/2018	1/9/2019
Volatile Organic Compounds												
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semi-Volatile Organic Compounds												
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<2.1E-05	<0.00021	<0.00021	<0.00021	<2.1E-05	<0.00021	<0.00021	<0.00021
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00004	<0.00004	0.000051J	<0.00004	<4.1E-05	<0.00004	<0.00011	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<5.8E-05	<0.000058	<0.000058	<0.000058	<5.9E-05	<0.000058	<0.000059	<0.000058
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<4.2E-05	<0.000042	<0.000042	<0.000042	<4.3E-05	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<2.1E-05	<0.00021	<0.00021	<0.00021	<2.1E-05	<0.00021	<0.00021	<0.00021
2-Methylnaphthalene	91-57-6	8270	9.80E-02	2.90E-01	<1.9E-05	<0.000019	<0.000019	<0.000019	0.00008 J	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	534-52-1	8270	2.40E-03	7.30E-03	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<4.7E-05	<0.000047	<0.000047	<0.000047	<4.8E-05	<0.000047	<0.000047	<0.000047
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<2.7E-05	<0.000027	0.00021	<0.000027	0.00013	<0.000027	0.00031	<0.000027
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<1.5E-05	<0.000015	<0.000015	<0.000015	<1.5E-05	<0.000015	<0.000015	<0.000015
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<1.4E-05	<0.000014	<0.000014	<0.000014	<1.4E-05	<0.000014	0.000054 J	0.000079 J
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00005	<0.00005	<0.00005	<0.00005	<5.1E-05	<0.00005	<0.000051	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00003	<0.00003	<0.00003	<0.00003	<3.1E-05	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	8.3E-05 J	<0.000037	<0.000037	<0.000037	0.00008 J	<0.000037	<0.000037	<0.000037
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<2.1E-05	<0.000021	<0.000021	<0.000021	<2.1E-05	<0.000021	<0.000021	<0.000021
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00002	<0.00002	<0.00002	<0.00002	7.2E-05 J	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00002	<0.00002	<0.00002	<0.00002	0.00003 J	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00003	<0.00003	<0.00003	<0.00003	7.5E-05 J	<0.00003	0.000059 J	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	<0.00002	<0.00002	<0.00002	<0.00002	0.0013	0.00055	<0.00002	<0.00002
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<2.4E-05	<0.000024	<0.000024	<0.000024	<2.4E-05	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<2.5E-05	<0.000025	<0.000025	<0.000025	<2.6E-05	<0.000025	<0.000025	<0.000025
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<7.9E-05	<0.000079	<0.000079	<0.000079	<8.1E-05	<0.000079	<0.00008	<0.000079
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<2.1E-05	<0.000021	<0.000021	<0.000021	<2.1E-05	0.000099J	<0.000021	<0.000021
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<3.5E-05	<0.000035	<0.000035	<0.000035	<3.6E-05	<0.000035	<0.000035	<0.000035
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<1.9E-05	<0.000019	<0.000019	<0.000019	0.00003 J	<0.000019	0.00011	<0.000019

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold type**.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

Constituent	CAS	Method	Residential Assessment Level	C/I Assessment Level	MW-05												
			mg/L	mg/L	7/27/2011	2/2/2012	7/25/2012	2/5/2013	8/1/2013	1/15/2014	07/29/2014	1/24/2018	3/20/2018	5/24/2018	1/9/2019		
Volatile Organic Compounds																	
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.001	<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	71-43-2	8260	5.00E-03	5.00E-03	<0.001	<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	108-90-7	8260	1.00E-01	1.00E-01	<0.001	<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	100-41-4	8260	7.00E-01	7.00E-01	<0.0011	<0.0011	<0.0005	0.00011J	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0013	0.0013J	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.001	<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	75-01-4	8260	2.00E-03	2.00E-03				<0.00011									
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semi-Volatile Organic Compounds																	
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0005	<0.0005	<0.0005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.0005	<0.0005	<0.0005	<0.00031	<0.00031	<0.00029	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.0005	<0.0005	<0.0005	<0.00013	<0.00013	<0.00013	<0.00013	<5.9E-05	<0.00059	<0.00058	<0.00058	<0.00058	<0.00058
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.0006	<0.0006	<0.0006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.0005	<0.0005	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021
2-Methylnaphthalene	91-57-6	8270	9.80E-02	2.90E-01	<0.0005	0.000085J	<0.0005	0.000468J	<0.00007	0.000187J	<0.00007	<1.9E-05	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019
4,6-Dinitro-2-methylphenol	534-52-1	8270	2.40E-03	7.30E-03	<0.0008	<0.0008	<0.0008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.0005	<0.0005	<0.0005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<0.00047	<0.00047	<0.00047	<0.00047	<0.00047
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.0053	0.00034	<0.0005	<0.00008	0.000521	0.000194J	<0.00008	<2.7E-05	<0.00027	<0.00027	<0.00027	<0.00027	<0.00027
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.0005	<0.0005	<0.0005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<0.00015	<0.00015	<0.00015	<0.00015	<0.00015
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.0005	0.00005J	<0.0005	0.000621	0.000427J	0.000411J	0.000153J	3.7E-05 J	<0.00014	0.000045 J	<0.00014	<0.00014	<0.00014
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.0005	<0.0005	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008	<5.1E-05	<0.00051	<0.00051	<0.00051	<0.00051	<0.00051
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.0005	<0.0005	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.0005	<0.0005	<0.0005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00047	<0.0001	0.00019J	<0.00037	<0.00037	<0.00037	<0.00037	0.00011 J	<0.00037	<0.00037	<0.00037	<0.00037	<0.00037
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.0005	<0.0005	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<0.00021	<0.00021	<0.00021	<0.00021	<0.00021
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.0022	0.00011J	<0.0005	<0.00008	8.28E-05J	0.000162J	<0.00008	<0.00002	<0.00002	0.000024 J	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.0005	<0.0005	0.000065J	<0.00011	<0.00011	<0.00011	<0.00011	3.3E-05 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00011J	<0.0005	<0.0005	<0.00007	7.61E-05J	<0.00007	<0.00007	5.1E-05 J	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.0012	0.00012J	<0.0005	<0.00007	0.000166J	0.000176J	<0.00007	<0.00003	<0.00003	0.000039 J	<0.00003	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	<0.0005	0.00087	<0.0005	0.00133	0.000573J	0.000969J	<0.00013	0.0001	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.0005	<0.0005	<0.0005	0.00011J	<0.00011	<0.00011	<0.00011	<2.4E-05	<0.00024	<0.00024	<0.00024	<0.00024	<0.00024
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.0005	<0.0005	<0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<0.00025	<0.00025	<0.00025	<0.00025	<0.00025
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.0005	<0.0005	<0.0005	<0.00061	<0.00061	<0.00061	<0.00061	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00013J	<0.0005	<0.0005	0.000143J	<0.00006	0.00051	<0.00006	5.4E-05 J	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.0005	<0.0005	<0.0005	0.000193J	<0.00004	<0.00004	<0.00004	<3.5E-05	<0.00035	<0.00035	<0.00035	<0.00035	<0.00035
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00014J	<0.0005	<0.0005	<0.00011	0.000154J	<0.00011	<0.00011	4.7E-05 J	<0.00019	0.00019	<0.00019	<0.00019	<0.00019

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

Constituent	CAS	Method	Residential Assessment Level	C/I Assessment Level	MW-09									
			mg/L	mg/L	7/27/2011	2/2/2012	7/25/2012	4/1/2013	1/24/2018	3/23/2018	5/24/2018	1/9/2019		
Volatile Organic Compounds														
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.001	<0.001	<0.0005	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.001	<0.001	<0.0005	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.001	<0.001	<0.0005	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	0.0041	
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0011	<0.0011	<0.0005	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0013	<0.0013	<0.001	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.001	<0.001	<0.0005	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03										
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.0031	<0.0031	<0.0015	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semi-Volatile Organic Compounds														
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.00005	<0.00005	<0.00005	<0.00011	<2.1E-05	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00005	<0.00005	<0.00005	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00005	<0.00005	<0.00005	<0.00013	<5.9E-05	<0.000058	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00006	<0.00006	<0.00006	<0.00008	<4.2E-05	<0.000042	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00005	<0.00005	<0.00005	<0.00008	<2.1E-05	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	91-57-6	8270	9.80E-02	2.90E-01	<0.00005	<0.00005	<0.00005	0.000115J	<1.9E-05	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	534-52-1	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00005	<0.00005	<0.00005	<0.00056	<4.7E-05	<0.000047	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<0.00005	<0.00005	0.00005J	0.000188J	<2.7E-05	<0.000027	<0.000027	<0.000027	<0.000027	<0.000027
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00005	<0.00005	<0.00005	<0.00006	<1.5E-05	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00036	<0.00005	<0.00005	0.000471J	<1.4E-05	0.00013	0.0001	0.000093 J		
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00005	<0.00005	<0.00005	<0.00008	<5.1E-05	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00005	<0.00005	<0.00005	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00005	<0.00005	<0.00005	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00018J	0.00032	0.00022	<0.00037	8.2E-05 J	<0.000037	<0.00011	<0.000037	<0.000037	<0.000037
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00005	<0.00005	<0.00005	<0.00008	<2.1E-05	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00005	<0.00005	<0.00005	0.000126J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00005	<0.00005	0.000074J	0.000123J	<0.00002	<0.00002	<0.000031	<0.000031	<0.000031	<0.000031
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00005	<0.00005	<0.00005	<0.00007	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00005	<0.00005	<0.00005	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	<0.00005	<0.00005	<0.00005	0.00431J	<0.00002	0.00039	<0.00008	<0.00008	<0.00008	<0.00008
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00005	<0.00005	<0.00005	<0.00011	<2.4E-05	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00005	<0.00005	<0.00005	<0.0001	<2.5E-05	<0.000025	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00005	<0.00005	<0.00005	<0.00061	<0.00008	<0.000079	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00005	<0.00005	<0.00005	<0.00006	<2.1E-05	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00005	0.000098J	<0.00005	<0.00004	<3.5E-05	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00005	<0.00005	<0.00005	<0.00011	<1.9E-05	<0.000019	0.00004 J	<0.000019	<0.000019	<0.000019

Notes:

1. Sampling locations shown on Figure 1
2. Concentrations > RAL and non-detects are **bold** type.
3. Concentrations > cPCL and non-detects are highlighted.
4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = Compound not detected at the specified detection limit.

* indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

Constituent	CAS	Method	Residential Assessment Level mg/L	C/I Assessment Level mg/L	MW-13															
					2/4/2009	1/19/2010	6/22/2010	1/18/2011	7/26/2011	2/2/2012	7/16/2012	2/5/2013	7/31/2013	1/14/2014	07/25/2014	1/23/2018	3/18/2018	5/15/2018	1/9/2019	
Volatile Organic Compounds																				
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<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	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	0.000401J	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<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	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<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	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<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	75-01-4	8260	2.00E-03	2.00E-03								<0.00011		<0.00011						
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00026	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	
Semi-Volatile Organic Compounds																				
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00021	<0.00011	<2.1E-05	<0.00021	<0.00021	<0.00021	
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.0006	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00025	<0.00013	<5.8E-05	<0.000058	<0.000058	<0.000058	
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	0.00066	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00015	<0.00008	<4.2E-05	<0.000042	<0.000042	<0.000042	
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00015	<0.00008	<2.1E-05	<0.000021	<0.000021	<0.000021	
2-Methylnaphthalene	91-57-6	8270	9.80E-02	2.90E-01	<0.00007	0.00076	<0.00007	0.000075J	0.00026	<0.00005	0.000063J	<0.00007	<0.00007	0.000141J	0.00007	<1.9E-05	<0.000019	<0.000019	<0.000019	
4,6-Dinitro-2-methylphenol	534-52-1	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.0016	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00108	<0.00056	<4.7E-05	<0.000047	<0.000047	<0.000047	
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<0.00009	0.00011J	<0.00009	<0.00009	0.00033	<0.00005	<0.00005	<0.00008	<0.00008	<0.00015	0.00008J	<2.7E-05	<0.000027	<0.000027	<0.000027	
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	7.15E-05J	<0.00012	<0.00006	0.00003 J	<0.000015	<0.000015	<0.000015	
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.0002	0.00043	<0.00007	<0.00007	0.00037	0.000068J	0.00011J	0.0011	0.000878	9.62E-05J	0.00005	0.00047	0.000039J	0.000085 J	0.00039	
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00014J	0.00005	<0.00008	<0.000154	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	0.000073J	<0.00005	<0.00008	<0.00008	<0.00015	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00025	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00035	0.0016	0.00044	<0.0002	0.00027	0.00043	<0.0001	<0.00037	<0.00037	<0.00071	<0.00037	<0.00011	0.000078J	<0.00011	<0.000037	
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00017J	<0.00005	<0.00008	<0.00008	<0.00015	<0.00008	<2.1E-05	<0.000021	<0.000021	<0.000021	
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00008	0.00019J	<0.00008	<0.00008	<0.00034	0.000063J	0.00019J	<0.00008	<0.00008	<0.00015	0.00008J	<0.00002	<0.00002	<0.00002	<0.00002	
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	0.0001J	<0.00007	<0.00005	<0.00005	<0.00011	<0.00021	<0.00021	0.000122J	<0.00002	<0.00002	0.000029 J	<0.000029 J	<0.00002	
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00007	<0.00007	0.000067J	0.00015J	0.00013J	<0.00007	<0.00007	<0.00014	<0.00007	<0.00001	<0.00001	0.000015 J	<0.00001	
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00007	0.000072J	0.00035	<0.00005	0.00012J	<0.00007	<0.00007	<0.00014	0.00007J	<0.00003	<0.00003	<0.00003	<0.00003	
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	<0.0001	0.007	<0.0001	0.0005	0.00087	<0.00005	<0.00023	<0.00008	<0.00023	<0.00126	0.0039	0.00014	<0.000083	<0.00002	<0.00022	
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00021	<0.00011	<2.4E-05	<0.000024	<0.000024	<0.000024	
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.00019	<0.0001	<2.5E-05	<0.000025	<0.000025	<0.000025	
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<0.000079	<0.000079	<0.000079	
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	0.00014J	0.00020	<0.00007	0.00029	0.00015J	0.00049	<0.00006	<0.00006	<0.00012	0.00006J	<2.1E-05	<0.000021	<0.000021	<0.000021	
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004	<7.7E-05	<0.00004	<3.5E-05	<0.000035	<0.000035	<0.000035	
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	<0.00007	<0.00007	0.00011J	0.0002J	0.000089J	<0.00011	<0.00011	<0.00021	<0.00011	<1.9E-05	<0.000019	0.00002 J	<0.000019	

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

Constituent	CAS	Method	Residential Assessment Level	C/I Assessment Level	MW-15A															
			mg/L	mg/L	2/4/2009	1/18/2010	6/23/2010	1/17/2011	7/13/2011	2/2/2012	7/19/2012	1/30/2013	7/30/2013	1/14/2014	07/17/2014	1/23/2018	3/18/2018	5/15/2018	1/8/2019	
					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds																				
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.00014	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.0018J	0.0016J	0.0017J	0.00074J	0.0016J	0.0012J	0.0016J	0.0016	0.0013	0.00106	0.00161	<0.0002	0.00051J	0.0006 J	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	0.000121J	<0.00012	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.0019J	0.0015J	0.0017J	<0.0005	0.0019J	0.0024J	0.0012J	0.00066J	0.000799J	0.000627J	0.00101	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00015	<0.00015	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	0.00055J	<0.0005	<0.001	<0.001	<0.0005	0.000221J	0.000199J	0.00034J	0.000595J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03																
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.0039J	0.0015J	0.0047J	<0.001	0.0038J	0.0073J	0.0097J	0.00417	0.00527	0.00337	0.00854	0.0018	<0.0003	<0.0003	0.0008 J	
Semi-Volatile Organic Compounds																				
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00529	<0.00011	<2.1E-05	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	0.00059	0.00056	0.00200	<0.00031	<0.0149	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00625	<0.00013	<5.8E-05	<0.000058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00385	<0.00008	<4.2E-05	<0.000042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00385	<0.00008	<2.1E-05	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	91-57-6	8270	9.80E-02	2.90E-01	0.04400	0.03300	0.04200	0.03800	0.14	0.001	0.046	0.00997	0.124	0.0475	0.059	0.0076	0.0016	0.0034	0.0098	
4,6-Dinitro-2-methylphenol	534-52-1	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.0399	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.0269	<0.00056	<4.7E-05	<0.000047	<0.000047	<0.000047	<0.000047
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.17000	0.17	0.16	0.27	0.2	0.13	0.13	0.141	0.332	0.3	0.205	0.13	0.099	0.1	0.1	0.1
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00170	0.00150	0.00097	0.00110	0.00097	0.00071	0.00120	<0.00006	<0.00006	<0.00288	<0.00006	0.002	0.0007	0.0069	<0.000015	
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00300	0.00360	0.00490	0.00630	0.00530	0.00280	0.00460	0.00313	0.00850	0.0111J	0.00642	0.0026	0.0024	0.0032	0.0025	0.0025
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00385	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00385	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00625	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.0026	0.00073	0.00084	0.0016	0.0001J	<0.0001	<0.0001	<0.00037	<0.00037	<0.0178	<0.00037	<3.7E-05	<0.000037	0.0093	<0.000037	<0.000037
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	0.00007	0.00007	0.00007	0.00007	0.00005	0.00005	0.00005	0.00008	0.00008	<0.00385	<0.00008	<2.1E-05	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.047	0.043	0.048	0.05	0.078	0.028	0.046	0.0416	0.104	0.0693	0.0572	0.029	0.024	0.018	0.023	0.023
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	0.00029	0.00011J	0.00007	<0.00007	<0.00005	<0.00005	<0.00011	0.000187J	<0.00529	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.0011	0.0015	0.002	0.0023	0.0021	0.00094	0.0015	0.000885	0.00361	<0.00337	0.00257	0.002	0.0012	0.0016	0.0012	0.0012
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.059	0.06	0.062	0.076	0.092	0.043	0.063	0.05600	0.13900	0.11400	0.0822	0.041	0.036	0.029	0.038	0.038
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.048	0.00180	0.036	0.0023	0.087	0.008	0.27	0.0501J	0.526	0.326	0.248	0.0005	<0.00034	<0.00037	<0.00032	<0.00032
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00529	<0.00011	<2.4E-05	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.00481	<0.0001	<2.5E-05	<0.000025	<0.000025	<0.000025	<0.000025
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.0293	<0.00061	<7.9E-05	<0.000079	<0.000079	<0.000079	<0.000079
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00950	0.00740	0.01200	0.01900	0.03600	0.00560	0.01400	0.00792	0.05200	0.03750	0.0203	0.0046	0.0054	0.0074	0.009	0.009
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	0.0002	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004	<0.00192	<0.00004	<3.5E-05	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00042	0.00062	0.00076	0.00095	0.00089	0.00053	0.00084	0.000496	0.00154	<0.00529	0.00101	0.0009	0.00063	0.00078	0.00051	0.00051

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

Constituent	CAS	Method	Residential Assessment Level mg/L	C/I Assessment Level mg/L	MW-17															
					2/4/2009	1/18/2010	6/23/2010	1/17/2011	7/13/2011	2/1/2012	7/12/2012	4/1/2013	7/30/2013	1/13/2014	07/17/2014	1/30/2018	3/18/2018	5/16/2018	1/9/2019	
					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds																				
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0025	<0.0025	<0.001	<0.005	<0.005	<0.007	<0.014	<0.007	<0.0028	<0.0002	<0.0002	<0.002	<0.0002	
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.65	0.59	0.65	0.31	0.45	0.24	0.46	0.435	0.174	0.324	0.576	0.47	0.55	0.61	0.35	
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005		<0.0005	<0.0025	<0.001	<0.005	<0.005	<0.006	<0.012	<0.006	<0.0024	<0.0003	<0.0003	<0.003	<0.0003	
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.26	0.26	0.2	0.21	0.21	0.23	0.21	0.217	0.279	0.251	0.209	0.26	0.19	0.23	0.21	
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	0.0056J	<0.0025	<0.0013	<0.0065	<0.01	<0.0075	0.11500	<0.0075	0.0187J	<0.001	<0.001	<0.01	<0.001	
Toluene	108-88-3	8260	1.00E+00	1.00E+00	1.1	1	0.88	0.97	0.85	0.74	0.81	0.878	0.68	0.931	0.93	0.97	0.83	0.82	0.68	
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03																
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.55000	0.72000	0.61000	0.64000	0.54000	0.63000	0.69000	0.70200	0.69800	0.72400	0.641	0.81	0.47	0.77	0.66	
Semi-Volatile Organic Compounds																				
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0423	<0.00534	<0.0529	<0.00519	<0.00021	<0.00021	<0.00021	<0.00021	
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	2.6	3.7	13.0	3.9	2.7	3.0	4.0	11.3	3.19	6.75	13.9	4.3	7.7	4.2	1.9	
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	0.00009	0.00005	<0.00005	0.00005J	<0.05	<0.00631	<0.0625	<0.00613	<0.00058	<0.00058	<0.00059	<0.00058	
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	0.00007	0.00006	<0.00006	<0.00006	<0.0308	<0.00388	<0.0385	<0.00377	<0.00042	<0.00042	<0.00042	<0.00042	
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.0012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0308	<0.00388	<0.0385	<0.00377	<0.00021	<0.00021	<0.00021	<0.00021	
2-Methylnaphthalene	91-57-6	8270	9.80E-02	2.90E-01	0.27	0.56	0.39	0.97	0.75	0.29	0.51000	1.24	1.04	0.857	0.636	0.3	0.38	0.34	0.23	
4,6-Dinitro-2-methylphenol	534-52-1	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.319	<0.0403	<0.399	<0.0392	<0.0002	<0.0002	<0.0002	<0.0002	
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.215	<0.0272	<0.269	<0.0264	<0.00047	<0.00047	0.0076 J	<0.00047	
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.094	0.17	0.071	0.52	0.22	0.13	0.14	0.36	0.353	0.315	0.195	0.084	0.13	0.11	0.091	
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00410	0.00670	0.00300	0.00800	0.00690	0.00560	0.00500	<0.0231	0.0147J	<0.0288	<0.00283	0.0029	<0.00015	0.0041	0.0029	
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00990	0.01300	0.00750	0.12000	0.01400	0.00960	0.01400	<0.0192	0.0233J	0.0278J	0.0202J	0.0065	0.011	0.0094	0.0057	
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	0.00040	<0.00007	<0.00007	0.033	0.00047	<0.00005	0.00018J	<0.0308	<0.00388	<0.0385	<0.00377	<0.0005	<0.0005	<0.00051	<0.0005	
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	0.00014J	<0.00008	<0.00008	<0.0097	<0.00027	<0.00005	<0.00005	<0.0308	<0.00388	<0.0385	<0.00377	<0.0002	<0.0002	<0.0002	<0.0002	
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.05	<0.00631	<0.0625	<0.00613	<0.0003	<0.0003	<0.0003	<0.0003	
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	<0.0002	<0.0002	<0.0002	0.0022	0.00044	<0.001	0.00027	<0.142	<0.018	<0.178	<0.0175	<0.00037	<0.00037	<0.00037	<0.00037	
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	0.00032	<0.00007	<0.00007	0.02500	0.00047	<0.0005	0.00011J	<0.0308	<0.00388	<0.0385	<0.00377	<0.00021	<0.00021	<0.00021	<0.00021	
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.07900	0.15000	0.06500	0.470	0.19000	0.09300	0.13000	0.275	0.253	0.211J	0.148	0.071	0.092	0.082	0.072	
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0423	<0.00534	<0.0529	<0.00519	<0.0002	<0.0002	<0.0002	<0.0002	
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.0035	0.0037	0.0022	0.17	0.0039	0.0026	0.0034	<0.0269	0.00667	<0.0337	<0.00429	0.0022	0.003	0.0022	0.0015	
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.04700	0.07600	0.03900	0.42000	0.12000	0.05900	0.08200	0.146J	0.16500	0.16J	0.0943	0.04	0.057	0.051	0.043	
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	9.7	16	15	16	19	10	14	25.2	25.8	21.3	15.4	7.4	12	8.1	5.5	
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0423	<0.00534	<0.0529	<0.00519	<0.00024	<0.00024	<0.00024	<0.00024	
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0385	<0.00485	<0.0481	<0.00472	<0.00025	<0.00025	<0.00025	<0.00025	
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.235	<0.0296	<0.293	<0.0288	<0.00079	<0.00079	<0.00079	<0.00079	
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.03800	0.06000	0.03300	0.91000	0.07800	0.04200	0.06300	0.124J	0.12300	0.0993J	0.0725	0.034	0.044	0.044	0.028	
Phenol	108-95-2	8270	7.30E+00	2.20E+01	5.50000	7.7	19.0	3.60000	3.10000	3.70000	6.10000	22.2	1.54	6.46	18.1	7.1	18	6.5	2.2	
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.002	0.0021	0.0012J	0.12	0.0019	0.0018J	0.0018	<0.0423	<0.00534	<0.0529	<0.00519	0.0011	0.0015	0.0014	0.00081 J	

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-18A															
Constituent	CAS	Method			mg/L	mg/L	2/5/2009	1/18/2010	6/24/2010	1/17/2011	7/13/2011	2/1/2012	7/11/2012	1/31/2013	7/29/2013	1/13/2014	07/16/2014	1/25/2018	3/19/2018	5/16/2018
Volatile Organic Compounds																				
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0025	<0.0005	<0.0005	<0.0025	<0.001	<0.005	<0.005	<0.007	0.00405J	<0.014	0.00482J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.48	0.51	0.47	0.55	0.59	0.28	0.68	0.636	0.491	0.239	0.483	0.19	0.22	0.17	1.2	
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	0.017J	<0.0005	<0.0005	<0.0025	<0.001	<0.005	<0.005	<0.006	<0.0012	<0.012	<0.0024	0.0062	0.006	0.0066	<0.0003	
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.52	0.48	0.54	0.55	0.39	0.55	0.3	0.316	0.398	0.637	0.692	0.36	0.36	0.43	0.34	
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0025	<0.0005	<0.00035	<0.0025	<0.0013	<0.0065	<0.01	<0.0075	0.00976J	<0.015	0.0138J	<0.001	<0.001	<0.001	<0.001	
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.23	0.32	0.45	0.35	0.23	0.21	0.21	0.154	0.239	0.0731J	0.416	0.074	0.068	0.042	0.92	
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03		0.059		0.07	0.028	0.047	<0.005	0.0181J	0.029	<0.011	0.02J	0.0023	0.002	0.0021	<0.0002	
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.98000	1.20000	1.20000	1.00000	0.73000	1.10000	0.51	0.51900	0.99100	1.27000	1.3	0.97	0.79	0.91	1	
Semi-Volatile Organic Compounds																				
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0005	<0.0001	<0.00005	<0.00005	<0.00005	<0.0011	<0.0214	<0.0106	<0.00519	<0.00021	<0.00021	<0.00021	<0.00021	<0.000021
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	1.9	4.50	7.90	9.6J	11.00	5.80	9.4J	11.80	6.29	2.95	8.01	0.023	0.12	0.5	0.0054	
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.0004	<0.00009	<0.00005	<0.00005	<0.00005	<0.0013	<0.0252	<0.0125	<0.00613	<0.00058	<0.00058	<0.00058	<0.000058	
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00035	<0.00007	<0.00006	<0.00006	<0.00006	<0.0008	<0.0155	<0.00769	<0.00377	<0.00042	<0.00042	<0.00042	<0.000042	
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.0012	<0.0001	<0.00035	<0.0001	<0.00005	<0.00005	<0.00005	<0.0008	<0.0155	<0.00769	<0.00377	<0.00021	<0.00021	<0.00021	<0.000021	
2-Methylnaphthalene	91-57-6	8270	9.80E-02	2.90E-01	0.42	0.36	0.4	0.44	0.7	0.23	0.64J	0.745	0.819	0.996	0.589	0.33	0.34	0.22	0.1	
4,6-Dinitro-2-methylphenol	534-52-1	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00035	<0.00008	<0.00008	<0.00008	<0.00008	<0.0008	<0.0083	<0.161	<0.0798	<0.0392	<0.0002	<0.0002	<0.0002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00035	<0.00007	<0.00005	<0.00005	<0.00005	0.00560	<0.109	<0.0538	<0.0264	<0.00047	<0.00047	<0.00047	<0.000047	
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.19	0.23	0.25	0.24	0.36	0.15	0.3J	0.464	0.493	0.553	0.352	0.25	0.23	0.24	0.048	
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00920	0.00620	0.00950	0.00720	0.01500	0.007	0.00670	0.0151	<0.0117	<0.00577	0.0155J	0.0074	0.0092	0.009	0.0016	
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00900	0.00690	0.00750	0.00730	0.01300	0.00460	0.00900	0.02040	0.0204J	0.0226J	0.0192J	0.0061	0.0079	0.0077	0.0064	
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00025	<0.00007	<0.00005	<0.00005	<0.00005	<0.0008	<0.0155	<0.00769	<0.00377	<0.00005	<0.00005	<0.00005	<0.000005	
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.0004	<0.00008	<0.00005	<0.00005	<0.00005	<0.0008	<0.0155	<0.00769	<0.00377	<0.00002	<0.00002	<0.00002	<0.000002	
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00045	<0.00009	<0.00005	<0.00005	<0.00005	<0.0013	<0.0252	<0.0125	<0.00613	<0.0003	<0.0003	<0.0003	<0.00003	
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00033	<0.0002	<0.001	<0.0002	<0.0001	0.0011J	<0.0001	<0.0037	<0.0718	<0.0356	<0.0175	<0.00037	<0.00037	<0.00037	<0.000037	
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00025	<0.00007	<0.00005	<0.00005	<0.00005	<0.0008	<0.0155	<0.00769	<0.00377	<0.00021	<0.00021	<0.00021	<0.000021	
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.12000	0.15000	0.16000	0.15000	0.230	0.07500	0.21J	0.188	0.279	0.326	0.204	0.16	0.15	0.14	0.047	
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00035	<0.00007	<0.00005	<0.00005	<0.00005	<0.0011	<0.0214	<0.0106	<0.00519	<0.0002	<0.0002	<0.0002	<0.00002	
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.0026	0.0013	0.0013	0.0014	0.0018	0.0013J	0.0016J	<0.0007	<0.0136	<0.00673	<0.0033	0.0021	0.0023	0.0017	0.002	
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.08900	0.09600	0.11000	0.09400	0.18000	0.05700	0.14J	0.13600	0.21400	0.26800	0.163	0.087	0.12	0.098	0.021	
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	3.3	4.3	6.1	5.9	7.3	3.6	7.8J	9.29	11.8	11.4	5.27	4.4	4.9	6.1	3.2	
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00035	<0.00009	<0.00005	<0.00005	<0.00005	<0.0011	<0.0214	<0.0106	<0.00519	<0.00024	<0.00024	<0.00024	<0.000024	
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00025	<0.00009	<0.00005	<0.00005	<0.00005	<0.001	<0.0194	<0.00962	<0.00472	<0.00025	<0.00025	<0.00025	<0.000025	
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00025	<0.00008	<0.00005	<0.00005	<0.00005	0.00610	<0.118	<0.0587	<0.0288	<0.00079	<0.00079	<0.00079	0.014	
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.07800	0.06700	0.08200	0.06300	0.09800	0.04200	0.083J	0.101	0.14400	0.19	0.114	0.066	0.08	0.082	0.024	
Phenol	108-95-2	8270	7.30E+00	2.20E+01	0.00500	0.04300	0.00540	0.02000	0.06100	0.01100	0.12J	<0.0004	<0.00777	<0.00385	<0.00189	0.0019J	<0.00035	<0.00035	0.0032	
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.0013	0.00075	0.00063J	0.00085	0.0011	0.00077J	0.00081J	<0.0011	<0.0214	<0.0106	<0.00519	0.0011	0.0012	0.0008J	0.0012	

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

Constituent	CAS	Method	Residential Assessment Level mg/L	C/I Assessment Level mg/L	MW-20A								MW-22A								
					7/14/2011	2/1/2012	7/16/2012	1/30/2013	1/23/2018	3/19/2018	5/18/1/8	1/8/2019	2/3/2009	1/15/2010	6/29/2010	1/25/2011	7/21/2011	2/15/2012	7/18/2012	1/23/2014	07/30/2014
					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds																					
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.001	<0.005	<0.0005	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.0002	<0.0014
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.098	0.057	0.089	0.0746	0.053	0.05	0.062	0.024	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.0002	0.00296
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.001	<0.005	<0.0005	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00018	<0.00012
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.077	0.046	0.1	0.0619	0.05	0.027	0.045	0.024	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	0.000549	0.0403
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	0.0013	0.0065	0.001	0.00015	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00022	<0.00015
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.001	<0.005	<0.022	<0.0028	0.0038	<0.0002	0.0055	0.00077 J	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	0.000307J	0.00925
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03																	
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.057J	0.028J	0.08800	0.05490	0.05	0.033	0.048	0.022	<0.001	<0.001	<0.001	0.001J	<0.0031	<0.0031	<0.0015	0.000834J	0.0569
Semi-Volatile Organic Compounds																					
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0005	<0.0005	<0.00005	<0.00519	<0.00021	<0.00021	<0.00021	<0.00021	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.00011	<0.00011
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	0.30000	0.07600	0.10000	0.119	0.049	0.072	0.06	0.0076	<0.0008	<0.0008	<0.0008	<0.0008	<0.0005	<0.0005	<0.0005	<0.00031	<0.00031
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00005	<0.0005	<0.00005	<0.00613	<0.00058	<0.00059	<0.00058	<0.00058	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00006	<0.0006	<0.00006	<0.00377	<0.00042	<0.00042	<0.00042	<0.00042	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.0005	<0.0005	<0.00005	<0.00377	<0.00021	<0.00021	<0.00021	<0.00021	<0.00012	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.00008	<0.00008
2-Methylnaphthalene	91-57-6	8270	9.80E-02	2.90E-01	0.42	0.064	0.36	0.191	0.15	0.15	0.17	0.069	<0.00007	<0.00007	<0.00007	0.00072	0.00005	<0.00005	0.00059	<0.00007	0.00603
4,6-Dinitro-2-methylphenol	534-52-1	8270	2.40E-03	7.30E-03	<0.00008	<0.0008	<0.00008	<0.0392	<0.0002	<0.0002	<0.0002	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00005	<0.0005	<0.00005	<0.0264	<0.00047	<0.00047	<0.00047	<0.00047	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.2	0.15	0.19	0.12	0.14	0.18	0.15	0.1	<0.00009	<0.00009	<0.00009	0.00015J	<0.00005	0.00009J	0.00031	0.00557	0.0783
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00170	0.0015J	0.00150	<0.00283	0.0014	<0.00015	0.0013	0.00057	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	0.000742	0.000943
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00580	0.00440	0.00420	0.00589J	0.021	0.022	0.0081	0.0058	0.0002	<0.00007	<0.00007	0.00011J	<0.00005	0.000058J	0.00040	0.000939	0.00265
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00005	<0.0005	<0.00005	<0.00377	<0.0005	<0.00051	<0.0005	<0.00005	0.00015J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00011J	<0.00008	<0.00008
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00005	<0.0005	<0.00005	<0.00377	<0.0002	<0.0002	<0.0002	<0.0002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00005	<0.0005	<0.00005	<0.00613	<0.0003	<0.0003	<0.0003	<0.0003	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00033	<0.001	<0.0001	<0.0175	<0.00037	<0.00037	<0.00037	<0.00037	0.00033	0.0013	0.0012	<0.0002	0.0015	0.0011	0.00011J	<0.00037	0.000703
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00005	<0.0005	<0.00005	<0.00377	<0.00021	<0.00021	<0.00021	<0.00021	0.00014J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.0001J	<0.00008	<0.00008
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.14	0.073	0.15	0.0799	0.097	0.13	0.081	0.067	<0.00008	<0.00008	<0.00008	0.00015J	<0.00005	0.000074J	0.00048	0.001	0.0224
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00005	<0.0005	<0.00005	<0.00519	<0.0002	<0.0002	<0.0002	<0.0002	0.00017J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	0.000866J	<0.00011
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.0007	0.00082J	0.00061	<0.0033	0.00078 J	0.00095J	0.00074	0.00041	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.000086J	0.00041	0.000362J	0.00247
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.11000	0.06000	0.11000	0.06610	0.16	0.16	0.076	0.062	<0.00007	<0.00007	<0.00007	0.0001J	<0.00005	0.00008J	0.00029	0.000468J	0.0175
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	7.7	0.96	6.1	43.9	2.7	2.9	2.8	1.4	<0.0001	<0.0001	<0.0001	0.0035	0.001J	0.00024	0.0018	0.0034J	0.792
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00005	<0.0005	<0.00005	<0.00519	<0.00024	<0.00024	<0.00024	<0.00024	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00005	<0.0005	<0.00005	<0.00472	<0.00025	<0.00025	<0.00025	<0.00025	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00005	<0.0005	<0.00005	<0.0288	<0.00079	<0.00079	<0.00079	<0.00079	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.03900	0.03000	0.04300	0.0217J	0.032	0.037	0.034	0.025	<0.00007	<0.00007	<0.00007	0.00028	<0.00005	0.0002J	0.00150	0.000478J	0.000604
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00005	<0.0005	<0.00005	<0.00189	<0.00035	<0.00035	<0.00035	<0.00035	<0.00007	<0.00007	<0.00007	0.00017J	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.0004	0.00056J	0.0003	0.00519	<0.00019	0.0005J	0.00048	0.00025	0.00013J	<0.00007	<0.00007	<0.00007	<0.00005	0.000055J	0.00033	<0.00011	0.00106

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are bold type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

Constituent	CAS	Method	Residential	C/I	MW-22AR				MW-24AR									
			Assessment Level	Assessment Level	2/8/2018	3/25/2018	5/31/2018	1/22/2019	2/5/2009	1/14/2010	6/29/2010	1/25/2011	7/21/2011	2/9/2012	7/25/2012	2/12/2013	8/8/2013	1/23/2014
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Volatle Organic Compounds																		
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0002	<0.0002	<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	71-43-2	8260	5.00E-03	5.00E-03	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	0.000201J	<0.00012	<0.00018
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0003	<0.0003	<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	75-09-2	8260	5.00E-03	5.00E-03	<0.001	<0.001	<0.001	<0.001	<0.0005	0.00050	<0.0005	0.0005J	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	0.00022J
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0002	<0.0002	<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	75-01-4	8260	2.00E-03	2.00E-03														<0.00011
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.0003	<0.0003	<0.0003	<0.0003	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	0.00058J
Semi-Volatile Organic Compounds																		
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<2.1E-05	<0.000021	<2.1E-05	<0.000021	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00004	<0.000041	<0.00004	<0.00004	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	0.00013J	<0.00005	<0.00031	<0.00031	<0.00031
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<5.9E-05	<0.000059	<5.9E-05	<0.000058	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<4.2E-05	<0.000043	<4.2E-05	<0.000042	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<2.1E-05	<0.000021	<2.1E-05	<0.000021	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008
2-Methylnaphthalene	91-57-6	8270	9.80E-02	2.90E-01	<1.9E-05	<0.000019	<1.9E-05	<0.000019	<0.00007	0.00023	<0.00007	0.00018J	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	9.24E-05J
4,6-Dinitro-2-methylphenol	534-52-1	8270	2.40E-03	7.30E-03	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<4.7E-05	<0.000048	<4.7E-05	<0.000047	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	0.00056J
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<2.7E-05	<0.000028	<2.7E-05	0.00071	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	0.000146J
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<1.5E-05	<0.000015	<1.5E-05	<0.000015	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<1.4E-05	<0.000014	0.00017	0.000028 J	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005J
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<5.1E-05	<0.000051	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00003	<0.000031	<0.00003	<0.00003	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.0033	<0.000038	<0.0001	0.000065 J	0.00031	0.00029	0.0024	<0.0002	0.00089	0.00048	<0.0001	<0.00037	<0.00037	0.000767J
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<2.1E-05	<0.000021	<2.1E-05	<0.000021	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00002	<0.00002	<0.00002	0.000029 J	<0.00008	0.000084J	0.00011J	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	0.000164J
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00002	<0.00002	<0.00002	0.00051	<0.00019	0.0001J	<0.00007	<0.00007	<0.00005	0.00017J	0.000071J	<0.00011	0.000168J	0.00011J
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00001	<0.00001	<0.00001	0.000079 J	<0.00007	0.00011J	<0.00007	<0.00007	<0.00005	0.000069J	<0.00005	<0.00007	<0.00007	0.000224J
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00003	<0.000031	<0.00003	0.00014	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	0.000137J
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	<0.00017	0.00012	<0.00002	<0.00002	<0.0001	0.0023	0.0036	0.00081	<0.00005	<0.00005	<0.00005	0.000139J	<0.00008	0.00008J
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<2.4E-05	<0.000024	<2.4E-05	<0.000024	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<2.5E-05	<0.000026	<2.5E-05	<0.000025	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.000081	<7.9E-05	<0.000079	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<2.1E-05	0.00012	<2.1E-05	0.000068 J	<0.00007	0.00018J	<0.00007	0.0001J	<0.00005	<0.00005	<0.00005	0.000089J	<0.00006	0.00006
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<3.5E-05	<0.000036	<3.5E-05	<0.000035	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00005J	<0.00005	<0.00004	<0.00004	<0.00004
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<1.9E-05	<0.000019	<1.9E-05	0.000084 J	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.000067J	<0.00005	<0.00011	<0.00011	0.000172J

Notes:

1. Sampling locations shown on Figure 1
2. Concentrations > RAL and non-detects are **bold** type.
3. Concentrations > cPCL and non-detects are highlighted.
4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = Compound not detected at the specified detection limit.

* indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

Constituent	CAS	Method	Residential	C/I	MW-25A														
			Assessment Level	Assessment Level	2/3/2009	1/15/2010	6/30/2010	1/26/2011	7/20/2011	2/8/2012	7/18/2012	2/6/2013	8/6/2013	1/22/2014	07/29/2014	1/31/2018	3/26/2018	5/31/2018	1/15/2019
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	0.0005J	0.00012J	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.0029J	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.00074J	<0.0005	0.00050	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03					<0.001	<0.001	<0.0005	<0.00011	<0.00011	<0.00018	<0.00011	<0.0002	<0.0002	<0.0002	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.0047J	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
mi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<4.1E-05	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	0.00066	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.9E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.3E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.02400	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<6.1E-05	<0.00007	<0.00007	<0.00007	<0.00007	0.00014	<1.9E-05	5.2E-05 J	<5.1E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	0.00026	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.8E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.034	0.0014	0.0012	0.00054	0.0042	0.00053	<0.00005	0.00017J	0.00035J	0.00356	9.1E-05J	0.062	0.054	<2.7E-05	3.6E-05 J
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00040	<0.00007	0.00034	<0.00007	5.3E-05J	<0.00005	<0.00005	<0.00006	<0.00006	0.00054	<0.00006	0.00044	0.00053	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00050	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00057	0.00068	<1.4E-05	1.5E-05 J
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<5.1E-05	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	0.00012J	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<3.1E-05	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00033	<0.0002	0.00056	<0.0002	0.00023	<0.0001	<0.0001	<0.00037	<0.00037	<0.00037	<0.00037	<0.00008	<3.8E-05	<0.0001	<7.8E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.018	<0.00008	0.00034	<0.00008	0.0013	0.0005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	0.00017	0.00011	3.3E-05 J	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<0.00002	<0.00002	<0.00002	0.00002 J
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00057	8.4E-05J	9.2E-05J	<0.00007	0.00014J	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	0.00106	<0.00007	0.0062	<0.00001	1.5E-05 J
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.0049	<0.00007	<0.00007	<0.00007	0.00016J	0.00011J	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	0.026	0.022	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.45	<0.0001	0.00024	0.00027	<0.00005	0.00017J	<0.00038	<0.0007	<0.00008	0.0008J	0.000817	<0.00029	0.0002	0.0006	<0.00029
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.6E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	0.00033	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<8.1E-05	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00340	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	0.00015	0.00015	<2.1E-05	2.9E-05 J
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00005J	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.6E-05	<3.5E-05	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00036	0.00047	0.00015J	<0.00007	0.0009	<0.00005	<0.00005	<0.00011	0.00012J	0.000585	0.00018J	0.0033	0.0049	<1.9E-05	2.7E-05 J

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-26A																	
Constituent	CAS	Method	mg/L	mg/L	2/3/2009	1/13/2010	6/25/2010	1/24/2011	7/19/2011	8/25/2011	#####	2/15/2012	7/17/2012	2/6/2013	8/7/2013	#####	1/22/2014	07/24/2014	1/28/2018	3/21/2018	6/5/2018	1/15/2019
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds																						
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001			<0.001	<0.0005	<0.00014	<0.00014		<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	0.031	0.04200	0.004J	<0.001	<0.0005	0.00118	0.0097	0.00391	0.00043J	0.00019J	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001			<0.001	<0.0005	0.00018J	0.0003J		<0.00018	0.00021J	<0.0003	<0.0003	<0.0003	0.00056J
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011			<0.0011	<0.0005	<0.00011	0.00082J		<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013			<0.0013	<0.001	<0.00015	<0.00015		<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001			<0.001	<0.0005	<0.00015	0.00029J		<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03															<0.00011			
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	0.0045J			<0.0031	<0.0015	<0.00026	0.00239J		<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
mi-Volatile Organic Compounds																						
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005			<0.00005	<0.00005	<0.00529	<0.00011		<0.00011	<0.00011	<2.1E-05	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	0.00054	<0.00008	<0.00008	<0.00008	<0.00005			<0.00005	<0.00005	<0.0149	<0.00031		<0.00031	<0.00031	5.6E-05 J	<0.000041	<0.000041	<0.000041
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005			<0.00005	0.0001J	<0.00625	<0.00013		<0.00013	<0.00013	<5.8E-05	<0.000059	<0.000058	<0.000058
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006			<0.00006	<0.00006	<0.00385	<0.00008		<0.00008	<0.00008	<4.2E-05	<0.000043	<0.000042	<0.000042
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005			<0.00005	<0.00005	<0.00385	<0.00008		<0.00008	<0.00008	<2.1E-05	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.00240	<0.00007	<0.00007	0.00031	0.00039			<0.00005	5.6E-05J	<0.00337	0.00041J		<0.00007	<0.00007	5.3E-05 J	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	0.00008J	<0.00008	<0.00008	<0.00008	<0.00008			<0.00008	<0.00008	<0.0399	<0.000083		<0.000083	<0.000083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005			<0.00005	<0.00005	<0.0269	0.00056		<0.00056	<0.00056	<4.7E-05	<0.000048	<0.000047	<0.000047
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.015	0.0097	0.005	0.0039	0.12			0.0095	0.0087	0.0481	0.141		0.0699	0.0663	0.0073	<0.000028	0.019	0.042
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	0.00014J	<0.00007	<0.00007	0.00047			0.00013J	<0.00005	<0.00288	<0.00006		<0.00006	0.000486	0.00007 J	<0.000015	0.000082J	0.00027
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00079	<0.00007	0.00020	9.9E-05J	0.00260			0.00025	0.00027	<0.0024	0.00228		0.00136	0.00141	0.00012	0.00015	0.00025	0.00087
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	0.00016J	<0.00007	<0.00007	<0.00007	<0.00005			<0.00005	<0.00005	<0.00385	<0.00008		<0.00008	<0.00008	<0.00005	<0.000051	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005			<0.00005	<0.00005	<0.00385	<0.00008		<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005			<0.00005	<0.00005	<0.00625	<0.00013		<0.00013	<0.00013	<0.00003	<0.000031	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00042	0.00026	0.00045	0.00043	0.00031			<0.0001	0.0002J	<0.0178	<0.00037		<0.00037	<0.00037	7.6E-05 J	<0.000038	<0.000037	<0.000037
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	0.00018J	<0.00007	0.0003	<0.00007	<0.00005			<0.00005	<0.00005	<0.00385	<0.00008		<0.00008	<0.00008	<2.1E-05	<0.000021	<0.000021	<0.000021
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.0026	0.00078	0.00033	0.00038	0.021			0.0014	0.00084	0.00416J	0.0151		<0.00008	0.00154	<0.00016	0.000086J	0.0001	0.0005
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005			<0.00005	<0.00005	<0.00529	<0.00011		<0.00011	<0.00011	<0.00002	0.000052J	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00091	0.0003	0.0004	0.00036	0.0048			0.00049	0.00092	<0.00337	0.0062		0.00306	0.00465	0.00084	0.0011	0.0014	0.0044
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.0016	0.00028	0.00034	0.00017J	0.00570			0.0006	0.00041	<0.00337	0.00611		0.0031	0.00245	0.00044	0.00051	0.00084	0.0039
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.0074	<0.00051	<0.0001	0.0043	0.0019			0.0001J	0.00027	<0.00385	0.0066		0.00008J	0.00042J	<0.00014	<0.00002	<0.00002	<0.00049
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005			<0.00005	<0.00005	<0.00529	<0.00011		<0.00011	0.00394	<2.4E-05	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	0.00023			<0.00005	<0.00005	<0.00481	<0.0001		<0.0001	<0.0001	<2.5E-05	<0.000026	<0.000025	<0.000025
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005			<0.00005	<0.00005	<0.0293	<0.00061		<0.00061	<0.00061	<7.9E-05	<0.000081	<0.000079	<0.000079
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00300	0.00021	0.00017J	0.00011J	0.00029			<0.00005	<0.00005	<0.00288	<0.00006		0.00015J	0.00016J	<3.8E-05	<0.000021	<0.000021	0.00012
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005			<0.00005	<0.00005	<0.00192	<0.00004		<0.00004	<0.00004	<3.5E-05	<0.000035	<0.000035	<0.000035
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00069	9.2E-05J	0.0002J	0.00013J	0.0031			0.00024	0.00051	<0.00529	0.00322		0.00159	0.0022	0.00043	0.00042	0.00094	0.0025

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

Constituent	CAS	Method	Residential	C/I	MW-27A					MW-28A													
			Assessment Level	Assessment Level	2/9/2018	3/26/2018	6/1/2018	2/3/2009	1/13/2010	6/30/2010	1/25/2011	7/19/2011	2/16/2012	7/17/2012	2/7/2013	8/7/2013	1/22/2014	07/25/2014	1/25/2018	3/21/2018	5/17/2018	1/14/2019	
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Volatile Organic Compounds																							
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03																			
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.0003	<0.0003	<0.0003	<0.001	<0.001	<0.001	0.00100	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	
mi-Volatile Organic Compounds																							
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<2.1E-05	<0.00021	<0.00021	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0011	<0.00011	<0.00011	<0.00011	<2.1E-05	<0.00021	<0.00021	<0.00021	
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00004	<0.00004	<0.00004	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0031	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	0.012	<0.00004	
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<5.9E-05	<0.000058	<0.000058	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0013	<0.00013	<0.00013	<0.00013	<5.9E-05	<0.000059	<0.00058	<0.00058	
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<4.2E-05	<0.000042	<0.000042	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0008	<0.00008	<0.00008	<0.00008	<4.2E-05	<0.000042	<0.00042	<0.00042	
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<2.1E-05	<0.000021	<0.000021	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0008	<0.00008	<0.00008	<0.00008	<2.1E-05	<0.000021	<0.00021	<0.00021	
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<1.9E-05	<0.000019	<0.000019	<0.00007	<0.00007	<0.00007	0.00064	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<1.9E-05	<0.000019	0.001	<0.000055	
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.0002	<0.00002	
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<4.7E-05	<0.000047	<0.000047	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0056	<0.00056	<0.00056	<0.00056	<4.7E-05	<0.000047	<0.00047	<0.00047	
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<2.7E-05	<0.000027	<0.000027	<0.00009	<0.00009	<0.00009	0.002	<0.00005	<0.00005	<0.00008	0.00037J	<0.00008	<0.00008	<0.00008	<2.7E-05	<0.000027	0.00031 J	0.000092 J	
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<1.5E-05	<0.000015	<0.000015	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0006	<0.00006	<0.00006	<0.00006	<1.5E-05	<0.000015	<0.00015	<0.00015	
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<1.4E-05	<0.000014	<0.000014	<0.00007	<0.00007	<0.00007	0.00036	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	1.6E-05J	0.000021J	<0.00014	<0.00014	
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<5.1E-05	<0.00005	<0.00005	0.00013J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0008	<0.00008	<0.00008	<0.00008	<5.1E-05	<0.000051	<0.0005	<0.00005	
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00002	<0.00002	<0.00002	0.00011J	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	4.5E-05J	<0.00002	<0.0002	<0.00002	
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00003	<0.00003	<0.00003	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.0002	<0.000037	0.0005	0.0037	0.00022	0.00190	<0.0002	0.00032	<0.001	0.00043	<0.0037	<0.00037	<0.00037	<0.00037	0.00018J	0.000062J	0.00084 J	0.000061 J	
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	0.00005J	<0.000021	<0.000021	0.00013J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0008	<0.00008	<0.00008	<0.00008	5.3E-05J	<0.000021	<0.00021	<0.000021	
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	0.0005	<0.00005	<0.00005	<0.00005	<0.0008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	0.00031 J	<0.00011	
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00002	<0.00002	<0.00002	0.00016J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0011	<0.00011	<0.00011	<0.00011	0.00003J	<0.00002	<0.0002	<0.00002	
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	5.8E-05J	<0.00001	<0.00001	0.00012J	<0.00007	<0.00007	0.00021	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	6.2E-05J	0.000055J	<0.0001	<0.00001	
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00003	<0.00003	<0.00003	<0.00007	<0.00007	<0.00007	0.0003	<0.00005	<0.00005	<0.00005	<0.0007	<0.00007	<0.00007	<0.00007	<0.00003	<0.00003	<0.0003	0.000056 J	
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	<0.00002	<0.00002	<0.00002	0.00017J	<0.0001	<0.0001	0.0023	<0.00005	<0.00005	0.00093	0.0013	<0.0008	<0.00017	<0.00008	<0.00002	<0.00002	0.024	<0.00024	
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<2.4E-05	<0.000024	<0.000024	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<0.000024	<0.00024	<0.000024	
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<2.5E-05	<0.000025	<0.000025	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.001	<0.0001	<0.0001	<0.0001	<2.5E-05	<0.000025	<0.00025	<0.000025	
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.000079	<0.000079	<0.00008	<0.00008	0.00032	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<0.00008	<0.000079	<0.00079	<0.000079	
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<2.1E-05	<0.000021	<0.000021	<0.00007	<0.00007	<0.00007	0.00097	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	3.2E-05J	0.00003J	0.00022 J	<0.000021	
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<3.5E-05	<0.000035	<0.000035	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0004	<0.00004	<0.00004	<0.00004	<3.5E-05	<0.000035	0.018	<0.000035	
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	7.8E-05J	<0.000019	<0.000019	0.00016J	<0.00007	<0.00007	0.00013J	<0.00005	<0.00005	<0.00011J	<0.00005	<0.0011	0.00025J	0.00011J	<0.00011	8.1E-05J	0.000079J	<0.00019	0.000065 J

Notes:

1. Sampling locations shown on Figure 1
2. Concentrations

Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

Constituent	CAS	Method	Residential	C/I	MW-30A				MW-31A				MW-32A				
			Assessment Level	Assessment Level	7/14/2011	2/3/2012	7/12/2012	2/1/2013	7/14/2011	2/3/2012	7/12/2012	2/1/2013	2/3/2009	1/14/2010	7/1/2010	1/25/2011	7/19/2011
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Volatile Organic Compounds																	
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.001	<0.001	<0.0025	<0.0028	<0.001	<0.025	<0.0005	<0.0014	<0.0005	<0.0005	<0.0005	<0.0025	0.03000
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.14	0.13	0.14	0.117	0.14	0.14	0.11	0.135	0.69	0.34	1.5	0.61	1.4
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.001	<0.001	<0.0025	<0.0024	<0.001	<0.025	<0.0005	<0.0012	<0.0005	<0.0005	<0.0005	<0.0025	<0.001
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.12	0.11	0.13	0.119	0.19	0.17	0.18	0.171	0.34	0.076	0.45	0.41	0.31
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0013	<0.013	<0.005	0.02110	<0.0013	<0.032	<0.01	0.00971J	<0.0005	<0.0005	0.0032J	<0.0025	<0.0013
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.51	0.49	0.54	0.443	0.37	0.36	0.31	0.346	0.74	0.36	1.5	1	1.2
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03													
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.32000	0.32000	0.32000	0.30200	0.63000	0.71000	0.63000	0.58300	0.88000	0.35000	1.30000	1.10000	0.87000
mi-Volatile Organic Compounds																	
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.00005	<0.0005	<0.00005	<0.0524	<0.00005	<0.0005	<0.00005	<0.055	<0.0001	<0.0001	<0.0001	<0.001	<0.00005
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	2.90000	3.00000	2.70000	2.94	5.30000	5.10000	3.40000	4.45	2.2	2.1	15.0	2.3	31.0
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00005	<0.0005	<0.00005	<0.0619	<0.00005	<0.0005	<0.00005	<0.065	<0.00009	<0.00009	<0.00009	<0.0009	<0.00005
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00006	<0.0006	<0.00006	<0.0381	<0.00006	<0.0006	<0.00006	<0.04	<0.00007	<0.00007	<0.00007	<0.0007	<0.00006
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00005	<0.0005	<0.00005	<0.0381	<0.00005	<0.0005	<0.00005	<0.04	<0.00012	<0.0001	<0.0001	<0.001	<0.00005
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.85	0.42	0.67	1.01	1	0.65	0.83	1.17	1.20	0.30	0.48	6.90	0.95
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.0008	<0.00008	<0.395	<0.00008	<0.0008	<0.00008	<0.415	<0.00008	<0.00008	<0.00008	<0.0008	<0.00008
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00005	<0.0005	<0.00005	0.26700	<0.00005	<0.0005	<0.00005	0.28000	<0.00007	<0.00007	<0.00007	<0.0007	<0.00005
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.31	0.23	0.24000	0.436	0.37	0.3	0.28	0.488	0.34	0.13	0.19	3.1	0.25
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00750	0.00640	0.00740	<0.0286	0.00760	0.00440	0.00320	<0.03	0.00600	0.00190	0.00790	0.02700	0.00500
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.01800	0.01300	0.01800	0.0391J	0.03200	0.02600	0.02600	<0.056	0.07700	0.05100	0.09300	0.91000	0.09000
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00005	<0.0005	<0.00005	<0.0381	0.00380	<0.0005	0.00023	<0.04	0.0096	0.0067	0.0100	0.3000	0.0380
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00005	<0.0005	<0.00005	<0.0381	0.00089	<0.0005	<0.00005	<0.04	0.003	0.0023	0.0067	0.078	0.019
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00005	<0.0005	<0.00005	<0.0619	<0.00005	<0.0005	<0.00005	<0.065	<0.00009	<0.00009	<0.00009	<0.0009	<0.00005
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	<0.0001	<0.001	<0.0001	<0.176	<0.0001	<0.001	<0.0001	<0.185	0.00042	0.0018	0.0041	0.0046	0.0013J
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00005	<0.0005	<0.00005	<0.0381	0.00310	<0.0005	0.00017J	<0.04	0.00870	0.00640	0.00990	0.28000	0.03300
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.25000	0.21000	0.20000	0.308	0.33000	0.26000	0.26000	0.36700	0.32000	0.14000	0.21000	3.20000	0.27000
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00005	<0.0005	0.0002	<0.0524	<0.00005	<0.0005	<0.00005	<0.055	<0.00007	<0.00007	<0.00007	<0.0007	<0.00005
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.0041	0.0031	0.0038	<0.0333	0.031	0.0029	0.0052	<0.035	0.098	0.07	0.09	2.5	0.11000
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.18000	0.13000	0.14000	0.24700	0.24000	0.17000	0.17000	0.27300	0.22000	0.08700	0.13000	2.50000	0.18000
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	15	7.8	12	16.8J	21	18	17	19.3J	16	3.5	11	31	21
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00005	<0.0005	<0.00005	0.05240	<0.00005	<0.0005	<0.00005	<0.055	<0.00009	<0.00009	<0.00009	<0.0009	<0.00005
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00005	<0.0005	<0.00005	0.04760	<0.00005	<0.0005	<0.00005	<0.05	<0.00009	<0.00009	0.014J	<0.0009	<0.00005
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	0.00033	<0.0005	<0.00005	<0.29	0.07600	0.11000	0.09400	<0.305	<0.00008	<0.00008	<0.00008	<0.0008	<0.00005
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.12000	0.06400	0.10000	0.162J	0.24000	0.14000	0.13000	0.26800	0.45000	0.25000	0.19000	8.90000	0.35000
Phenol	108-95-2	8270	7.30E+00	2.20E+01	0.14000	0.01500	0.02000	0.0781J	0.60000	0.76000	0.29000	0.57900	1.40000	1.30000	14.00000	1.20000	21
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.0022	0.0021	0.0018	<0.0524	0.018	0.0025	0.002	<0.055	0.062	0.043	0.047	1.5	0.072

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

Constituent	CAS	Method	Residential Assessment Level mg/L	C/I Assessment Level mg/L	MW-32AR									
					2/9/2012	7/16/2012	2/6/2013	8/7/2013	1/21/2014	07/24/2014	1/28/2018	3/27/2018	6/4/2018	1/23/2019
Volatile Organic Compounds														
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.001	<0.0005	0.023	0.00048J	<0.0002	0.0404	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0011	<0.0005	0.0082	0.0003J	<0.00019	0.0208	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0013	<0.0001	<0.00015	<0.00015	<0.00022	<0.00015	<0.0001	<0.0001	<0.0001	<0.0001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.001	<0.0005	0.00338	0.00023J	<0.00017	0.000849J	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03				<0.00011		<0.00011				
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.0031	<0.0015	0.0176	0.00087J	<0.00058	0.0336	<0.0003	<0.0003	<0.0003	<0.0003
mi-Volatile Organic Compounds														
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.00005	<0.00005	<0.00529	<0.00011	<0.00011	<0.00011	<2.1E-05	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	0.00120	6.1E-05J	0.0172J	<0.00031	<0.00031	0.0722	<0.00004	<0.00004	<0.00004	0.00013 J
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00005	<0.00005	<0.00625	<0.00013	<0.00013	<0.00013	<5.8E-05	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00006	<0.00006	<0.00385	<0.00008	<0.00008	<0.00008	<4.2E-05	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00005	<0.00005	<0.00385	<0.00008	<0.00008	<0.00008	<2.1E-05	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	8.8E-05J	0.00019J	0.011J	<0.00007	0.00021J	0.206	7.9E-05J	0.0068	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.0399	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00005	<0.00005	<0.0269	<0.00056	<0.00056	<0.00056	<4.7E-05	<0.000047	<0.000047	<0.000047
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.0046	0.0029	0.0232J	0.00625	0.0105	0.111	0.0013	0.0043	0.002	0.0001
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00032	<0.00005	<0.00288	0.00026J	0.00006J	0.00226	5.4E-05J	0.000054J	<0.000015	<0.000015
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00041	0.00026	<0.0024	0.00022J	0.00044J	0.00332	8.2E-05J	0.00021	0.000064 J	0.00002 J
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	0.00012J	0.00015J	<0.00385	<0.00008	<0.00008	0.000218J	0.00006J	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00005	<0.00005	<0.00385	<0.00008	<0.00008	<0.00008	2.7E-05J	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00005	<0.00005	<0.00625	<0.00013	<0.00013	0.000452J	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00054	0.00014J	<0.0178	<0.00037	<0.00037	0.000621	0.00011J	<0.000037	<0.000014	<0.000044
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	9.3E-05J	0.00023	<0.00385	<0.00008	7.7E-05J	0.00016J	5.8E-05J	<0.000021	0.000037 J	<0.000021
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.00096	0.00170	0.00936J	0.000515	0.000664	0.05	<5.3E-05	0.0024	0.00007 J	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00005	5.6E-05J	<0.00529	0.00012J	<0.00011	<0.00011	<0.00002	<0.00002	<0.00002	0.00002 J
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.002	0.003	0.00508J	0.00102	0.00124	0.00656	0.00048	0.00023	0.00031	0.000051 J
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.0017	0.0016	0.00932J	0.00105	0.00317	0.0516	0.00012	0.00093	0.000058 J	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00044	0.0036	0.406	<0.00297	0.0087	3.83	<0.00058	0.026	0.000043 J	0.000067 J
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00005	<0.00005	<0.00529	<0.00011	<0.00011	<0.00011	0.00035	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00005	<0.00005	<0.00481	<0.0001	<0.0001	<0.0001	<2.5E-05	<0.000025	<0.000025	<0.000025
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00005	<0.00005	<0.0293	<0.00061	<0.00061	<0.00061	<7.9E-05	<0.000079	<0.000079	<0.000079
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00033	5.5E-05J	0.00768J	0.00011J	0.0001J	0.0111	0.00022	0.0013	<0.000021	0.000034 J
Phenol	108-95-2	8270	7.30E+00	2.20E+01	0.00012J	0.00029	<0.00192	<0.00004	<0.00004	<0.00004	<3.5E-05	<0.000035	<0.000035	<0.000035
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.0041	0.0046	<0.00529	0.000617	0.000625	0.00474	0.00031	0.00018	0.00049	0.000036 J

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

Constituent	CAS	Method	Residential Assessment Level	C/I Assessment Level	MW-33A														
			mg/L	mg/L	2/3/2009	1/13/2010	6/29/2010	1/24/2011	7/19/2011	2/15/2012	7/17/2012	2/12/2013	8/7/2013	1/23/2014	08/28/2014	1/30/2018	3/27/2018	6/5/2018	1/22/2019
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	0.00020	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.00071J	0.0025J	0.0018J	0.0056	0.009	0.054	0.0023J	0.00782	0.165	0.223	0.00236	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	0.00019J	0.00021J	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	0.0015J	0.0033J	0.075	<0.0005	0.0022	0.109	<0.135	0.0014	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	0.019	<0.0005	<0.00015	0.00639	<0.23	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03									<0.00011				<0.0002		
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	0.0016J	<0.0031	<0.11	<0.0015	0.00223J	0.17200	0.188	0.00063J	<0.0003	<0.0003	<0.0003	<0.0003
mi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00519	<0.104	<0.00011	<2.1E-05	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	0.00270	0.00340	0.02900	<0.00005	0.00623	0.888	1.44	0.0212	<0.0002	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00613	<0.123	<0.00013	<5.8E-05	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	0.00006J	<0.00008	<0.00377	<0.0755	<0.00008	<4.2E-05	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00377	<0.0755	<0.00008	<2.1E-05	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.00066	0.00090	0.00092	0.00670	0.02200	0.03000	0.0015	0.00345	0.195	0.263J	0.0216	<1.9E-05	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.0392	<0.783	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.0264	<0.528	<0.00056	<4.7E-05	<0.000047	<0.000047	<0.000047
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.013	0.028	0.012	0.014	0.037	0.048	0.019	0.0279	0.157	0.288J	0.046	0.0005	<0.000027	0.00097 J	<0.000027
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	0.00015J	<0.00007	0.00014J	0.00018J	0.00030	<0.00005	<0.00006	<0.00283	0.0566J	0.00041J	2.2E-05J	<0.000015	<0.000015	<0.000015
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.0002J	0.00028	0.00021	0.00072	0.00130	0.00082	0.00260	<0.00075	0.0049J	<0.0472	0.00132	<1.4E-05	<0.000014	0.000021 J	<0.000014
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	0.0002J	0.00017J	0.00014J	0.00025	0.00019J	0.0001J	0.00043	0.00017J	<0.00377	<0.0755	0.00029J	7.7E-05J	<0.00005	0.000077 J	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	0.00011J	<0.00008	<0.00377	<0.0755	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00613	<0.123	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00033	0.0003	0.00035	0.00031	0.00056	0.0013	0.00014J	<0.00037	<0.0175	<0.349	<0.00037	<3.7E-05	<0.000037	<0.000078	<0.000037
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	0.00012J	0.00012J	0.00009J	0.00016J	0.0001J	6.1E-05J	0.00033	0.00011J	<0.00377	<0.0755	0.00017J	<2.1E-05	0.000047 J	0.00005 J	0.000025 J
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.00078	0.0019	0.0014	0.0027	0.0088	0.019	0.0049	0.00262	0.0728	0.148J	0.0164	4.2E-05J	<0.00002	0.00002 J	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00519	<0.104	<0.00011	<0.00002	<0.00002	0.000039 J	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.0022	0.0013	0.0012	0.003	0.0021	0.0012	0.0036	0.00212	0.00385J	0.0703J	0.00395	0.0006	0.00052	0.0006 J	0.00033
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.00067J	0.0015J	0.0012J	0.00270	0.00880	0.01500	0.0056J	0.00641	0.06680	0.145J	0.0146	<0.00003	<0.00003	0.00017 J	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.0028	0.02	0.0082	0.095	0.31	0.96	0.017	0.112	4.98	5.82	0.489	<0.00033	0.00013	<0.00019	<0.00002
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00519	<0.104	<0.00011	<2.4E-05	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.00472	<0.0943	<0.0001	<2.5E-05	<0.000025	<0.000025	<0.000025
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.0288	<0.575	<0.00061	<7.9E-05	<0.000079	<0.000079	<0.000079
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00037	0.00032	0.00065	0.00480	0.00460	0.00380	0.00580	0.00049	0.0232J	0.18J	0.00427	<2.1E-05	<0.000021	0.000085 J	<0.000021
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00189	0.203J	<0.00004	<0.0002	<0.000035	<0.000035	<0.000035
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.0024	0.0019	0.0016	0.0035	0.0025	0.0021	0.0035	0.00283	<0.00519	<0.104	0.0043	0.00028	0.00057	0.00073	0.00015

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

Constituent	CAS	Method	Residential	C/I	MW-35A														
			Assessment Level	Assessment Level	2/3/2009	1/14/2010	6/30/2010	1/27/2011	7/20/2011	2/15/2012	7/18/2012	2/7/2013	8/8/2013	1/24/2014	07/24/2014	1/25/2018	3/22/2018	6/5/2018	1/15/2019
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	0.00037J	0.00021J	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	0.00015J	<0.0003	0.00042J	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	0.0015J	<0.0005	<0.0005	<0.0011	<0.0011	0.0015J	<0.00011	<0.00011	<0.00019	0.00047J	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	0.00022J	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03										<0.00011	<0.00011				
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	0.00031J	0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
mi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	0.0003	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	0.0021
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	0.00061	<0.00007	<0.00007	<0.00005	<0.00005	0.0063	0.00024J	<0.00007	0.00035J	0.00015J	0.0019	0.000092J	0.00032	0.016
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<0.000047	<0.000047	<0.000047
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.0035	0.017	0.0077	0.00069	0.00091	0.00041	0.0072	0.0196	0.0181	0.0551	0.0294	0.0076	0.0064	0.006	0.0039
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	0.00011J	<0.00007	<0.00007	<0.00005	0.00005J	<0.00005	<0.00006	<0.00006	0.00075	<0.00006	<1.5E-05	0.000088J	0.000066 J	0.000068 J
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	0.00043	0.00035	<0.00007	<0.00005	<0.00005	0.00130	0.00039J	<0.00005	0.00111	0.000601	0.00038	0.00028	0.00022	0.00044
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00005	0.00030	<0.00008	<0.00008	<0.00008	<0.00008	5.4E-05J	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00024	0.00045	0.00048	0.0004	0.00099	0.00013J	0.00014J	<0.00037	<0.00037	<0.00037	<0.00037	0.00011J	<0.000037	<0.00018	<0.000037
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00027	<0.00008	<0.00008	<0.00008	<0.00008	0.00005J	<0.000021	<0.000021	<0.000021
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.0014	0.005	0.0026	0.00011J	0.00013J	0.00008J	0.0043	0.00043J	0.00014J	0.00177	0.00115	0.0047	0.0011	0.00072	0.0041
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	9.2E-05J	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	0.00011J	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00034	0.0011	0.00048	0.00021	0.00053	0.00007J	0.0027	0.00011J	0.00037J	0.000484	0.000782	0.00065	0.00039	0.00024	0.00015
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.00062	0.0028	0.0014	9.5E-05J	0.00012J	<0.00005	0.0029	<0.00007	0.002	0.0149	0.0071	0.0024	0.00061	0.00086	0.0022
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	<0.0001	0.19	0.0017	0.00028	<0.00005	0.00027	0.05	0.00286J	0.00056J	0.00968	0.00293	0.13	0.013	0.0075	0.22
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	0.00009J	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<0.000025	<0.000025	<0.000025
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<0.000079	<0.000079	<0.000079
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	0.00039	<0.00007	<0.00007	<0.00005	<0.00005	0.00680	0.0001J	<0.00006	0.00006	0.00045J	0.0016	0.00028	<0.000021	0.0025
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<0.000035	<0.000035	<0.000035
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00025	0.00092	0.00031	<0.00007	0.00029	<0.00005	0.0016	0.00031J	0.00025J	0.00038J	0.000548	0.00055	0.00026	0.00027	0.00007

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

			Residential Assessment Level	C/I Assessment Level	MW-36A														
Constituent	CAS	Method	mg/L	mg/L	2/3/2009	1/13/2010	6/29/2010	1/20/2011	7/19/2011	2/7/2012	7/17/2012	1/31/2013	8/6/2013	1/16/2014	07/28/2014	1/25/2018	3/21/2018	5/31/2018	1/14/2019
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	0.00050	0.00050	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03					<0.001	<0.001	<0.0005	<0.00011	<0.00011	<0.00011	<0.00011	<0.0002	<0.0002	<0.0002	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	0.00100	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
mi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<4.1E-05	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.9E-05	<5.8E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.3E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	0.00030	0.00023	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	0.000177J	<1.9E-05	0.000022J	<1.9E-05	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<4.8E-05	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<0.00009	0.00036	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	0.00008J	<0.00008	<2.8E-05	0.00059	<2.7E-05	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<1.4E-05	0.000066J	<1.4E-05	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00008J	<0.00008	<0.00008	<0.00008	<0.00008	<5.1E-05	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	0.000064J	0.00003J	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<3.1E-05	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00045	0.00033	0.00061	0.00048	0.0004	0.0025	<0.0001	<0.00037	<0.00037	<0.00037	<0.00037	0.000089J	0.00015J	<0.0001	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	2.7E-05J	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00008	0.0003	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	0.00061	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00011	0.000391J	<0.00011	<0.00011	<0.00002	<0.00002	2.8E-05J	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00001	0.00012	3.3E-05J	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	0.00024	<0.00007	<0.00007	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<3.1E-05	0.00034	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.0006	0.0013	0.0023	<0.0001	<0.00005	<0.00005	0.0003	0.000211J	<0.00008	<0.00008	0.00101	<0.00002	<0.00002	<0.00002	<6.2E-05
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.6E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<8.1E-05	<7.9E-05	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	0.00039	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	8.61E-05J	0.00006J	<0.00006	<2.1E-05	0.00011	2.6E-05J	<2.1E-05	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.6E-05	<3.5E-05	<3.5E-05	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00015J	0.00021	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	0.000155J	<0.00011	<1.9E-05	0.000076J	3.2E-05J	<1.9E-05

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are bold type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

Constituent	CAS	Method	Residential Assessment Level	C/I Assessment Level	MW-38A														
			mg/L	mg/L	2/3/2009	1/14/2010	6/29/2010	1/25/2011	7/19/2011	8/25/2011	2/15/2012	7/18/2012	2/7/2013	8/8/2013	1/21/2014	07/25/2014	1/26/2018	3/25/2018	6/5/2018
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.0005	<0.00015	<0.00015	<0.00022	<0.00015	<0.0001	<0.0001	<0.0001	<0.0001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03											<0.00011				
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
ni-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.9E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.00044	<0.00007	0.00016J	0.000085J	<0.00005	<0.00005	0.00031	<0.00007	0.000115J	<0.00007	<1.9E-05	0.00014	<1.9E-05	5.5E-05 J	
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<0.00009	0.00024	<0.00009	<0.00009	0.00043	<0.00005	0.00025	<0.00008	0.00064	<0.00008	<0.00008	<2.7E-05	0.0039	0.00061	0.014
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	0.000053J	<1.5E-05	0.0002
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	0.00023	0.0001J	<0.00005	0.00013J	7.12E-05J	<0.00005	0.000103J	8.16E-05J	<1.4E-05	0.00026	0.00015	0.00017
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	0.00025	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<5.1E-05	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	0.00052	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00042	0.00049	0.00044	0.00064	0.00094	0.00160	0.00023	<0.00037	<0.00037	<0.00037	<0.00037	<3.7E-05	<3.7E-05	<0.0001	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	0.00022	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00008	<0.00008	0.000083J	<0.00008	<0.00005	0.000055J	<0.00005	0.00014J	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	0.00006 J	0.00014
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	0.00017J	<0.00005	0.000052J	<0.00011	0.000145J	<0.00011	<0.00011	<0.00002	<0.00002	0.00017 J	6.8E-05 J
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	0.00012J	<0.00007	0.00034	0.00014J	<0.00005	0.00017J	<0.00007	0.000164J	<0.00007	<0.00007	<0.00001	0.00023	3.2E-05 J	0.0013
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00015J	<0.00007	<0.00007	<0.00007	<0.00007	<0.00003	0.0003	0.00016	0.0024
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00600	<0.0001	<0.0001	0.00059	0.00026	<0.00005	0.00100	<0.00008	0.00192J	0.00008J	<0.00008	<0.00002	<0.00002	0.00071	0.00015
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	0.000067J	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<7.9E-05	<0.00008	<7.9E-05	<7.9E-05	
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	<0.00007	0.0001J	<0.00005	0.00011J	0.00032	<0.00006	<0.00006	<0.00006	<0.00006	<2.1E-05	0.00033	<2.1E-05	0.00058
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	0.0001J	<0.00007	0.00021	0.00018J	<0.00005	0.00016J	<0.00011	0.000176J	<0.00011	<0.00011	<1.9E-05	0.00021	5.6E-05 J	0.0011

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

			Residential Assessment Level	C/I Assessment Level	MW-44A														
Constituent	CAS	Method	mg/L	mg/L	2/3/2009	1/13/2010	6/30/2010	1/26/2011	7/20/2011	2/15/2012	7/25/2012	2/12/2013	8/5/2013	1/17/2014	08/28/2014	1/31/2018	3/26/2018	6/1/2018	1/22/2019
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.003J	<0.0005	0.0026J	<0.0005	0.002J	0.0042J	0.0044J	0.00206	0.00849	0.00727	0.0042	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	0.000624J	0.00172	0.00067	0.000344J	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	0.000252J	0.000705J	0.000418J	0.000329J	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03					<0.001	<0.001	<0.0005	<0.00011	<0.00018		<0.00011	<0.0002	<0.0002	<0.0002	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.0013J	<0.001	0.0026J	<0.001	<0.0031	0.0052J	0.0033J	0.00469	0.02070	0.00805	0.00561	<0.0003	<0.0003	<0.0003	<0.0003
mi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	0.00081	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<4.1E-05	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	0.00017J	<5.9E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.3E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.00097	0.00012J	0.00400	<0.00007	0.00230	0.00480	0.00950	<0.00007	0.10900	0.01060	0.00902	<9.3E-05	<1.9E-05	<1.9E-05	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.0083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.8E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.12000	0.13000	0.20000	0.23000	0.23000	0.21000	0.22000	0.07000	0.54600	0.39400	0.197	0.062	0.064	0.09	0.037
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00120	0.00079	0.00096	0.00140	0.00130	0.00100	0.00130	0.00276J	<0.0006	<0.0006	0.0014	0.00078	0.0006	<1.5E-05	0.00036
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00460	0.00770	0.00670	0.00055	0.00580	0.00680	0.00400	<0.0005	0.01700	0.01700	0.00868	0.00066	0.0024	0.0022	0.00044
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0008	<0.0008	<0.00008	<0.00008	<0.00005	<5.1E-05	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.0008	<0.0008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0013	<0.0013	<0.00013	0.00014J	<0.00003	<3.1E-05	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00043	0.00031	0.00028	0.00048	0.00075	0.00011J	<0.0001	<0.0037	<0.0037	<0.00037	<0.00037	<0.0001	<3.8E-05	<0.0001	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0008	<0.0008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	2.6E-05 J
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.05400	0.00870	0.00430	0.00072	0.00140	0.00100	0.00310	<0.0008	0.13500	0.10700	0.0159	0.00019	0.00029	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0011	<0.0011	<0.00011	<0.00011	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00320	0.00560	0.00600	0.00140	0.00950	0.00940	0.00650	0.00257J	0.01370	0.01540	0.00749	0.0067	0.0095	0.012	0.0058
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.05600	0.06900	0.09700	0.00027	0.09400	0.11000	0.09100	0.00495	0.17200	0.17800	0.0987	0.024	0.03	0.039	0.0097
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.02100	0.00110	0.16000	0.00035	0.04200	0.32000	0.39000	0.000941J	1.72000	0.235J	0.0163	<0.00028	0.00036	0.00038	0.00011
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0011	<0.0011	<0.00011	0.0012	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	0.00065	<0.00005	<0.001	<0.001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.6E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0061	<0.0061	<0.00061	<0.00061	<7.9E-05	<8.1E-05	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.02000	0.00550	0.00250	<0.00007	0.00470	0.00730	0.00640	<0.0006	0.04160	0.04380	0.0217	0.00012	0.00018	0.0002	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.000062J	<0.0004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.6E-05	<3.5E-05	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00160	0.00320	0.00300	0.00100	0.00460	0.00540	0.00380	0.00139J	0.00732	0.00830	0.0041	0.0037	0.0069	0.0073	0.0033

- Notes:
1. Sampling locations shown on Figure 1
2. Concentrations > RAL and non-detects are bold type.
3. Concentrations > cPCL and non-detects are highlighted.
4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = Compound not detected at the specified detection limit.
* indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-49A														
Constituent	CAS	Method	mg/L	mg/L	2/4/2009	1/21/2010	6/25/2010	1/20/2011	7/22/2011	2/7/2012	7/26/2012	2/7/2013	8/1/2013	1/16/2014	07/16/2014	1/29/2018	4/1/2018	5/31/2018	1/23/2019
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.005	<0.001	<0.05	<0.0005	<0.00014	<0.0014	<0.0002	<0.00014	<0.0002	<0.001	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.24000	0.20000	0.29000	0.05700	0.20000	<0.05	0.04200	0.11400	0.09400	0.05650	0.108	0.013	0.016	0.01	0.004
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	0.00530	0.0024J	<0.0005	0.0084J	<0.001	<0.05	0.0037J	0.29900	0.47600	0.30400	0.211	<0.0003	<0.0015	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.08400	0.08500	0.14000	0.04J	0.09400	<0.055	0.03700	0.03210	0.04990	0.03310	0.0701	0.01	0.01	0.0067	0.0031
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.005	<0.0013	<0.065	<0.001	<0.00015	<0.0015	<0.00022	0.0212	<0.001	<0.005	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.07700	0.08300	0.13000	0.021J	0.11000	<0.05	0.03100	0.03430	0.03470	0.02960	0.0593	0.003	0.0075	0.0065	0.0023
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03				<0.005	<0.001	<0.05	<0.0005	<0.00011	<0.0011	<0.00018	<0.0022	<0.0002		<0.0002	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.20000	0.21000	0.34000	0.079J	0.20000	<0.16	0.08200	0.07770	0.10600	0.06990	0.157	0.023	0.023	0.015	0.0087
mi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00524	<0.0105	<0.00519	<0.011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	6.80	0.86	3.70	0.18	3.00	<0.00005	0.03700	1.420	0.903	2.100	1.23	0.097	0.033	0.097	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00619	<0.0124	<0.00613	<0.013	<5.8E-05	<5.9E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00381	<0.00762	<0.00377	<0.008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.001	<0.00005	<0.00005	<0.00005	<0.00381	<0.00762	<0.00377	<0.008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E+01	0.60000	0.35000	0.44000	0.13000	0.27000	<0.00005	<0.00005	0.21800	0.21600	0.26700	0.293	0.000078J	0.000067J	0.0079	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.0395	<0.079	<0.0392	<0.083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.0267	<0.0533	<0.0264	<0.056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.32000	0.20000	0.21000	0.13000	0.13000	<0.00005	0.03300	0.13400	0.12600	0.18000	0.126	0.0036	0.0049	0.007	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00390	0.00320	0.00520	0.00180	0.00290	<0.00005	0.00062	<0.00286	<0.00571	0.00528J	<0.006	0.00012	0.00012	0.00015	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.01000	0.00710	0.00990	0.00960	0.01100	<0.00005	0.00076	0.00824J	0.0119J	0.0132J	<0.005	0.00028	0.00035	0.00062	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	0.00066	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00381	<0.00762	<0.00377	<0.008	<0.00005	<5.1E-05	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	0.00024	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00381	<0.00762	<0.00377	<0.008	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00691	<0.0124	<0.00613	<0.013	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00090	0.00150	<0.0002	0.00029	<0.0001	<0.0001	0.0001J	<0.0176	<0.0352	<0.0175	<0.037	0.00013J	0.00014J	<0.0002	<5.5E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	0.00060	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00381	<0.00762	<0.00377	<0.008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.210	0.140	0.160	0.07500	0.09000	<0.00005	0.00990	0.08510	0.08120	0.09020	0.0941	0.0021	0.0029	0.0049	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00524	<0.0105	<0.00519	<0.011	0.000069J	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00580	0.00250	0.00340	0.00380	0.00330	<0.00005	0.00180	<0.00333	<0.00667	0.00521J	<0.007	0.00035	0.00039	0.00049	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.15000	0.11000	0.13000	0.07300	0.09200	<0.00005	0.01500	0.07170	0.06620	0.08640	0.0651	0.0025	0.0027	0.0039	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	9.00000	5.10000	10.00000	1.80000	7.40000	<0.00005	<0.00005	2.88000	3.30000	5.86000	5.13	<0.00016	0.0002	0.046	8.9E-05 J
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00524	<0.0105	<0.00519	<0.011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00476	<0.00952	<0.00472	<0.01	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.029	<0.0581	<0.0288	<0.061	<7.9E-05	<0.00008	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.09600	0.07200	0.08600	0.06200	0.07000	<0.00005	0.00200	0.04550	0.06840	0.05640	0.0519	0.00066	0.00055	0.0034	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	0.00077	0.00110	0.00580	0.00950	<0.00005	0.00005	<0.0019	<0.00381	<0.00189	<0.004	<3.5E-05	<3.5E-05	0.0001 J	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00460	0.00170	0.00180	0.00200	0.00160	<0.00005	0.00095	<0.00524	<0.0105	<0.00519	<0.011	0.00018	0.00029	0.00034	<1.9E-05

- Notes:
1. Sampling locations shown on Figure 1
2. Concentrations > RAL and non-detects are bold type.
3. Concentrations > cPCL and non-detects are highlighted.
4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = Compound not detected at the specified detection limit.
* indicates DNAPL is or has been observed in monitoring well

Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

Constituent	CAS	Method	Residential	C/I	MW-50A														
			Assessment Level	Assessment Level	2/4/2009	1/20/2010	6/25/2010	1/27/2011	7/28/2011	2/9/2012	7/24/2012	4/2/2013	8/9/2013	1/29/2014	8/28/2014	1/30/2018	3/28/2018	5/24/2018	1/10/2019
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<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	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<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	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<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	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<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	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<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	75-01-4	8260	2.00E-03	2.00E-03										<0.00011					
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00026	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
mi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	0.000083J	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	<0.00007	<0.00007	0.00019J	<0.00005	<0.00005	0.000390	0.000107J	<0.00007	0.000264J	<0.00007	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	0.00290	<0.00008	<0.00008	<0.00008	<0.00008	<2.7E-05	<2.7E-05	<2.7E-05	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00011J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00060	<0.00005	<0.00005	<0.00005	<0.00005	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	9.72E-05J	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00015J	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00350	<0.0002	0.00030	0.00029	0.00077	0.00032	0.00012J	0.00051	0.000409J	<0.00037	<0.00037	<3.7E-05	<3.7E-05	<0.0001	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	0.000157J	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.00025	<0.00008	<0.00008	0.00011J	<0.00005	<0.00005	0.00240	<0.00008	<0.00008	0.000134J	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.000086J	0.000194J	0.000147J	<0.00011	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00061	<0.00007	<0.00007	<0.00007	<0.00007	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00220	<0.00007	<0.00007	<0.00007	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00030	<0.0001	0.00040	0.00260	<0.00005	<0.00005	0.02000	<0.00008	0.000265J	0.00129	0.00071	<4.6E-05	<0.00002	0.00018	<0.00002
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	0.000921J	<0.00061	<0.00061	<0.00061	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00031	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00450	0.000164J	<0.00006	7.03E-05J	<0.00006	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00038	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00031	0.000138J	<0.00011	<0.00011	<0.00011	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are bold type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-51A															
Constituent	CAS	Method	mg/L	mg/L	2/4/2009	1/20/2010	6/24/2010	1/20/2011	7/28/2011	2/15/2012	7/24/2012	4/2/2013	8/9/2013	1/29/2014	07/24/2014	1/30/2018	3/28/2018	5/24/2018	1/10/2019	
Volatile Organic Compounds																				
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<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	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<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	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<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	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<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	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<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	75-01-4	8260	2.00E-03	2.00E-03							<0.0005		<0.00011		<0.00011					
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00026	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	
mi-Volatile Organic Compounds																				
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.9E-05	<5.8E-05	<5.8E-05	
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	0.00292	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	<0.00007	0.00013J	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	0.000069J	<1.9E-05	<1.9E-05	<1.9E-05	
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<0.00009	<0.00009	0.00013J	<0.00009	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.7E-05	<2.7E-05	<2.7E-05	<2.7E-05	
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	0.00017J	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05	
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	0.00014J	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<5.1E-05	<0.00005	<0.00005	
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	2.2E-05 J	<0.00002	
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00034	0.00190	0.00035	0.00029	0.00180	<0.0001	0.00033	<0.00037	<0.00037	0.00121	0.000804	<3.7E-05	0.000069J	<6.9E-05	7.8E-05 J	
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	0.00013J	<0.00007	<0.00005	<0.00005	0.00011J	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00008	<0.00008	0.00012J	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.000051J	<0.00011	0.00011J	<0.00011	<0.00011	<0.00002	<0.00002	<2.5E-05	<0.00002	
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	0.00072	<0.00007	<0.00005	<0.00005	0.00012J	<0.00007	<0.00007	<0.00007	<0.00007	<0.00001	<0.00001	<0.00001	<0.00001	
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	0.00011J	<0.00007	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003	
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00029	<0.0001	0.00087	0.0001J	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	0.000118J	0.000162J	<0.00018	<0.00023	<8.7E-05	0.00012	
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<0.00008	<7.9E-05	<7.9E-05	
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	0.00068	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	6.99E-05J	<0.00006	<0.00006	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05	
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	0.00037	<0.00007	<0.00005	<0.00005	0.000088J	<0.00011	<0.00011	<0.00011	<0.00011	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	

- Notes:
1. Sampling locations shown on Figure 1
2. Concentrations > RAL and non-detects are bold type.
3. Concentrations > cPCL and non-detects are highlighted.
4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = Compound not detected at the specified detection limit.
* indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

Constituent	CAS	Method	Residential Assessment Level	C/I Assessment Level	MW-52A				
			mg/L	mg/L	1/18/2010	7/14/2011	2/3/2012	7/12/2012	2/1/2013
Volatile Organic Compounds									
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.001	<0.001	<0.0005	<0.00014
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.0047J	0.0025J	0.0017J	0.00530	0.00461
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01		<0.001	<0.001	<0.0005	<0.00012
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.014J	0.01100	0.00530	0.00990	0.00677
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0013	<0.0013	<0.001	<0.00015
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.012J	0.00890	0.0034J	0.00840	0.00679
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03		<0.001		<0.0005	0.000661J
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.044J	0.02500	0.011J	0.02100	0.01470
mi-Volatile Organic Compounds									
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.00005	<0.00005	<0.00005	<0.00524
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	0.00460	0.00450	0.00340	0.02900	0.04790
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00005	<0.00005	<0.00005	
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00006	<0.00006	<0.00006	<0.00381
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.0001	<0.00005	<0.00005	<0.00005	<0.00381
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.54000	0.33000	0.09600	0.16000	0.16500
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.0395
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00005	<0.00005	<0.00005	<0.0267
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.36000	0.26000	0.19000	0.15000	0.27100
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00450	0.00400	0.00240	0.00250	<0.00286
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.02200	0.04100	0.03600	0.02100	0.0231J
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	0.00047	0.00063	0.00031	0.00022	<0.00381
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	0.00013J	0.00017J	0.000066J	<0.00005	<0.00381
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00005	<0.00005	<0.00005	<0.00619
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00032	0.00042	0.00043	<0.0001	<0.0176
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	0.00041	0.00060	0.00033	0.00028	<0.00381
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.28000	0.20000	0.14000	0.13000	0.17800
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00005	<0.00005	<0.00005	<0.00524
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.01500	0.02400	0.01300	0.01700	0.02450
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.23000	0.18000	0.12000	0.11000	0.16700
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	3.90	1.90	0.77	0.83	0.88
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00005	<0.00005	<0.00005	<0.00524
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00005	<0.00005	<0.00005	<0.00476
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00005	<0.00005	<0.00005	<0.029
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.24000	0.22000	0.08100	0.12000	0.22600
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	0.000066J	0.000052J	0.00015J	<0.0019
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00660	0.01100	0.00540	0.00710	0.0124J

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

Constituent	CAS	Method	Residential Assessment Level	C/I Assessment Level	MW-55A									
			mg/L	mg/L	2/4/2009	1/18/2010	7/14/2011	2/3/2012	7/12/2012	1/30/2013	7/30/2013	1/14/2014	07/17/2014	
					mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds														
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.001	<0.01	<0.05	<0.0028	<0.014	<0.007	<0.0028	
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.19000	0.07200	0.07000	0.15000	0.17000	0.13300	0.14500	0.07150	0.0881	
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.001	<0.01	<0.005	<0.0024	<0.012	<0.006	<0.0024		
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.15000	0.20000	0.17000	0.20000	0.24000	0.22800	0.26000	0.20000	0.368	
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0013	<0.013	<0.01	<0.003	0.0894J	<0.0075	0.0179J	
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.44000	0.29000	0.24000	0.41000	0.39000	0.38500	0.43100	0.31100	0.409	
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03							<0.011			
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.35000	0.47000	0.42000	0.48000	0.62000	0.57500	0.58400	0.48600	0.869	
mi-Volatile Organic Compounds														
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.00005	<0.0005	<0.00005	<0.00011	<0.00534	<0.0529	<0.00519	
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	1.20000	0.28000	0.48000	1.80000	0.96000	<0.00031	0.95600	0.51900	0.463	
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00005	<0.0005	<0.00005	<0.00013	<0.00631	<0.0625	<0.00613	
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00006	<0.0006	<0.00006	<0.00008	<0.00388	<0.0385	<0.00377	
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.00005	<0.0005	<0.00005	<0.00008	<0.00388	<0.0385	<0.00377	
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.63000	0.39000	0.33000	0.25000	0.31000	<0.00007	0.46800	0.46300	0.486	
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.0008	<0.00008	<0.00083	<0.0403	<0.399	<0.0392	
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00005	<0.0005	<0.00005	<0.00056	<0.0272	<0.269	<0.0264	
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.28000	0.19000	0.16000	0.14000	0.11000	0.05730	0.20700	0.25100	0.219	
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00370	0.00280	0.00300	0.0019J	0.00170	0.00210	<0.00291	<0.0288	<0.00283	
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.04700	0.02100	0.01600	0.01600	0.00750	0.00062	0.03360	0.083J	0.032	
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	0.01000	0.00180	0.00140	<0.0005	0.00034	<0.00008	<0.00388	<0.0385	<0.00377	
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	0.00690	0.00081	0.00062	<0.0005	0.000081J	<0.00008	<0.00388	<0.0385	<0.00377	
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00005	<0.0005	<0.00005	<0.00013	<0.00631	<0.0625	<0.00613	
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00073	0.00310	<0.0001	<0.001	<0.0001	<0.00037	<0.018	<0.178	<0.0175	
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	0.00990	0.00170	0.00140	<0.0005	0.00025	<0.00008	<0.00388	<0.0385	<0.00377	
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.20000	0.13000	0.12000	0.08400	0.07800	0.02650	<0.00388	0.15J	0.14	
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00005	<0.0005	<0.00005	<0.00011	<0.00534	<0.0529	<0.00519	
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.05200	0.00810	0.00900	0.00440	0.00420	0.000459J	0.0148J	0.0595J	0.0175J	
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.16000	0.08300	0.08000	0.05700	0.04800	0.00213	0.09960	0.172J	0.1	
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	17.00	11.00	8.60	9.90	9.70	0.00227J	13.8	11.7	11.6	
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00005	<0.0005	<0.00005	<0.00011	<0.00534	<0.0529	<0.00519	
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00005	<0.0005	<0.00005	<0.0001	<0.00485	<0.0481	<0.00472	
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	0.00053	<0.00008	<0.00005	<0.0005	<0.00005	<0.00061	<0.0296	<0.293	<0.0288	
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.20000	0.08400	0.08300	0.04700	0.04500	<0.00006	0.07800	0.174J	0.0893	
Phenol	108-95-2	8270	7.30E+00	2.20E+01	0.15000	0.02500	0.00380	0.07900	0.04600	<0.00004	<0.00194	<0.0192	<0.00189	
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.03200	0.00520	0.00610	0.00410	0.00210	0.000223J	0.00729J	<0.0529	0.0101J	

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are bold type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-57A*										
Constituent	CAS	Method	mg/L	mg/L	2/5/2009	1/20/2010	6/23/2010	1/18/2011	7/22/2011	2/2/2012	7/24/2012	2/11/2013	7/31/2013	1/15/2014	07/29/2014
Volatile Organic Compounds															
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.005	<0.001	<0.01	<0.0005	<0.0014	<0.007	<0.0002	<0.00014
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.26000	0.17000	0.47000	0.23000	0.08400	0.14000	0.06400	0.13800	0.13700	0.10900	0.0412
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.005	<0.001	<0.01	<0.0005	<0.0012	<0.006	0.000465J	0.000625J
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.34000	0.32000	0.45000	0.29000	0.13000	0.22000	0.17000	0.24000	0.28300	0.19800	0.274
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	0.014J	<0.005	<0.0013	<0.013	<0.001	0.00367J	<0.0075	<0.00022	<0.00015
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.63000	0.13000	0.86000	0.38000	0.05500	0.23000	0.10000	0.24400	0.30800	0.19800	0.0355
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.01	0.0016J	<0.0011	<0.0055	0.00154	
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.92000	0.60000	1.20000	0.68000	0.19000	0.40000	0.33000	0.59100	0.57200	0.45400	0.455
mi-Volatile Organic Compounds															
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.005	<0.0001	<0.00005	<0.0005	<0.0005	<0.075	<0.0267	<0.0259	<0.00011
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	1.80000	3.00000	2.7J	2.00000	1.00000	1.70000	0.20000	1.62000	0.99400	7.91000	0.0443J
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00045	<0.00009	<0.00005	<0.00005	<0.0005	<0.0005	<0.0886	<0.0316	<0.0307
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00035	<0.00007	<0.00006	<0.0006	<0.0006	<0.0545	<0.194	<0.0189	<0.00008
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.005	<0.0001	<0.00005	<0.0005	<0.0005	<0.0545	<0.0194	<0.0189	<0.00008
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.73	0.89	3.5J	3.50	13.00	1.90	3.10	13.90	1.50	8.24	0.616
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.0004	<0.00008	<0.00008	<0.0008	<0.0008	<0.566	<0.201	<0.196	<0.00083
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00035	<0.00007	<0.00005	<0.00005	<0.0005	<0.382	<0.136	<0.132	<0.00056
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.24000	0.31000	2J	1.90000	8.60000	1.20000	1.80000	8.56000	0.99700	5.69000	0.335
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00560	0.00610	0.02J	0.02200	0.09100	0.01400	0.02400	<0.0409	<0.0146	<0.0142	0.00779
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.04400	0.02200	0.9J	0.62000	8.40000	0.34000	0.55000	3.09000	0.33700	2.02000	0.0657
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	0.01100	0.00051	0.15J	0.120	0.450	0.047	0.074	0.60500	0.0521J	0.36100	0.0072
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	0.00450	0.00012J	0.037J	0.028	0.160	0.014	0.024	0.165J	<0.0194	0.0962J	0.00385
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00035	<0.00009	<0.00005	<0.0005	<0.0005	<0.0886	<0.0316	<0.0307	0.0021
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00200	0.00040	<0.0004	<0.0002	<0.0001	0.0016J	<0.001	<0.252	<0.0898	<0.0873	0.00037
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	0.00940	0.00034	0.14J	0.11000	0.53000	0.04600	0.08900	0.60200	0.0482J	0.360	0.00625
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.21	0.17	1.9J	1.70	8.60	0.86	1.70	7.28	0.80	4.69	0.257
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00045	<0.00007	<0.00005	<0.00005	<0.0005	<0.075	<0.0267	<0.0259	<0.00011
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.0540	0.0063	1.4J	1.0	6.0	0.48	0.74	4.98	0.4120	3.190	0.0561
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.0830	0.1100	1.6J	1.4	7.9	0.72	1.40	6.54	0.7130	4.160	0.21
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	16.0	7.4	20J	18.0	71.0	9.2	22.0	60.7	13.5	56.900	7.27
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00035	<0.00009	<0.00005	<0.0005	<0.0005	<0.075	<0.0267	<0.0259	<0.00011
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.001	<0.00009	<0.00005	<0.0005	<0.0005	<0.0682	<0.0243	<0.0236	<0.0001
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00045	<0.00008	<0.00005	<0.0005	<0.0005	<0.416	<0.148	<0.144	<0.00061
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.22000	0.08800	4J	3.50000	13.00000	2.00000	3.00000	17.00000	1.61000	13.10000	0.271
Phenol	108-95-2	8270	7.30E+00	2.20E+01	0.05200	0.00990	0.042J	0.02000	<0.00005	0.00890	<0.0005	<0.0273	<0.00971	<0.00943	<0.00004
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.03800	0.00370	0.84J	0.67000	3.30000	0.34000	0.42000	3.12000	0.26400	2.29000	0.0308J

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are bold type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-58A														
Constituent	CAS	Method	mg/L	mg/L	2/5/2009	1/20/2010	6/23/2010	1/19/2011	7/27/2011	2/3/2012	7/24/2012	2/11/2013	8/6/2013	1/29/2014	08/28/2014	1/31/2018	3/19/2018	5/16/2018	1/23/2019
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0025	<0.0005	<0.0025	<0.0025	<0.001	<0.01	<0.0005	<0.00014	<0.00014	<0.00014	<0.00014	<0.0002	<0.0002	<0.001	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.05200	0.03800	0.07500	0.03400	<0.001	0.12000	0.16000	0.09430	8.07E-05J	<0.00008	0.259	0.0048	0.012	0.012	0.0011
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0025	0.0093J	0.01J	0.0029J	<0.001	<0.01	0.0018J	0.00295	<0.00012	<0.00012	<0.0012	<0.0003	0.00054J	<0.0015	0.00046J
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.07900	0.06300	0.11000	0.03000	<0.0011	0.08500	0.09900	0.06480	<0.00011	<0.00011	0.167	0.0066	0.038	0.035	0.0032
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0025	<0.0005	0.005J	<0.0025	<0.0013	<0.013	<0.001	<0.00015	<0.00015	<0.00015	<0.0015	<0.001	<0.001	<0.005	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.022J	0.02J	0.04500	0.0059J	<0.001	0.043J	0.04100	0.01760	<0.00015	<0.00015	0.135	0.00091J	0.00063J	0.0027 J	0.0014
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03		<0.0005		<0.0025	<0.001		0.01100	0.00281	<0.00011	<0.00011	0.0101J	<0.0002	<0.0002	<0.001	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.10000	0.04J	0.15000	0.029J	<0.0031	0.23000	0.31000	0.12200	<0.00026	<0.00026	0.352	0.012	0.068	0.015	0.005
mi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.01	<0.00011	<0.00011	<0.00539	<0.00021	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	0.047	0.097	0.610	0.680	<0.0005	1.10	2.40	0.95	<0.00031	<0.00031	9.19	0.0015J	0.00053	<0.00004	0.0001 J
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0118	<0.00013	<0.00013	<0.00637	<0.00058	<5.8E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00727	<0.00008	<0.00008	<0.00392	<0.00042	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.0012	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.00727	<0.00008	<0.00008	<0.00392	<0.00021	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E+01	0.220	0.100	0.210	0.057	<0.0005	0.08200	0.00760	0.24300	<0.00007	<0.00007	0.373	0.038	0.045	0.14	7.2E-05 J
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.0755	<0.00083	<0.00083	<0.0407	<0.0002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0509	<0.00056	<0.00056	<0.0275	<0.00047	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.31000	0.18000	0.28000	0.12000	<0.00005	0.16000	0.05700	0.20500	<0.00008	<0.00008	0.221	0.1	0.17	0.19	0.023
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00120	0.00130	0.00150	0.00072	<0.00005	0.00110	0.00110	<0.00545	<0.00006	<0.00006	0.00996J	0.0012	0.001	0.0017	0.00038
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00450	0.00980	0.01700	0.00510	0.00039	0.00550	0.00690	0.0245J	<0.00005	<0.00005	0.0126J	0.0055	0.008	0.011	0.002
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00072	<0.00727	<0.00008	<0.00008	<0.00392	<0.0005	0.000083J	8.3E-05 J	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	0.00027	<0.00727	<0.00008	<0.00008	<0.00392	<0.0002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	0.0321J	<0.00013	<0.00013	<0.00637	<0.0003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00030	<0.0002	0.00046	0.00035	0.00071	<0.0001	0.00010	<0.0336	<0.00037	<0.00037	<0.0181	<0.00037	<3.7E-05	<9.8E-05	<0.00007
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00110	<0.00727	<0.00008	<0.00008	<0.00392	<0.00021	0.000083J	8.2E-05 J	0.00003 J
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.23000	0.14000	0.23000	0.07900	0.00170	0.13000	0.00880	0.12800	<0.00008	<0.00008	0.136	0.036	0.08	0.091	0.013
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	0.00120	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.01	<0.00011	<0.00011	<0.00539	<0.0002	<0.00002	<0.00002	3.2E-05 J
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00250	0.00580	0.00900	0.00490	0.00100	0.00360	0.00990	0.0102J	<0.00007	<0.00007	<0.00343	0.0065	0.0074	0.0067	0.002
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.15000	0.12000	0.16000	0.06500	<0.00005	0.08000	0.02700	0.12000	<0.00007	<0.00007	0.109	0.084	0.096	0.12	0.015
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	2.40000	0.67000	1.50000	0.45000	<0.00005	2.20000	0.06800	2.96J	0.00036J	<0.00008	4.05	0.0037	0.95	0.32	0.00042
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.01	<0.00011	<0.00011	<0.00539	<0.00024	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00909	<0.0001	<0.0001	<0.0049	<0.00025	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	0.00017J	<0.0555	<0.00061	<0.00061	<0.0299	<0.00079	<7.9E-05	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.04100	0.04900	0.06100	0.03700	<0.00005	0.03900	0.03600	0.05630	<0.00006	<0.00006	0.0702	0.024	0.042	0.038	0.0038
Phenol	108-95-2	8270	7.30E+00	2.20E+01	0.00029	0.00740	0.00650	0.00037	0.000077J	0.00380	0.00074	<0.00364	<0.00004	<0.00004	<0.00196	0.00054J	<3.5E-05	<3.5E-05	7.4E-05 J
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00120	0.00340	0.00420	0.00220	0.00073	0.00220	0.00690	<0.01	<0.00011	<0.00011	<0.00539	0.0031	0.0039	0.0036	0.00088

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are bold type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-59A														
Constituent	CAS	Method	mg/L	mg/L	2/5/2009	1/20/2010	6/24/2010	1/20/2011	7/18/2011	2/6/2012	7/27/2012	1/31/2013	8/1/2013	1/16/2014	07/30/2014	1/29/2018	3/20/2018	5/24/2018	1/23/2019
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03					<0.001	<0.001	<0.0005	<0.00011	<0.00011	<0.00018	<0.00011	<0.0002	<0.0002	<0.0002	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
mi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	0.000066J	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<4.1E-05	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.9E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.3E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	<0.00007	0.00020	0.00180	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	0.00007J	<0.00007	0.00011	<1.9E-05	<1.9E-05	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.8E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<0.00009	<0.00009	0.00030	0.00079	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	0.00008J	<0.00008	0.0001	<2.8E-05	<2.7E-05	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	0.00026	0.00040	<0.00005	<0.00005	<0.00005	<0.00005	5.19E-05J	0.000119J	<0.00005	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	0.00015J	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<5.1E-05	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<3.1E-05	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00060	0.00065	0.00023	0.00031	0.00054	0.00015J	<0.0001	<0.00037	<0.00037	<0.00037	<0.00037	0.000094J	<3.8E-05	<3.7E-05	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	0.00014J	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00008	<0.00008	0.00070	0.00099	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	0.00008J	<0.00008	0.00017	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	0.00077	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.000075J	<0.00011	0.000169J	0.000178J	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	0.00050	0.00120	0.00012J	<0.00005	<0.00005	<0.00007	<0.00007	0.000199J	<0.00007	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	0.00045	0.00084	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	0.000176J	<0.00007	0.00011	<3.1E-05	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	<0.0001	<0.0001	0.00047	0.00060	<0.00005	<0.00005	0.000051J	<0.00008	<0.00008	0.00008J	0.000219J	0.00068	<0.00002	<0.00002	<0.00002
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.6E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<8.1E-05	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	0.00170	0.00240	0.00018J	<0.00005	<0.00005	<0.00006	0.000075J	0.00006	<0.00006	0.00018	<2.1E-05	<2.1E-05	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.000065J	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.6E-05	8.9E-05 J	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	0.00029	0.00059	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	0.00012J	<0.00011	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05

- Notes:
1. Sampling locations shown on Figure 1
2. Concentrations > RAL and non-detects are bold type.
3. Concentrations > cPCL and non-detects are highlighted.
4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = Compound not detected at the specified detection limit.
* indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-60A																
Constituent	CAS	Method	mg/L	mg/L	2/4/2009	1/20/2010	6/24/2010	1/19/2011	7/18/2011	2/7/2012	7/23/2012	2/14/2013	4/2/2013	8/2/2013	1/15/2014	07/16/2014	2/8/2018	3/20/2018	5/25/2018	1/11/2019	
Volatiles Organic Compounds																					
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<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	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<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	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<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	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<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	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<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	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<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	75-01-4	8260	2.00E-03	2.00E-03	<0.0005	<0.0005	<0.0005	<0.001	<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)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	
ni-Volatiles Organic Compounds																					
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.00038	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.0005	<0.0005	0.00100	<0.00018	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<4.1E-05	<0.00004	<0.00004	
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.0005	<0.0005	<0.00005	<0.00032	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.9E-05	<5.8E-05	<5.8E-05	
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00029	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.3E-05	<4.2E-05	<4.2E-05	
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.00019	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.00028	<0.00007	<0.00007	<0.00007	<0.0005	<0.0005	0.00210	0.000146J	<0.00007	<0.00007	0.000143J	0.000516	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00016	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00033	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.8E-05	<4.7E-05	<4.7E-05	<4.7E-05	
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.00045	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	0.00120	<0.00016	<0.00008	<0.00008	0.000157J	0.000167J	<2.7E-05	<2.8E-05	<2.7E-05	<2.7E-05	
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00016	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00034	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00027	<0.00044	<0.00005	8.83E-05J	0.000158J	<0.00005	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05	
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00025	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<5.1E-05	<0.00005	<0.00005	
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00013	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00019	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<3.1E-05	<0.00003	<0.00003	
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00200	0.00250	<0.0002	0.00310	0.00017J	0.00023	0.0001J	<0.00059	<0.00037	<0.00037	<0.00037	<0.00037	<3.7E-05	<3.8E-05	<3.7E-05	<3.7E-05	
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00024	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.00035	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	0.00099	<0.00016	<0.00008	<0.00008	0.000145J	0.000116J	<0.00002	<0.00002	<0.00002	<0.00002	
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	0.00230	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.000076J	<0.00187	<0.00011	<0.00011	<0.00011	<0.00011	<0.00002	<0.00002	<0.00002	6.4E-05 J	
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00039	<0.00007	0.00030	0.00029	<0.00005	0.00028	0.00030	<0.00031	<0.00007	<0.00007	8.94E-05J	<0.00007	<0.00001	<0.00001	<0.00001	<0.00001	
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.00044	<0.00007	<0.00007	<0.00007	<0.00005	0.00016J	0.00089	<0.00012	<0.00007	<0.00007	0.000162J	<0.00007	<0.00003	0.000054J	<0.00003	<0.00003	
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00950	<0.0001	0.00150	<0.0001	<0.00005	<0.00005	0.02500	0.00043J	<0.00008	<0.00008	0.000668J	0.00653	<0.00002	<0.00002	<0.00002	<0.00002	
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0002	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00033	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.6E-05	<2.5E-05	<2.5E-05	
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00096	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<8.1E-05	<7.9E-05	<7.9E-05	
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00110	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00150	<0.00029	<0.00006	<0.00006	0.000345J	<0.00006	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	0.000275J	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.6E-05	<3.5E-05	<3.5E-05	
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00029	<0.00007	0.0002J	0.00079	<0.00005	0.00130	0.00033	<0.00033	<0.00011	<0.00011	<0.00011	<0.00011	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-61A														
Constituent	CAS	Method	mg/L	mg/L	2/3/2009	1/20/2010	7/1/2010	1/27/2011	7/21/2011	2/7/2012	7/27/2012	4/2/2013	8/1/2013	1/23/2014	08/28/2014	2/8/2018	3/20/2018	5/25/2018	1/23/2019
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatiles Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03					<0.001	<0.001	<0.0005	<0.00011	<0.00011	<0.00018	<0.00011	<0.0002	<0.0002	<0.0002	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
mi-Volatiles Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E+01	0.00041	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.00017J	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.7E-05	<2.7E-05	<2.7E-05	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005J	<0.00005	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<5.1E-05	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00170	0.00200	0.00210	<0.0002	0.00023	0.00038	0.00027	<0.00037	<0.00037	0.00163J	0.000536	<3.7E-05	<3.7E-05	<5.4E-05	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	0.01100	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	0.00011J	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	8.06E-05J	<0.00007	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.00011J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00660	<0.0001	0.00018J	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	0.00012J	0.00008J	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.5E-05	0.00015 J	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	0.00032	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<0.00008	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00021	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00016J	<0.00006	5.86E-05J	0.00006J	<0.00006	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05

- Notes:
1. Sampling locations shown on Figure 1
2. Concentrations > RAL and non-detects are bold type.
3. Concentrations > cPCL and non-detects are highlighted.
4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = Compound not detected at the specified detection limit.
* indicates DNAPL is or has been observed in monitoring well

Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

Constituent	CAS	Method	Residential Assessment Level	C/I Assessment Level	MW-64A														MW-68A	
			mg/L	mg/L	2/4/2009	1/21/2010	7/14/2010	1/27/2011	7/27/2011	2/8/2012	7/25/2012	4/1/2013	8/6/2013	1/29/2014	07/29/2014	1/31/2018	3/25/2018	5/31/2018	1/23/2019	5/29/2019
Volatile Organic Compounds																				
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.00014	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	0.000154J	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00012	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00011	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00015	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00015	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00015	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00026	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
ni-Volatile Organic Compounds																				
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.00014J	<0.00007	<0.00007	<0.00007	<0.00005	0.000053J	<0.00005	<0.00007	<0.00007	<0.00007	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	0.000026J
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.00029	<0.00009	<0.00009	<0.00009	<0.00005	0.00960	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.7E-05	0.035	<2.7E-05	<2.7E-05	0.0012
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	0.00050	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	0.00086	<1.5E-05	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00016J	<0.00007	<0.00007	<0.00007	0.00036	<0.00005	<0.00005	0.000158J	<0.00005	<0.00005	0.000127J	<1.4E-05	0.00056	<1.4E-05	<1.4E-05	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<5.1E-05
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00040	0.00160	0.00200	0.00049	0.00076	0.00013J	0.00021	<0.00037	<0.00037	<0.00037	<0.00037	<0.0001	<3.7E-05	0.00023	<3.7E-05	0.00015J
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.00012J	<0.00008	<0.00008	<0.00008	0.00130	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	0.00003J	0.00038	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	0.02000	<0.00007	<0.00007	<0.00007	0.000079J	<0.00005	0.000084J	<0.00011	<0.00011	0.000117J	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002	0.00087
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00076	<0.00007	<0.00007	<0.00007	0.00057	0.00021	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00001	0.00095	<0.00001	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.00018J	<0.00007	<0.00007	<0.00007	<0.00005	0.00012J	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00003	0.0013	<0.00003	<0.00003	0.000044J
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00092	<0.0001	<0.0001	<0.0001	<0.00005	0.00063	<0.00005	<0.00008	<0.00008	<0.00008	0.000317J	<9.4E-05	0.00058	<0.00002	<0.00002	0.00025
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00055	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	0.000032J	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	0.000077J	<0.00005	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.5E-05	0.00051	<3.5E-05	0.00041J
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00063	<0.00007	<0.00007	<0.00007	0.00042	0.00013J	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<1.9E-05	0.00059	<1.9E-05	<1.9E-05	<1.9E-05

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

Constituent	CAS	Method	Residential Assessment Level	C/I Assessment Level	MW-69A												
			mg/L	mg/L	7/15/2010	1/19/2011	7/21/2011	2/8/2012	7/24/2012	2/7/2013	8/6/2013	1/24/2014	07/16/2014	1/28/2018	3/20/2018	5/24/2018	1/10/2019
Volatile Organic Compounds																	
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00011	<0.00011	<0.00018	<0.00011	<0.0002	<0.0002	<0.0002	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
mi-Volatile Organic Compounds																	
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	0.00360	<0.00008	<0.00005	<0.00005	0.000078J	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.00380	0.000074J	<0.00005	<0.00005	0.00090	<0.00007	<0.00007	<0.00007	<0.00007	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.00370	0.00025	<0.00005	<0.00005	0.00082	<0.00008	<0.00008	<0.00008	<0.00008	<2.7E-05	<2.7E-05	<2.7E-05	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00007	<0.00007	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00039	0.00024	<0.00005	<0.00005	0.00047	<0.00005	<0.00005	0.00050	<0.00005	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	0.00049	<0.00007	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	0.00013J	<0.00008	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00590	0.00081	0.00086	0.00018J	0.00030	<0.00037	<0.00037	<0.00037	<0.00037	0.00028	0.00038	0.00025	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	0.00032	0.00011J	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.00300	0.00022	<0.00005	<0.00005	0.00071	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	0.000069J	<0.00005	<0.00005	<0.00011	<0.00011	0.00011J	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00250	0.00057	0.000059J	<0.00005	0.00045	<0.00007	<0.00007	<0.00007	<0.00007	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.00330	0.00036	<0.00005	<0.00005	0.00085	<0.00007	<0.00007	<0.00007	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.02600	0.00011J	<0.00005	0.00029	0.00400	0.000142J	<0.00008	0.00008J	0.000155J	<0.00019	<0.00002	<0.00008	<0.00002
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00830	0.00120	<0.00005	<0.00005	0.00220	<0.00006	<0.00006	0.00066J	<0.00006	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	0.00690	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00220	0.00037	<0.00005	<0.00005	0.00033	<0.00011	<0.00011	<0.00011	<0.00011	<1.9E-05	0.000055J	<1.9E-05	<1.9E-05

Notes:

1. Sampling locations shown on Figure 1
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 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-1
Summary of Groundwater Sampling Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

Constituent	CAS	Method	Residential	C/I	MW-77A					MW-78A*	MW-79A					TW-56A				
			Assessment Level	Assessment Level	07/24/2014	1/30/2018	3/28/2018	5/24/2018	2/1/2019	07/24/2014	08/28/2014	1/30/2018	3/28/2018	5/25/2018	1/23/2019	1/20/2010	7/14/2011	2/2/2012	7/11/2012	1/31/2013
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Volatiles Organic Compounds																				
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0007	<0.0007	<0.0002	<0.0002	<0.0002	<0.0002	0.023J	<0.001	<0.01	<0.0025	<0.0014
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.00008	0.054	0.063	0.053	<0.0002	0.0571	0.0485	1	0.3	0.36	0.45	0.26000	0.27000	0.15000	0.26000	0.23800
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0006	<0.0006	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.001	<0.01	<0.0025	0.00412J
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.00011	0.059	0.063	0.044	<0.0003	0.0637	0.0215	0.18	0.12	0.14	0.19	0.36000	0.16000	0.06800	0.14000	0.20200
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.00075	0.00075	<0.001	<0.001	<0.001	<0.001	<0.0005	<0.0013	<0.013	<0.005	<0.0015
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.00015	0.011	0.011	0.006	<0.0002	0.1	0.076	0.99	0.44	0.48	0.55	0.32000	0.14000	0.028J	0.06900	0.03140
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03	<0.00011					<0.00055					<0.0005	0.0069J	0.01J	0.01600	0.0126J	
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.00026	0.1	0.11	0.058	<0.0003	0.158	0.0763	0.48	0.31	0.41	0.54	0.98000	0.61000	0.53000	0.43000	0.50000
ni-Volatiles Organic Compounds																				
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.00519	<0.00021	<0.00021	<0.00021	<2.1E-05	<0.0259	<0.00539	<0.00021	<0.00021	<0.00021	<2.1E-05	<0.0001	<0.00005	<0.0005	<0.00005	<0.055
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.0146	0.014	0.015	0.007	<0.00004	6.66	6.11	11	11	20	2.5	2.9	6.8	4.2	3.8	4.8
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00613	<0.00058	<0.00058	<0.00058	<5.8E-05	<0.0307	<0.00637	<0.00058	<0.00058	<0.00058	<5.8E-05	<0.00009	<0.00005	<0.0005	<0.00005	<0.065
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00377	<0.00042	<0.00042	<0.00042	<4.2E-05	<0.0189	<0.00392	<0.00042	<0.00042	<0.00042	<4.2E-05	<0.00007	<0.00006	<0.0006	<0.00006	<0.04
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00377	<0.00021	<0.00021	<0.00021	<2.1E-05	<0.0189	<0.00392	<0.00021	<0.00021	<0.00021	<2.1E-05	<0.0001	<0.00005	<0.0005	<0.00005	<0.04
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.0571	0.2	0.085	0.085	<1.9E-05	0.879	0.654	0.17	0.42	0.44	0.1	0.15	0.16	0.11	0.05	0.123J
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.0392	<0.0002	<0.0002	<0.0002	<0.00002	<0.196	<0.0407	<0.0002	<0.0002	<0.0002	<0.00002	<0.00008	<0.00008	<0.0008	<0.00008	<0.415
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.0264	0.0044J	<0.00047	<0.00047	<4.7E-05	<0.132	<0.0275	<0.00047	<0.00047	0.016 J	<4.7E-05	<0.00007	<0.00005	<0.0005	<0.00005	<0.28
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.0456	0.2	0.23	0.079	<2.7E-05	0.497	0.427	0.13	0.17	0.16	0.039	0.07700	0.18000	0.19000	0.09500	0.25000
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00283	0.0032	0.0035	0.0012	<1.5E-05	<0.0142	0.0112J	0.0045	<0.00015	0.0056	0.0015	0.00240	0.00400	0.00380	0.00280	<0.03
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00236	0.0034	0.0052	0.0025	<1.4E-05	0.105J	0.0673	0.0057	0.0092	0.0084	0.0021	0.00350	0.02100	0.02000	0.00830	0.0338J
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00377	<0.0005	<0.0005	<0.0005	<0.00005	0.0336J	0.00985J	<0.0005	<0.0005	<0.0005	<0.00005	0.00099	0.00140	0.0016J	0.00240	<0.04
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00377	<0.0002	<0.0002	<0.0002	<0.00002	<0.0189	<0.00392	<0.0002	<0.0002	<0.0002	<0.00002	0.00031	0.00047	0.00051J	0.00080	<0.04
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00613	<0.0003	<0.0003	<0.0003	<0.00003	<0.0307	<0.00637	<0.0003	<0.0003	<0.0003	<0.00003	<0.00009	<0.00005	<0.0005	<0.00005	<0.065
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	<0.0175	<0.00037	<0.00037	<0.00037	0.0001 J	<0.0873	<0.0181	<0.00037	<0.00037	<0.00037	<3.7E-05	0.00020	0.00010	<0.001	<0.0001	<0.185
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00377	<0.00021	<0.00021	<0.00021	<2.1E-05	0.0248J	0.00948J	<0.00021	<0.00021	<0.00021	<2.1E-05	0.00084	0.00140	0.0018J	0.00220	<0.04
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.0229J	0.086	0.09	0.04	<0.00002	0.411	0.342	0.097	0.14	0.092	0.037	0.04300	0.09000	0.04900	0.03800	0.108J
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00519	<0.0002	<0.0002	<0.0002	8.1E-05 J	<0.0259	<0.00539	<0.0002	<0.0002	<0.0002	<0.00002	0.00045	<0.00005	<0.0005	<0.00005	<0.055
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.0033	0.0014	0.0013	0.00067 J	<0.00001	0.165	0.0713	0.0036	0.0051	0.0023	0.001	0.01000	0.02100	0.02000	0.02700	<0.035
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.024	0.076	0.083	0.037	<0.00003	0.382	0.291	0.063	0.081	0.056	0.022	0.03300	0.09000	0.05800	0.04700	0.12J
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.884	7.8	6	1.5	<0.00002	7.18	6.89	7.9	8.5	15	1.9	2.50	2.30	2.20	0.81	1.75
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00519	<0.00024	<0.00024	<0.00024	<2.4E-05	<0.0259	<0.00539	<0.00024	<0.00024	<0.00024	<2.4E-05	<0.00009	<0.00005	<0.0005	<0.00005	<0.055
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00472	<0.00025	<0.00025	<0.00025	<2.5E-05	<0.0236	<0.0049	<0.00025	<0.00025	<0.00025	<2.5E-05	<0.00009	<0.00005	<0.0005	<0.00005	<0.05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.0288	<0.00079	<0.00079	<0.00079	<7.9E-05	<0.144	<0.0299	<0.00079	<0.00079	<0.00079	<7.9E-05	0.00013J	0.00076	<0.0005	0.00091	<0.305
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.0262	0.026	0.035	0.019	<2.1E-05	0.604	0.355	0.038	0.049	0.039	0.012	0.06000	0.17000	0.20000	0.07300	0.217J
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00189	<0.00035	<0.00035	<0.00035	<3.5E-05	0.192	1.13	2.6	4	4.2	0.51	0.01400	<0.00005	0.00630	<0.00005	<0.02
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00519	0.00068J	0.001	0.00037 J	<1.9E-05	0.0967J	0.0434	0.0022	0.0038	0.0022	0.00063 J	0.00670	0.01200	0.01500	0.01800	<0.055

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are bold type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-2a
Summary of Groundwater Sampling Results - B-CZ Monitoring Wells
UPRR Houston Wood Preserving Works

chemical_name	CAS	Method	Residential	C/I	MW-32B*				MW-33B				
			Assessment Level	Assessment Level	2/9/2012	7/16/2012	2/6/2013	1/21/2014	2/3/2009	1/13/2010	6/29/2010	1/24/2011	7/19/2011
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds													
1,2-Dichloroethane	107-06-2	8260	5.00E-01	5.00E-01	<0.025	<0.0005	<0.00014	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.001
Benzene	71-43-2	8260	5.00E-01	5.00E-01	2.6	<0.0005	0.00428	0.23900	2.4	1.2	2	1	1.6
Chlorobenzene	108-90-7	8260	1.00E+01	1.00E+01	<0.025	<0.0005	0.000343J	<0.00018	<0.0005	<0.0005	<0.0005	<0.0005	<0.001
Ethylbenzene	100-41-4	8260	7.00E+01	7.00E+01	0.53000	<0.0005	0.00561	0.25400	0.47000	0.41000	0.62000	0.36000	0.40000
Methylene chloride	75-09-2	8260	5.00E-01	5.00E-01	<0.032	<0.001	<0.00015	<0.00022	0.0096J	<0.0005	<0.0005	<0.0005	<0.0013
Toluene	108-88-3	8260	1.00E+02	1.00E+02	2.20000	<0.0005	0.00261	0.54100	0.08400	0.019J	0.016J	0.0067J	<0.001
Vinyl chloride	75-01-4	8260	2.00E-01	2.00E-01									<0.001
Xylenes (total)	1330-20-7	8260	1.00E+03	1.00E+03	1.50000	<0.0015	0.02030	0.74900	1.40000	1.20000	1.50000	0.85000	1.20000
Semi-Volatile Organic Compounds													
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-01	2.60E-01	<0.0005	<0.00005	<0.00011	<0.0011	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005
2,4-Dimethylphenol	105-67-9	8270	4.90E+01	1.50E+02	46.00000	0.00140	<0.00031	0.17800	<0.00008	0.00350	<0.00008	0.00290	0.00340
2,4-Dinitrotoluene	121-14-2	8270	1.30E-01	3.00E-01	<0.0005	<0.00005	<0.00013	<0.0013	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005
2,6-Dinitrotoluene	606-20-2	8270	1.30E-01	3.00E-01	<0.0006	<0.00006	<0.00008	<0.0008	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006
2-Chloronaphthalene	91-58-7	8270	2.00E+02	5.80E+02	<0.0005	<0.00005	<0.00008	<0.0008	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005
2-Methylnaphthalene	534-52-1	8270	9.80E+00	2.90E+01	0.53000	0.00019J	<0.00007	0.13700	1.90	0.71	0.51	0.52	1.60
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-01	7.30E-01	<0.0008	<0.00008	<0.00083	<0.0083	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008
4-Nitrophenol	100-02-7	8270	4.90E+00	1.50E+01	<0.0005	<0.00005	<0.00056	<0.0056	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005
Acenaphthene	83-32-9	8270	1.50E+02	4.40E+02	0.28000	0.01400	0.0416J	0.04270	0.41000	0.17000	0.09600	0.15000	0.41000
Acenaphthylene	208-96-8	8270	1.50E+02	4.40E+02	0.00590	0.00085	<0.00006	<0.0006	0.00370	0.00160	0.00110	0.00150	0.00330
Anthracene	120-12-7	8270	7.30E+02	2.20E+03	0.05900	0.00480	<0.00005	0.14400	0.14000	0.01500	0.01100	0.02700	0.16000
Benzo(a)anthracene	56-55-3	8270	9.10E-01	2.00E+00	0.00330	0.00330	<0.00008	0.01950	0.02200	0.00019J	0.000073J	0.00190	0.03200
Benzo(a)pyrene	50-32-8	8270	2.00E-02	2.00E-02	<0.0005	0.00089	<0.00008	0.00649	0.00450	<0.00008	<0.00008	0.00073	0.00770
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-02	1.90E-01	<0.0005	<0.00005	<0.00013	<0.0013	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-01	6.00E-01	<0.001	0.00079	<0.00037	<0.0037	0.00031	0.00800	0.00054	0.00091	0.00046
Chrysene	218-01-9	8270	9.10E+01	2.00E+02	0.00420	0.00230	<0.00008	0.01800	0.02000	0.00018J	0.000092J	0.00180	0.02600
Dibenzofuran	132-64-9	8270	9.80E+00	2.90E+01	0.28000	0.00120	<0.00008	0.04280	0.46000	0.18000	0.13000	0.17000	0.53000
Di-n-butylphthalate	84-74-2	8270	2.40E+02	7.30E+02	<0.0005	<0.00005	<0.00011	<0.0011	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005
Fluoranthene	206-44-0	8270	9.80E+01	2.90E+02	0.03000	0.03100	<0.00007	0.12100	0.20000	0.00330	0.00180	0.03300	0.28000
Fluorene	86-73-7	8270	9.80E+01	2.90E+02	0.15000	0.00210	<0.00007	0.02820	0.26000	0.06800	0.04800	0.06900	0.31000
Naphthalene	91-20-3	8270	4.90E+01	1.50E+02	26	0.00057	<0.00008	2.2	20.0	10.0	2.2	7.0	13.0
Nitrobenzene	98-95-3	8270	4.90E+00	1.50E+01	<0.0005	<0.00005	<0.00011	<0.0011	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005
N-Nitrosodiphenylamine	86-30-6	8270	1.90E+01	4.20E+01	<0.0005	<0.00005	<0.0001	<0.001	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005
Pentachlorophenol	87-86-5	8270	1.00E-01	1.00E-01	<0.0005	<0.00005	<0.00061	<0.0061	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005
Phenanthrene	85-01-8	8270	7.30E+01	2.20E+02	0.25000	0.00120	<0.00006	0.05480	0.72000	0.06600	0.04100	0.09000	0.79000
Phenol	108-95-2	8270	7.30E+02	2.20E+03	38.00000	0.000066J	<0.00004	0.03570	0.00300	<0.00007	0.00320	<0.00007	0.00100
Pyrene	129-00-0	8270	7.30E+01	2.20E+02	0.02000	0.04000	<0.00011	0.08410	0.13000	0.00160	0.00092	0.00700	0.17000

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Table 3), Class 3, last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-2a
Summary of Groundwater Sampling Results - B-CZ Monitoring Wells
UPRR Houston Wood Preserving Works

			Residential Assessment Level	C/I Assessment Level	MW-33BR									
chemical_name	CAS	Method	mg/L	mg/L	2/15/2012	7/17/2012	2/6/2013	8/7/2013	1/21/2014	07/28/2014	1/28/2018	3/29/2018	5/31/2018	1/22/2019
Volatile Organic Compounds														
1,2-Dichloroethane	107-06-2	8260	5.00E-01	5.00E-01	<0.001	<0.0005	<0.007	<0.0007	<0.0002	<0.0007	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-01	5.00E-01	2	0.3	1.61	1.62	0.837	1.41	<0.0002	<0.0002	0.12	0.0025
Chlorobenzene	108-90-7	8260	1.00E+01	1.00E+01	<0.001	<0.0005	<0.006	<0.0006	0.000349J	<0.0006	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E+01	7.00E+01	0.46000	0.07000	0.47100	0.38900	0.12800	0.348	<0.0003	<0.0003	0.0058	0.013
Methylene chloride	75-09-2	8260	5.00E-01	5.00E-01	<0.0013	<0.001	0.011J	<0.00075	<0.00022	<0.00075	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+02	1.00E+02	0.12000	0.02300	0.15700	0.06450	0.00942	0.00638	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-01	2.00E-01	<0.001	<0.0005	<0.0055	<0.00055	<0.00018	<0.00055	<0.0002	<0.0002	<0.0002	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+03	1.00E+03	0.82000	0.15000	0.92400	0.18200	0.12800	0.0649	<0.0003	<0.0003	0.0058	<0.0003
semi-Volatile Organic Compounds														
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-01	2.60E-01	<0.00005	<0.00005	<0.529	<0.00519	<0.00053	<0.00011	<2.1E-05	<0.000021	<0.000021	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E+01	1.50E+02	<0.00005	0.00740	<1.49	<0.0146	<0.00149	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-01	3.00E-01	<0.00005	<0.00005	<0.625	<0.00063	<0.00063	<0.00013	<5.8E-05	<0.000058	<0.000058	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-01	3.00E-01	<0.00006	<0.00006	<0.385	<0.00377	<0.00039	<0.00008	<4.2E-05	<0.000042	<0.000042	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+02	5.80E+02	<0.00005	<0.00005	<0.385	<0.00377	<0.00039	<0.00008	<2.1E-05	<0.000021	<0.000021	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E+00	2.90E+01	0.81000	0.55000	0.993J	0.19800	0.05580	0.277	<1.9E-05	<0.000019	0.0029	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-01	7.30E-01	<0.00008	<0.00008	<3.99	<0.0392	<0.00399	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E+00	1.50E+01	<0.00005	<0.00005	<2.69	<0.0264	<0.00269	<0.00056	<4.7E-05	<0.000047	<0.000047	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+02	4.40E+02	0.23000	0.09900	<0.385	0.04550	0.06250	0.0711	<2.7E-05	<0.000027	0.0019	0.0013
Acenaphthylene	208-96-8	8270	1.50E+02	4.40E+02	<0.00005	0.0014J	<0.288	<0.00283	0.000288J	0.00087	<1.5E-05	<0.000015	0.000068 J	<1.5E-05
Anthracene	120-12-7	8270	7.30E+02	2.20E+03	0.05400	0.01100	<0.24	<0.00236	0.00450	0.00564	<1.4E-05	<0.000014	0.00018	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-01	2.00E+00	0.000074J	<0.00005	<0.385	<0.00377	<0.00039	0.000119J	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-02	2.00E-02	<0.00005	<0.00005	<0.385	<0.00377	<0.00039	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-02	1.90E-01	<0.00005	<0.00005	<0.625	<0.00613	<0.00063	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-01	6.00E-01	0.0001J	<0.0001	<1.78	<0.0175	<0.00178	0.000722	0.000062J	<0.000037	<0.0001	<3.7E-05
Chrysene	218-01-9	8270	9.10E+01	2.00E+02	0.000073J	<0.00005	<0.385	<0.00377	<0.00039	0.000132J	<2.1E-05	<0.000021	<0.000021	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E+00	2.90E+01	0.38000	0.15000	<0.385	0.04980	0.07690	0.0868	<2.1E-05	<0.00002	0.0019	7.9E-05 J
Di-n-butylphthalate	84-74-2	8270	2.40E+02	7.30E+02	<0.00005	<0.00005	<0.529	<0.00519	<0.00053	0.000384J	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E+01	2.90E+02	0.00490	0.01000	<0.337	<0.0033	0.00107J	0.00265	0.000049J	<0.00001	0.0003	5.3E-05 J
Fluorene	86-73-7	8270	9.80E+01	2.90E+02	0.12000	0.05100	<0.337	0.0181J	0.02870	0.035J	<0.00003	<0.00003	0.00058	<0.00003
Naphthalene	91-20-3	8270	4.90E+01	1.50E+02	21.0	7.3	14.9J	6.54000	1.68J	6.59	<0.00018	<0.00002	0.069	0.00004 J
Nitrobenzene	98-95-3	8270	4.90E+00	1.50E+01	<0.00005	<0.00005	<0.529	<0.00519	<0.00053	<0.00011	<2.4E-05	<0.000024	<0.000024	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E+01	4.20E+01	0.00081	<0.00005	<0.481	<0.00472	<0.00048	<0.0001	<2.5E-05	<0.000025	<0.000025	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-01	1.00E-01	<0.00005	<0.00005	<2.93	<0.0288	<0.00293	<0.00061	<7.9E-05	<0.000079	<0.000079	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E+01	2.20E+02	0.17000	0.09100	<0.288	0.0141J	0.02380	0.0313J	<4.7E-05	<0.000021	0.0008	<2.1E-05
Phenol	108-95-2	8270	7.30E+02	2.20E+03	0.00430	0.0014J	<0.192	<0.00189	<0.00019	<0.00004	<3.5E-05	<0.000035	<0.000035	<3.5E-05
Pyrene	129-00-0	8270	7.30E+01	2.20E+02	0.00250	0.00540	<0.529	<0.00519	0.000734J	0.00126	<1.9E-05	<0.000019	0.00019	0.00003 J

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Table 3), Class 3, last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-2a
Summary of Groundwater Sampling Results - B-CZ Monitoring Wells
UPRR Houston Wood Preserving Works

chemical_name	CAS	Method	Residential	C/I	MW-36B												
			Assessment Level	Assessment Level	7/15/2010	1/20/2011	7/19/2011	2/8/2012	7/17/2012	1/31/2013	8/6/2013	1/16/2014	07/28/2014	1/25/2018	3/21/2018	5/31/2018	1/14/2019
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds																	
1,2-Dichloroethane	107-06-2	8260	5.00E-01	5.00E-01	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-01	5.00E-01	<0.0005	0.0018J	0.0014J	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E+01	1.00E+01	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E+01	7.00E+01	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-01	5.00E-01	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+02	1.00E+02	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-01	2.00E-01	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00011	<0.00011	<0.00018	<0.00011	<0.0002	<0.0002	<0.0002	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+03	1.00E+03	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
Semi-Volatile Organic Compounds																	
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-01	2.60E-01	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<0.000021	<0.000021	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E+01	1.50E+02	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-01	3.00E-01	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.9E-05	<0.000058	<0.000058	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-01	3.00E-01	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<0.000042	0.0073	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+02	5.80E+02	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<0.000021	<0.000021	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E+00	2.90E+01	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	0.00076	<0.00007	0.00007J	<0.00007	<1.9E-05	<0.000019	<0.000019	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-01	7.30E-01	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E+00	1.50E+01	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<0.000047	<0.000047	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+02	4.40E+02	<0.00009	0.00023	0.00014J	0.00023	0.00016J	<0.00008	<0.00008	0.000463J	<0.00008	0.00014	<0.000027	0.00014	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+02	4.40E+02	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<0.000015	<0.000015	<1.5E-05
Anthracene	120-12-7	8270	7.30E+02	2.20E+03	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00035J	<0.00005	<1.4E-05	<0.000014	<0.000014	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	0.00012J	<0.00008	<5.1E-05	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-02	2.00E-02	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-02	1.90E-01	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-01	6.00E-01	0.010	0.00048	0.00068	0.00033	0.00021	<0.00037	<0.00037	0.00044J	<0.00037	0.00015J	<0.000037	<0.00017	0.00022
Chrysene	218-01-9	8270	9.10E+01	2.00E+02	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	0.000146J	<0.00008	<2.1E-05	<0.000021	<0.000021	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E+00	2.90E+01	<0.00008	<0.00008	<0.00005	<0.00005	0.00011J	0.000118J	<0.00008	0.00008J	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+02	7.30E+02	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E+01	2.90E+02	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	0.00076	<0.00007	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E+01	2.90E+02	<0.00007	<0.00007	<0.00005	0.00011J	<0.00005	<0.00007	<0.00007	0.000434J	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E+01	1.50E+02	<0.0001	<0.0001	<0.00005	0.00024	<0.00005	0.00094	8.95E-05J	0.000825J	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Nitrobenzene	98-95-3	8270	4.90E+00	1.50E+01	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<0.000024	<0.000024	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E+01	4.20E+01	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<0.000025	<0.000025	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-01	1.00E-01	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<0.00008	<0.000079	<0.000079	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E+01	2.20E+02	<0.00007	<0.00007	<0.00005	<0.00005	0.00027	<0.00006	<0.00006	0.00183	<0.00006	<2.1E-05	<0.000021	<0.000021	<2.1E-05
Phenol	108-95-2	8270	7.30E+02	2.20E+03	<0.00007	0.000089J	<0.00005	0.00026	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<0.000035	<0.000035	<3.5E-05
Pyrene	129-00-0	8270	7.30E+01	2.20E+02	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	0.00046J	<0.00011	<1.9E-05	<0.000019	<0.000019	<1.9E-05

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Table 3), Class 3, last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-2a
Summary of Groundwater Sampling Results - B-CZ Monitoring Wells
UPRR Houston Wood Preserving Works

chemical_name	CAS	Method	Residential	C/I	MW-49B*													
			Assessment Level	Assessment Level	2/4/2009	1/20/2010	6/24/2010	1/20/2011	7/22/2011	2/7/2012	7/23/2012	2/7/2013	8/1/2013	1/16/2014	07/16/2014	1/29/2018	3/21/2018	5/25/2018
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Volatile Organic Compounds																		
1,2-Dichloroethane	107-06-2	8260	5.00E-01	5.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.0028	<0.0002	<0.0028	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-01	5.00E-01	0.00950	0.01300	0.10000	0.00570	0.05600	0.00560	0.11000	0.06310	0.46900	0.06910	0.346	0.0073	0.026	0.26
Chlorobenzene	108-90-7	8260	1.00E+01	1.00E+01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	0.0103J	<0.00018	<0.0024	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E+01	7.00E+01	0.00810	0.02400	0.01900	0.004J	0.00910	0.0042J	0.02300	0.01820	0.08250	0.04250	0.0847	<0.0003	<0.0003	0.048
Methylene chloride	75-09-2	8260	5.00E-01	5.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.003	<0.00022	0.0212	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+02	1.00E+02	0.01600	0.04500	0.07100	0.00720	0.03800	0.00570	0.08900	0.06330	0.34500	0.09100	0.31	0.0058	0.014	0.23
Vinyl chloride	75-01-4	8260	2.00E-01	2.00E-01					<0.001	<0.001	<0.0005	<0.00011	<0.0022	<0.00018	<0.0022	<0.0002	<0.0002	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+03	1.00E+03	0.02400	0.07000	0.04700	0.0066J	0.02000	0.008J	0.06000	0.05270	0.22200	0.11200	0.249	0.0095	0.012	0.14
emi-Volatile Organic Compounds																		
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-01	2.60E-01	<0.0001	<0.0001	<0.00045	<0.0001	<0.00005	<0.00005	<0.00005	<0.00524	<0.011	<0.0259	<0.00208	<2.1E-05	<0.00021	<0.00021
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+02	0.03100	0.01300	1.20000	0.18000	0.59000	0.19000	6.30	1.09	21.40	4.96	13.6	0.2	0.34	3.4
2,4-Dinitrotoluene	121-14-2	8270	1.30E-01	3.00E-01	<0.00009	<0.00009	<0.00035	<0.00009	<0.00005	<0.00005	<0.00005	<0.00619	<0.013	<0.0307	<0.00245	<5.8E-05	<0.00058	<0.00058
2,6-Dinitrotoluene	606-20-2	8270	1.30E-01	3.00E-01	<0.00007	<0.00007	<0.0005	<0.00007	<0.00006	<0.00006	<0.00006	<0.00381	<0.008	<0.0189	<0.00151	0.002	<0.00042	<0.00042
2-Chloronaphthalene	91-58-7	8270	2.00E+02	5.80E+02	<0.00012	<0.0001	<0.00035	<0.0001	<0.00005	<0.00005	<0.00005	<0.00381	<0.008	<0.0189	<0.00151	<2.1E-05	<0.00021	<0.00021
2-Methylnaphthalene	534-52-1	8270	9.80E+00	2.90E+01	0.14000	<0.00007	0.00160	<0.00007	0.00290	0.00950	0.18000	0.29700	0.22300	0.69100	0.276	0.00011	0.00084J	0.072
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-01	7.30E-01	<0.00008	<0.00008	<0.0004	<0.00008	<0.00008	<0.00008	<0.00008	<0.0395	<0.083	<0.196	<0.0157	<0.00002	<0.0002	<0.0002
4-Nitrophenol	100-02-7	8270	4.90E+00	1.50E+01	<0.00007	<0.00007	<0.00035	<0.00007	<0.00005	<0.00005	<0.00005	<0.0267	<0.056	<0.132	<0.0106	<4.7E-05	<0.00047	<0.00047
Acenaphthene	83-32-9	8270	1.50E+02	4.40E+02	0.09400	0.01700	0.01400	0.00067	0.00510	0.03400	0.14000	0.24800	0.09640	0.62200	0.117	0.071	0.066	0.071
Acenaphthylene	208-96-8	8270	1.50E+02	4.40E+02	0.00160	0.00070	0.00063J	<0.00007	0.00019J	0.00070	0.00130	<0.00286	<0.006	<0.0142	0.00432J	0.0017	0.003	0.026
Anthracene	120-12-7	8270	7.30E+02	2.20E+03	0.01900	0.00015J	<0.00045	0.00031	0.00093	0.00290	0.05600	0.08760	<0.005	0.22100	0.013	0.003	0.0038	0.0073
Benzo(a)anthracene	56-55-3	8270	9.10E-01	2.00E+00	0.00035	<0.00007	<0.00035	<0.00007	0.00018J	<0.00005	0.01300	0.0228J	<0.008	0.0671J	<0.00151	0.000088J	<0.0005	<0.0005
Benzo(a)pyrene	50-32-8	8270	2.00E-02	2.00E-02	<0.00008	<0.00008	<0.00035	<0.00008	0.000057J	<0.00005	0.00380	<0.00381	<0.008	<0.0189	<0.00151	<0.00002	<0.0002	<0.0002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-02	1.90E-01	<0.00009	<0.00009	<0.00035	<0.00009	<0.00005	<0.00005	<0.00005	<0.00619	<0.013	<0.0307	<0.00245	<0.00003	<0.0003	<0.0003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-01	6.00E-01	0.00029	0.00053	<0.0004	0.00055	0.00024	0.00069	0.00055	<0.0176	<0.037	<0.0873	<0.00698	0.00011J	<0.00037	<0.00037
Chrysene	218-01-9	8270	9.10E+01	2.00E+02	0.00038	<0.00007	<0.00045	<0.00007	0.00016J	<0.00005	0.01500	0.0207J	<0.008	0.0737J	<0.00151	0.00012	<0.00021	<0.00021
Dibenzofuran	132-64-9	8270	9.80E+00	2.90E+01	0.07100	0.00240	0.00260	0.00018J	0.00180	0.01900	0.12000	0.20000	<0.008	0.48400	0.08	0.028	0.009	0.03
Di-n-butylphthalate	84-74-2	8270	2.40E+02	7.30E+02	0.00130	0.000083J	<0.001	<0.00007	<0.00005	<0.00005	<0.00005	<0.00524	<0.011	<0.0259	<0.00208	<0.00002	<0.0002	<0.0002
Fluoranthene	206-44-0	8270	9.80E+01	2.90E+02	0.01400	0.00023	<0.00035	0.00019J	0.00110	0.00150	0.09300	0.16700	<0.007	0.41500	0.00456J	0.0027	0.0038	0.0036
Fluorene	86-73-7	8270	9.80E+01	2.90E+02	0.07100	0.00360	0.00160	0.00018J	0.00140	0.01900	0.13000	0.21700	0.04900	0.46400	0.0633	0.0087	0.018	0.031
Naphthalene	91-20-3	8270	4.90E+01	1.50E+02	1.40000	0.00044	0.23000	0.00010	0.13000	0.04700	2.30	2.88	9.38	6.75	5.57	0.00042	0.0075	2.5
Nitrobenzene	98-95-3	8270	4.90E+00	1.50E+01	<0.00009	<0.00009	<0.00035	<0.00009	<0.00005	<0.00005	<0.00005	<0.00524	<0.011	<0.0259	<0.00208	<2.4E-05	<0.00024	<0.00024
N-Nitrosodiphenylamine	86-30-6	8270	1.90E+01	4.20E+01	<0.00009	<0.00009	<0.0004	<0.00009	<0.00005	<0.00005	<0.00005	<0.00476	<0.01	<0.0236	<0.00189	<2.5E-05	<0.00025	<0.00025
Pentachlorophenol	87-86-5	8270	1.00E-01	1.00E-01	<0.00008	<0.00008	<0.00035	<0.00008	<0.00005	<0.00005	<0.00005	<0.029	<0.061	<0.144	<0.0115	<7.9E-05	<0.00079	<0.00079
Phenanthrene	85-01-8	8270	7.30E+01	2.20E+02	0.11000	0.00017J	<0.00035	0.00007	0.00250	0.00980	0.35000	0.46600	0.039J	1.29000	0.0458	0.0073	0.011	0.028
Phenol	108-95-2	8270	7.30E+02	2.20E+03	<0.00007	<0.00007	0.00530	0.00044	0.00021	<0.00005	0.00630	<0.0019	<0.004	0.0445J	0.0145	<3.5E-05	<0.00035	<0.00035
Pyrene	129-00-0	8270	7.30E+01	2.20E+02	0.00740	0.00020	<0.00045	0.00024	0.00066	0.00083	0.06200	0.10100	<0.011	0.26200	<0.00208	0.0014	0.002	0.0021

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Table 3), Class 3, last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-2a
Summary of Groundwater Sampling Results - B-CZ Monitoring Wells
UPRR Houston Wood Preserving Works

chemical_name	CAS	Method	Residential	C/I	MW-57B*								
			Assessment Level	Assessment Level	2/15/2012	7/24/2012	1/31/2013	7/31/2013	1/15/2014	07/29/2014	1/31/2018	4/1/2018	5/25/2018
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds													
1,2-Dichloroethane	107-06-2	8260	5.00E-01	5.00E-01	<0.01	<0.005	<0.0035	<0.014	<0.0002	<0.0007	<0.0002	<0.001	<0.0002
Benzene	71-43-2	8260	5.00E-01	5.00E-01	1.40000	1.50000	0.73300	1.49000	0.71600	1.25	0.012	0.01	0.82
Chlorobenzene	108-90-7	8260	1.00E+01	1.00E+01	<0.01	<0.005	<0.003	<0.012	<0.00018	<0.0006	<0.0003	<0.0015	<0.0003
Ethylbenzene	100-41-4	8260	7.00E+01	7.00E+01	0.39000	0.42000	0.19300	0.50100	0.17400	0.371	0.026	0.032	0.3
Methylene chloride	75-09-2	8260	5.00E-01	5.00E-01	<0.013	0.017J	<0.00375	0.0405J	<0.00022	<0.00075	<0.001	<0.005	<0.001
Toluene	108-88-3	8260	1.00E+02	1.00E+02	1.30000	1.40000	0.69200	1.62000	0.63000	1.33	0.0043	0.0019J	0.84
Vinyl chloride	75-01-4	8260	2.00E-01	2.00E-01						0.00299J			
Xylenes (total)	1330-20-7	8260	1.00E+03	1.00E+03	1.20000	1.10000	0.58900	1.40000	0.57400	1.16	0.057	0.055	0.84
Semi-Volatile Organic Compounds													
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-01	2.60E-01	<0.0005	<0.0005	<0.055	<0.0267	<0.0519	<0.011	<0.00021	<0.000021	<0.00021
2,4-Dimethylphenol	105-67-9	8270	4.90E+01	1.50E+02	6.30000	16.00000	13.80000	9.67000	19.80000	15	0.01	<0.00004	3.7
2,4-Dinitrotoluene	121-14-2	8270	1.30E-01	3.00E-01	<0.0005	<0.0005	<0.065	<0.0316	<0.0613	<0.013	<0.00058	<0.000058	<0.00058
2,6-Dinitrotoluene	606-20-2	8270	1.30E-01	3.00E-01	<0.0006	<0.0006	<0.04	<0.0194	<0.0377	<0.008	<0.00042	<0.000042	<0.00042
2-Chloronaphthalene	91-58-7	8270	2.00E+02	5.80E+02	<0.0005	<0.0005	<0.04	<0.0194	<0.0377	<0.008	<0.00021	<0.000021	<0.00021
2-Methylnaphthalene	534-52-1	8270	9.80E+00	2.90E+01	0.92000	1.60000	1.75000	1.07000	0.89200	0.945	0.17	0.029	0.61
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-01	7.30E-01	<0.0008	<0.0008	<0.415	<0.201	<0.392	<0.083	<0.0002	<0.00002	<0.0002
4-Nitrophenol	100-02-7	8270	4.90E+00	1.50E+01	<0.0005	<0.0005	<0.28	<0.136	<0.264	<0.056	<0.00047	<0.000047	<0.00047
Acenaphthene	83-32-9	8270	1.50E+02	4.40E+02	0.35000	0.44000	0.93000	0.42300	0.52400	0.267	0.13	0.13	0.3
Acenaphthylene	208-96-8	8270	1.50E+02	4.40E+02	0.00600	0.00870	<0.03	<0.0146	<0.0283	<0.006	0.0029	0.0011	0.0063
Anthracene	120-12-7	8270	7.30E+02	2.20E+03	0.02300	0.05000	0.29200	0.0493J	0.0844J	0.0355J	0.014	0.005	0.44
Benzo(a)anthracene	56-55-3	8270	9.10E-01	2.00E+00	0.0011J	0.0012J	0.0543J	<0.0194	<0.0377	<0.008	0.001	<0.00005	0.03
Benzo(a)pyrene	50-32-8	8270	2.00E-02	2.00E-02	<0.0005	<0.0005	<0.04	<0.0194	<0.0377	<0.008	0.00058J	<0.00002	0.0094
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-02	1.90E-01	<0.0005	<0.0005	<0.065	<0.0316	<0.0613	<0.013	<0.0003	<0.00003	<0.0003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-01	6.00E-01	0.0019J	<0.001	<0.185	<0.0898	<0.175	<0.037	0.00043J	0.000095J	<0.00037
Chrysene	218-01-9	8270	9.10E+01	2.00E+02	0.00099J	0.0016J	0.0561J	<0.0194	<0.0377	<0.008	0.00091J	<0.000021	0.024
Dibenzofuran	132-64-9	8270	9.80E+00	2.90E+01	0.28000	0.38000	0.81400	0.32200	0.39200	0.226	0.11	0.081	0.29
Di-n-butylphthalate	84-74-2	8270	2.40E+02	7.30E+02	<0.0005	<0.0005	<0.055	<0.0267	<0.0519	<0.011	<0.0002	<0.00002	<0.0002
Fluoranthene	206-44-0	8270	9.80E+01	2.90E+02	0.00810	0.01600	0.38700	0.0301J	0.0752J	0.0109J	0.012	0.0044	0.19
Fluorene	86-73-7	8270	9.80E+01	2.90E+02	0.09500	0.23000	0.65000	0.20800	0.29800	0.138	0.081	0.096	0.27
Naphthalene	91-20-3	8270	4.90E+01	1.50E+02	24	27	19	18	11	17	1.8	0.39	12
Nitrobenzene	98-95-3	8270	4.90E+00	1.50E+01	<0.0005	<0.0005	<0.055	<0.0267	<0.0519	<0.011	<0.00024	<0.000024	<0.00024
N-Nitrosodiphenylamine	86-30-6	8270	1.90E+01	4.20E+01	<0.0005	<0.0005	<0.05	<0.0243	<0.0472	<0.01	<0.00025	<0.000025	<0.00025
Pentachlorophenol	87-86-5	8270	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.305	<0.148	<0.288	<0.061	<0.00079	<0.000079	<0.00079
Phenanthrene	85-01-8	8270	7.30E+01	2.20E+02	0.16000	0.24000	1.39000	0.24200	0.45600	0.127	0.094	0.033	0.63
Phenol	108-95-2	8270	7.30E+02	2.20E+03	0.45000	1.00000	1.00000	0.64500	1.00000	0.495	<0.00035	<0.000035	0.22
Pyrene	129-00-0	8270	7.30E+01	2.20E+02	0.00750	0.01100	0.245J	<0.0267	<0.0519	<0.011	0.0068	0.003	0.13

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Table 3), Class 3, last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-2a
Summary of Groundwater Sampling Results - B-CZ Monitoring Wells
UPRR Houston Wood Preserving Works

chemical_name	CAS	Method	Residential	C/I	MW-59B												
			Assessment Level	Assessment Level	7/15/2010	1/20/2011	7/18/2011	2/6/2012	7/27/2012	1/31/2013	8/1/2013	1/16/2014	07/30/2014	1/29/2018	3/20/2018	5/25/2018	1/23/2019
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds																	
1,2-Dichloroethane	107-06-2	8260	5.00E-01	5.00E-01	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-01	5.00E-01	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	9.81E-05J	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E+01	1.00E+01	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E+01	7.00E+01	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-01	5.00E-01	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+02	1.00E+02	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-01	2.00E-01	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00011	<0.00011	<0.00018	<0.00011	<0.0002	<0.0002	<0.0002	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+03	1.00E+03	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
Semi-Volatile Organic Compounds																	
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-01	2.60E-01	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<0.000021	<0.000021	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E+01	1.50E+02	<0.00008	<0.00008	<0.00005	0.25000	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-01	3.00E-01	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<0.000059	<0.000059	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-01	3.00E-01	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<0.000042	<0.000042	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+02	5.80E+02	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<0.000021	<0.000021	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E+00	2.90E+01	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<1.9E-05	<0.000019	<0.000019	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-01	7.30E-01	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E+00	1.50E+01	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<0.000047	<0.000047	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+02	4.40E+02	<0.00009	<0.00009	<0.00005	0.00170	<0.00005	<0.00008	<0.00008	<0.00008	0.000621	<2.7E-05	<0.000027	<0.000027	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+02	4.40E+02	<0.00007	<0.00007	<0.00005	0.00014J	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<0.000015	<0.000015	<1.5E-05
Anthracene	120-12-7	8270	7.30E+02	2.20E+03	<0.00007	<0.00007	<0.00005	0.000054J	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<1.4E-05	<0.000014	<0.000014	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.000051	<0.000051	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-02	2.00E-02	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	3.3E-05 J
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-02	1.90E-01	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-01	6.00E-01	0.00200	0.00021	0.00031	0.00068	0.00018J	<0.00037	<0.00037	<0.00037	<0.00037	0.000058J	<0.000037	<0.000037	<5.6E-05
Chrysene	218-01-9	8270	9.10E+01	2.00E+02	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<0.000021	<0.000021	3.6E-05 J
Dibenzofuran	132-64-9	8270	9.80E+00	2.90E+01	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	0.000201J	<0.00002	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+02	7.30E+02	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	0.000115J	0.000105J	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E+01	2.90E+02	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00001	<0.00001	<0.00001	5.1E-05 J
Fluorene	86-73-7	8270	9.80E+01	2.90E+02	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	0.000189J	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E+01	1.50E+02	0.00014J	0.0001J	<0.00005	0.00012J	0.00006J	0.000269J	0.000166J	7.55E-05J	0.00627	<0.00002	<0.00002	<0.00002	7.2E-05 J
Nitrobenzene	98-95-3	8270	4.90E+00	1.50E+01	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<0.000024	<0.000024	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E+01	4.20E+01	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<0.000025	<0.000025	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-01	1.00E-01	<0.00008	<0.00008	<0.00005	0.00011J	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<0.000079	<0.000079	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E+01	2.20E+02	<0.00007	<0.00007	<0.00005	0.00025	<0.00005	<0.00006	<0.00006	5.66E-05J	<0.00006	<2.1E-05	<0.000021	<0.000021	<2.1E-05
Phenol	108-95-2	8270	7.30E+02	2.20E+03	0.00020	<0.00007	<0.00005	0.00033	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<0.000035	<0.000035	<3.5E-05
Pyrene	129-00-0	8270	7.30E+01	2.20E+02	<0.00007	<0.00007	<0.00005	0.000062J	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<1.9E-05	<0.000019	<0.000019	5.3E-05 J

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Table 3), Class 3, last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-2a
Summary of Groundwater Sampling Results - B-CZ Monitoring Wells
UPRR Houston Wood Preserving Works

			Residential Assessment Level	C/I Assessment Level	MW-63B															
chemical_name	CAS	Method	mg/L	mg/L	1/13/2010	6/30/2010	1/27/2011	7/19/2011	2/9/2012	7/18/2012	2/7/2013	8/7/2013	1/22/2014	07/24/2014	1/28/2018	3/26/2018	6/6/2018	1/14/2019		
Volatile Organic Compounds																				
1,2-Dichloroethane	107-06-2	8260	5.00E-01	5.00E-01	<0.0005	<0.0005	<0.0005	<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	71-43-2	8260	5.00E-01	5.00E-01	0.21000	0.01500	0.01900	0.01900	<0.001	0.0015J	0.00952	0.08690	0.07620	0.108	0.0033	0.0026	0.048		0.35	
Chlorobenzene	108-90-7	8260	1.00E+01	1.00E+01	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	0.000216J	<0.0003	<0.0003	<0.0003	<0.0003	0.00073 J	
Ethylbenzene	100-41-4	8260	7.00E+01	7.00E+01	0.20000	0.07200	0.07100	0.04000	0.0012J	0.0014J	0.01650	0.03410	0.04180	0.151	0.012	0.0059	0.048		0.48	
Methylene chloride	75-09-2	8260	5.00E-01	5.00E-01	<0.0005	<0.0005	<0.0005	<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	108-88-3	8260	1.00E+02	1.00E+02	0.01500	0.0016J	0.0018J	0.0017J	<0.001	0.0038J	0.00241	0.000434J	0.000399J	0.00257	<0.0002	<0.0002	0.00093 J		0.0071	
Vinyl chloride	75-01-4	8260	2.00E-01	2.00E-01										<0.00011						
Xylenes (total)	1330-20-7	8260	1.00E+03	1.00E+03	0.08200	0.02000	0.01600	0.013J	<0.0031	<0.0015	0.00629	0.01130	0.01560	0.0535	0.0048	0.0016	0.011		0.11	
emi-Volatile Organic Compounds																				
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-01	2.60E-01	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00524	<0.00011	<0.0011	<0.0011	<2.1E-05	<2.1E-05	<0.00021	<2.1E-05		
2,4-Dimethylphenol	105-67-9	8270	4.90E+01	1.50E+02	<0.00008	<0.00008	<0.00008	0.000056J	<0.00005	<0.00005	<0.0148	<0.00031	<0.0031	<0.0031	<0.00004	<0.00004	<0.0004	<0.0004	<0.00004	
2,4-Dinitrotoluene	121-14-2	8270	1.30E-01	3.00E-01	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00619	<0.00013	<0.0013	<0.0013	<5.8E-05	<5.8E-05	<0.00058	<5.8E-05		
2,6-Dinitrotoluene	606-20-2	8270	1.30E-01	3.00E-01	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00381	<0.00008	<0.0008	<0.0008	<4.2E-05	<4.2E-05	<0.00042	<4.2E-05		
2-Chloronaphthalene	91-58-7	8270	2.00E+02	5.80E+02	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00381	<0.00008	<0.0008	<0.0008	<2.1E-05	<2.1E-05	<0.00021	<2.1E-05		
2-Methylnaphthalene	534-52-1	8270	9.80E+00	2.90E+01	0.11000	0.03100	0.02500	0.01400	0.00290	0.00340	0.0104J	0.00242	0.00756	0.0302	0.000059J	<1.9E-05	0.0016		0.042	
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-01	7.30E-01	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00395	<0.00083	<0.0083	<0.0083	<0.00002	<0.00002	<0.0002	<0.0002	<0.00002	
4-Nitrophenol	100-02-7	8270	4.90E+00	1.50E+01	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0267	<0.00056	<0.0056	<0.0056	<4.7E-05	<4.7E-05	<0.00047	<4.7E-05		
Acenaphthene	83-32-9	8270	1.50E+02	4.40E+02	0.02800	0.01300	0.01700	0.00530	0.00200	0.00230	0.00952J	0.00083	0.00274J	0.00754	0.00066	<2.7E-05	0.0027	<2.7E-05		
Acenaphthylene	208-96-8	8270	1.50E+02	4.40E+02	0.00051	0.00018J	<0.00007	0.000066J	0.00012J	<0.00005	<0.00286	<0.00006	<0.0006	<0.0006	<1.5E-05	<1.5E-05	<0.00015		0.0029	
Anthracene	120-12-7	8270	7.30E+02	2.20E+03	0.00068	0.00039	0.00110	0.00011J	0.00015J	0.00005J	<0.00238	<0.00005	<0.0005	<0.0005	0.00011	0.00022	<0.00014	0.00017 J		
Benzo(a)anthracene	56-55-3	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	0.00087	<0.00005	<0.00005	<0.00005	<0.00381	<0.00008	<0.0008	<0.0008	<0.00005	<0.00005	<0.0005	<0.00005	<0.00005	
Benzo(a)pyrene	50-32-8	8270	2.00E-02	2.00E-02	<0.00008	<0.00008	0.00027	<0.00005	<0.00005	<0.00005	<0.00381	<0.00008	<0.0008	<0.0008	<0.00002	<0.00002	<0.0002	<0.00002	<0.00002	
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-02	1.90E-01	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00619	<0.00013	<0.0013	<0.0013	<0.00003	<0.00003	<0.0003	<0.00003	<0.00003	
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-01	6.00E-01	0.00036	0.00036	0.00060	0.00051	0.00096	0.00096	<0.0176	0.000381J	<0.0037	<0.0037	<3.7E-05	<3.7E-05	<0.00037	<3.7E-05		
Chrysene	218-01-9	8270	9.10E+01	2.00E+02	<0.00007	<0.00007	0.00079	<0.00005	<0.00005	<0.00005	<0.00381	<0.00008	<0.0008	<0.0008	<2.1E-05	<2.1E-05	<0.00021	<2.1E-05		
Dibenzofuran	132-64-9	8270	9.80E+00	2.90E+01	0.02200	0.00800	0.01300	0.00410	0.00240	0.00260	0.00576J	0.00104	0.002J	0.00663	0.00065	<0.00002	0.002	0.0087		
Di-n-butylphthalate	84-74-2	8270	2.40E+02	7.30E+02	0.00019J	<0.00007	<0.00007	<0.00005	0.00014J	<0.00005	<0.00524	0.000104J	<0.0011	<0.0011	<0.00002	<0.00002	<0.0002	<0.00002	<0.00002	
Fluoranthene	206-44-0	8270	9.80E+01	2.90E+02	<0.00007	<0.00007	0.00420	<0.00005	0.000091J	0.00013J	<0.00333	<0.00007	<0.0007	<0.0007	0.0001	<0.00001	<0.0001	<0.00001	<0.00001	
Fluorene	86-73-7	8270	9.80E+01	2.90E+02	0.00780	0.00410	0.00540	0.00190	0.00093	0.00110	<0.00333	0.000349J	0.00102J	0.00248J	0.00033	<0.00003	0.00099 J		0.0029	
Naphthalene	91-20-3	8270	4.90E+01	1.50E+02	3.10000	0.67000	0.76000	0.36000	0.02700	0.04400	0.25100	0.14600	0.37400	1.69	<0.00066	<0.00002	0.29		2.1	
Nitrobenzene	98-95-3	8270	4.90E+00	1.50E+01	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00524	<0.00011	<0.0011	<0.0011	<2.4E-05	<2.4E-05	<0.00024	<2.4E-05		
N-Nitrosodiphenylamine	86-30-6	8270	1.90E+01	4.20E+01	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00476	<0.0001	<0.001	<0.001	<2.5E-05	<2.5E-05	<0.00025	<2.5E-05		
Pentachlorophenol	87-86-5	8270	1.00E-01	1.00E-01	<0.00008	<0.00008	<0.00008	<0.00005	0.00018J	<0.00005	<0.029	<0.00061	<0.0061	<0.0061	<7.9E-05	<7.9E-05	<0.00079	<7.9E-05		
Phenanthrene	85-01-8	8270	7.30E+01	2.20E+02	0.00340	0.00076	0.00440	0.00075	0.00072	0.00100	<0.00286	<0.00006	0.00133J	<0.0006	<7.5E-05	<2.1E-05	<0.00021	0.00094 J		
Phenol	108-95-2	8270	7.30E+02	2.20E+03	<0.00007	<0.00007	<0.00007	<0.00005	0.00057	<0.00005	<0.0019	<0.00004	0.000889J	<0.0004	<3.5E-05	<3.5E-05	<0.00035	<3.5E-05		
Pyrene	129-00-0	8270	7.30E+01	2.20E+02	<0.00007	<0.00007	0.00290	<0.00005	0.000063J	<0.00005	<0.00524	<0.00011	<0.0011	<0.0011	<1.9E-05	<1.9E-05	<0.00019	<1.9E-05		

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Table 3), Class 3, last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-2a
Summary of Groundwater Sampling Results - B-CZ Monitoring Wells
UPRR Houston Wood Preserving Works

chemical_name	CAS	Method	Residential	C/I	MW-67B													
			Assessment Level	Assessment Level	7/15/2010	1/27/2011	7/20/2011	2/9/2012	7/17/2012	2/12/2013	8/8/2013	1/23/2014	07/24/2014	1/31/2018	3/27/2018	6/6/2018	1/24/2019	
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Volatile Organic Compounds																		
1,2-Dichloroethane	107-06-2	8260	5.00E-01	5.00E-01	<0.0005	<0.0005	<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	71-43-2	8260	5.00E-01	5.00E-01	<0.0005	<0.0005	<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	108-90-7	8260	1.00E+01	1.00E+01	<0.0005	<0.0005	<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	100-41-4	8260	7.00E+01	7.00E+01	0.0015J	<0.0005	<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	75-09-2	8260	5.00E-01	5.00E-01	<0.0005	<0.0005	<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	108-88-3	8260	1.00E+02	1.00E+02	<0.0005	<0.0005	<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	75-01-4	8260	2.00E-01	2.00E-01							<0.00011		<0.00011					
Xylenes (total)	1330-20-7	8260	1.00E+03	1.00E+03	0.0012J	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semi-Volatile Organic Compounds																		
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-01	2.60E-01	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E+01	1.50E+02	<0.00008	<0.00008	<0.00005	0.00050	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-01	3.00E-01	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-01	3.00E-01	<0.00007	<0.00007	<0.00006	<0.00006	0.00220	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+02	5.80E+02	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E+00	2.90E+01	<0.00007	<0.00007	<0.00005	0.00023	0.000062J	<0.00007	<0.00007	<0.00007	<0.00007	<3.1E-05	<1.9E-05	6.1E-05 J	<1.9E-05	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-01	7.30E-01	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E+00	1.50E+01	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+02	4.40E+02	0.00011J	<0.00009	<0.00005	0.00012J	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.7E-05	<2.7E-05	<2.7E-05	<2.7E-05	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+02	4.40E+02	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+02	2.20E+03	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005J	<0.00005	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-02	2.00E-02	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-02	1.90E-01	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-01	6.00E-01	0.00160	0.00220	0.00094	0.00042	0.00012J	<0.00037	<0.00037	0.00184	<5.6E-05	<3.7E-05	<0.00056	5.1E-05 J		
Chrysene	218-01-9	8270	9.10E+01	2.00E+02	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E+00	2.90E+01	<0.00008	<0.00008	<0.00005	0.00013J	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	6.9E-05 J	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+02	7.30E+02	<0.00007	0.000083J	<0.00005	<0.00005	<0.00005	<0.00011	0.000119J	0.00011J	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E+01	2.90E+02	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E+01	2.90E+02	<0.00007	<0.00007	<0.00005	0.0001J	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E+01	1.50E+02	<0.0001	0.00062	<0.00005	0.00190	0.00049	<0.00008	0.000433J	0.00008J	0.000275J	<0.00045	0.00013	0.00047 J	<0.00002	<0.00002
Nitrobenzene	98-95-3	8270	4.90E+00	1.50E+01	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E+01	4.20E+01	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-01	1.00E-01	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E+01	2.20E+02	<0.00007	<0.00007	<0.00005	0.00011J	<0.00005	<0.00006	<0.00006	0.00006J	<0.00006	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Phenol	108-95-2	8270	7.30E+02	2.20E+03	<0.00007	<0.00007	<0.00005	0.000089J	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	0.00018J	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05
Pyrene	129-00-0	8270	7.30E+01	2.20E+02	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Table 3), Class 3, last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-2a
Summary of Groundwater Sampling Results - B-CZ Monitoring Wells
UPRR Houston Wood Preserving Works

chemical_name	CAS	Method	Residential	C/I	MW-70B*				MW-71B									
			Assessment Level	Assessment Level	7/17/2012	2/7/2013	1/22/2014	07/28/2014	2/8/2012	7/18/2012	2/7/2013	8/7/2013	1/24/2014	07/28/2014	1/25/2018	3/26/2018	6/6/2018	1/10/2019
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds																		
1,2-Dichloroethane	107-06-2	8260	5.00E-01	5.00E-01	<0.0025	<0.007	<0.0002	<0.0014	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-01	5.00E-01	0.21	2.01	2.39	2.55	0.01200	0.0014J	0.01240	0.10300	0.03900	0.00155	<0.0002	0.0042	0.027	0.0024
Chlorobenzene	108-90-7	8260	1.00E+01	1.00E+01	<0.0025	0.0317J	0.00072	<0.0012	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E+01	7.00E+01	0.058	0.524	0.621	0.742	0.0045J	0.00750	0.00541	0.03540	0.00793	<0.00011	<0.0003	0.00065J	0.0055	0.00093 J
Methylene chloride	75-09-2	8260	5.00E-01	5.00E-01	<0.005	<0.0075	<0.00022	<0.0015	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+02	1.00E+02	0.22	1.65	2.31	2.76	0.00770	0.00780	0.01040	0.03550	0.00918	0.00423	<0.0002	0.00094J	0.0033	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-01	2.00E-01								<0.00011						
Xylenes (total)	1330-20-7	8260	1.00E+03	1.00E+03	0.19	1.51	1.68	2.11	0.01600	0.03300	0.01430	0.06150	0.02020	0.0126	<0.0003	0.0044	0.013	0.00084 J
emi-Volatile Organic Compounds																		
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-01	2.60E-01	<0.0005	<0.075	<0.0157	<0.011	<0.00005	<0.00005	<0.00011	<0.00519	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+02	2.60000	<2.11	72	50.8	0.00340	<0.00005	<0.00031	<0.0146	0.02250	<0.00031	<4.1E-05	<4.1E-05	0.00044	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-01	3.00E-01	<0.0005	<0.0886	<0.0186	<0.013	<0.00005	<0.00005	<0.00013	<0.00613	<0.00013	<0.00013	<5.9E-05	<5.9E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-01	3.00E-01	<0.0006	<0.0545	<0.0114	<0.008	<0.00006	<0.00006	<0.00008	<0.00377	<0.00008	<0.00008	<4.3E-05	<4.3E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+02	5.80E+02	<0.0005	<0.0545	<0.0114	<0.008	<0.00005	<0.00005	<0.00008	<0.00377	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E+00	2.90E+01	0.94000	1.21000	1.40000	1.31	0.00760	0.00400	0.000377J	0.11400	0.04760	<0.00007	<1.9E-05	0.0017	0.00031	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-01	7.30E-01	<0.0008	<0.566	<0.119	<0.083	<0.00008	<0.00008	<0.00083	<0.0392	<0.00083	<0.00003	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E+00	1.50E+01	<0.0005	<0.382	<0.08	<0.056	<0.00005	<0.00005	<0.00056	<0.0264	<0.00056	<0.00056	<4.8E-05	<4.8E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+02	4.40E+02	0.91000	0.51500	0.45400	0.374	0.00390	0.00017J	0.00440	0.03460	0.02120	0.000785	<2.8E-05	0.0043	0.0023	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+02	4.40E+02	0.01100	0.0424J	<0.00857	0.0114J	0.00019J	<0.00005	0.000135J	<0.00283	0.00122	<0.00006	<1.5E-05	0.000066J	0.00011	<1.5E-05
Anthracene	120-12-7	8270	7.30E+02	2.20E+03	0.09600	0.051J	0.0423J	0.0387J	0.00056	0.00005J	0.000452J	0.00383J	0.00198	<0.00005	0.000064J	0.0022	0.00041	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-01	2.00E+00	0.01600	<0.0545	<0.0114	<0.008	0.000081J	0.00011J	<0.00008	<0.00377	<0.00008	<0.00008	0.00015	0.00067	0.00013	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-02	2.00E-02	0.00410	<0.0545	<0.0114	<0.008	0.00012J	0.00014J	<0.00008	<0.00377	<0.00008	<0.00008	0.0002	0.00029	0.00018	2.1E-05 J
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-02	1.90E-01	<0.0005	<0.0886	<0.0186	<0.013	<0.00005	<0.00005	<0.00013	<0.00613	<0.00013	<0.00013	<3.1E-05	<3.1E-05	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-01	6.00E-01	0.00680	<0.252	<0.0529	<0.037	0.00130	0.00012J	<0.00037	<0.0175	<0.00037	<0.00037	0.00018J	0.000081J	<0.00056	<3.7E-05
Chrysene	218-01-9	8270	9.10E+01	2.00E+02	0.01300	<0.0545	<0.0114	<0.008	0.000089J	0.00015J	<0.00008	<0.00377	<0.00008	<0.00008	0.00023	0.00077	0.00025	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E+00	2.90E+01	0.69000	0.34500	0.35500	0.278	0.00310	0.00016J	0.00244	0.02920	0.01750	<0.00008	<0.00002	0.004	0.0019	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+02	7.30E+02	<0.0005	<0.075	<0.0157	<0.011	<0.00005	<0.00005	<0.00011	<0.00519	0.00011J	<0.00011	<0.00002	<0.00002	<0.00002	2.2E-05 J
Fluoranthene	206-44-0	8270	9.80E+01	2.90E+02	0.28000	<0.0477	0.0105J	0.013J	0.00053	0.00026	0.000387J	<0.0033	0.00071	0.000149J	0.00033	0.0045	0.0005	3.9E-05 J
Fluorene	86-73-7	8270	9.80E+01	2.90E+02	0.66000	0.211J	0.21700	0.186	0.00200	0.00023	0.00168	0.0127J	0.01040	<0.00007	<3.1E-05	0.0032	0.0013	<0.00003
Naphthalene	91-20-3	8270	4.90E+01	1.50E+02	5.30	17.30	30.1	18.1	0.05100	0.00190	9.37E-05J	2.07000	0.50400	0.000471J	<0.00002	0.00048	0.00011	<0.00002
Nitrobenzene	98-95-3	8270	4.90E+00	1.50E+01	<0.0005	<0.075	<0.0157	<0.011	<0.00005	<0.00005	<0.00011	<0.00519	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E+01	4.20E+01	<0.0005	<0.0682	<0.0143	<0.01	<0.00005	<0.00005	<0.0001	<0.00472	<0.0001	<0.0001	<2.6E-05	<2.6E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-01	1.00E-01	<0.0005	<0.416	<0.0871	<0.061	0.00022	<0.00005	<0.00061	<0.0288	<0.00061	<0.00061	<8.1E-05	<8.1E-05	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E+01	2.20E+02	0.93000	0.227J	0.17500	0.162	0.00250	0.00034	0.00127	0.0124J	0.00677	<0.00006	0.00012	0.012	0.0016	<2.1E-05
Phenol	108-95-2	8270	7.30E+02	2.20E+03	0.07700	2.87000	3.86000	1.69	0.00037	<0.00005	<0.00004	<0.00189	<0.00004	<0.00004	<3.6E-05	<3.6E-05	<3.5E-05	<3.5E-05
Pyrene	129-00-0	8270	7.30E+01	2.20E+02	0.09400	<0.075	<0.0157	<0.011	0.00057	0.00026	0.000253J	<0.00519	0.000353J	<0.00011	0.00031	0.0028	0.00064	3.7E-05 J

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Table 3), Class 3, last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-2a
Summary of Groundwater Sampling Results - B-CZ Monitoring Wells
UPRR Houston Wood Preserving Works

chemical_name	CAS	Method	Residential	C/I	MW-72B							
			Assessment Level	Assessment Level	7/12/2012	2/1/2013	7/29/2013	1/15/2014	2/8/2018	3/19/2018	5/16/2018	1/24/2019
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds												
1,2-Dichloroethane	107-06-2	8260	5.00E-01	5.00E-01	<0.005	<0.007	<0.014	<0.0002	0.018	<0.0002	<0.001	0.011
Benzene	71-43-2	8260	5.00E-01	5.00E-01	1.40	1.45	1.23	0.93	0.8	1.1	1.2	0.63
Chlorobenzene	108-90-7	8260	1.00E+01	1.00E+01	<0.005	<0.006	<0.012	0.00029J	0.00033J	<0.0003	<0.0015	<0.0003
Ethylbenzene	100-41-4	8260	7.00E+01	7.00E+01	0.31000	0.32100	0.33200	0.22400	0.26	0.31	0.34	0.2
Methylene chloride	75-09-2	8260	5.00E-01	5.00E-01	<0.01	<0.0075	0.291	<0.00022	<0.001	<0.001	<0.005	<0.001
Toluene	108-88-3	8260	1.00E+02	1.00E+02	1.10	1.18	1.12	0.72400	0.72	0.99	0.95	0.58
Vinyl chloride	75-01-4	8260	2.00E-01	2.00E-01								
Xylenes (total)	1330-20-7	8260	1.00E+03	1.00E+03	0.88000	0.96000	0.92800	0.66100	0.87	0.94	1.1	0.63
Semi-Volatile Organic Compounds												
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-01	2.60E-01	<0.0005	<0.0524	<0.0267	<0.156	<0.00021	<0.00021	<0.00021	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E+01	1.50E+02	20.0	98.1	29.9	182.0	10	16	14	2
2,4-Dinitrotoluene	121-14-2	8270	1.30E-01	3.00E-01	<0.0005	<0.0619	<0.0316	<0.184	<0.00058	<0.00058	<0.00058	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-01	3.00E-01	<0.0006	<0.0381	<0.0194	<0.113	<0.00042	<0.00042	<0.00042	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+02	5.80E+02	<0.0005	<0.0381	<0.0194	<0.113	<0.00021	<0.00021	<0.00021	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E+00	2.90E+01	0.74	1.39	1.19	3.37	0.33	0.42	0.23	0.071
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-01	7.30E-01	<0.0008	<0.395	<0.201	<1.17	<0.0002	<0.0002	<0.0002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E+00	1.50E+01	<0.0005	<0.267	<0.136	<0.792	<0.00047	<0.00047	<0.00047	0.0073 J
Acenaphthene	83-32-9	8270	1.50E+02	4.40E+02	0.23000	0.58400	0.47600	1.60000	0.07	0.15	0.12	0.019
Acenaphthylene	208-96-8	8270	1.50E+02	4.40E+02	0.00730	<0.0286	<0.0146	<0.0849	0.0021	<0.00015	0.003	0.00069 J
Anthracene	120-12-7	8270	7.30E+02	2.20E+03	0.01700	0.0646J	0.033J	0.179J	0.0085	0.02	<0.00014	0.0015
Benzo(a)anthracene	56-55-3	8270	9.10E-01	2.00E+00	<0.0005	<0.0381	<0.0194	<0.113	<0.0005	<0.0005	<0.0005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-02	2.00E-02	<0.0005	<0.0381	<0.0194	<0.113	<0.0002	<0.0002	<0.0002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-02	1.90E-01	<0.0005	<0.0619	<0.0316	<0.184	<0.0003	<0.0003	<0.0003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-01	6.00E-01	<0.001	<0.176	<0.0898	<0.524	<0.00037	<0.00037	<0.00037	<3.7E-05
Chrysene	218-01-9	8270	9.10E+01	2.00E+02	<0.0005	<0.0381	<0.0194	<0.113	<0.00021	<0.00021	<0.00021	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E+00	2.90E+01	0.18	0.36	0.35	1.21	0.06	0.13	0.082	0.017
Di-n-butylphthalate	84-74-2	8270	2.40E+02	7.30E+02	<0.0005	<0.0524	<0.0267	<0.156	<0.0002	<0.0002	<0.0002	<0.00002
Fluoranthene	206-44-0	8270	9.80E+01	2.90E+02	0.00340	<0.0333	<0.017	<0.0991	<0.0001	0.0015	0.00095 J	<0.00001
Fluorene	86-73-7	8270	9.80E+01	2.90E+02	0.11000	0.25300	0.22400	0.7J	0.032	0.069	0.051	0.0091
Naphthalene	91-20-3	8270	4.90E+01	1.50E+02	16.0	88.5	25.0	82.8	7.5	13	12	1.2
Nitrobenzene	98-95-3	8270	4.90E+00	1.50E+01	<0.0005	<0.0524	<0.0267	<0.156	<0.00024	<0.00024	<0.00024	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E+01	4.20E+01	<0.0005	<0.0476	<0.0243	<0.142	<0.00025	<0.00025	<0.00025	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-01	1.00E-01	<0.0005	<0.29	<0.148	<0.863	<0.00079	<0.00079	<0.00079	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E+01	2.20E+02	0.079	0.264	0.182	0.760	0.02	0.084	0.045	0.0042
Phenol	108-95-2	8270	7.30E+02	2.20E+03	3.400	7.510	6.310	31.4	4.2	4.2	2.3	0.58
Pyrene	129-00-0	8270	7.30E+01	2.20E+02	0.0019J	<0.0524	<0.0267	<0.156	<0.00019	0.0012	0.00074 J	<1.9E-05

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Table 3), Class 3, last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-2b
Summary of Groundwater Sampling Results - B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential Assessment Level mg/L	C/I Assessment Level mg/L	MW-14														
					2/4/2009	1/19/2010	6/22/2010	1/17/2011	7/26/2011	2/2/2012	7/16/2012	2/5/2013	7/31/2013	1/14/2014	07/18/2014	1/23/2018	3/18/2018	5/15/2018	1/8/2019
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<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	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<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	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	0.00012J	<0.00011	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<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	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<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	75-01-4	8260	2.00E-03	2.00E-03								<0.00011			<0.00011				
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00026	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
Semi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<0.000021	<0.000021	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<0.000058	<0.000058	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	0.0788	<4.2E-05	<0.000042	<0.000042	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<0.000021	<0.000021	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.00075	0.00064	0.00049	0.00039	0.00034	6.4E-05J	0.00030	0.0004J	0.0003J	0.00032J	0.00034J	0.00019	<0.00014	<0.00019	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<0.000047	<0.000047	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.00047	0.00043	0.00041	0.00033	0.00032	<0.00005	0.00030	0.00060	0.00055	0.00094	0.000619	0.00027	<0.000027	<2.7E-05	
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<0.000015	<0.000015	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	6.9E-05J	0.00028J	0.0002J	0.00005J	0.00014J	6.7E-05J	0.000052J	<0.000014	5.2E-05 J
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00081	0.00540	0.00077	0.00029	0.00047	<0.0001	0.00011J	<0.00037	<0.00037	<0.00037	0.000615	<9.1E-05	<0.000037	<0.00014	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<0.000021	<0.000021	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.00045	0.00040	0.00037	0.00030	0.00031	0.00012J	0.00032	0.00047J	0.00037J	0.00044J	0.00044J	0.00024	<0.00025	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	0.00018J	<0.00011	<0.00011	<0.00002	<0.00002	<0.00002	2.2E-05 J
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00024	5.5E-05J	7.9E-05J	0.00027J	7.4E-05J	<0.00007	2.8E-05J	0.000025J	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	0.00013J	<0.00007	7.9E-05J	<0.00005	<0.00005	7.6E-05J	<0.00007	<0.00007	0.00008J	9E-05J	<0.00003	0.000094J	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00320	0.00300	0.00220	0.00240	0.00140	0.00035	0.00150	0.00211	0.00216J	0.00008J	0.00143	0.00067	<0.000057	<0.00002	<0.00002
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<0.000024	<0.000024	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<0.000025	<0.000025	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<0.000079	<0.000079	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00035	0.00041	0.00044	0.00030	0.00033	0.00011J	0.00038	0.00048	0.00066	0.00006	0.000506	0.00035	0.00032	<0.000021	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	0.0004J	<0.00004	<0.00004	<3.5E-05	<0.000035	<0.000035	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00029	<0.00005	<0.00011	0.00016J	<0.00011	<0.00011	<1.9E-05	<0.000019	<0.000019	<1.9E-05

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-2b
Summary of Groundwater Sampling Results - B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential Assessment Level mg/L	C/I Assessment Level mg/L	MW-15B									
					2/2/2012	7/19/2012	1/30/2013	7/30/2013	1/14/2014	07/17/2014	1/23/2018	3/18/2018	5/15/2018	1/8/2019
Volatile Organic Compounds														
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.005	<0.0025	<0.00014	<0.00014	<0.00014	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.005	0.0053J	0.00220	0.00484	0.00101	0.00292	<0.0002	<0.0002	0.00071 J	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.005	<0.0025	<0.00012	0.00012J	<0.00012	0.00014J	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.02J	0.014J	0.00159	0.00399	0.00019J	0.00903	<0.0003	<0.0003	0.001	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0065	<0.005	<0.00015	<0.00015	<0.00015	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.005	<0.0025	<0.00015	0.00016J	<0.00015	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03										
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.016	<0.0075	0.00036J	0.00876	0.00088J	0.00464	<0.0003	<0.0003	<0.0003	<0.0003
Semi-Volatile Organic Compounds														
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.00005	<0.00005	<0.00011	<0.00011	<0.0011	<0.00011	<2.1E-05	<0.000021	<0.000021	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	0.00043	<0.00005	<0.00031	<0.00031	<0.0031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00005	<0.00005	<0.00013	<0.00013	<0.0013	<0.00013	<5.9E-05	<0.000058	<0.000059	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00006	<0.00006	<0.00008	<0.00008	<0.0008	<0.00008	<4.2E-05	<0.000042	<0.000042	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00005	<0.00005	<0.00008	<0.00008	<0.0008	<0.00008	<2.1E-05	<0.000021	<0.000021	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.290	0.023	0.00074	0.00327	0.00325J	0.00622	<1.9E-05	<0.000019	0.00015	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00083	<0.00083	<0.0083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00005	<0.00005	<0.00056	<0.00056	<0.0056	<0.00056	<4.7E-05	<0.000047	<0.000047	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.17000	0.07500	0.04130	0.11400	0.13400	0.0653	<2.7E-05	<0.000027	0.012	0.0028
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00110	0.00080	0.00099	<0.00006	0.00148J	<0.00006	5.9E-05J	<0.000015	0.00027	0.00015
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.03900	0.00710	0.00179	0.00581	0.00665	0.00517	0.00034	0.00016	0.00058	0.00023
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	0.00016J	0.00017J	<0.00008	0.00022J	0.00087J	0.00031J	0.00017	<0.00005	0.00011	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00005	<0.00005	<0.00008	<0.00008	<0.0008	<0.00008	0.00007J	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00005	<0.00005	<0.00013	<0.00013	<0.0013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	<0.0001	0.00018J	<0.00037	<0.00037	<0.0037	0.000548	<0.00007	<0.000037	0.0001 J	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	0.00019J	0.00013J	<0.00008	0.00017J	<0.0008	0.00023J	0.00014	<0.000021	0.000098 J	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.15000	0.05200	0.01270	0.05890	0.05090	0.0272	0.0005	<0.00002	0.0025	0.00014
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00005	<0.00005	<0.00011	0.00019J	<0.0011	<0.00011	<0.00002	<0.00002	0.000042 J	2.2E-05 J
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.01200	0.00620	0.00101	0.00615	0.01310	0.00736	0.0027	<0.00001	0.0031	0.00045
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.08400	0.03600	0.01100	0.04590	0.04430	0.0231	0.00017	<0.00003	0.0028	5.5E-05 J
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	2.50	0.82	0.0569J	0.94300	0.24800	0.452	<0.00002	<0.00002	0.02	<0.00002
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00005	<0.00005	<0.00011	<0.00011	<0.0011	<0.00011	<2.4E-05	<0.000024	<0.000024	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00005	<0.00005	<0.0001	<0.0001	<0.001	<0.0001	<2.5E-05	<0.000025	<0.000025	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00005	<0.00005	<0.00061	<0.00061	<0.0061	<0.00061	<0.00008	<0.000079	<0.00008	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.08000	0.05200	0.00199	0.03760	0.02570	0.0204	0.00033	<0.000021	0.00016	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	0.00012J	<0.00005	<0.00004	<0.00004	0.00141J	0.00112	<3.5E-05	<0.000035	<0.000035	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00500	0.00310	0.00051	0.00291	0.00569	0.00406	0.0016	<0.000019	0.0017	0.00027

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-2b
Summary of Groundwater Sampling Results - B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential Assessment Level mg/L	C/I Assessment Level mg/L	MW-22B									
					2/3/2009	1/15/2010	6/29/2010	1/25/2011	7/21/2011	2/15/2012	7/18/2012	1/23/2014	07/30/2014	08/28/2014
Volatile Organic Compounds														
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.0002	<0.00014	<0.00014
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	0.0042J	0.0003J	0.00185	0.00238
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00018	<0.00012	<0.00012
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	0.00880	0.00220	0.0255	0.0275
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00022	<0.00015	<0.00015
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	0.00053J	<0.0005	<0.001	<0.001	0.0033J	0.00133	0.00584	0.00752
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03										<0.00011
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	0.0057J	0.00409	0.0362	0.0383
Semi-Volatile Organic Compounds														
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	0.00014J	<0.00005	<0.00031	0.00107	<0.00031
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00044	0.00063	0.00041J	0.00721	0.00663
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.02200	0.00016J	0.00930	0.00022	0.00300	0.06800	0.18000	0.02440	0.0762	0.123
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00034	<0.00007	0.00012J	<0.00007	<0.00005	0.00046	0.00180	0.00089	0.000641	0.00132
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00071	<0.00007	0.00031	<0.00007	0.00011J	0.00170	0.00670	0.00005	0.00292	0.00404
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00053	0.00022	0.00061	<0.0002	0.00041	0.00051	<0.0001	<0.00037	0.000672	<0.00037
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.00510	0.00026	0.00190	<0.00008	0.00068	0.00790	0.04600	0.00784	0.0238	0.0409
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	0.00018J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	0.00011J	<0.00011	<0.00011
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00110	0.00011J	0.00061	<0.00007	0.00019J	0.00220	0.00650	0.00187	0.00304	0.00282
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.00180	<0.00007	0.00180	<0.00007	0.00049	0.00350	0.01900	0.00521	0.0198	0.0355
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00017J	0.00012J	0.00036	<0.0001	<0.00005	0.00320	0.03200	0.13J	0.832	0.977
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	0.00029	<0.00005	<0.0001	<0.0001	<0.0001
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	0.00015J	<0.00007	<0.00007	<0.00005	0.00026	0.00270	0.00006	0.00053	<0.00006
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.0001J	<0.00004	<0.00004	<0.00004
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00047	<0.00007	0.00027	<0.00007	0.00012J	0.00100	0.00330	0.00088	0.00123	0.0023

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-2b
Summary of Groundwater Sampling Results - B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-22BR				MW-24B								
chemical_name	CAS	Method	mg/L	mg/L	2/8/2018	3/25/2018	5/31/2018	1/22/2019	2/3/2009	1/14/2010	6/29/2010	1/25/2011	7/21/2011	2/9/2012	7/25/2012	2/12/2013	8/8/2013
Volatle Organic Compounds																	
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0002	<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	71-43-2	8260	5.00E-03	5.00E-03	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0003	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.00034J	<0.0003	<0.0003	<0.0003	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.001	<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	108-88-3	8260	1.00E+00	1.00E+00	<0.0002	<0.0002	<0.0002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	0.02090
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03													<0.00011
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.00082J	<0.0003	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026
Semi-Volatile Organic Compounds																	
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<2.1E-05	<0.000021	<0.000021	<2.1E-05	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00004	<0.000041	<0.00004	<0.00004	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<5.9E-05	<0.000059	<0.000058	<5.8E-05	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<4.2E-05	<0.000043	<0.000042	<4.2E-05	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<2.1E-05	<0.000021	<0.000021	<2.1E-05	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.00056	0.000067J	0.000071J	<1.9E-05	<0.00007	<0.00007	9.9E-05J	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<4.7E-05	<0.000048	<0.000047	<4.7E-05	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.034	0.044	0.047	0.022	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<1.5E-05	0.00096	0.00041	<1.5E-05	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00039	0.00062	0.0013	0.00048	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<5.1E-05	<0.000051	<0.00005	<0.00005	0.00015J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00003	<0.000031	<0.00003	<0.00003	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	<3.7E-05	<0.000038	<0.000037	<3.7E-05	0.00046	0.00210	0.00074	<0.0002	0.00014J	0.00011J	0.00015J	<0.00037	<0.00037
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<2.1E-05	<0.000021	<0.000021	<2.1E-05	0.00015J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.00066	0.00049	0.0011	0.00029	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00002	<0.00002	<0.00002	<0.00002	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00013J	<0.00011	<0.00011
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00098	0.0011	0.0028	0.0011	0.00011J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.002	0.0017	0.0046	0.0025	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.0038	0.0008	0.00044	0.00017	<0.0001	<0.0001	0.00083	<0.0001	<0.00005	<0.00005	0.00015J	<0.00008	<0.00008
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<2.4E-05	<0.000024	<0.000024	<2.4E-05	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<2.5E-05	<0.000026	<0.000025	<2.5E-05	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.000081	<0.000079	<7.9E-05	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+01	0.00081	0.00018	0.00039	<2.1E-05	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<3.5E-05	<0.000036	<0.000035	<3.5E-05	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00062	0.00077	0.0015	0.00046	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011

Notes:

1. Sampling locations shown on Figure 1
2. Concentrations > RAL and non-detects are **bold** type.
3. Concentrations > cPCL and non-detects are highlighted.
4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = Compound not detected at the specified detection limit.

* indicates DNAPL is or has been observed in monitoring well

**Table 5B-2b
Summary of Groundwater Sampling Results - B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential Assessment Level mg/L	C/I Assessment Level mg/L	MW-35B														
					2/3/2009	1/14/2010	7/1/2010	1/27/2011	7/20/2011	2/15/2012	7/18/2012	2/7/2013	8/8/2013	1/24/2014	07/24/2014	1/25/2018	3/22/2015	6/5/2018	1/15/2019
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.005	<0.0007	<0.0028	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.06200	0.06400	0.06800	0.06400	0.05600	0.07700	0.06400	0.06620	0.08550	0.06640	0.0539	0.078	0.088	0.044	0.0033
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.005	<0.0006	<0.0024	0.00024J	0.00023J	0.0009J	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.20000	0.20000	0.21000	0.22000	0.17000	0.19000	0.19000	0.22500	0.25800	0.18700	0.176	0.15	0.15	0.12	0.0094
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	0.02J	<0.00075	0.02340	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.0057J	<0.0005	0.00500	0.0045J	<0.001	0.0042J	<0.005	0.00437J	0.00584J	0.00429	0.00377	0.0057	0.0041	0.0031	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03									<0.0022		<0.00011				
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.15000	0.15J	0.17000	0.16000	0.12000	0.13000	0.13J	0.15300	0.17400	0.13200	0.114	0.064	0.066	0.056	0.004
Semi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	0.00120	<0.0001	<0.00005	<0.00005	<0.00005	<0.105	<0.00539	<0.106	<0.0011	<0.00021	<0.00021	<0.00021	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.295	<0.0152	<0.298	<0.0031	<0.0004	<0.0004	<0.0004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.124	<0.00637	<0.125	<0.0013	<0.00059	<0.00058	<0.00058	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0762	<0.00392	<0.0769	<0.0008	<0.00042	<0.00042	<0.00042	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0762	<0.00392	<0.0769	<0.0008	<0.00021	<0.00021	<0.00021	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.40	0.47	0.36	0.41	0.48	0.18	0.26	0.295J	0.43100	0.53400	0.376	0.13	0.22	0.25	0.011
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.798	<0.0407	<0.798	<0.0083	<0.0002	0.00078J	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.533	<0.0275	<0.538	<0.0056	<0.00047	<0.00047	<0.00047	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.17000	0.22000	0.20000	0.19000	0.20000	0.08000	0.15000	0.173J	0.25800	0.305J	0.139	0.094	0.18	0.17	0.013
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00088	0.00130	0.00110	0.00120	0.00097	0.00063	0.00078	<0.0571	<0.00294	<0.0577	0.0015J	<0.00015	0.0014	0.00076	0.00018
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00560	0.00800	0.01500	0.01400	0.01600	0.00480	0.00640	<0.0476	0.0202J	<0.0481	0.0111	0.014	0.014	0.072	0.0011
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	0.00017J	0.00032	0.00022	0.00031	0.00021	0.00011J	0.00020	<0.0762	<0.00392	<0.0769	<0.0008	<0.00051	<0.0005	0.000075 J	7.7E-05 J
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	0.00014J	0.00012J	0.00014J	6.9E-05J	<0.00005	<0.00005	<0.0762	<0.00392	<0.0769	<0.0008	<0.0002	<0.0002	<0.00002	5.8E-05 J
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.124	<0.00637	<0.125	<0.0013	<0.0003	<0.0003	<0.0003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00052	0.00029	0.00097	0.00041	0.00056	0.00088	0.00018J	<0.352	<0.0181	<0.356	<0.0037	<0.00037	<0.00037	<0.00037	<0.00014
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	0.00015J	0.00028	0.00017J	0.00037	0.00025	0.0001J	0.00023	<0.0762	<0.00392	<0.0769	<0.0008	0.00051J	<0.00021	0.000086 J	9.8E-05 J
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.160	0.230	0.220	0.200	0.210	0.097	0.14000	0.161J	0.25200	0.256J	0.138	0.13	0.22	0.18	0.015
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.105	<0.00539	<0.106	<0.0011	<0.0002	<0.0002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00310	0.00530	0.00600	0.00650	0.00560	0.00260	0.00390	<0.0667	0.00756J	0.0698J	0.00692	0.0081	0.0098	0.0031	0.0013
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.06300	0.09200	0.11000	0.09000	0.09700	0.04800	0.06900	<0.0667	0.13800	0.167J	0.076	0.057	0.092	0.095	0.0066
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	12.00	14.00	11.00	4.80	12.00	7.40	7.60	8.83	14.10	13.10	9.36	5	13	15	0.079
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.105	<0.00539	<0.106	<0.0011	<0.00024	<0.00024	<0.00024	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0952	<0.0049	<0.0962	<0.001	<0.00025	<0.00025	<0.00025	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.581	<0.0299	<0.587	<0.0061	<0.0008	<0.00079	<0.00079	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.06100	0.08600	0.12000	0.07800	0.12000	0.05200	0.06600	0.0936J	0.14200	0.27J	0.0891	0.088	0.18	0.11	0.0086
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00014J	<0.0381	<0.00196	0.129J	<0.0004	<0.00035	<0.00035	<0.00035	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00170	0.00270	0.00250	0.00320	0.00270	0.00160	0.00190	<0.105	<0.00539	<0.106	0.00327J	0.0057	0.0053	0.0018	0.00075

Notes:

1. Sampling locations shown on Figure 1
2. Concentrations > RAL and non-detects are bold type.
3. Concentrations > cPCL and non-detects are highlighted.
4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = Compound not detected at the specified detection limit.

* indicates DNAPL is or has been observed in monitoring well

**Table 5B-2b
Summary of Groundwater Sampling Results - B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-38B															
			mg/L	mg/L	2/3/2009	1/14/2010	6/29/2010	1/25/2011	7/18/2011	2/15/2012	7/18/2012	2/7/2013	8/8/2013	1/21/2014	07/25/2014	1/26/2018	3/25/2018	6/5/2018	1/22/2019	
chemical_name	CAS	Method	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Volatile Organic Compounds																				
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.00003	<0.0003	<0.0003	<0.0003	
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.00003	<0.0003	<0.0003	<0.0003	
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03									<0.00011		<0.00011					
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	
Semi-Volatile Organic Compounds																				
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<0.000021	<0.000021	<2.1E-05	
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<4.1E-05	<0.00004	<0.00004	<0.00004	
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.9E-05	<0.000059	<0.000058	<5.8E-05	
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.3E-05	<0.000042	<0.000042	<4.2E-05	
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<0.000021	<0.000021	<2.1E-05	
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.00037	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00030	<0.00007	<0.00007	0.00014J	9.9E-05J	9.6E-05J	<0.000019	<0.000019	<1.9E-05	
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.8E-05	<0.000047	<0.000047	<4.7E-05	
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.0001J	<0.00009	0.00047	<0.00009	<0.00005	0.0001J	0.00096	0.00023J	<0.00008	<0.00008	7.9E-05J	0.00034J	<2.8E-05	0.000095J	0.048	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<0.000015	0.00036	<1.5E-05	
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00013J	<0.00007	<0.00007	0.00011J	0.00013J	0.00021	0.00023	0.00031J	<0.00005	0.00014J	0.0004J	4.7E-05J	<0.000014	0.018	0.0001	
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<5.1E-05	<0.000051	<0.00005	<0.00005	
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	7.2E-05J	<0.00013	<0.00013	<0.00013	<0.00013	<3.1E-05	<0.00003	<0.00003	<0.00003	
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00041	0.00039	0.00074	<0.0002	0.00100	<0.0001	<0.0001	<0.00037	<0.00037	<0.00037	<0.00037	6.1E-05J	0.00012J	<0.000037	<3.7E-05	
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<0.000021	<0.000021	<2.1E-05	
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	0.00028	<0.00008	<0.00008	9.2E-05J	0.00041J	5.3E-05J	<0.00002	0.008	<0.00002	
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<0.00002	0.000027J	<0.00002	<0.00002	
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	0.00017J	<0.00007	<0.00005	<0.00005	0.00032	<0.00007	<0.00007	0.0001J	0.00058	<0.00001	0.000022J	0.014	<0.00001	
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	0.00015J	<0.00007	<0.00005	<0.00005	0.00027	<0.00007	<0.00007	7.8E-05J	0.00022J	4.6E-05J	<0.00003	0.019	<0.00003	
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00450	0.00014J	<0.0001	0.00031	<0.00005	0.00037	0.00150	<0.00008	<0.00008	0.00047J	0.0016	0.00084	0.00016	0.00099	<0.00002	
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<0.000024	<0.000024	<2.4E-05	
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.6E-05	<0.000025	<0.000025	<2.5E-05	
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<8.1E-05	<0.00008	<0.000079	<7.9E-05	
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00037	<0.00006	<0.00006	0.0003J	0.00016J	6.1E-05J	0.000052J	<0.000021	<2.1E-05	
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.6E-05	<0.000035	<0.000035	<3.5E-05	
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	0.00027	<0.00007	<0.00005	<0.00005	0.00037	<0.00011	<0.00011	<0.00011	0.00047J	<1.9E-05	0.000035J	0.00086	<1.9E-05	

Notes:

1. Sampling locations shown on Figure 1
2. Concentrations > RAL and non-detects are bold type.
3. Concentrations > cPCL and non-detects are highlighted.
4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = Compound not detected at the specified detection limit.

* indicates DNAPL is or has been observed in monitoring well

**Table 5B-2b
Summary of Groundwater Sampling Results - B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential Assessment Level mg/L	C/I Assessment Level mg/L	MW-39B														
					2/4/2009	1/19/2010	6/22/2010	1/18/2011	7/26/2011	2/1/2012	7/19/2012	2/5/2013	7/31/2013	1/14/2014	07/25/2014	1/23/2018	3/19/2018	5/16/2018	1/8/2019
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<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	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<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	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<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	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<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	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<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	75-01-4	8260	2.00E-03	2.00E-03								<0.00011			<0.00011				
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00026	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
Semi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.0011	<0.00011	<2.1E-05	<0.000021	<0.000021	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.0031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.0013	<0.00013	<5.8E-05	<0.000059	<0.000059	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.0008	<0.00008	<4.2E-05	<0.000042	<0.000042	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.0008	<0.00008	<2.1E-05	<0.000021	<0.000021	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	<0.00007	<0.00007	8.6E-05J	<0.00005	<0.00005	6.9E-05J	<0.00007	<0.00007	<0.0007	0.00007J	8.1E-05J	<0.000019	<0.00008	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.0083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.0056	<0.00056	<4.7E-05	<0.000047	<0.000047	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.00022	0.00014J	0.00340	0.00039	0.00028	0.00110	0.00040	0.00076	0.00070	0.00115J	0.0012	0.00093	0.001	0.00054	0.00062
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	5.3E-05J	<0.00005	<0.00005	0.00011J	6.8E-05J	0.0006	6.2E-05J	1.5E-05	<0.000015	<0.000015	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00028	<0.00007	<0.00007	<0.00007	0.00040	<0.00005	0.0001J	0.00090	0.00077	0.00048J	0.000615	5.3E-05J	<0.000014	0.0002	0.00016
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00005J	<0.00005	<0.00008	<0.00008	<0.0008	<0.0008	<0.00005	<0.000051	<0.000051	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.0008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.0013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00046	0.00070	<0.0002	0.00024	0.00092	0.00015J	0.00015J	<0.00037	<0.00037	<0.0037	<0.00037	<0.00037	0.0018	<0.00013J	<0.00011
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.0008	<0.00008	5.7E-05J	<0.000021	<0.000021	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	0.00040	6.7E-05J	<0.00008	<0.00008	<0.0008	0.00008J	0.0001	<0.00002	<0.000054	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	0.00012J	<0.0011	<0.00011	8.2E-05J	<0.00002	<0.000035	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00140	<0.00007	0.00190	0.00013J	7.9E-05J	0.00110	0.00036	0.00011J	0.00042J	<0.0007	6.05E-05	0.00015	0.000075J	0.000053J	6.7E-05J
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.00025	0.00021	0.00048	0.00013J	0.00011J	0.00032	0.00019J	<0.00007	0.00022J	<0.0007	0.00031J	0.00011	<0.00003	0.000061J	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00052	0.00018J	0.00015J	0.00076	<0.00005	0.00034	0.00018J	0.00043J	<0.00008	<0.0008	<0.00008	0.00082	<0.00002	<0.0013	<9.2E-05
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.0011	0.000853	<2.4E-05	<0.000024	<0.000024	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	5.4E-05J	<0.00005	<0.00005	<0.0001	0.00016J	<0.001	<0.0001	<2.5E-05	<0.000025	<0.000025	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.0061	<0.00061	<7.9E-05	<0.00008	<0.00008	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	0.00025	<0.00007	0.00018J	<0.00005	<0.00005	0.00016J	<0.00006	9.1E-05J	<0.0006	0.0001J	<2.1E-05	<0.000021	0.000056J	3.9E-05J
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004	<0.0004	<0.00004	<3.5E-05	<0.000035	<0.000035	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00130	0.00018J	0.00200	<0.00007	0.00017J	0.00130	0.00052	0.00013J	0.00066	<0.0011	0.000818	0.00015	0.000074J	0.000064J	5.2E-05J

Notes:

1. Sampling locations shown on Figure 1
2. Concentrations > RAL and non-detects are **bold** type.
3. Concentrations > cPCL and non-detects are highlighted.
4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = Compound not detected at the specified detection limit.

* indicates DNAPL is or has been observed in monitoring well

**Table 5B-2b
Summary of Groundwater Sampling Results - B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-40B														
chemical_name	CAS	Method	mg/L	mg/L	2/4/2009	1/19/2010	6/22/2010	1/18/2011	7/14/2011	2/3/2012	7/19/2012	2/5/2013	7/31/2013	1/14/2014	07/18/2014	1/24/2018	3/19/2018	5/16/2018	1/8/2019
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.01	<0.005	<0.00014	<0.0014	<0.0007	<0.00014	<0.0002	<0.0002	<0.001	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.02600	0.02800	0.02600	0.01900	0.016J	0.013J	0.013J	0.01080	0.01150	0.01090	0.0103	0.0091	0.0066	0.014	0.0063
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	0.001J	<0.0005	<0.0005	<0.0005	<0.001	<0.01	<0.005	<0.00012	<0.0012	<0.0006	<0.00012	<0.0003	<0.0003	<0.0015	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.10000	0.12000	0.12000	0.13000	0.08100	0.08000	0.08200	0.08170	0.07980	0.08400	0.0825	0.049	0.039	0.08	0.041
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.013	<0.01	<0.00015	<0.0015	<0.00075	<0.00015	<0.001	<0.001	<0.005	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.05000	0.05400	0.05000	0.04500	0.019J	0.028J	0.022J	0.01180	0.01730	0.01470	0.0154	0.0081	0.0049	0.019	0.0048
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03								<0.00011			<0.00011				
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.20000	0.22000	0.22000	0.21000	0.12J	0.13J	0.14J	0.11600	0.12700	0.12000	0.126	0.066	0.044	0.11	0.052
Semi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.011	<0.00524	<0.0212	<0.0011	<2.1E-05	<0.000021	<0.000021	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	0.01100	0.01400	0.00440	0.00033	0.00340	0.00400	0.00390	<0.031	<0.0148	<0.0596	<0.0031	<0.00004	0.00034	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.013	<0.00619	<0.025	<0.0013	<5.9E-05	<0.000058	<0.000058	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.008	<0.00381	<0.0154	<0.0008	<4.2E-05	<0.000042	<0.000042	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.008	<0.00381	<0.0154	<0.0008	<2.1E-05	<0.000021	<0.000021	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.58	0.49	0.41	0.27	0.24	0.20	0.28	0.30	0.31	0.35	0.263	0.13	0.056	0.091	0.077
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.083	<0.0395	<0.16	<0.0083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.056	<0.0267	<0.108	<0.0056	<4.7E-05	<0.000047	0.015	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.35000	0.33000	0.27000	0.25000	0.17000	0.20000	0.23000	0.31500	0.35000	0.40200	0.236	0.26	0.16	0.14	0.12
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00270	0.00250	0.00310	0.00250	0.00190	0.00220	0.00210	<0.006	<0.00286	<0.0115	0.00335J	<1.5E-05	<0.000015	0.0014	0.00083
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.01600	0.00950	0.01700	0.01700	0.00970	0.01900	0.00700	0.0183J	0.019J	0.0247J	0.0142	0.016	0.0082	0.0087	0.007
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	0.00028	0.0001J	<0.00007	0.00016J	<0.00005	9.5E-05J	<0.00005	<0.008	<0.00381	<0.0154	<0.0008	<5.1E-05	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	0.0002J	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.008	<0.00381	<0.0154	<0.0008	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.013	<0.00619	<0.025	<0.0013	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00047	0.00350	<0.0002	0.00075	0.00053	0.00033	0.00016J	<0.037	<0.0176	<0.0712	<0.0037	0.00038	<0.000037	<0.00012	7.9E-05 J
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	0.00023	0.00011J	<0.00007	0.00013J	<0.00005	0.00011J	<0.00005	<0.008	<0.00381	<0.0154	<0.0008	<2.1E-05	<0.000021	<0.000021	4.5E-05 J
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.250	0.170	0.220	0.092	0.130	0.150	0.170	0.206	0.242	0.252	0.178	0.16	0.085	0.086	0.069
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.011	<0.00524	<0.0212	<0.0011	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00820	0.00670	0.00640	0.00680	0.00490	0.00420	0.00310	<0.007	0.0104J	<0.0135	0.00562	0.0081	0.0037	0.0034	0.0041
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.20000	0.15000	0.17000	0.09300	0.13000	0.13000	0.15000	0.17500	0.21200	0.21700	0.183	0.18	0.096	0.1	0.087
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	9.70	8.00	6.80	6.10	4.00	4.20	6.00	6.78	7.73	6.07	4.24	1.5	0.97	1.8	1.3
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.011	<0.00524	<0.0212	<0.0011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.01	<0.00476	<0.0192	<0.001	<2.5E-05	<0.000025	<0.000025	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.061	<0.029	<0.117	<0.0061	<0.00008	<0.000079	<0.000079	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.16000	0.12000	0.15000	0.08300	0.11000	0.08000	0.10000	0.13700	0.15800	0.19700	0.111	0.14	0.078	0.1	0.068
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.004	<0.0019	<0.00769	<0.0004	<3.5E-05	<0.000035	0.00065	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00430	0.00330	0.00350	0.00390	0.00210	0.00330	0.00190	<0.011	<0.00524	<0.0212	0.00242J	0.0036	0.0019	0.0016	0.002

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-2b
Summary of Groundwater Sampling Results - B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-42B												
chemical_name	CAS	Method	mg/L	mg/L	1/19/2010	7/14/2011	2/3/2012	7/19/2012	2/5/2013	8/1/2013	1/15/2014	07/18/2014	1/24/2018	3/19/2018	5/16/2018	1/8/2019	
Volatile Organic Compounds																	
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.001	<0.001	<0.0025	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.001	<0.0002	
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.001	<0.001	<0.0025	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.001	<0.0002	
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.001	<0.001	<0.0025	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0015	<0.0003	
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0011	<0.0011	<0.0025	0.00011J	<0.00011	<0.00019	0.00021J	<0.0003	<0.0003	<0.0015	<0.0003	
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0013	<0.0013	0.0097J	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.005	<0.001	
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.001	<0.001	<0.0025	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.001	<0.0002	
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03					<0.00011			<0.00011					
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.0031	<0.0031	<0.0075	<0.00026	<0.00026	<0.00058	0.00035J	<0.0003	<0.0003	<0.0015	<0.0003	
Semi-Volatile Organic Compounds																	
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<0.000021	<0.000021	<2.1E-05	
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	0.00013J	<0.00005	<0.00005	<0.00031	<0.00031	0.00092	0.000577	<0.00004	<0.00004	<0.00041	<0.00004	
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.9E-05	<0.000058	<0.000059	<5.8E-05	
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<0.000042	0.012	<4.2E-05	
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<0.000021	<0.000021	<2.1E-05	
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	<0.00005	8.9E-05J	0.00015J	0.0002J	0.00014J	0.00032J	<0.00007	<1.9E-05	<0.000019	<0.000019	<1.9E-05	
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<0.000047	<0.000047	<4.7E-05	
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.00021	0.00024	0.00170	0.00081	0.00036J	<0.00008	0.00036J	<0.00008	<2.7E-05	<0.000027	<0.000027	<2.7E-05	
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<0.000015	<0.000015	<1.5E-05	
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	0.00036	<0.00005	<0.00005	0.00019J	0.00012J	0.00047J	<0.00005	2.5E-05J	<0.000014	0.000019J	<1.4E-05	
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<5.1E-05	<0.000051	<0.000051	<0.000051	
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00028	0.00080	<0.0001	0.00022	<0.00037	<0.00037	<0.00037	0.000513	0.00025	0.00015J	0.00021	6.1E-05J	
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	3.8E-05J	<0.000021	<0.000021	<2.1E-05	
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.00037	0.00005J	0.00016J	6.6E-05J	0.00022J	0.00013J	0.00021J	<0.00008	<0.00002	<0.00002	<0.000039	<0.00002	
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00005	<0.00005	6.2E-05J	<0.00011	0.00011J	<0.00011	<0.00011	0.00006J	<0.00002	<0.00002	<0.00002	
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00059	0.00024	0.00085	0.00041	0.00064	0.00029J	0.00034J	<0.00007	0.00024	0.00014	0.000016J	0.00011	
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.00016J	0.00026	0.00050	0.00016J	<0.00007	0.00013J	0.0002J	<0.00007	<0.00003	<0.00003	<0.000047	<0.00003	
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00035	0.00048	0.00063	0.00190	0.00048	0.00288J	0.00242J	0.00043J	<0.00002	0.00049	<0.00061	<0.00002	
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<0.000024	<0.000024	<2.4E-05	
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<0.000025	<0.000025	<2.5E-05	
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<0.00008	<0.000079	<0.00008	<7.9E-05	
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	0.00016J	0.00012J	<0.00005	0.00036J	0.00012J	0.00050	<0.00006	7.7E-05J	<0.000021	0.000039J	<2.1E-05	
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004	<0.00004	0.000801	<3.5E-05	<0.000035	<0.000035	<3.5E-05	
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00035	0.00014J	0.00044	0.00023	0.00037J	0.00013J	0.00023J	<0.00011	0.00023	0.00014	<0.000019	0.0001	

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-2b
Summary of Groundwater Sampling Results - B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-55B					
chemical_name	CAS	Method	mg/L	mg/L	2/2/2012	7/12/2012	1/30/2013	7/30/2013	1/14/2014	07/17/2014
Volatile Organic Compounds										
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.01	<0.005	<0.007	<0.014	<0.007	<0.0028
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.780000	0.890000	0.881000	0.809000	0.648000	0.846
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.01	<0.005	<0.006	<0.012	<0.006	<0.0024
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.13000	0.21000	0.16200	0.17300	0.13400	0.126
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.013	<0.01	0.0213J	0.0517J	<0.0075	0.0155J
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.65000	0.90000	0.76000	0.78200	0.59700	0.591
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03				<0.011		
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.39000	0.68000	0.62300	0.62400	0.48100	0.443
Semi-Volatile Organic Compounds										
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0005	<0.0005	<0.0208	<0.0534	<0.529	<0.013
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	35.00000	30.00000	2.06000	25.20000	44.20000	35.6
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.0005	<0.0005	<0.0245	<0.0631	<0.625	<0.0153
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.0006	<0.0006	<0.0151	<0.0388	<0.385	<0.00943
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.0005	<0.0005	<0.0151	<0.0388	<0.385	<0.00943
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.28000	0.64000	0.75700	0.86800	0.901J	0.512
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.0008	<0.0008	<0.157	<0.403	<3.99	<0.0979
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.0005	<0.0005	<0.106	<0.272	<2.69	<0.066
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.19000	0.26000	0.34700	<0.0388	<0.385	0.19
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00570	0.01000	<0.0113	<0.0291	<0.288	<0.00708
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.01600	0.03000	0.0492J	0.0437J	<0.24	0.027J
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	0.0011J	0.0012J	<0.0151	<0.0388	<0.385	<0.00943
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.0005	<0.0005	<0.0151	<0.0388	<0.385	<0.00943
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.0005	<0.0005	<0.0245	<0.0631	<0.625	<0.0153
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	<0.001	<0.001	<0.0698	<0.18	<1.78	<0.0436
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.0005	0.0009J	<0.0151	<0.012	<0.385	<0.00943
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.15000	0.23000	<0.0151	0.30900	<0.385	0.138
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.0005	<0.0005	<0.0208	<0.0534	<0.529	<0.013
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00470	0.01400	0.0153J	<0.034	<0.337	0.0119J
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.09000	0.15000	0.16600	0.195J	<0.337	0.0816
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	21.00000	24.00000	2.30000	21.90000	24.30000	13.5
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.0005	<0.0005	<0.0208	<0.0534	<0.529	<0.013
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.0005	<0.0005	<0.0189	<0.0485	<0.481	<0.0118
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.0005	0.00069J	<0.115	<0.296	<2.93	<0.0719
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.05700	0.13000	0.13000	0.228J	<0.288	0.1
Phenol	108-95-2	8270	7.30E+00	2.20E+01	150	130	0.09990	103	454	127
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00420	0.00760	<0.0208	<0.0534	<0.529	<0.013

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-2b
Summary of Groundwater Sampling Results - B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential Assessment Level mg/L	C/I Assessment Level mg/L	MW-62B																
					2/4/2009	1/21/2010	7/14/2010	1/27/2011	7/27/2011	8/25/2011	2/8/2012	7/26/2012	2/11/2013	8/2/2013	1/29/2014	07/29/2014	1/24/2018	3/20/2018	5/24/2018	1/23/2019	
Volatile Organic Compounds																					
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<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	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	0.0043J		<0.001	0.002J	<0.00008	<0.00008	<0.00008	<0.00008	<0.0002	<0.0002	0.0021	<0.0002	
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<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	100-41-4	8260	7.00E-01	7.00E-01	0.00071J	<0.0005	<0.0005	<0.0005	0.04100		<0.0011	0.0021J	<0.00011	<0.00011	<0.00011	<0.00011	<0.0003	<0.0003	0.013	<0.0003	
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<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	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	0.00950		<0.001	0.0012J	<0.00015	<0.00015	<0.00015	<0.00015	<0.0002	<0.0002	0.003	<0.0002	
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03																	
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	0.02500		<0.0031	0.0053J	<0.00026	<0.00026	<0.00026	<0.00026	<0.0003	<0.0003	0.014	<0.0003	
Semi-Volatile Organic Compounds																					
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005		<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<0.000021	<0.000021	<2.1E-05	
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005		<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005		<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<0.000058	<0.000058	<5.8E-05	
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006		<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<0.000042	<0.000042	<4.2E-05	
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	0.00011	<0.0001	<0.0001	<0.00005		<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<0.000021	<0.000021	<2.1E-05	
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.00012J	0.00160	0.00064	<0.00007	<0.00005		<0.00005	0.00006J	0.00017J	<0.00007	<0.00007	<0.00007	<1.9E-05	<0.000019	0.00011	<1.9E-05	
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008		<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005		<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<0.000047	<0.000047	<4.7E-05	
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.00780	0.03900	0.00041	<0.00009	0.21000		0.02600	0.08500	0.00024J	<0.00008	<0.00008	0.00024J	0.00006J	0.023	0.11	<2.7E-05	
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	0.00066	<0.00007	<0.00007	0.00260		0.00130	0.00084	0.00011J	<0.00006	<0.00006	<0.00006	6.1E-05J	0.00063	0.0013	<1.5E-05	
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00024	0.00110	<0.00007	<0.00007	0.01300		<0.00005	0.00320	0.00072	<0.00005	<0.00005	7E-05J	0.00036	0.00051	0.0044	<1.4E-05	
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005		<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005		<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00041	0.00098	0.00160	0.00022	0.00042		0.00029	0.00013J	<0.00037	<0.00037	<0.00037	<0.00037	0.00026	0.00018J	<0.00013	<3.7E-05	
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005		<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<0.000021	<0.000021	<2.1E-05	
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.00240	0.01300	0.00034	<0.00008	0.15	0.23	0.00012J	0.03800	0.00017J	<0.00008	<0.00008	9.2E-05J	<0.00002	0.0031	0.048	<0.00002	
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	0.00065	<0.00007	<0.00007	<0.00007	<0.00005		<0.00005	7.8E-05J	<0.00011	0.00011J	<0.00011	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002	
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00012J	0.00110	<0.00007	0.00014J	0.00790		0.00053	0.00400	0.00033J	<0.00007	<0.00007	0.00052	0.0015	0.0041	<0.00001		
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.00120	0.01500	0.00016J	<0.00007	0.05800		0.00020	0.00870	<0.00007	<0.00007	<0.00007	0.00013J	0.00015	0.0047	0.034	<0.00003	
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00270	0.00028	0.00960	<0.0001	0.03500		0.00021	0.00560	0.00129J	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	0.038	<0.00002	
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005		<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<0.000024	<0.000024	<2.4E-05	
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005		<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<0.000025	<0.000025	<2.5E-05	
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005		<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	0.00033	<0.000079	<7.9E-05	
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00087	0.00250	0.00025	<0.00007	0.03500		0.00014J	0.00260	0.00047	<0.00006	<0.00006	0.00014J	<2.1E-05	0.00023	0.0083	<2.1E-05	
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005		5.3E-05J	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<0.000035	<0.000035	<3.5E-05	
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	0.00047	<0.00007	7.7E-05J	0.00330		0.00037	0.00210	0.00039J	<0.00011	<0.00011	<0.00011	0.00039	0.00077	0.002	<1.9E-05	

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-2b
Summary of Groundwater Sampling Results - B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-68B									
chemical_name	CAS	Method	mg/L	mg/L	2/16/2012	7/16/2012	2/6/2013	8/8/2013	1/22/2014	07/24/2014	1/29/2018	3/21/2018	6/6/2018	1/15/2019
Volatile Organic Compounds														
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.005	<0.0005	<0.014	<0.014	<0.0002	<0.0028	<0.001	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	2.70000	2.40000	2.35000	2.88000	1.50000	2.18	2.1	1.4	1.9	2
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.005	<0.0005	0.0273J	<0.012	0.00045J	<0.0024	<0.0015	<0.0003	<0.0003	0.00056 J
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.45000	0.49000	0.44900	0.55000	0.36400	0.403	0.61	0.29	0.5	0.5
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0065	<0.001	<0.015	0.10100	<0.00022	<0.003	<0.005	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.91000	0.93000	0.70100	0.62500	0.32900	0.538	0.45	0.2	0.45	0.086
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03				<0.011		0.007J				
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	1.20000	1.30000	1.04000	1.28000	0.85700	1.08	1.6	0.83	1.4	1.2
Semi-Volatile Organic Compounds														
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.00005	<0.00025	<0.00524	<0.00519	<0.011	<0.0055	<0.00021	<0.00021	<0.00021	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	0.19000	0.27000	0.27300	<0.0146	0.53600	0.445	0.051J	0.07	0.23 J	0.05
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00005	<0.00025	<0.00619	<0.00613	<0.013	<0.0065	<0.00058	<0.00059	<0.00058	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00006	<0.0003	<0.00381	<0.00377	<0.008	<0.004	<0.00042	<0.00042	<0.00042	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00005	<0.00025	<0.00381	<0.00377	<0.008	<0.004	<0.00021	<0.00021	<0.00021	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.66000	1.30000	0.95200	1.41000	1.10000	0.852	0.6	0.67	1.4	0.33
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.0004	<0.0395	<0.0392	<0.083	<0.0415	<0.0002	<0.0002	<0.0002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00005	<0.00025	<0.0267	<0.0264	<0.056	<0.028	<0.00047	<0.00047	<0.00047	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.15000	0.23000	0.26100	0.30400	0.26300	0.178	0.13	0.21	0.34	0.1
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00230	0.00300	<0.00286	<0.00283	<0.006	<0.003	0.002	0.0021	0.0022	0.0012
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.04600	0.03400	0.0194J	0.023J	0.0428J	0.0169J	0.014	0.014	0.015	0.008
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	0.00600	0.00540	<0.00381	<0.00377	0.0123J	<0.004	<0.0005	<0.00051	<0.0005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	0.00170	0.00160	<0.00381	<0.00377	<0.008	<0.004	<0.0002	<0.0002	<0.0002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00005	<0.00025	<0.00619	<0.00613	<0.013	<0.0065	<0.0003	<0.0003	<0.0003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	<0.0001	<0.0005	<0.0176	<0.0175	<0.037	<0.0185	<0.00037	<0.00037	<0.00037	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	0.00520	0.00500	<0.00381	<0.00377	0.00806J	<0.0024	<0.00021	<0.00021	<0.00021	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.190	0.300	0.260	0.325	0.284	0.198	0.16	0.24	0.38	0.1
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00005	<0.00025	<0.00524	<0.00519	<0.011	<0.0055	<0.0002	<0.0002	<0.0002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.05000	0.04400	<0.00333	0.00764J	0.05200	0.00825J	0.0052	0.006	0.0063	0.0031
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.09600	0.13000	0.11800	0.15400	0.14900	0.0966	0.082	0.092	0.18 J	0.057
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	14	26	12	31	17	10.5	9.2	12	23	5
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00005	<0.00025	<0.00524	<0.00519	<0.011	<0.0055	<0.00024	<0.00024	<0.00024	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	0.00110	<0.00025	<0.00476	<0.00472	<0.01	<0.005	<0.00025	<0.00025	<0.00025	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00005	<0.00025	<0.029	<0.0288	<0.061	<0.0305	<0.00079	<0.0008	<0.00079	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.19000	0.24000	0.12000	0.13600	0.26300	0.106	0.099	0.15	0.22 J	0.065
Phenol	108-95-2	8270	7.30E+00	2.20E+01	0.03500	0.05900	0.04210	0.07950	0.08620	0.00988J	<0.00035	<0.00035	<0.00035	0.0019 J
Pyrene	129-00-0	8270	7.30E-01	2.20E+01	0.03100	0.02400	<0.00524	<0.00519	0.0341J	<0.0055	0.0025	0.0032	0.0058 J	0.0015

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-2b
Summary of Groundwater Sampling Results - B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential	C/I	MW-73B						MW-74B								
			Assessment	Assessment	2/2/2012	7/16/2012	1/30/2013	7/30/2013	1/15/2014	07/18/2014	2/9/2012	7/26/2012	4/2/2013	1/29/2014	08/28/2014	1/30/2018	3/28/2018	6/7/2018	1/23/2019
			Level	Level	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.001	<0.0005	<0.00014	0.00068J	<0.0002	<0.00014	<0.01	<0.005	<0.0028	<0.0007	<0.0028	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.00970	<0.0005	0.00022J	0.00016J	<0.0002	0.00309	0.35000	0.71000	0.55200	0.79500	0.652	0.47	0.58	0.71	0.83
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.01	<0.005	<0.0024	<0.0006	<0.0025	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.00590	<0.0005	<0.00011	<0.00011	0.00044J	<0.00011	0.08600	0.14000	0.14700	0.20300	0.2	0.25	0.12	0.17	0.22
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.013	<0.01	<0.003	<0.00075	0.003	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.01500	<0.0005	0.00034J	<0.00015	0.00058	<0.00015	0.32000	0.56000	0.53300	0.77400	0.741	0.75	0.56	0.74	0.69
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03						<0.00011									
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.0059J	<0.0015	<0.00026	<0.00026	0.00133J	<0.00026	0.25000	0.38000	0.42700	0.55300	0.558	0.53	0.33	0.51	J 0.63
Semi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<0.0005	<0.0005	<0.106	<0.208	<0.216	<0.0021	<0.00021	<0.0021	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	0.00700	0.00280	<0.00031	<0.00031	0.00095	<0.00031	55	41.0	56.9	525	70.6	59	30	57	9
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.0005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.0005	<0.0005	<0.125	<0.254	<0.255	<0.0058	<0.00058	<0.0058	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.0006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<0.0006	<0.0006	<0.0769	<0.151	<0.157	<0.0042	<0.00042	<0.0042	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.0005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.0005	<0.0005	<0.0769	<0.151	<0.157	<0.0021	<0.00021	<0.0021	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.00055J	0.00011J	<0.00007	8.8E-05J	0.01610	<0.00007	0.39000	0.43000	0.67300	5.52	0.95J	0.3	2.4	0.99	0.22
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.0008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.0008	<0.0008	<0.798	<1.57	<1.63	<0.002	<0.0002	<0.002	<0.0002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.0005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<0.0005	<0.0005	<0.538	<1.06	<1.1	0.033J	<0.00047	<0.0047	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.01200	0.00016J	0.00019J	0.00012J	0.01120	<0.00008	0.29000	0.21000	0.31J	2.40	0.413J	0.31	1.4	0.33	0.098
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.0013J	<0.00005	7E-05J	<0.00006	<0.00006	<0.00006	0.00580	0.00620	<0.0577	<0.113	<0.118	0.012	0.019	0.0098	J 0.0032
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.0005	0.00012J	0.00019J	0.00025J	0.00462	0.00015J	0.03700	0.02400	<0.0481	0.282J	<0.098	0.027	0.58	0.034	0.0074
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.0005	5.7E-05J	<0.00008	<0.00008	0.00131	<0.00008	<0.0005	0.00220	<0.0769	<0.151	<0.157	<0.005	0.22	<0.005	<0.0005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.0005	<0.00005	<0.00008	<0.00008	0.00039J	<0.00008	<0.0005	0.00085J	<0.0769	<0.151	<0.157	<0.002	0.064	<0.002	<0.0002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.0005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.0005	<0.0005	<0.125	<0.245	<0.255	<0.003	<0.0003	<0.003	<0.0003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	<0.001	0.00012J	<0.00037	<0.00037	0.0015J	0.000603	<0.001	<0.001	<0.356	<0.698	<0.725	<0.0037	<0.00037	<0.0037	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.0005	9.6E-05J	<0.00008	<0.00008	0.00119	<0.00008	<0.0005	0.0018J	<0.0769	<0.151	<0.157	<0.0021	0.23	<0.0021	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.00078J	6.7E-05J	<0.00008	<0.00008	0.01020	<0.00008	0.25000	0.19000	0.252J	1.84	<0.157	0.24	1.4	0.24	0.079
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.0005	<0.00005	<0.00011	0.00013J	0.00017J	<0.00011	<0.0005	<0.0005	<0.106	<0.208	<0.216	<0.002	<0.0002	<0.002	<0.0002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.01000	5.9E-05J	0.00014J	<0.00007	0.00937	<0.00007	0.00440	0.01800	<0.0673	<0.132	<0.137	0.015	1.4	0.017	0.0038
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.00410	0.00021	<0.00007	8.1E-05J	0.00951	<0.00007	0.17000	0.14000	0.196J	1.34	0.263J	0.19	1.4	0.19	0.056
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.0014J	0.00064	0.00044J	0.00067J	0.09060	<0.00008	16.00	10.00	13.90	139.00	17.90	18	21	19	4
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.0005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<0.0005	<0.0005	<0.106	<0.208	<0.216	<0.0024	<0.00024	<0.0024	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.0005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0962	<0.189	<0.196	<0.0025	<0.00025	<0.0025	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.0005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<0.0005	<0.0005	<0.587	<0.189	<1.2	<0.0079	<0.00079	<0.0079	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00087J	8.9E-05J	<0.00006	0.00023J	0.03480	<0.00006	0.15000	0.15000	0.169J	1.28	0.307J	0.16	3.7	0.17	0.046
Phenol	108-95-2	8270	7.30E+00	2.20E+01	0.00530	0.00015J	<0.00004	<0.00004	0.00052	<0.00004	43.0	38.0	63.2	420.0	53.3	56	25	39	5
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00770	<0.00005	<0.00011	<0.00011	0.00725	<0.00011	0.00500	0.01000	<0.106	<0.208	<0.216	0.0079J	0.83	0.0077	J 0.002

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are bold type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-2b
Summary of Groundwater Sampling Results - B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

			Residential Assessment Level	C/I Assessment Level	MW-75B*					MW-80B					MW-81B				
chemical_name	CAS	Method	mg/L	mg/L	2/8/2012	7/26/2012	4/2/2013	1/29/2014	07/24/2014	08/28/2014	1/30/2018	3/28/2018	5/24/2018	1/10/2019	07/24/2014	1/29/2018	3/28/2018	5/25/2018	1/10/2019
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.01	<0.0025	<0.0028	<0.0007	<0.00014	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.61000	0.85000	0.36900	0.50200	0.298	9E-05J	<0.0002	<0.0002	<0.0002	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	0.00021 J
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.01	<0.0025	<0.0024	<0.0006	<0.00012	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.00012	<0.0003	<0.0003	<0.0003	0.00036 J
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.13000	0.10000	0.06900	0.07730	0.0737	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.013	<0.005	<0.003	<0.00075	<0.00015	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.51000	0.50000	0.28200	0.32800	0.273	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03					<0.00011					<0.00011					
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.41000	0.33000	0.24700	0.27600	0.255	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
Semi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0005	<0.0005	<0.00212	<0.0519	<0.00214	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	0.18000	0.64000	0.06950	6.35000	0.00602	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.0005	<0.0005	<0.0025	<0.0613	<0.00252	<0.00013	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<0.00013	<5.8E-05	<5.9E-05	0.00079	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.0006	<0.0006	<0.00154	<0.0377	<0.00155	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<0.00008	<4.2E-05	<4.2E-05	0.001	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.0005	<0.0005	<0.00154	<0.0377	<0.00155	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<0.00008	<2.1E-05	<2.1E-05	0.0018	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.62	0.60	0.10	3.18	0.546	0.00016J	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<0.00007	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.0008	<0.0008	<0.016	<0.392	<0.0161	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.0005	<0.0005	<0.0108	<0.264	<0.0109	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.34000	0.26000	0.06970	2.57000	0.429	8.4E-05J	<2.7E-05	<2.7E-05	<2.7E-05	<2.7E-05	<0.00008	<2.7E-05	<2.7E-05	<2.7E-05	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.01300	0.00580	<0.00115	0.0672J	0.0121	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.03500	0.04500	0.00948J	0.60500	0.0626	<0.00005	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05	<0.00005	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	0.00064J	0.00470	<0.00154	0.0667J	0.00748J	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00008	<0.00005	<5.1E-05	<5.1E-05	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.0005	0.0013J	<0.00154	<0.0377	<0.00155	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.0005	<0.0005	<0.0025	<0.0613	<0.00252	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	<0.001	<0.001	<0.00712	<0.175	<0.00718	0.00106	<6.9E-05	<3.7E-05	<0.00012	<3.7E-05	<0.00037	<3.7E-05	<3.7E-05	<0.00006	5.8E-05 J
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	0.00062J	0.00420	<0.00154	0.0704J	0.00677J	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.29000	0.23000	0.05330	1.56000	0.214	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.0005	<0.0005	<0.00212	<0.0519	<0.00214	<0.00011	<0.00002	<0.00002	<4.7E-05	<0.00002	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.01600	0.04000	0.01030	0.70800	0.0914	<0.00007	<0.00001	<0.00001	<0.00001	<0.00001	<0.00007	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.19000	0.17000	0.04250	1.59	0.218	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	8.90	9.30	0.21100	27.10	5.7	0.00157	<0.00002	<0.00002	<0.00002	6.8E-05 J	<0.00008	<0.00002	<0.00002	<0.00002	0.00016
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.0005	<0.0005	<0.00212	<0.0519	<0.00214	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.0005	<0.0005	<0.00192	<0.0472	<0.00194	<0.00001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<0.00001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.0005	<0.0005	<0.0117	<0.288	<0.0118	<0.00061	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<0.00061	<7.9E-05	<0.00008	<0.00008	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.24000	0.27000	0.06060	2.13000	0.238	7.9E-05J	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	9.4E-05J	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	0.00660	0.00270	0.0069J	0.108J	<0.00078	0.00018J	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05	<0.00004	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00980	0.02600	0.00617J	0.41600	0.0537	<0.00011	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<0.00011	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are bold type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-2b
Summary of Groundwater Sampling Results - B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-82B				MW-83B					MW-84B					MW-89B		MW-90B	
chemical_name	CAS	Method	mg/L	mg/L	2/1/2018	3/22/2018	6/6/2018	1/22/2019	2/8/2018	3/22/2018	6/7/2018	7/19/2018	1/15/2019	2/8/2018	3/27/2018	6/7/2018	7/19/2018	1/24/2019	7/19/2018	1/22/2019	7/19/2018	1/22/2019
Volatile Organic Compounds																						
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<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	71-43-2	8260	5.00E-03	5.00E-03	<0.0002	<0.0002	<0.0002	<0.0002	0.018	0.019	0.02	0.03	0.032	0.0097	0.0086	0.0017	0.002	0.0024	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<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	100-41-4	8260	7.00E-01	7.00E-01	<0.0003	<0.0003	<0.0003	<0.0003	0.08	0.1	0.085	0.068	0.091	0.039	0.037	0.0036	0.0029	0.0051	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<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	108-88-3	8260	1.00E+00	1.00E+00	<0.0002	<0.0002	<0.0002	<0.0002	0.0055	0.0046	0.0049	0.007	0.0082	0.0025	0.00099J	<0.0002	<0.0002	0.00056 J	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03																		
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.0003	0.00065J	<0.0003	<0.0003	0.1	0.11	0.091	0.066	0.1	0.035	0.031	0.003	0.0019	0.0033	<0.0003	<0.0003	<0.0003	<0.0003
semi-Volatile Organic Compounds																						
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<0.00021	<0.00021	<2.1E-05	<2.1E-05	<2.1E-05	0.0014J	<0.00021	<0.00021	<0.00021	<2.1E-05	<0.00021	<2.1E-05	<2.1E-05	<0.00021
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00004	<0.00004	<0.00004	<0.00004	<0.0004	<0.0004	<0.00004	<0.00004	<0.00004	<0.0004	<0.0004	0.0017 J	0.00048 J	<0.00016	<0.0004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<0.00058	<0.00059	<5.8E-05	<5.8E-05	<5.8E-05	<0.00058	<0.00058	<0.00058	<0.00058	<5.8E-05	<0.00058	<5.8E-05	<0.00058	<0.00058
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<0.00042	<0.00042	<4.2E-05	<4.2E-05	<4.2E-05	<0.00042	<0.00042	<0.00042	<0.00042	<4.2E-05	<0.00042	<4.2E-05	<4.2E-05	<0.00042
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<0.00021	<0.00021	<2.1E-05	<2.1E-05	<2.1E-05	<0.00021	<0.00021	<0.00021	<0.00021	<2.1E-05	<0.00021	<2.1E-05	<2.1E-05	<0.00021
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	0.15	0.75	0.23	0.076	0.086	0.55	0.58	0.025	0.2J	<1.9E-05	5.4E-05J	<1.9E-05	<1.9E-05	<0.00019
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.0002	<0.0002	0.0038	<0.00002	<0.00002	<0.0002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<0.00047	<0.00047	<4.7E-05	<4.7E-05	<4.7E-05	<0.00047	<0.00047	<0.00047	<4.7E-05	<4.7E-05	<0.00047	<4.7E-05	<4.7E-05	<0.00047
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<2.7E-05	<2.7E-05	<2.7E-05	<2.7E-05	0.098	0.33	0.11	0.027	0.026	0.22	0.27	0.031	0.14J	3.2E-05 J	<2.7E-05	<2.7E-05	<2.7E-05	<0.00027
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	0.00086J	0.0016	0.00064	<1.5E-05	0.00034	0.003	0.0032	0.00061 J	0.00062 J	4.3E-05 J	<1.5E-05	<1.5E-05	<1.5E-05	<0.00015
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<1.4E-05	6.8E-05J	9.1E-05 J	4.2E-05 J	0.01	0.011	0.007	0.0014	0.0012	0.02	0.0092	0.0022	0.0042J	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05	<0.00014
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00005	<0.00005	<0.00005	<0.00005	<0.0005	<0.00051	5.8E-05 J	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.0002	<0.00002	<0.0002	<0.00002	<0.0002	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00003	<0.00003	<0.00003	<0.00003	<0.0003	<0.0003	<0.00003	<0.0003	<0.00003	<0.0003	<0.0003	<0.0003	<0.0003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00011J	<3.7E-05	<0.00056	<3.7E-05	<0.00037	<0.00037	<0.00012	<0.00037	<3.7E-05	0.00056J	<0.00037	<0.00037	<0.00037	<3.7E-05	6.5E-05J	<3.7E-05	9.7E-05J	<0.00037
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<0.00021	<0.00021	0.00009 J	<0.00021	<2.1E-05	<0.00021	<0.00021	<0.00021	<0.00021	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<0.00021
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00002	<0.00002	<0.00002	<0.00002	0.043	0.17	0.061	0.023	0.02	0.13	0.22	0.019	0.077J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00002	<0.00002	<0.00002	<0.00002	<0.0002	<0.0002	<9.4E-05	0.00021	0.00015 J	<0.0002	<0.0002	<0.0002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00001	<0.00001	<0.00001	<0.00001	0.0035	0.0043	0.0046	0.00057	0.00051	0.0039	0.0029	0.00069 J	0.0016 J	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00003	<0.00003	<0.00003	<0.00003	0.046	0.072	0.039	0.0083	0.0099	0.074	0.076	0.011	0.039J	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00019	<0.00015	<0.00002	<0.00002	2.6	14	2	1.5	1.6	2.4	2.2	0.066	0.95J	<0.00002	0.0009	<0.00002	<0.00002	0.000045 J
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<0.00024	<0.00024	<2.4E-05	<2.4E-05	<2.4E-05	<0.00024	<0.00024	<0.00024	<0.00024	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<0.00024
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<0.00025	<0.00025	<2.5E-05	<2.5E-05	<2.5E-05	<0.00025	<0.00025	<0.00025	<0.00025	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<0.00025
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<0.00079	<0.0008	<7.9E-05	<7.9E-05	<7.9E-05	<0.00079	<0.00079	<0.00079	0.005J	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<0.00079
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	0.04	0.071	0.045	0.0086	0.0074	0.088	0.072	0.013	0.043J	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<0.00021
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05	<0.00035	<0.00035	<3.5E-05	<3.5E-05	<3.5E-05	<0.00035	<0.00035	0.00062 J	<0.00035	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05	<0.00035
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	0.0029	0.0023	0.0026	0.00037	0.0003	0.0025	0.0018	0.00036 J	0.00097 J	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<0.00019

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are bold type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-2b
Summary of Groundwater Sampling Results - B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	P-11														
chemical_name	CAS	Method	mg/L	mg/L	2/4/2009	1/21/2010	6/22/2010	1/18/2011	7/27/2011	2/2/2012	7/26/2012	2/5/2013	8/1/2013	1/15/2014	07/29/2014	1/24/2018	3/23/2018	5/24/2018	1/9/2019
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	0.00021J	<0.00008	<0.0002	<0.0002	0.00021 J	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	0.00025J	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03								<0.00011							
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	0.00032 J	<0.0003
Semi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.8E-05	<5.9E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00023	0.00005J	0.00013J	0.00007	0.00026J	0.00007	<1.9E-05	<1.9E-05	0.00015	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.00570	<0.00009	0.00370	<0.00009	0.00075	0.03000	0.01800	<0.00008	<0.00008	0.00951	0.000653	<2.7E-05	0.00021	0.081	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	0.00020	0.0001J	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00015J	<0.00007	0.00012J	<0.00007	0.00012J	0.00160	0.00039	0.00025J	1E-04J	0.00050	0.00012J	<1.4E-05	<1.4E-05	0.0037	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<5.1E-05	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00022	0.00051	0.00020	0.00160	0.00018J	0.00013J	0.00021	0.00036J	0.00059J	0.00403	0.000711	0.00018J	<3.7E-05	<6.3E-05	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.00024	<0.00008	9.3E-05J	<0.00008	0.00013J	0.00350	0.00059	0.00014J	<0.00008	0.00103	0.00018J	<0.00002	<0.00002	0.0016	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011	<0.00002	<0.00002	<2.4E-05	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	0.00042	<0.00007	8.1E-05J	0.00220	0.00048	<0.00007	<0.00007	0.00029J	7.7E-05J	3.8E-05J	<0.00001	0.0056	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.00180	<0.00007	0.00160	<0.00007	8.2E-05J	0.01100	0.00440	7.7E-05J	<0.00007	0.00264	0.00034J	4.5E-05J	<0.00003	0.037	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00270	<0.0001	0.00270	<0.0001	0.00013J	0.00170	0.00026	0.00066	<0.00008	0.05540	<0.00008	<0.00002	<0.00002	0.0024	<0.00002
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00006	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<7.9E-05	<0.00008	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00048	<0.00007	0.00053	<0.00007	8.6E-05J	0.00450	0.00055	8.5E-05J	<0.00006	0.00189	0.00032J	<2.1E-05	<2.1E-05	0.04	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00005J	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	0.00015J	<0.00007	<0.00005	0.00130	0.00023	<0.00011	<0.00011	0.00027J	<0.00011	3.9E-05J	<1.9E-05	0.0032	<1.9E-05

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are bold type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-2b
Summary of Groundwater Sampling Results - B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

			Residential Assessment Level	C/I Assessment Level	TW-41B											
chemical_name	CAS	Method	mg/L	mg/L	1/19/2010	7/27/2011	2/1/2012	7/26/2012	2/5/2013	7/31/2013	1/16/2014	07/25/2014	1/24/2018	3/20/2018	5/16/2018	1/9/2019
Volatile Organic Compounds																
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.001	<0.001	<0.0005	<0.00008	0.000347J	<0.0002	0.000594J	0.00065J	0.001J	0.0013	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	0.00750	<0.0011	<0.0005	<0.00011	0.00115	<0.00019	0.00501	<0.0003	0.0036	0.0029	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	0.0033J	<0.001	<0.0005	<0.00015	0.00015J	<0.00017	0.00116	<0.0002	0.00068J	0.0012	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03					<0.00011			<0.00011				
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	0.0052J	<0.0031	<0.0015	<0.00026	0.000386J	<0.00058	0.0101	0.0079	0.013	0.015	<0.0003
Semi-Volatile Organic Compounds																
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<0.000021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00005	<0.00005	0.00140	<0.00031	<0.00031	<0.00031	<0.00031	<0.000041	<0.000041	<0.000041	<0.000041
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.000059	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<0.000043	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	0.01500	<0.00005	0.0001J	<0.00007	0.000256J	<0.0000846	0.0125	0.0003	0.011	0.026	0.0098
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<0.000048	<0.000047	<0.000047	<0.000047
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<0.00009	0.04100	<0.00005	0.03900	<0.00008	0.02520	<0.00008	0.142	0.087	0.072	0.08	0.058
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00007	0.00053	<0.00005	0.00041	0.0000751J	0.000409J	0.0000926J	0.00185	0.0019	0.0017	0.0016	0.00091
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	0.00220	0.00016J	0.00110	0.00098	0.00161	0.00093	0.00697	0.0016	0.0034	0.0039	0.0023
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	0.0000879J	<0.00008	<0.00008	<0.000051	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	0.000097 J
Bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.000031	<0.00003	<0.00003	<0.00003
Bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.00110	0.00022	0.00023	<0.0001	<0.00037	<0.00037	<0.00037	<0.00037	0.000058J	<0.000037	<0.000037	<0.000037
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.000021	<0.000021	<0.000021	<0.000021
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00008	0.02900	<0.00005	0.01600	<0.00008	0.01040	<0.00008	0.0845	0.022	0.026	0.034	0.026
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00005	<0.00005	0.0001J	<0.00011	0.000138J	0.000116J	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	0.00220	<0.00005	0.00150	<0.00007	0.00153	0.000206J	0.00475	0.0019	0.0026	0.0022	0.0014
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.00015J	0.02800	<0.00005	0.0054J	0.0000917J	0.00386	<0.00007	0.00007	0.035	0.037	0.045	0.035
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00014J	0.04900	<0.00051	<0.0013	0.000156J	0.00309J	<0.00259	0.149	0.027	0.12	0.28	0.061
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<0.000024	<0.000024	<0.000024	<0.000024
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<0.000026	<0.000025	<0.000025	<0.000025
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<0.000081	<0.000079	<0.000079	<0.000079
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	0.01900	<0.00005	<0.00005	<0.00006	0.00066	<0.000176	0.0573	0.00048	0.0089	0.013	0.0035
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00005	0.000057J	0.00160	<0.00004	<0.00004	<0.00004	<0.00004	<0.000036	<0.000035	<0.000035	<0.000035
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	0.00095	<0.00005	0.00066	<0.00011	0.00070	0.000223J	0.00209	0.00083	0.0011	0.001	0.00056

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-3
Summary of Groundwater Sampling Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-15C														
chemical_name	CAS	Method	mg/L	mg/L	2/4/2009	1/18/2010	6/23/2010	1/17/2011	7/13/2011	2/2/2012	7/19/2012	1/30/2013	7/30/2013	1/14/2014	07/17/2014	1/23/2018	3/18/2018	5/15/2018	1/8/2019
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<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	71-43-2	8260	5.00E-03	5.00E-03	0.00096J	0.0012J	0.001J	0.00096J	<0.001	<0.001	<0.0005	0.000951J	0.000831J	0.000863J	0.000781J	0.00063J	0.00053J	0.00052 J	0.00058 J
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<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	100-41-4	8260	7.00E-01	7.00E-01	0.00068J	0.00058J	<0.0005	<0.0005	<0.0011	0.0017J	<0.0005	0.000408J	0.000203J	0.000275J	0.000219J	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<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	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	0.000323J	0.000263J	0.000305J	0.00019J	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	0.000323J	0.000263J	0.000305J	0.00019J	<0.0002	<0.0002	<0.0002	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	0.000604J	0.000839J	0.000581J	0.000392J	<0.0003	<0.0003	<0.0003	<0.0003
Semi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0011	<0.00011	<0.0011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	113	<0.00031	<0.0031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0013	<0.00013	<0.0013	<0.00013	<5.8E-05	<5.8E-05	<5.9E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.0008	<0.00008	<0.0008	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.0008	<0.00008	<0.0008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.000084J	<0.00007	<0.00007	<0.00007	<0.00005	0.000099J	0.00022	0.35	<0.00007	<0.0007	<0.00007	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.0083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.0056	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.034	0.0097	0.013	0.032	0.016	0.041	0.042	0.13	0.0574	0.0912	0.0455	0.027	0.021	0.02	0.02
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00052	0.00041	0.00062	0.0011	0.0012	0.0013	0.002	<0.006	0.00268	<0.0006	0.00342	0.0027	0.002	0.0022	0.0014
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00078	0.00031	<0.00007	<0.00007	<0.00005	0.00021	0.00045	0.0191J	9.45E-05J	<0.0005	0.000315J	0.00047	0.000095J	6.7E-05 J	0.00031
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.008	<0.00008	<0.0008	<0.00008	<0.00005	<0.00005	<5.1E-05	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0008	<0.00008	<0.0008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0013	<0.00013	<0.0013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	8270	6.00E-03	6.00E-03	<0.0002	0.00065	0.00059	0.00044	0.00057	<0.0001	0.00012J	<0.037	<0.00037	<0.0037	0.000526	<6.7E-05	<3.7E-05	7.2E-05 J	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.008	<0.00008	<0.0008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.034	0.0075	0.005	0.018	0.0046	0.027	0.021	0.116	0.0141	0.0317	0.0102	0.0081	0.0029	0.0046	0.0053
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.000059J	<0.011	<0.00011	<0.0011	<0.00011	<0.00002	<0.00002	3.7E-05 J	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.0006	0.00029	0.0002J	0.0003	0.00031	0.0016	0.00079	<0.007	0.000634	0.00158J	0.000763	0.00094	0.00054	0.00074	0.00075
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.0027	0.0011	0.00071	0.0017	0.00074	0.0025	0.0014	0.0769	0.00159	0.00224J	0.00135	0.001	0.00045	0.00064	0.00056
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.0016	0.00057	0.00094	0.00091	0.00046	0.0011	0.0018	89.7	0.00122J	0.000769J	0.000748	0.00042	<0.00031	<0.00039	<0.00032
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.011	<0.00011	<0.0011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.01	<0.0001	<0.001	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.0061	<0.00061	<0.00061	<0.00061	<7.9E-05	<7.9E-05	<0.00008	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	0.00014J	<0.00007	<0.00007	0.00019J	0.0015	0.00038	0.0868	0.000354J	<0.0006	<0.00006	<2.1E-05	0.00019	0.00041	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	61.8	<0.00004	<0.0004	<0.00004	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00027	0.00012J	0.00011J	0.00015J	0.00018J	0.00093	0.00046	<0.011	0.00037J	<0.0011	0.00043J	0.00049	0.00035	0.00043	0.00041

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are bold type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-3
Summary of Groundwater Sampling Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential Assessment Level mg/L	C/I Assessment Level mg/L	MW-18C														
					2/5/2009	1/19/2010	6/24/2010	1/17/2011	7/13/2011	2/1/2012	7/11/2012	1/31/2013	7/29/2013	1/13/2014	07/16/2014	1/25/2018	3/19/2018	5/16/2018	1/10/2019
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.005	<0.0005	<0.0025	<0.0025	<0.001	<0.005	<0.005	<0.007	<0.014	<0.007	<0.0028	<0.0002	<0.0002	<0.002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	1.4	1.5	1	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	108-90-7	8260	1.00E-01	1.00E-01	<0.005	<0.0005	<0.0025	<0.0025	<0.001	<0.005	<0.005	<0.006	<0.012	<0.006	<0.0024	<0.0003	0.00052J	<0.003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.26	0.21	0.13	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	75-09-2	8260	5.00E-03	5.00E-03	<0.005	<0.0005	<0.0025	<0.0025	<0.0013	<0.0065	<0.01	<0.0075	0.0688J	<0.0075	0.0161J	<0.001	<0.001	<0.01	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	1	0.96	0.72	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	75-01-4	8260	2.00E-03	2.00E-03	<0.005	<0.0005	<0.0025	<0.001	<0.005	<0.005	<0.005	<0.0055	<0.011	<0.0055	<0.0022	0.0018	0.0026	<0.002	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	1.1	1	1	1	0.9	0.82	0.84	1.01	0.881	1.02	1.36	1	0.93	1.1	0.69
Semi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0005	<0.0001	<0.00005	<0.0005	<0.00005	<0.0545	<0.00534	<0.011	<0.00519	<0.00021	<0.00021	<0.00021	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	0.084	0.0081	0.0078	0.012	0.0031	0.01	0.0021	<0.153	<0.015	<0.031	0.0325	<0.0004	<0.0004	0.082	0.29
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00045	<0.00009	<0.00005	<0.0005	<0.00005	<0.0644	<0.00631	<0.013	<0.00613	<0.00058	<0.00058	<0.00058	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00035	<0.00007	<0.00006	<0.0006	<0.00006	<0.0396	<0.00388	<0.008	<0.00377	<0.00042	<0.00042	<0.00042	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	0.0005	<0.0001	<0.00005	<0.0005	<0.00005	<0.0396	<0.00388	<0.008	<0.00377	<0.00021	<0.00021	<0.00021	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.95	0.46	0.2	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	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.0004	<0.00008	<0.00008	<0.0008	<0.00008	<0.411	<0.0403	<0.083	<0.0392	<0.0002	<0.0002	<0.0002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00035	<0.00007	<0.00005	<0.0005	<0.00005	<0.277	<0.0272	<0.056	<0.0264	<0.00047	<0.00047	<0.00047	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.18	0.17	0.082	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	208-96-8	8270	1.50E+00	4.40E+00	0.0036	0.0023	0.0015	0.0019	0.0023	0.0018J	0.0019	<0.0297	<0.00291	<0.006	<0.00283	0.0025	0.0035	0.003	0.0075
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.017	0.014	0.0076	0.015	0.013	0.012	0.008	0.0401J	0.0284	0.0414J	0.028	0.017	0.02	0.019	0.007
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	0.00039	<0.00007	<0.00035	<0.00007	<0.00005	<0.0005	0.00014J	<0.0396	<0.00388	<0.008	<0.00377	0.0013	<0.0005	<0.0005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	0.00013J	<0.00008	<0.0004	0.00035	0.00015J	<0.0005	<0.00005	<0.0396	<0.00388	<0.008	<0.00377	<0.0002	<0.0002	<0.0002	<0.00002
bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00045	<0.00009	<0.00005	<0.0005	<0.00005	<0.0644	<0.00631	<0.013	<0.00613	<0.0003	<0.0003	<0.0003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	8270	6.00E-03	6.00E-03	0.00023	<0.0002	<0.001	<0.0002	<0.0001	<0.001	<0.0001	<0.183	<0.018	<0.037	<0.0175	<0.00037	<0.00037	<0.00037	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	0.00033	<0.00007	<0.00035	<0.00007	<0.00005	<0.0005	0.0001J	<0.0396	<0.00388	<0.008	<0.00377	0.0008J	<0.00021	0.00038 J	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.16	0.091	0.077	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	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00035	<0.00007	<0.00005	<0.0005	<0.00005	<0.0545	<0.00534	<0.011	<0.00519	<0.0002	<0.0002	<0.0002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.0047	0.0035	0.0023	0.0059	0.0042	0.0018J	0.0023	<0.0347	0.00865J	0.0191J	0.00957J	0.0096	0.0071	0.0058	0.0023
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.081	0.052	0.034	0.051	0.052	0.028	0.055	0.132J	0.114	<0.007	0.116	0.056	0.073	0.062	0.095
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	21	12	6.2	13	12	9.7	13	20.2	20.9	20.3	14.7	14	12	21	4.4
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00045	<0.00009	<0.00005	<0.0005	<0.00005	<0.0545	<0.00534	<0.011	<0.00519	<0.00024	<0.00024	<0.00024	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00045	<0.00009	<0.00005	<0.0005	<0.00005	<0.0495	<0.00485	<0.01	<0.00472	<0.00025	<0.00025	<0.00025	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	0.026	0.041	0.02	0.064	0.076	0.085	0.075	<0.302	<0.0296	0.188	0.164	0.024	0.041	0.037	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.076	0.052	0.032	0.055	0.052	0.027	0.055	0.155J	0.127	0.177	0.122	0.072	0.086	0.078	0.084
Phenol	108-95-2	8270	7.30E+00	2.20E+01	0.031	0.059	0.026	0.043	0.048	0.027	0.075	0.0601J	0.0205J	0.0184J	0.0285	0.0042	0.0067	<0.00035	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.0025	0.002	0.0012	0.0028	0.0017	0.001J	0.0011	<0.0545	<0.00534	<0.011	0.00571J	0.0055	0.0049	0.0036	0.0012

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are bold type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-3
Summary of Groundwater Sampling Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-19C														
chemical_name	CAS	Method	mg/L	mg/L	2/4/2009	1/18/2010	6/23/2010	1/18/2011	7/14/2011	2/8/2012	7/12/2012	2/1/2013	7/30/2013	1/15/2014	07/17/2014	2/9/2018	3/18/2018	5/16/2018	1/24/2019
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.00014	<0.00014	<0.0002	<0.0002	<0.002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	0.0056	<0.0005	<0.0005	<0.001	0.005	<0.0005	0.000558J	0.00427	0.00028J	8.01E-05J	0.0013	0.0027	0.0041 J	0.0044
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00012	<0.00012	<0.0003	<0.0003	<0.003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	0.0018J	<0.0005	<0.0005	<0.0011	0.0031J	<0.0005	0.000793J	0.0114	0.000966J	0.000783J	0.00091J	0.0025	<0.003	0.004
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00015	<0.00015	<0.001	<0.001	<0.01	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	0.0076	<0.0005	<0.0005	<0.001	0.0085	<0.0005	0.00171	0.0155	0.00136	0.000578J	<0.0002	0.0018	0.0042 J	0.0057
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00011	<0.00011	<0.00011	<0.00011	<0.0002	<0.0002	<0.002	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	0.0043J	<0.001	<0.001	<0.0031	0.0063J	<0.0015	0.00151J	0.0197	0.00207J	0.00179J	0.00095J	0.0044	<0.003	0.0037
Semi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	0.00024	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00021	<0.00011	<2.1E-05	0.000099J	6.1E-05 J	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	0.00016J	0.00125	<0.00031	<0.0006	<0.00031	0.0028	<0.00038	<0.00004	<0.00032
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00025	<0.00013	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00015	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00015	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.00025	0.0017	0.00079J	0.00015J	0.0012	<0.00005	<0.00005J	0.00084	0.00114J	0.00142	0.000845	0.000093J	0.00037	<1.9E-05	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.0016	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00108	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.00022	0.001	0.00012J	0.00015J	0.00067	0.0012	0.00017J	0.000608	0.00279	<0.00015	0.0007	0.0012	0.001	0.00035	0.00078
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	0.00014J	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00012	<0.00006	0.000069J	<1.5E-05	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	0.0001J	<0.00007	<0.00007	0.00015J	<0.00005	<0.00005	0.000115J	0.000269J	<9.6E-05	<0.00005	0.000057J	0.000065J	<1.4E-05	5.7E-05 J
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	0.000111J	<0.00015	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00015	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00025	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	8270	6.00E-03	6.00E-03	<0.0002	0.0028	0.00036	0.00026	0.00039	0.00022	0.00014J	<0.00037	0.0012J	<0.00071	0.000646	0.00019J	0.0001J	<0.00016	9.6E-05 J
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	0.000072J	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00015	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.00017J	0.00051	<0.00008	0.00013J	0.0006	0.00014J	0.00011J	0.000367J	0.000631	0.00116	0.000554	0.00045	0.00081	<3.2E-05	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00015J	<0.00011	0.000164J	<0.00021	<0.00011	<0.00002	<0.00002	<3.1E-05	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00015J	0.00024	0.0021	0.0026	0.0016	<0.00005	0.0018	0.00257	0.000309J	0.00223	0.00169	0.000081J	0.00064	0.00023	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	0.00032	0.00028	0.00032	0.00066	<0.00005	0.00033	0.000605	<0.00007	0.000296J	0.000485	0.000099J	0.00037	<0.00009	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.0077	0.09	0.0015	0.0061	0.014	0.00077	0.00048	0.0264J	0.00196J	0.0383	0.0198	0.0022	0.013	<0.00061	<0.00036
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00021	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.00019	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	0.00028	<0.00005	<0.00005	<0.00061	<0.00061	<0.00117	<0.00061	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	0.00016J	<0.00007	<0.00007	0.00053	<0.00005	<0.00005	0.000166J	0.000201J	0.00006J	<0.00006	<2.1E-05	0.000051J	<2.1E-05	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.00024	0.00023J	0.024	0.000724J	0.00033J	0.00071	0.00072	<3.5E-05	<0.00013
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	0.0002	0.0012	0.0016	0.0014	<0.00005	0.0014	0.00207	0.000233J	0.00191	0.00178	0.000053J	0.00076	0.00037	<1.9E-05

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-3
Summary of Groundwater Sampling Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential Assessment Level	C/I Assessment Level	MW-21C															
			mg/L	mg/L	2/4/2009	1/21/2010	6/22/2010	1/19/2011	7/27/2011	2/2/2012	7/26/2012	2/5/2013	8/1/2013	1/16/2014	07/25/2014	1/24/2018	3/20/2018	5/17/2018	1/9/2019	
Volatile Organic Compounds																				
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	0.000144J	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03								<0.00011								
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	
Semi-Volatile Organic Compounds																				
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.9E-05	<5.8E-05	<5.9E-05	<5.8E-05	
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.2E-05	0.023 J	<4.2E-05	
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.000067J	<0.00005	0.000271J	<0.00007	0.00007J	<0.00007	<1.9E-05	<1.9E-05	0.00012J	<1.9E-05	
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05		
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<0.00009	0.00041	<0.00009	0.00034	<0.00005	<0.00005	<0.00005	0.000237J	<0.00008	0.00008J	<0.00008	<2.7E-05	<2.7E-05	0.00013	<2.7E-05	
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	5.27E-05J	<0.00005	0.000243J	<0.00005	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05	
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	0.000129J	<0.00008	<5.1E-05	<0.00005	<5.1E-05	<0.00005	
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	0.00013J	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	
bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	8270	6.00E-03	6.00E-03	<0.0002	0.00072	0.00023	0.00062	0.00062	0.0001J	<0.0001	<0.00037	<0.00037	<0.00037	<0.00037	0.000058J	<3.7E-05	4.8E-05 J	<3.7E-05	
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	8.12E-05J	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	0.000109J	<0.00008	0.00008J	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.000072J	<0.00011	<0.00011	<0.00011	0.000184J	<0.00002	<0.00002	<0.00002	<0.00002	
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	0.000528	<0.00007	<0.00001	<0.00001	<0.00001	<0.00001	
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	0.000291J	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003	
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00039	<0.0001	<0.0001	<0.0001	<0.00005	0.00093	<0.00005	0.000429J	0.0021J	0.000523J	<0.00008	<0.00002	<0.00002	0.0014 J	<0.00002	
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<0.00008	<7.9E-05	<0.00008	<7.9E-05	
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	0.000184J	7.75E-05J	0.00128	0.000087J	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05	
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	0.000355J	<0.00011	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-3
Summary of Groundwater Sampling Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential	C/I	MW-23C*										
			Assessment Level	Assessment Level	2/4/2009	1/18/2010	6/23/2010	1/19/2011	7/22/2011	2/2/2012	7/12/2012	2/11/2013	7/31/2013	1/15/2014	08/28/2014
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds															
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.005	<0.005	<0.001	<0.01	<0.0005	<0.00014	<0.0014	<0.0002	<0.0014
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.017	0.012	0.0095J	0.0072J	<0.001	<0.01	0.0071	0.0111	0.0138	0.0126	0.00596J
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	0.001J		<0.005	<0.005	<0.001	<0.01	<0.0005	0.000279J	0.00146J	<0.00018	<0.0012
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.13	0.074	0.12	0.13	0.1	0.1	0.17	0.151	0.185	0.165	0.15
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	0.0092J	<0.005	<0.0013	<0.013	<0.001	<0.00015	<0.0015	<0.00022	<0.0015
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.0023J	0.0012J	<0.005	<0.005	<0.001	<0.01	0.0025J	0.00433	0.00819J	0.00728	0.00378J
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03			<0.005	<0.001	<0.01	<0.01	<0.0005	<0.00011	<0.0011	<0.00018	<0.0011
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.073	0.044	0.069J	0.059J	0.048J	0.039J	0.11	0.0884	0.0988	0.0959	0.0915
Semi-Volatile Organic Compounds															
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.005	<0.0001	<0.00005	<0.0005	<0.001	<0.00011	<0.00534	<0.0259	<0.022
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.004	<0.00008	0.0035	0.0014J	0.028	<0.00031	<0.015	<0.0731	0.202
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.0045	<0.00009	<0.00005	<0.0005	<0.001	<0.00013	<0.00631	<0.0307	<0.026
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.0035	<0.00007	<0.00006	<0.0006	<0.0012	<0.00008	<0.00388	<0.0189	<0.016
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.005	<0.0001	<0.00005	<0.0005	<0.001	<0.00008	<0.00388	<0.0189	<0.016
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	2.6	0.75	2.7	1.2	1.3	0.65	28	1.38	1.16	4.52	18.3
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.004	<0.00008	<0.00008	<0.0008	<0.0016	<0.00083	<0.0403	<0.196	<0.166
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.0035	<0.00007	<0.00005	<0.0005	<0.001	<0.00056	<0.0272	<0.132	<0.112
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	3.4	1.2	3.4	1.6	2	0.89	39	1.78	1.58	7.79	25.9
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.017	0.01	0.03	0.012	0.015	0.0068	0.45	<0.00006	<0.00291	<0.0142	0.336
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	1.2	0.36	1.2	0.4	1.7	0.25	16	0.641	0.31	1.49	8.74
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	0.31	0.12	0.3	0.12	0.15	0.046	4.8	0.104	0.0905	0.5	2.63
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	0.072	0.029	0.093	0.04	0.044	0.016	1.2	0.0283	0.0235J	0.119	0.73
bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.0035	<0.00009	<0.00005	<0.0005	<0.001	<0.00013	<0.00631	<0.0307	<0.026
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	8270	6.00E-03	6.00E-03	0.002	0.0011	<0.0035	0.0014	0.0019	<0.001	0.042	<0.00037	<0.018	<0.0873	<0.074
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	0.28	0.093	0.27	0.099	0.21	0.044	4.3	0.103	0.0819	0.476	2.24
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	3.5	1.2	3.6	1.6	2.7	0.85	46	1.82	1.48	5.45	25.7
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.004	<0.00007	<0.00005	<0.0005	<0.001	<0.00011	<0.00534	<0.0259	<0.022
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	3	0.77	3	0.99	1.8	0.48	34	1.09	0.812	4.42	20.4
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	2.5	0.82	2.6	0.88	2	0.57	32	1.19	0.874	3.78	20.5
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	9.9	3.9	8.9	8.5	7.5	7.8	83	12.2	13.2	43.8	57.9
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.01	<0.00009	<0.00005	<0.0005	<0.001	<0.00011	<0.00534	<0.0259	<0.022
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.0045	<0.00009	<0.00005	<0.0005	<0.001	<0.0001	<0.00485	<0.0236	<0.02
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.0035	<0.00008	<0.00005	<0.0005	<0.001	<0.00061	<0.0296	<0.144	<0.122
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	8.8	2.7	8.2	3.6	3.8	1.9	130	3.48	2.8	18.2	59.4
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.0035	<0.00007	<0.00005	0.0011J	<0.001	<0.00004	<0.00194	<0.00943	<0.008
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	1.6	0.59	1.9	0.6	1.1	0.35	21	0.754	0.515	3.04	13.3

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-3
Summary of Groundwater Sampling Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential Assessment Level mg/L	C/I Assessment Level mg/L	MW-24C								
					2/3/2009	1/14/2010	6/29/2010	1/25/2011	7/21/2011	2/9/2012	7/25/2012	2/12/2013	8/8/2013
Volatile Organic Compounds													
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	0.000218J	<0.00015
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00011	<0.00011
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026
Semi-Volatile Organic Compounds													
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.000077J	<0.00007	<0.00007
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<0.00009	<0.00009	0.00022	<0.00009	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008
bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	8270	6.00E-03	6.00E-03	0.00055	<0.0002	0.001	<0.0002	0.00013J	0.0013	0.00013J	<0.00037	<0.00037
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00013J	0.00026	<0.0001	<0.0001	0.0002	<0.00005	0.00019J	<0.00008	<0.00008
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-3
Summary of Groundwater Sampling Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential Assessment Level	C/I Assessment Level	MW-27C															
			mg/L	mg/L	2/3/2009	1/14/2010	6/30/2010	1/27/2011	7/20/2011	2/9/2012	7/25/2012	2/12/2013	8/8/2013	1/24/2014	07/25/2014	1/31/2018	3/26/2018	6/1/2018	1/22/2019	
Volatile Organic Compounds																				
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011	<0.00011	
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	
Semi-Volatile Organic Compounds																				
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.9E-05	<5.8E-05	<5.8E-05	
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	0.00052	<4.2E-05	0.00057	<4.2E-05	
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	0.000777	<0.00007	<0.00007	0.00041	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	0.00031J	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.00026	0.00015J	0.00028	0.00019J	0.00011J	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	0.0012	<2.7E-05	<2.7E-05	<2.7E-05	
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.000431J	<0.00005	0.000065J	<1.4E-05	<1.4E-05	<1.4E-05	
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<5.1E-05	<0.00005	<0.00005	
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	
bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	8270	6.00E-03	6.00E-03	0.00038	0.0016	0.0015	0.00047	0.00095	0.00014J	0.00021	0.000652	<0.00037	<0.00037	<0.00037	0.000073J	0.000057J	0.00042	<3.7E-05	
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	5.4E-05 J	<2.1E-05	
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	0.00038	<0.00002	<0.00002	<0.00002	
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.000055J	<0.00011	0.000143J	0.00011J	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002	
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	0.00015J	<0.00007	<0.00007	0.00011J	<0.00005	<0.00005	<0.00007	0.000114J	8.81E-05J	<0.00007	0.000085J	<0.00001	<0.00001	<0.00001	
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	0.00025	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	0.00085	<0.00003	<0.00003	<0.00003	
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00037	0.00013J	0.00024	0.00015J	<0.00005	<0.00005	0.00019J	<0.00008	0.000353J	0.00008J	<0.00008	<0.00043	<0.00002	<0.00002	<0.00002	
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<0.00008	<7.9E-05	<7.9E-05	
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	0.00014J	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	9.08E-05J	0.00006J	<0.00006	0.00027	<2.1E-05	<2.1E-05	<2.1E-05	
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.5E-05	5.3E-05 J	<3.5E-05	
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	0.0001J	<0.00007	<0.00007	0.000064J	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	0.000044J	<1.9E-05	<1.9E-05	<1.9E-05	

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-3
Summary of Groundwater Sampling Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential Assessment Level	C/I Assessment Level	MW-28C														
			mg/L	mg/L	2/3/2009	1/13/2010	6/30/2010	1/25/2011	7/19/2011	2/16/2012	7/17/2012	2/7/2013	8/7/2013	1/22/2014	07/25/2014	1/25/2018	3/21/2018	5/17/2018	1/14/2019
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.0026J	0.0013J	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03											<0.00011				<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
Semi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	0.002	<0.00008	0.000086J	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.9E-05	<5.9E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.000097J	0.00024	0.000077J	0.000079J	<0.00005	<0.00005	0.00011J	<0.00007	<0.00007	7.41E-05J	<0.00007	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<0.00009	0.00018J	0.00033	<0.00009	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.7E-05	<2.7E-05	<2.7E-05	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	0.00014J	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<5.1E-05	<5.1E-05	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	8270	6.00E-03	6.00E-03	0.0033	0.00046	0.0012	0.00063	0.00053	0.00013J	<0.0001	<0.00037	<0.00037	<0.00037	<0.00037	0.000064J	<3.7E-05	<3.7E-05	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00008	0.00018J	<0.00008	<0.00008	0.00019J	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	0.000104J	<0.00011	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	0.00012J	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	0.00016J	0.00033	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00057	0.0014	0.00035	0.00029	0.000091J	0.00031	0.00064	0.000163J	<0.00008	0.00008J	<0.00008	<0.00021	<0.00002	<0.00002	<0.00002
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	0.00034	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<0.00008	<0.00008	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00013J	0.00033	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	7.39E-05J	<0.00006	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	0.00063	0.0027	0.00075	0.0014	0.00054	<0.00005	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	0.00007J	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05

Notes:
1. Sampling locations shown on Figure 1
2. Concentrations > RAL and non-detects are **bold** type.
3. Concentrations > cPCL and non-detects are highlighted.
4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = Compound not detected at the specified detection limit.
* indicates DNAPL is or has been observed in monitoring well

**Table 5B-3
Summary of Groundwater Sampling Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential Assessment Level	C/I Assessment Level	MW-34C	MW-34CR					MW-44C*				
			mg/L	mg/L	2/8/2012	07/29/2014	1/29/2018	3/27/2018	6/5/2018	1/15/2019	7/20/2011	7/18/2012	2/6/2013		
Volatile Organic Compounds															
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.001	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.005	<0.0014		
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.0014J	0.000154J	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	<0.005	0.000964J		
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.001	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.001	<0.005	0.00293J		
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.0039J	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0011	0.32	0.233		
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0013	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.0013	<0.01	<0.0015		
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.0041J	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.001	0.16	0.0895		
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03											
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.0077J	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0031	0.84	0.688		
Semi-Volatile Organic Compounds															
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.00005	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<0.00005	<0.00075	<0.529		
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	0.00022	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	<0.00005	<0.00075	<1.49		
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00005	<0.00013	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<0.00005	<0.00075	<0.625		
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00006	<0.00008	0.0001J	<4.2E-05	<4.2E-05	<4.2E-05	<0.00006	<0.0009	<0.385		
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00005	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<0.00005	<0.00075	<0.385		
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.00011J	0.000255J	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<0.00005	62	1.15J		
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	<0.00008	<0.0012	<3.99		
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00005	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<0.00005	<0.00075	<2.69		
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<0.00005	<0.00008	<2.7E-05	<2.7E-05	<2.7E-05	2.9E-05 J	0.00012J	31	0.632J		
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00005	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	0.000097J	0.29	<0.288		
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00005	<0.00005	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05	0.00014J	19	<0.24		
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00005	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	0.00017J	3.5	<0.385		
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00005	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	0.00022	0.87	<0.385		
bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00005	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	<0.00005	<0.00075	<0.625		
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	8270	6.00E-03	6.00E-03	0.00053	0.000799	<3.7E-05	<3.7E-05	<8.1E-05	<3.7E-05	0.00087	0.013	<1.78		
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00005	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	0.00032	3.3	<0.385		
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.000071J	<0.00008	<0.00002	<0.00002	<0.00002	2.7E-05 J	<0.00005	38	0.453J		
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00005	<0.00011	<0.00002	<0.00002	<0.00002	2.1E-05 J	<0.00005	<0.00075	<0.529		
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.00017J	<0.00007	<0.00001	<0.00001	<0.00001	1.4E-05 J	0.00016J	28	<0.377		
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.00011J	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003	<0.00005	26	<0.377		
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00043	0.00282	<0.00017	<0.00002	<0.00023	<0.00069	0.00016J	230	18J		
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00005	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<0.00005	<0.00075	<0.529		
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00005	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<0.00005	<0.00075	<0.481		
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00005	<0.00061	0.00013J	<7.9E-05	<7.9E-05	<7.9E-05	<0.00005	<0.00075	<2.93		
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.0001J	<0.00006	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	0.000081J	88	0.498J		
Phenol	108-95-2	8270	7.30E+00	2.20E+01	0.000072J	<0.00004	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05	<0.00005	<0.00075	<0.192		
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.00021	<0.00011	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	0.00013J	19	<0.529		

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-3
Summary of Groundwater Sampling Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-47C											
chemical_name	CAS	Method	mg/L	mg/L	2/4/2009	1/20/2010	6/24/2010	1/19/2011	7/21/2011	2/7/2012	7/27/2012	2/7/2013	8/6/2013	1/17/2014	07/30/2014	1/23/2019
Volatile Organic Compounds																
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<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	71-43-2	8260	5.00E-03	5.00E-03	<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	108-90-7	8260	1.00E-01	1.00E-01	<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	100-41-4	8260	7.00E-01	7.00E-01	<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	75-09-2	8260	5.00E-03	5.00E-03	<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	108-88-3	8260	1.00E+00	1.00E+00	<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	75-01-4	8260	2.00E-03	2.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003
Semi-Volatile Organic Compounds																
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	0.00011J	<0.00008	<0.00005	<0.00005	0.00042	<0.00031	<0.00031	<0.00031	<0.00031	9.5E-05 J
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.0044	<0.00005	0.000098J	<0.00007	<0.00007	<0.00007	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.0002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	0.00017J	0.000058J	<0.00008	<0.00008	<0.00008	<0.00008	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.000074J	<0.00005	0.000107J	<0.00005	<0.00005	<0.00005	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	0.000137J	<0.00008	<0.00008	<0.00008	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	0.000099J	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	0.00031J	<0.00008	<0.00008	<0.00008	<0.00002
bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	8270	6.00E-03	6.00E-03	0.0036	0.00065	0.00021	<0.0002	0.0001J	0.011	<0.0001	0.000594	<0.00037	<0.00037	<0.00037	<5.6E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	0.000127J	<0.00008	<0.00008	<0.00008	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	0.000104J	<0.00008	<0.00008	<0.00008	3.4E-05 J
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00015J	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	0.000289J	0.000186J	7.18E-05J	<0.00007	2.8E-05 J
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00025	<0.00005	0.000116J	<0.00007	<0.00007	<0.00007	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00019J	<0.0001	0.00046	0.00021	<0.00005	0.0041	0.00046	0.0004J	<0.00008	0.000297J	<0.00008	0.00083
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	0.0004	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.0003	<0.00005	0.000406J	<0.00006	0.000185J	<0.00006	5.2E-05 J
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00044	0.00056	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00015J	<0.00005	0.000388J	0.000131J	<0.00011	<0.00011	2.1E-05 J

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-3
Summary of Groundwater Sampling Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-48C																
chemical_name	CAS	Method			mg/L	mg/L	2/4/2009	1/21/2010	6/24/2010	7/15/2010	1/19/2011	7/18/2011	2/6/2012	7/24/2012	1/31/2013	8/1/2013	1/16/2014	07/16/2014	1/28/2018	3/20/2018	5/24/2018
Volatile Organic Compounds																					
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<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	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<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	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<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	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<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	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<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	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<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	75-01-4	8260	2.00E-03	2.00E-03											<0.00018						
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semi-Volatile Organic Compounds																					
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0005	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	0.0073	<0.00008	<0.00008	<0.00005	<0.00005	0.00014J	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	0.001
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.0004	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00045	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.00035	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	<0.00007	0.18	<0.00007	<0.00007	<0.00005	<0.00005	0.0013	<0.00007	<0.00007	<0.00007	<0.00007	<1.9E-05	<1.9E-05	<1.9E-05	0.00038	0.00038
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.0005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.0004	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<0.00009	<0.00009	0.073	<0.00009	<0.00009	<0.00005	<0.00005	0.0011	<0.00008	<0.00008	<0.00008	<0.00008	<2.7E-05	<2.7E-05	<2.7E-05	9.8E-05 J	9.8E-05 J
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	0.0014	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.00012J	<0.00007	0.007	<0.00007	<0.00007	<0.00005	<0.00005	0.00077	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.000025J	<1.4E-05	<1.4E-05	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00035	<0.00007	<0.00007	<0.00005	<0.00005	0.000066J	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	0.000057J	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00035	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00035	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	8270	6.00E-03	6.00E-03	0.00034	0.0018	<0.00035	0.0013	0.001	0.00043	<0.0001	0.00024	<0.00037	<0.00037	<0.00037	<0.00037	0.000079J	0.00011J	<5.4E-05	<3.7E-05	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.0004	<0.00007	<0.00007	<0.00005	<0.00005	0.000073J	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	0.000044J	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.00025	<0.00008	0.065	<0.00008	<0.00008	<0.00005	<0.00005	0.00096	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00045	<0.00007	<0.00007	<0.00005	<0.00005	0.000053J	<0.00011	<0.00011	<0.00011	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	0.00013J	0.0021	0.00019J	0.00019J	0.00013J	<0.00005	0.00095	<0.00007	0.000134J	0.000153J	<0.00007	0.000049J	0.000099J	<0.00001	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	0.032	<0.00007	<0.00007	<0.00005	<0.00005	0.0011	<0.00007	<0.00007	<0.00007	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00052	0.0002J	5	<0.0001	<0.0001	<0.00005	<0.00005	0.0071	0.000495J	0.000158J	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	0.0085
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00035	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.001	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	0.019	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00032	<0.00007	0.03	<0.00007	<0.00007	<0.00005	<0.00005	0.0034	<0.00006	<0.00006	<0.00006	<0.00006	<2.2E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	0.024	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05	0.002
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	0.0001J	0.001	0.00015J	0.00012J	0.0001J	<0.00005	0.00052	<0.00011	<0.00011	<0.00011	<0.00011	0.000052J	0.000087J	<1.9E-05	<1.9E-05	<1.9E-05

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-3
Summary of Groundwater Sampling Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential Assessment Level	C/I Assessment Level	MW-51C					
			mg/L	mg/L	07/24/2014	1/29/2018	3/28/2018	5/24/2018	1/10/2019	
Volatile Organic Compounds										
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.000104J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.00015	<0.001	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03	<0.00011					
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semi-Volatile Organic Compounds										
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00013	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<0.00008	<2.7E-05	<2.7E-05	<2.7E-05	<2.7E-05	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00005	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	8270	6.00E-03	6.00E-03	0.00111	<3.7E-05	<3.7E-05	<7.3E-05	0.00013 J	
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.000553	<0.0002	<0.00021	0.00029	0.00017	
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00061	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00006	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	0.000628	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00011	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-3
Summary of Groundwater Sampling Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential Assessment Level	C/I Assessment Level	MW-53C															
			mg/L	mg/L	2/3/2009	1/13/2010	6/30/2010	1/26/2011	7/20/2011	2/9/2012	7/18/2012	2/6/2013	8/6/2013	1/22/2014	07/25/2014	1/28/2018	3/21/2018	5/31/2018	1/14/2019	
Volatile Organic Compounds																				
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	0.000644J	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03																
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	
Semi-Volatile Organic Compounds																				
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00052	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00148	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00062	<0.00013	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00038	<0.00008	<4.2E-05	<4.2E-05	0.0016	<4.2E-05	
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00038	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	0.000071J	<0.00007	<0.00007	<0.00005	0.00008J	0.000091J	<0.00007	<0.00007	0.000358J	8.26E-05J	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00395	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<0.00009	0.0002	0.00032	<0.00009	0.00032	0.0002J	<0.00005	<0.00008	<0.00008	0.000856J	<0.00008	<2.7E-05	<2.7E-05	4.4E-05 J	<2.7E-05	
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00029	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00024	<0.00005	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05	
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00038	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005	
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00038	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	
bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00062	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	8270	6.00E-03	6.00E-03	0.00072	0.00024	0.00032	0.00037	0.00014J	<0.0001	<0.0001	<0.00037	<0.00037	<0.00176	<0.00037	0.00012J	<3.7E-05	<0.0001	<3.7E-05	
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00038	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00038	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002	
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00052	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002	
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00033	<0.00007	<0.00001	<0.00001	<0.00001	<0.00001	
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	0.000355J	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003	
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.0012	0.00027	<0.0001	0.00015J	<0.00005	0.00066	0.00048	0.000183J	<0.00008	0.000381J	0.00194	<0.00002	<3.4E-05	0.00023	<0.00025	
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00052	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.00048	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.0029	<0.00061	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	0.000939J	0.000067J	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00004	<0.00004	<0.00019	<0.00004	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05	
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00052	<0.00011	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-3
Summary of Groundwater Sampling Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-54C															
chemical_name	CAS	Method	mg/L	mg/L	2/3/2009	1/21/2010	6/30/2010	1/26/2011	7/20/2011	2/8/2012	7/25/2012	2/12/2013	8/6/2013	1/23/2014	07/25/2014	1/28/2018	3/20/2018	5/31/2018	1/14/2019	
Volatile Organic Compounds																				
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002	
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002	
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	0.000128J	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003	
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	0.0029J	<0.0005	0.0024J	<0.0005	0.0018J	0.0011J	0.0011J	0.000187J	0.00062J	0.000527	0.000282J	<0.0003	<0.0003	<0.0003	<0.0003	
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001	
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002	
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03											<0.00011					
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	0.0027J	<0.001	0.0011J	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	0.00076J	0.00062J	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	
Semi-Volatile Organic Compounds																				
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	0.000098J	<0.00005	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004	<0.00004	
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.13	<0.00007	0.0096	0.0025	0.022	0.065	0.0054J	0.00392	0.0173	0.00834	0.00048	0.00075	0.0059	0.0059	0.0014	
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.067	0.00016J	0.024	0.023	0.039	0.035	0.022	0.0219	0.0749	0.062	0.0367	0.023	0.03	0.04	0.014	
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	0.00072	<0.00007	0.00042	<0.00007	0.00045	0.00051	0.00039	<0.00006	<0.00006	0.00105	0.000526	0.00034	0.00036	0.00054	<0.0002	
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.003	<0.00007	0.005	0.0027	0.029	0.024	0.019	0.00183	0.00389	0.00445	0.00261	0.0015	0.0027	0.0041	0.0013	
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	9.93E-05J	<0.00008	<0.00005	<0.00005	6.5E-05 J	<0.00005	
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	3.9E-05 J	
bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003	5.6E-05 J	
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	8270	6.00E-03	6.00E-03	0.00072	0.00077	0.00037	0.0016	0.00015J	<0.0001	0.00017J	<0.00037	<0.00037	<0.00037	0.000055J	<3.7E-05	<0.00011	9.6E-05 J	3.8E-05 J	
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	7.58E-05J	<0.00008	<2.1E-05	0.000059J	5.3E-05 J	3.8E-05 J	
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.064	<0.00008	0.028	0.018	0.046	0.047	0.029	0.0223	0.0878	0.0695	0.0471	0.025	0.029	0.045	0.015	
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	0.000064J	<0.00011	<0.00011	0.00011J	<0.00011	<0.00002	<0.00002	2.9E-05 J	<0.00002	
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.0032	<0.00007	0.0032	0.00016J	0.0034	0.0026	0.002	0.00246	0.00474	0.00575	0.00302	0.0023	0.004	0.0049	0.002	
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.03	<0.00007	0.015	0.001	0.022	0.021	0.011	0.0092	0.0409	0.0321	0.0208	0.011	0.014	0.022	0.0085	
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	1.1	<0.0001	0.21	0.0055	0.47	0.35	0.15	0.0681	0.383J	0.315J	0.18	0.022	0.029	0.068	0.019	
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	0.00014J	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.042	<0.00007	0.024	0.011	0.04	0.034	0.019	0.0128	0.04	0.042	0.0148	0.0023	0.0041	0.023	0.0052	
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00011J	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05	
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.0018	<0.00007	0.0016	<0.00007	0.0017	0.0015	0.0013	0.00138	0.00248	0.00373	0.00169	0.0012	0.0018	0.0028	0.001	

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-3
Summary of Groundwater Sampling Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

			Residential Assessment Level	C/I Assessment Level	MW-68C												
chemical_name	CAS	Method	mg/L	mg/L	7/15/2010	1/25/2011	7/21/2011	2/16/2012	7/17/2012	2/6/2013	8/7/2013	1/22/2014	07/24/2014	1/29/2018	3/21/2018	6/6/2018	1/15/2019
Volatile Organic Compounds																	
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	0.00081J	0.0021J	0.0032J	0.0069	0.0079	0.00134	0.00364	0.00225	0.0073	0.0028	0.0049	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.001	<0.001	<0.0005	0.00012J	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	0.000363J	0.000517J	0.00024J	0.000419J	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	0.00067J	0.0011J	0.0019J	0.0023J	0.000632J	0.0016	0.00059	0.00138	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	75-01-4	8260	2.00E-03	2.00E-03													<0.00011
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.0031	<0.0031	<0.0015	0.000873J	0.000879J	<0.00058	0.000649J	<0.0003	0.00046J	<0.0003	0.0011
Semi-Volatile Organic Compounds																	
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	0.00012J	0.00031	0.00095	0.0014	<0.00031	<0.00031	0.000454J	<0.00031	<0.00004	0.0015	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<0.00007	0.00016J	0.00024	0.00011J	0.0025	0.00132	0.000301J	0.00331	0.000188J	<1.9E-05	0.00014	<1.9E-05	<7.7E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<0.00009	<0.00009	0.00013J	<0.00005	0.0013	0.000647	<0.00008	0.00183	0.000235J	<2.7E-05	0.00017	<2.7E-05	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00005	<0.00005	0.00089	<0.00005	<0.00005	0.00106	<0.00005	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00005	<0.00005	0.00018J	<0.00008	<0.00008	0.000276J	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	0.000171J	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate (DEHP)	117-81-7	8270	6.00E-03	6.00E-03	0.00098	0.006	0.001	0.0015	0.0018	0.000637	0.00157J	<0.00037	<0.00037	0.00015J	<3.7E-05	<0.00056	<4.4E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00005	<0.00005	0.00016J	<0.00008	<0.00008	0.000301J	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00008	<0.00008	0.0002J	0.000078J	0.0018	0.000168J	<0.00008	0.00192	9.42E-05J	<0.00002	<0.00002	<0.00002	6.6E-05 J
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00007	<0.00007	<0.00005	<0.00005	0.00011J	<0.00011	0.000104J	<0.00011	<0.00011	<0.00002	<0.00002	<0.0001	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00005	<0.00005	0.0016	<0.00007	<0.00007	0.00233	<0.00007	<0.00001	<0.00001	0.00021	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	0.0001J	<0.00005	0.0012	0.00034J	0.000135J	0.00167	0.000155J	<0.00003	0.00012	<0.00003	5.7E-05 J
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00083	0.0014	0.0027	0.0015	0.015	0.0129	0.00643	0.0112	0.00274	0.00088	0.0032	0.00035	<0.00079
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	0.00016J	<0.00005	0.005	0.000499	<0.00006	0.00585	<0.00006	<2.1E-05	0.0001	<2.1E-05	6.2E-05 J
Phenol	108-95-2	8270	7.30E+00	2.20E+01	0.0005	0.0039	0.0049	0.0074	0.000062J	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	<0.00005	<0.00005	0.00086	<0.00011	<0.00011	0.0014	<0.00011	<1.9E-05	<1.9E-05	0.00015	<1.9E-05

Notes:

1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-3
Summary of Groundwater Sampling Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential	C/I	MW-76C					MW-83C				MW-85C			
			Assessment	Assessment	07/24/2014	1/30/2018	3/28/2018	5/25/2018	1/23/2019	2/8/2018	3/22/2018	6/7/2018	1/15/2019	2/1/2018	3/28/2018	5/24/2018	2/1/2019
			Level	Level	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Volatile Organic Compounds																	
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.00014	<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	71-43-2	8260	5.00E-03	5.00E-03	0.000149J	<0.0002	<0.0002	0.00021 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0.013	0.0026
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.00012	<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	100-41-4	8260	7.00E-01	7.00E-01	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003	0.000066J	0.00005J	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	<0.00015	<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	108-88-3	8260	1.00E+00	1.00E+00	0.000156J	<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	75-01-4	8260	2.00E-03	2.00E-03	<0.00011												
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003	0.0014	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003
Semi-Volatile Organic Compounds																	
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	8.7E-05 J	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00031	0.0018	<0.0004	<0.0004	0.0041	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00013	<5.8E-05	<5.8E-05	<5.9E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.000392J	0.0001	0.0012	3.2E-05 J	0.00031	0.0015	0.0015	8.9E-05 J	<1.9E-05	0.0001J	0.000049J	6.7E-05 J	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00083	<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	100-02-7	8270	4.90E-02	1.50E-01	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	0.0003J	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.000696	0.00015	0.00023	7.1E-05 J	0.00011	0.00083	0.001	0.00017	<2.7E-05	0.00013	<2.7E-05	<2.7E-05	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	0.0002	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.000234J	0.00006J	0.000055J	4.8E-05 J	4.1E-05 J	0.000034J	0.000068J	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00008	<0.00005	<0.00005	<5.1E-05	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00002	<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	111-91-1	8270	8.30E-04	1.90E-03	<0.00013	<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)	117-81-7	8270	6.00E-03	6.00E-03	0.000803	<0.00024	0.00015J	<9.6E-05	<9.1E-05	0.00019J	<3.7E-05	<0.00012	<6.4E-05	0.000091J	0.0002	<0.00013	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.000507	0.00012	0.00012	5.6E-05 J	0.00011	0.00061	0.00044	4.6E-05 J	<0.00002	0.000087J	<0.00002	3.6E-05 J	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	<0.00011	<0.00002	<0.00002	0.00004 J	2.7E-05 J	<0.00002	<0.00002	<9.2E-05	0.00006 J	0.00023	<0.00002	<0.00003	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.000322J	0.00019	0.00018	0.00007 J	<0.00001	0.000044J	<0.00001	1.8E-05 J	<0.00001	0.000015J	<0.00001	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.000778	0.00016	0.00014	7.6E-05 J	7.6E-05 J	0.00035	0.00034	6.7E-05 J	<0.00003	0.00011	<0.00003	3.4E-05 J	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00176	<0.0028	0.0019	0.00036	0.007	0.012	0.016	0.00039	<0.00036	0.00069	0.0017	0.0026	<0.00002
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	0.00272	<7.9E-05	<7.9E-05	<0.00008	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	0.00015 J	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00183	0.00051	0.00044	0.00023	8.6E-05 J	0.00044	0.00053	3.8E-05 J	<2.1E-05	0.0001	<2.1E-05	0.0001	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	0.00284	0.0032	<3.5E-05	<3.5E-05	0.0012	<3.5E-05	<3.5E-05	<3.5E-05	3.8E-05 J	0.00011J	<3.5E-05	<3.5E-05	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	0.000194J	0.00016	0.00012	4.8E-05 J	<1.9E-05	0.000027J	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

**Table 5B-3
Summary of Groundwater Sampling Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

chemical_name	CAS	Method	Residential Assessment Level	C/I Assessment Level	MW-86C				MW-87C				MW-88C				
			mg/L	mg/L	2/1/2018	3/28/2018	5/25/2018	1/11/2019	2/8/2018	3/27/2018	6/7/2018	1/22/2019	2/1/2018	3/19/2018	3/20/2018	5/24/2018	1/8/2019
Volatile Organic Compounds																	
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<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	71-43-2	8260	5.00E-03	5.00E-03	<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	108-90-7	8260	1.00E-01	1.00E-01	<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	100-41-4	8260	7.00E-01	7.00E-01	<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	75-09-2	8260	5.00E-03	5.00E-03	<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	108-88-3	8260	1.00E+00	1.00E+00	<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	75-01-4	8260	2.00E-03	2.00E-03	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	<0.0003	
Semi-Volatile Organic Compounds																	
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	0.0028	0.00041 J	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<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	121-14-2	8270	1.30E-03	3.00E-03	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05	
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05	
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	0.00043	0.00014	<1.9E-05	<1.9E-05	0.000052J	0.000052J	<1.9E-05	<1.9E-05	
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<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	100-02-7	8270	4.90E-02	1.50E-01	0.0003J	<4.7E-05	<4.7E-05	<4.7E-05	0.00033J	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	<2.7E-05	<2.7E-05	<2.7E-05	<2.7E-05	0.00042	0.00011	<2.7E-05	<2.7E-05	0.000053J	<2.7E-05	<2.7E-05	<2.7E-05	
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05	
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05	0.000081J	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05	
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00002	<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	111-91-1	8270	8.30E-04	1.90E-03	<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)	117-81-7	8270	6.00E-03	6.00E-03	<3.7E-05	<3.7E-05	<5.2E-05	<5.7E-05	0.0003	<3.7E-05	<0.00012	<3.7E-05	0.000052J	<3.7E-05	<3.7E-05	<0.00017	
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05	
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	<0.00002	<0.00002	<0.00002	<0.00002	0.00032	0.000063J	<0.00002	<0.00002	0.000023J	0.000056J	0.000056J	<0.00002	
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	0.000051J	<0.00002	<0.00002	7.2E-05 J	<0.00002	<0.00002	<0.00002	<0.00002	<0.00002	0.000025J	0.000025J	<0.00002	
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	<0.00001	
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	<0.00003	<0.00003	<0.00003	<0.00003	0.00027	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	<0.00003	
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.000054J	<0.00002	<7.9E-05	7.9E-05 J	0.0014	0.00038	<0.00002	<0.00002	0.00011	0.00055	0.00011	<5.9E-05	
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05	
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05	
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05	<0.00008	
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	<2.1E-05	<2.1E-05	3.2E-05 J	<2.1E-05	0.00048	0.00015	<2.1E-05	<2.1E-05	0.00003J	<2.1E-05	<2.1E-05	3.5E-05 J	
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05	<0.00011	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05	<3.5E-05	
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05	

- Notes:
1. Sampling locations shown on Figure 1
 2. Concentrations > RAL and non-detects are **bold** type.
 3. Concentrations > cPCL and non-detects are highlighted.
 4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 6. J = Estimated value, < = Compound not detected at the specified detection limit.
- * indicates DNAPL is or has been observed in monitoring well

Table 5B-4
Summary of Groundwater Sampling Results - D-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

			Residential Assessment Level	C/I Assessment Level	MW-59D														
Constituent	CAS	Method	mg/L	mg/L	2/5/2009	1/20/2010	7/1/2010	1/20/2011	7/27/2011	2/14/2012	7/23/2012	2/11/2013	8/5/2013	1/23/2014	08/28/2014	2/7/2018	3/26/2018	6/1/2018	1/24/2019
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	0.000135J	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	0.0011J	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	0.00064J	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	0.000258J	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl Chloride	75-01-4	8260	2.00E-03	2.00E-03															
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
Semi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.0005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00004
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.8E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.0005	<0.0005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.00015J	<0.0007	<0.0007	0.00046	<0.0005	<0.0005	0.000071J	<0.00007	0.00016J	<0.00007	0.000334J	<1.9E-05	<1.9E-05	8.3E-05 J	<1.9E-05
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.00015J	<0.00009	<0.00009	0.00095	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.7E-05	<2.7E-05	<2.7E-05	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	0.00069	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	0.00005J	<0.00005	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	0.00027	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.006	0.00023	0.00031	0.0015	0.0011	0.00094	0.00014J	<0.00037	0.000805J	0.000425J	0.00306	0.000063J	<3.7E-05	0.00024	<3.7E-05
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	0.00024	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.00014J	<0.00008	<0.00008	0.0011	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	0.00024 J	<0.00002
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	0.0029	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	0.00011J	<0.00011	<0.00002	<0.00002	<0.00002	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	<0.00007	<0.00007	<0.00007	0.0018	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	7.89E-05J	0.00018J	<0.00001	<0.00001	<0.00001	<0.00001
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.00013J	<0.00007	<0.00007	0.00079	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00003	<0.00003	0.00017 J	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.0019	<0.0001	0.00022	0.0034	<0.00005	<0.00005	0.00036	<0.00008	0.00226J	0.00008J	0.00576	<0.00002	<0.00002	0.0002	<0.00002
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<7.9E-05	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.0002	<0.00007	<0.00007	0.0037	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	0.00006J	0.00018J	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	0.00014J	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.5E-05	0.00063 J	<3.5E-05
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	<0.00007	0.0011	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	0.000131J	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05

Notes:

1. Sampling locations shown on Figure 1
2. Concentrations > RAL and non-detects are bold type.
3. Concentrations > cPCL and non-detects are highlighted.
4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = Compound not detected at the specified detection limit.

Table 5B-4
Summary of Groundwater Sampling Results - D-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

			Residential Assessment Level	C/I Assessment Level	MW-65D														
Constituent	CAS	Method	mg/L	mg/L	2/5/2009	1/21/2010	7/1/2010	1/26/2011	7/27/2011	2/14/2012	7/23/2012	2/11/2013	8/5/2013	1/21/2014	08/28/2014	2/7/2018	3/26/2018	6/1/2018	1/24/2019
Volatile Organic Compounds																			
1,2-Dichloroethane	107-06-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00014	<0.00014	<0.0002	<0.00014	<0.0002	<0.0002	<0.0002	<0.0002
Benzene	71-43-2	8260	5.00E-03	5.00E-03	<0.0005	<0.0005	<0.0005	0.0013J	<0.001	<0.001	<0.0005	<0.00008	<0.00008	<0.0002	<0.00008	<0.0002	<0.0002	<0.0002	<0.0002
Chlorobenzene	108-90-7	8260	1.00E-01	1.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00012	<0.00012	<0.00018	<0.00012	<0.0003	<0.0003	<0.0003	<0.0003
Ethylbenzene	100-41-4	8260	7.00E-01	7.00E-01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0011	<0.0011	<0.0005	<0.00011	<0.00011	<0.00019	<0.00011	<0.0003	<0.0003	<0.0003	<0.0003
Methylene chloride	75-09-2	8260	5.00E-03	5.00E-03	0.00095J	<0.0005	<0.0005	<0.0005	<0.0013	<0.0013	<0.001	<0.00015	<0.00015	<0.00022	<0.00015	<0.001	<0.001	<0.001	<0.001
Toluene	108-88-3	8260	1.00E+00	1.00E+00	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl Chloride	75-01-4	8260	2.00E-03	2.00E-03	<0.0005	<0.0005	<0.0005	<0.0005	<0.001	<0.001	<0.0005	<0.00015	<0.00015	<0.00017	<0.00015	<0.0002	<0.0002	<0.0002	<0.0002
Xylenes (total)	1330-20-7	8260	1.00E+01	1.00E+01	<0.001	<0.001	<0.001	<0.001	<0.0031	<0.0031	<0.0015	<0.00026	<0.00026	<0.00058	<0.00026	<0.0003	<0.0003	<0.0003	<0.0003
Semi-Volatile Organic Compounds																			
1,2-Diphenylhydrazine	122-66-7	8270	1.10E-03	2.60E-03	<0.0001	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2,4-Dimethylphenol	105-67-9	8270	4.90E-01	1.50E+00	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00031	<0.00031	<0.00031	<0.00031	<0.00004	<0.00004	<0.00004	<0.00009
2,4-Dinitrotoluene	121-14-2	8270	1.30E-03	3.00E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<5.8E-05	<5.9E-05	<5.8E-05	<5.8E-05
2,6-Dinitrotoluene	606-20-2	8270	1.30E-03	3.00E-03	<0.00007	<0.00007	<0.00007	<0.00007	<0.00006	<0.00006	<0.00006	<0.00008	<0.00008	<0.00008	<0.00008	<4.2E-05	<4.2E-05	<4.2E-05	<4.2E-05
2-Chloronaphthalene	91-58-7	8270	2.00E+00	5.80E+00	<0.00012	<0.0001	<0.0001	<0.0001	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
2-Methylnaphthalene	534-52-1	8270	9.80E-02	2.90E-01	0.00012J	<0.00007	0.00014J	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	8.08E-05J	<0.00007	<0.00007	<1.9E-05	<1.9E-05	8.9E-05 J	0.00016
4,6-Dinitro-2-methylphenol	91-57-6	8270	2.40E-03	7.30E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00008	<0.00083	<0.00083	<0.00083	<0.00083	<0.00002	<0.00002	<0.00002	<0.00002
4-Nitrophenol	100-02-7	8270	4.90E-02	1.50E-01	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00056	<0.00056	<0.00056	<0.00056	<4.7E-05	<4.7E-05	<4.7E-05	<4.7E-05
Acenaphthene	83-32-9	8270	1.50E+00	4.40E+00	0.00019J	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.7E-05	<2.7E-05	<2.7E-05	<2.7E-05
Acenaphthylene	208-96-8	8270	1.50E+00	4.40E+00	<0.00006	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00006	<0.00006	<0.00006	<0.00006	<1.5E-05	<1.5E-05	<1.5E-05	<1.5E-05
Anthracene	120-12-7	8270	7.30E+00	2.20E+01	0.000078J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	5.74E-05J	<0.00005	<1.4E-05	<1.4E-05	<1.4E-05	<1.4E-05
Benzo(a)anthracene	56-55-3	8270	9.10E-03	2.00E-02	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<5.1E-05	<0.00005	<0.00005
Benzo(a)pyrene	50-32-8	8270	2.00E-04	2.00E-04	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	<0.00002	<0.00002
bis(2-Chloroethoxy)methane	111-91-1	8270	8.30E-04	1.90E-03	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00013	<0.00013	<0.00013	<0.00013	<0.00003	<0.00003	<0.00003	<0.00003
bis(2-Ethylhexyl)phthalate	117-81-7	8270	6.00E-03	6.00E-03	0.0019	0.0027	0.001	0.001	0.001	0.0013J	0.0025	0.000593	<0.00037	<0.00037	0.00244	<3.7E-05	<3.7E-05	<0.0002	0.00006 J
Chrysene	218-01-9	8270	9.10E-01	2.00E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<2.1E-05	<2.1E-05	<2.1E-05	<2.1E-05
Dibenzofuran	132-64-9	8270	9.80E-02	2.90E-01	0.00016J	0.00012J	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00008	<0.00008	<0.00008	<0.00008	<0.00002	<0.00002	6.1E-05 J	3.9E-05 J
Di-n-butylphthalate	84-74-2	8270	2.40E+00	7.30E+00	0.00029	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	0.000135J	0.000148J	<0.00011	<0.00011	<0.00002	<0.00002	2.2E-05 J	<0.00002
Fluoranthene	206-44-0	8270	9.80E-01	2.90E+00	0.000097J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	0.000117J	<0.00007	<0.00001	<0.00001	1.3E-05 J	2.7E-05 J
Fluorene	86-73-7	8270	9.80E-01	2.90E+00	0.00016J	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00007	<0.00007	<0.00007	<0.00007	<0.00003	<0.00003	<0.00003	<0.00003
Naphthalene	91-20-3	8270	4.90E-01	1.50E+00	0.00051	0.00026	0.00059	0.00019J	<0.00005	<0.00005	0.000094J	<0.00008	<0.00008	0.000529J	0.00071	<0.00002	<0.00002	0.00029	<0.0026
Nitrobenzene	98-95-3	8270	4.90E-02	1.50E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<2.4E-05	<2.4E-05	<2.4E-05	<2.4E-05
N-Nitrosodiphenylamine	86-30-6	8270	1.90E-01	4.20E-01	<0.00009	<0.00009	<0.00009	<0.00009	<0.00005	<0.00005	<0.00005	<0.0001	<0.0001	<0.0001	<0.0001	<2.5E-05	<2.5E-05	<2.5E-05	<2.5E-05
Pentachlorophenol	87-86-5	8270	1.00E-03	1.00E-03	<0.00008	<0.00008	<0.00008	<0.00008	<0.00005	<0.00005	<0.00005	<0.00061	<0.00061	<0.00061	<0.00061	<7.9E-05	<0.00008	<7.9E-05	<7.9E-05
Phenanthrene	85-01-8	8270	7.30E-01	2.20E+00	0.00014J	<0.00007	<0.00007	<0.00007	0.000065J	<0.00005	<0.00005	<0.00006	0.000093J	0.000294J	<0.00006	<2.1E-05	<2.1E-05	3.5E-05 J	<2.1E-05
Phenol	108-95-2	8270	7.30E+00	2.20E+01	<0.00007	0.0015	<0.00007	<0.00007	0.000051J	<0.00005	<0.00005	<0.00004	<0.00004	<0.00004	<0.00004	<3.5E-05	<3.5E-05	<3.5E-05	<0.00019
Pyrene	129-00-0	8270	7.30E-01	2.20E+00	<0.00007	<0.00007	<0.00007	<0.00007	<0.00005	<0.00005	<0.00005	<0.00011	<0.00011	<0.00011	<0.00011	<1.9E-05	<1.9E-05	<1.9E-05	<1.9E-05

Notes:

1. Sampling locations shown on Figure 1
2. Concentrations > RAL and non-detects are bold type.
3. Concentrations > cPCL and non-detects are highlighted.
4. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
5. RAL = Residential Assessment Level, C/I = Commercial/Industrial
6. J = Estimated value, < = Compound not detected at the specified detection limit.

**Table 5B-5
Summary of Groundwater Arsenic and Lead Results - A-TZ Monitoring Wells
UPRR Houston Wood Preserving Works**

Residential Assessment C/I Assessment Level	Arsenic (mg/L)				Lead (mg/L)			
	0.01				0.015			
	Jan/Feb 2018	March/April 2018	May/June 2018	January 2019	Jan/Feb 2018	March/April 2018	May/June 2018	January 2019
MW-03	0.000895 J	0.00242	0.00363	0.0191	<0.0006	<0.0006	0.000787 J	0.00131 J
MW-04	0.00454	0.00092J	0.00492	0.000963 J	0.0016 J	<0.0006	0.00201	<0.0006
MW-05	0.00588	0.00255	0.00488	0.00387	0.00222	0.00149J	<0.0006	0.00149 J
MW-09	0.00104 J	0.0012J	0.00085 J	0.00202	<0.0006	<0.0006	<0.0006	0.000931 J
MW-12A	0.017	0.00133J	0.00093 J	0.00192 J	<0.0006	0.00092J	0.000655 J	<0.0006
MW-13	0.00303	0.00984	0.014	0.0602	<0.0006	<0.0006	<0.0006	0.00133 J
MW-15A	0.0264	0.0137	0.019	0.027	<0.0006	<0.0006	<0.0006	0.000722 J
MW-17	0.0444	0.0419	0.0415	0.046	<0.0006	<0.0006	<0.0006	<0.0006
MW-18A	0.0043	0.0239	0.0291	0.0031	<0.0006	<0.0006	<0.0006	<0.0006
MW-20A	0.0087	0.00568	0.00895	0.00788	<0.0006	<0.0006	<0.0006	<0.0006
MW-22AR	0.000896 J	0.000716J	0.00293	0.00488	<0.0006	<0.0006	<0.0006	0.00526
MW-25A	0.0171	0.00714	0.00171 J	0.00216	<0.0006	0.0079	<0.0006	<0.0006
MW-26A	0.032	0.0427	0.0491	0.166	<0.0006	0.000908J	<0.0006	<0.0006
MW-27A	0.000978 J	<0.0004	0.00207	NS	<0.0006	0.000601J	<0.0006	NS
MW-28A	0.0076	0.0053	0.0177	0.0116	<0.0006	0.00381	0.00763	<0.0006
MW-32AR	0.00294	0.0228	0.0441	0.0316	<0.0006	<0.0006	<0.0006	0.000644 J
MW-33A	0.0202	0.0201	0.00573	0.01	<0.0006	<0.0006	<0.0006	<0.0006
MW-35A	0.0166	0.0714	0.0189	0.0198	0.000985 J	0.00464	<0.0006	0.000654 J
MW-36A	0.00108 J	0.00753	0.00117 J	0.00107 J	<0.0006	0.0184	0.00204	0.00108 J
MW-38A	<0.0004	0.0138	0.0124	0.0186	<0.0006	<0.0006	<0.0006	<0.0006
MW-44A	0.0275	0.0169	0.0165	0.0101	<0.0006	<0.0006	<0.0006	<0.0006
MW-49A	0.00163 J	0.00233	0.000922 J	0.0012 J	0.000693 J	<0.0006	0.000913 J	0.00778
MW-50A	0.00205	<0.0004	0.00857	0.00134 J	<0.0006	0.00404	<0.0006	<0.0006
MW-51A	<0.0004	<0.0004	<0.0004	<0.0004	0.000748 J	<0.0006	<0.0006	<0.0006
MW-58A	0.000713 J	0.00106J	0.00143 J	0.00232	<0.0006	<0.0006	<0.0006	<0.0006
MW-59A	0.00181 J	0.00131J	0.0101	0.00243	<0.0006	<0.0006	<0.0006	<0.0006
MW-60A	0.000649 J	0.000706J	0.000636 J	0.00453	<0.0006	<0.0006	<0.0006	<0.0006
MW-61A	0.000743 J	0.00116J	0.00172 J	0.00069 J	<0.0006	0.0012J	<0.0006	<0.0006
MW-64A	0.000419 J	0.0117	0.00111 J	<0.0004	<0.0006	<0.0006	0.00377	<0.0006
MW-68A	NS	NS	NS	0.00966	NS	NS	NS	NS
MW-69A	0.00916	0.0017J	0.0142	0.000717 J	0.00293	<0.0006	0.0145	0.000712 J
MW-77A	0.0263	0.0187	0.019	0.00207	<0.0006	<0.0006	<0.0006	<0.0006
MW-79A	0.0184	0.0149	0.0134	0.0133	<0.0006	<0.0006	<0.0006	<0.0006

- Note:
1. Sampling locations shown on Figure 1A
 2. Concentrations > RAL are **bold** type.
 3. Concentrations > cPCL are highlighted.
 4. Non-detected concentrations > RAL or cPCL are **bold** type.
 5. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 6. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 7. J = Estimated value, < = Compound not detected at the specified detection limit.

Table 5B-6
Summary of Groundwater Arsenic and Lead Results - B-CZ/B-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

Level C/I Assessment Level	Arsenic (mg/L)					Lead (mg/L)				
	0.01					0.015				
	Jan/Feb 2018	March/April 2018	May/June 2018	July 2018	January 2019	Jan/Feb 2018	March/April 2018	May/June 2018	July 2018	January 2019
MW-14	<0.0004	<0.0004	<0.0004	NS	0.000752 J	<0.0006	<0.0006	<0.0006	NS	<0.0006
MW-15B	0.00895	0.00329	0.0111	NS	0.00244	<0.0006	<0.0006	<0.0006	NS	<0.0006
MW-22BR	0.0219	0.0159	0.0301	NS	0.0535	<0.0006	<0.0006	<0.0006	NS	<0.0006
MW-33BR	0.00144 J	0.00187J	0.00294	NS	0.00143 J	<0.0006	0.000625J	<0.0006	NS	0.000636 J
MW-35B	0.00465	0.00595	0.0116	NS	0.00862	<0.0006	0.000835J	<0.0006	NS	0.00165 J
MW-36B	0.00116 J	0.000942J	0.000817 J	NS	0.00118 J	<0.0006	<0.0006	<0.0006	NS	<0.0006
MW-38B	0.000636 J	0.000972J	0.0386	NS	<0.0004	<0.0006	0.000962J	<0.0006	NS	<0.0006
MW-39B	0.0108	0.00188J	0.00178 J	NS	0.00365	0.00121 J	<0.0006	<0.0006	NS	<0.0006
MW-40B	0.0679	0.0606	0.0494	NS	0.085	<0.0006	<0.0006	<0.0006	NS	<0.0006
MW-42B	0.00186 J	0.00108J	0.00112 J	NS	0.00216	0.00118 J	<0.0006	<0.0006	NS	0.00412
MW-49B	0.000564 J	0.000746J	0.00146 J	NS	NS	<0.0006	<0.0006	<0.0006	NS	NS
MW-57B	0.0419	0.00179J	0.00285	NS	NS	<0.0006	<0.0006	<0.0006	NS	NS
MW-59B	<0.0004	<0.0004	<0.0004	NS	0.000983 J	0.00135 J	0.0031	<0.0006	NS	0.00108 J
MW-62B	0.00842	0.0173	0.028	NS	<0.0004	<0.0006	<0.0006	<0.0006	NS	<0.0006
MW-63B	0.00114 J	0.00211	0.000818 J	NS	0.00338	<0.0006	<0.0006	<0.0006	NS	<0.0006
MW-67B	0.000751 J	0.000565J	0.000416 J	NS	<0.0004	0.0022	0.000991J	0.000661 J	NS	0.00331
MW-68B	0.0117	0.014	0.0112	NS	0.0125	<0.0006	<0.0006	<0.0006	NS	<0.0006
MW-71B	0.00174 J	0.00214	0.000851 J	NS	0.00158 J	<0.0006	0.00832	0.00428	NS	0.000845 J
MW-72B	0.00127 J	0.000624J	0.000951 J	NS	0.00106 J	<0.0006	<0.0006	<0.0006	NS	<0.0006
MW-74B	0.00162 J	0.00142J	0.00131 J	NS	0.0014 J	<0.0006	<0.0006	<0.0006	NS	<0.0006
MW-80B	0.00286	0.00187J	0.00202	NS	0.0018 J	<0.0006	<0.0006	<0.0006	NS	<0.0006
MW-81B	0.00207	0.00134J	0.00203	NS	0.00116 J	<0.0006	<0.0006	<0.0006	NS	<0.0006
MW-82B	0.00271	0.00175J	0.0103	NS	0.00838	<0.0006	<0.0006	<0.0006	NS	<0.0006
MW-83B	0.0353	0.0185	0.0673	0.0731	0.0916	<0.0006	<0.0006	<0.0006	<0.0006	<0.0006
MW-84B	0.00269	0.00277	<0.0004	<0.0004	0.00219	<0.0006	<0.0006	<0.0006	0.00121 J	<0.0006
MW-89B	NI	NI	NI	0.00138 J	0.000683 J	NI	NI	NI	<0.0006	<0.0006
MW-90B	NI	NI	NI	0.00169 J	0.00346	NI	NI	NI	<0.0006	<0.0006
P-11	0.0374	0.016	0.0622	NS	0.0183	0.00215	0.0015J	<0.0006	NS	0.00192 J
TW-41B	0.0376	0.0953	0.0976	NS	0.125	<0.0006	<0.0006	<0.0006	NS	<0.0006

- Note:
1. Sampling locations shown on Figure 1A
 2. Concentrations > RAL are **bold** type.
 3. Concentrations > cPCL are highlighted.
 4. Non-detected concentrations > RAL or cPCL are **bold** type.
 5. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 6. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 7. J = Estimated value, < = Compound not detected at the specified detection limit.
 8. NI - Not Installed / NS - Not Sampled

Table 5B-7
Summary of Groundwater Arsenic and Lead Results - C-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

Residential Assessment Level C/I Assessment Level	Arsenic (mg/L)				Lead (mg/L)			
	0.01				0.015			
	Jan/Feb 2018	March/April 2018	May/June 2018	January 2019	Jan/Feb 2018	March/April 2018	May/June 2018	January 2019
MW-12C	0.0025	0.00184J	0.0017 J	0.000796 J	<0.0006	<0.0006	<0.0006	<0.0006
MW-15C	0.000738 J	0.000598J	0.000777 J	0.000629 J	<0.0006	<0.0006	<0.0006	<0.0006
MW-17C	0.00112 J	0.00688	0.00479	0.0013 J	<0.0006	<0.0006	<0.0006	<0.0006
MW-18C	0.00467	0.00327	0.00342	0.0257	<0.0006	<0.0006	<0.0006	<0.0006
MW-19C	0.00158 J	0.00107J	0.00294	0.00149 J	<0.0006	<0.0006	<0.0006	<0.0006
MW-21C	0.00128 J	0.00109J	0.00116 J	0.00187 J	<0.0006	<0.0006	<0.0006	<0.0006
MW-25C	0.00283	0.003	0.00305	0.00359	0.0079	0.00585	0.00514	<0.0006
MW-27C	0.00261	<0.0004	0.00212	0.000786 J	0.0159	<0.0006	<0.0006	0.000831 J
MW-28C	0.00206	0.00184J	0.00184 J	0.000447 J	<0.0006	<0.0006	<0.0006	<0.0006
MW-34CR	0.00106 J	0.000801J	0.000689 J	0.00132 J	<0.0006	<0.0006	<0.0006	<0.0006
MW-47C	NS	NS	NS	<0.0004	NS	NS	NS	0.000859 J
MW-48C	0.000831 J	0.000581J	0.000562 J	0.000924 J	0.00259	<0.0006	<0.0006	0.00141 J
MW-51C	0.000614 J	0.0004J	<0.0004	<0.0004	0.000858 J	<0.0006	<0.0006	<0.0006
MW-53C	0.000502 J	0.000443J	0.000694 J	<0.0004	0.000712 J	0.00085J	<0.0006	<0.0006
MW-54C	0.00128 J	0.00133J	0.0012 J	0.00123 J	<0.0006	<0.0006	<0.0006	<0.0006
MW-68C	<0.0004	0.000618J	<0.0004	<0.0004	<0.0006	<0.0006	<0.0006	<0.0006
MW-76C	0.00157 J	0.000631J	0.000527 J	0.000579 J	0.00239	<0.0006	<0.0006	<0.0006
MW-83C	0.000609 J	<0.0004	0.00139 J	0.00616	<0.0006	<0.0006	<0.0006	<0.0006
MW-85C	0.00152 J	0.00287	0.00588	0.00136 J	<0.0006	0.00249	<0.0006	<0.0006
MW-86C	0.00156 J	0.00612	0.00768	0.00405	<0.0006	<0.0006	<0.0006	<0.0006
MW-87C	<0.0004	<0.0004	<0.0004	0.000587 J	<0.0006	<0.0006	<0.0006	0.00124 J
MW-88C	0.000557 J	0.000653J	0.00346	0.000864 J	<0.0006	<0.0006	<0.0006	<0.0006

- Note:
1. Sampling locations shown on Figure 1A
 2. Concentrations > RAL are **bold** type.
 3. Concentrations > cPCL are highlighted.
 4. Non-detected concentrations > RAL or cPCL are **bold** type.
 5. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
 6. RAL = Residential Assessment Level, C/I = Commercial/Industrial
 7. J = Estimated value, < = Compound not detected at the specified detection limit.

Table 5B-8
Summary of Groundwater Arsenic and Lead Results - D-TZ Monitoring Wells
UPRR Houston Wood Preserving Works

	Arsenic (mg/L)				Lead (mg/L)			
	0.01				0.015			
	Residential Assessment Level	C/I Assessment Level			Residential Assessment Level	C/I Assessment Level		
	Jan/Feb 2018	March/April 2018	May/June 2018	January 2019	Jan/Feb 2018	March/April 2018	May/June 2018	January 2019
MW-36D	0.000773 J	0.00137J	<0.0004	0.000417 J	0.00182 J	0.0206	0.00476	0.00091 J
MW-59D	<0.0004	<0.0004	0.00111 J	0.000765 J	<0.0006	0.0018	0.00438	0.000917 J
MW-65D	<0.0004	0.00761	0.00292	0.00202	<0.0006	0.0006	<0.0006	<0.0006
MW-66D	0.000711 J	0.00663	0.00223	0.00204	0.00162 J	0.0006	<0.0006	<0.0006

Note:

1. Sampling locations shown on Figure 1A
2. Concentrations > RAL are **bold** type.
3. Concentrations > cPCL are highlighted.
4. Non-detected concentrations > RAL or cPCL are **bold** type.
5. TRRP PCLs (30 TAC §350, Tables 1, 2, and 3), last updated April 27, 2018.
6. RAL = Residential Assessment Level, C/I = Commercial/Industrial
7. J = Estimated value, < = Compound not detected at the specified detection limit.

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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	13/2019	5.03			43.31	
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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	6/20/1997	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
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	MW-05	49.24	9/2/1993	4.90		
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
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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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	
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	
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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	
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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	7/22/2013	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	
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	
50.65	3/11/2002	9.62			41.03	
50.65	9/23/2002	9.17			41.48	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	3/10/2003	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	
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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	
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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	
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
	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	
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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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	
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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				
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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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	7/12/2010	12.96			37.96
MW-17	50.92	1/8/2010	10.62			40.3
	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
	50.17	3/15/2004	22.75			27.42
	50.17	9/13/2004	24.56			25.61
	50.17	7/18/2005	25.02			25.15

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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	
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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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	
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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	7/12/2011	25.87			25.6
	51.47	1/26/2012	26.82			24.65
	51.47	1/12/2011	24.03			27.44
	51.47	7/9/2012	24.82			26.65
	51.47	1/7/2013	25.61			25.86
	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	
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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	
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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	
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-21C	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	
MW-22A	46.07	11/23/1998	NM			
	46.07	1/29/1999	2.10			43.969
	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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
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
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	8/27/1999	27.29			24.624
	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
	48.89	7/6/2017	23.61	77.27	0.53	25.28
	48.89	9/5/2017	23.67	77.29	0.51	25.22
	48.89	2/7/2018	23.86	77.46	0.34	25.03
	48.89	3/11/2018	23.99	77.41	0.39	24.9
	48.89	5/14/2018	25.02	77.49	0.31	23.87
	48.89	1/3/2019	24.29	77.31	0.49	24.6
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-24B	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
	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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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	
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	
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-25C	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	
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
	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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
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
	45.04	7/27/2007	2.12			42.92
	45.04	1/28/2008	1.88			43.16
	45.04	7/14/2008	4.57			40.47
	45.04	2/3/2009	4.27			40.77
	45.04	7/23/2009	4.36			40.68
	45.04	1/9/2010	3.69			41.35
	45.04	7/12/2010	5.31			39.73
	45.04	1/12/2011	3.76			41.28
	45.04	7/12/2011	6.72			38.32
	45.04	1/26/2012				NM
	45.04	7/10/2012	well covered			NM
	45.04	1/7/2013	well covered			NM
	45.04	7/23/2013	NM			NM
	45.04	8/10/2015	NM			NM
	45.04	2/11/2018	4.21			40.83
45.04	3/12/2018	4.59			40.45	
45.04	5/14/2018	5.06			39.98	
	45.04	1/3/2019	NM		NM	
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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-27C	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	
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
	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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
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	
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
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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	9.71		36.55	
46.26	1/8/2013	9.92	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	20.69		25.77	
46.46	1/8/2013	21.27	21.27		25.19	
46.46	7/23/2013	--	--		--	
	Plugged					
MW-30A	50.45	3/15/2004	9.71			40.74

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-32A	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					
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				
	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	
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	
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-33A	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	
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
	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	
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			

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-34C	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	
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
	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	
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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-35B	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	
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
	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	
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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-36B	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
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	
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
	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	
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-38B	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	
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
	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	
MW-40B	49.59	3/15/2004	5.46			44.13
	49.59	9/13/2004	9.72			39.87

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-40B	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	
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
	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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	1/12/2017	6.39	40.56	4.25	42.98
	49.37	7/6/2017	6.34	40.57	1.73	43.03
	49.37	9/6/2017	6.36	40.62	1.68	43.01
	49.37	2/7/2018	6.97	40.76	1.54	42.40
	49.37	3/11/2018	7.21	40.63	1.67	42.16
	49.37	5/14/2018	8.71	40.82	1.48	40.66
	49.37	7/2/2018	8.97	40.96	1.34	40.4
	49.37	1/3/2019	8.22	40.83	1.47	41.15
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	
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
	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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
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	
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
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	7/10/2012	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	
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	
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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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					45.52
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	
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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	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
	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	
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	
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-50A	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
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
	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	
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
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-52A	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
	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	
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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-54C	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
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
	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	
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-57B	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
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	
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
	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	
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-59B	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	
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	
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
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	5/14/2018	5.19			41.60
	46.79	1/4/2019	4.33			42.46
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	
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	
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
	44.48	7/10/2012	1.32			43.16
44.48	1/8/2013	8.54			35.94	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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	7/23/2013	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	
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	
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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-65D	44.55	1/4/2019	83.03			-38.48
MW-66D	44.55	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
	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
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
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-68B	44.63	5/14/2018	6.46			38.17
	44.63	1/4/2019	5.82			38.81
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
	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	
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	
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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-70B	44.86	1/4/2019	6.96	35.31	0.34	37.9	
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	
	44.59	1/4/2019	1.58			43.01	
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	
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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-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	
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
	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	
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	
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	
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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-79A	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
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
	MW-81B	46.77	7/16/2014	6.47		
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
46.77		7/6/2016	5.16			41.61
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
MW-82B		44.64	2/11/2018	2.53		
	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
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
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
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
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
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
MW-87C	44.26	2/11/2018	15.86			28.40

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston 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-87C	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
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
MW-89B	44.57	7/19/2018	6.78			37.79
	44.57	1/4/2019	8.21			36.36
MW-90B	44.39	7/19/2018	5.63			38.76
	44.39	1/4/2019	7.16			37.23
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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston Wood Preserving Works**

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
P-10	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
	47.69	5/1/2001	6.52			41.2
	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	1/3/2019	6.32			41.39	
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	

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston Wood Preserving Works**

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
P-11	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
	48.98	4/24/1998	7.61			41.41
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston Wood Preserving Works**

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
P-11	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	
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
	48.78	6/22/1994	5.06			43.76
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston Wood Preserving Works**

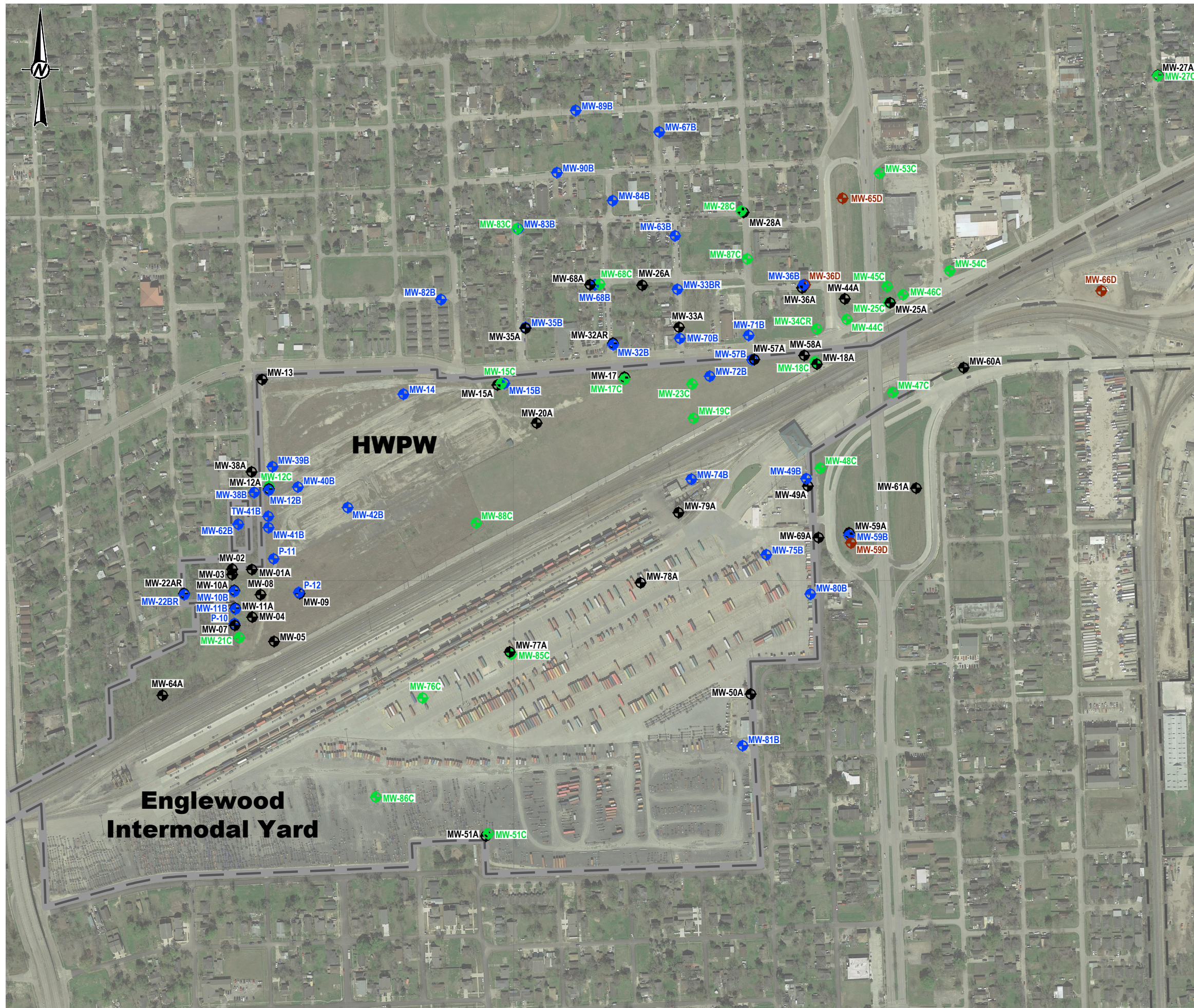
Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
P-12	48.78	8/22/1997	8.22			40.6
	48.78	9/25/1997	6.54			42.28
	48.78	10/22/1997	5.66			43.16
	48.78	11/25/1997	5.70			43.12
	48.78	12/19/1997	5.13			43.69
	48.78	1/20/1998	4.15			44.67
	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
	48.78	3/7/2007	NM			
	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

**Table 5D
GROUNDWATER MEASUREMENTS
UPRR Houston Wood Preserving Works**

Well ID	TOC Elevation (ft)	Date	Depth to Water (ft)	Depth to DNAPL (ft BTOC)	DNAPL Thickness (ft)	GW Elevation (ft)
P-12	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	1/3/2019	6.69			42.07	
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	
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			45.5	

FIGURES

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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.



CLIENT
 UNION PACIFIC RAILROAD CO.

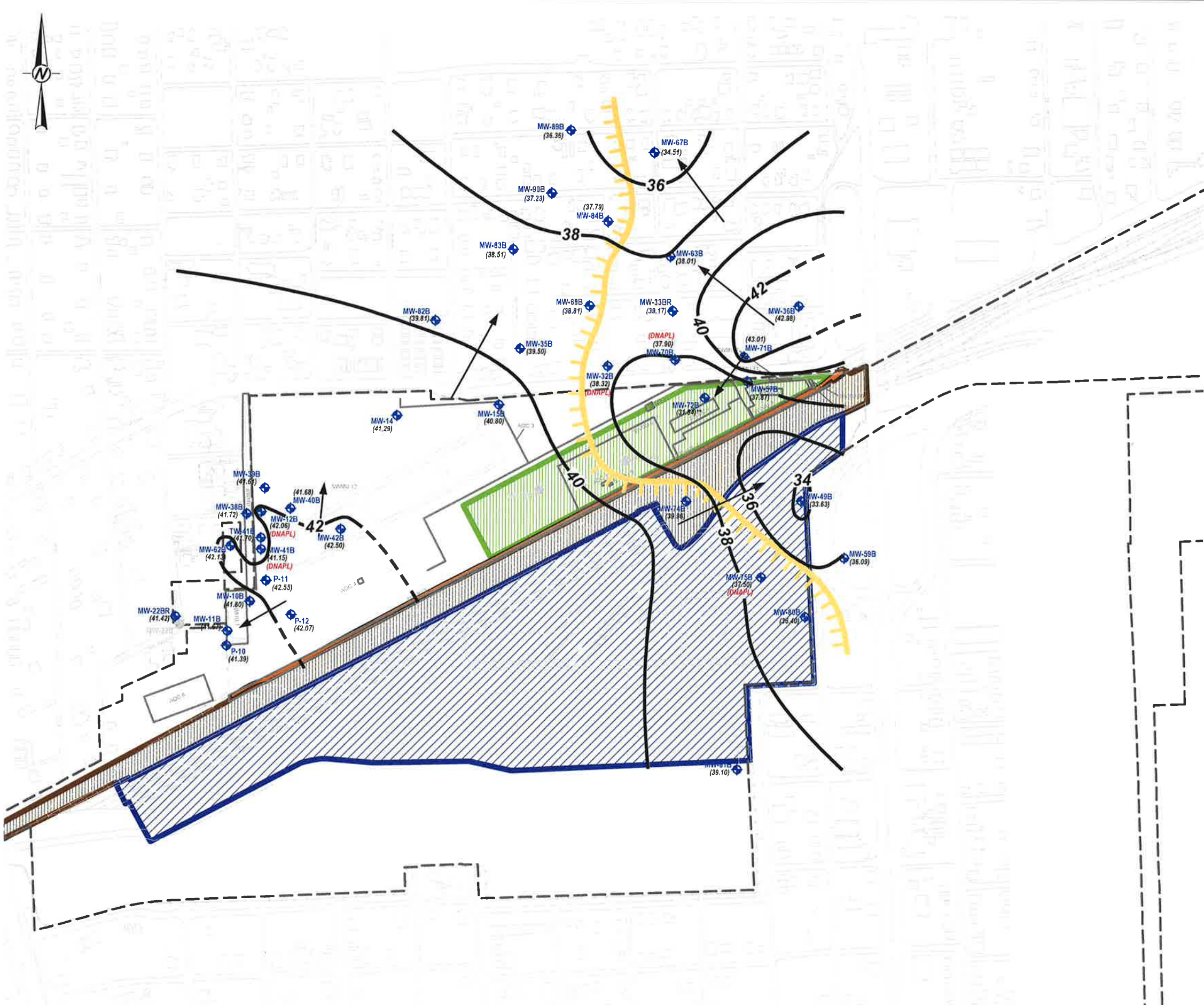
PROJECT
 HOUSTON WOOD PRESERVING WORKS

TITLE
 MONITORING WELL LOCATION MAP

CONSULTANT	DATE	REVISION
	YYYY-MM-DD	2019-07-10
	DESIGNED	AJD
	PREPARED	AJD
	REVIEWED	MH
	APPROVED	ECM

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

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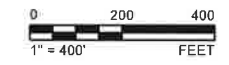
- UPRR PROPERTY BOUNDARY
- HISTORIC STRUCTURE AND FEATURE
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- B-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- B-TZ/B-CZ BOUNDARY
- B-TZ (39.98) GROUNDWATER ELEVATION (FT, HVD) (NM = NOT MEASURED)
- 36 GROUNDWATER ELEVATION CONTOUR (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 2019).
3. ** - NOT USED TO GENERATE CONTOURS.

REFERENCE(S)

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



CLIENT
UNION PACIFIC RAILROAD CO.

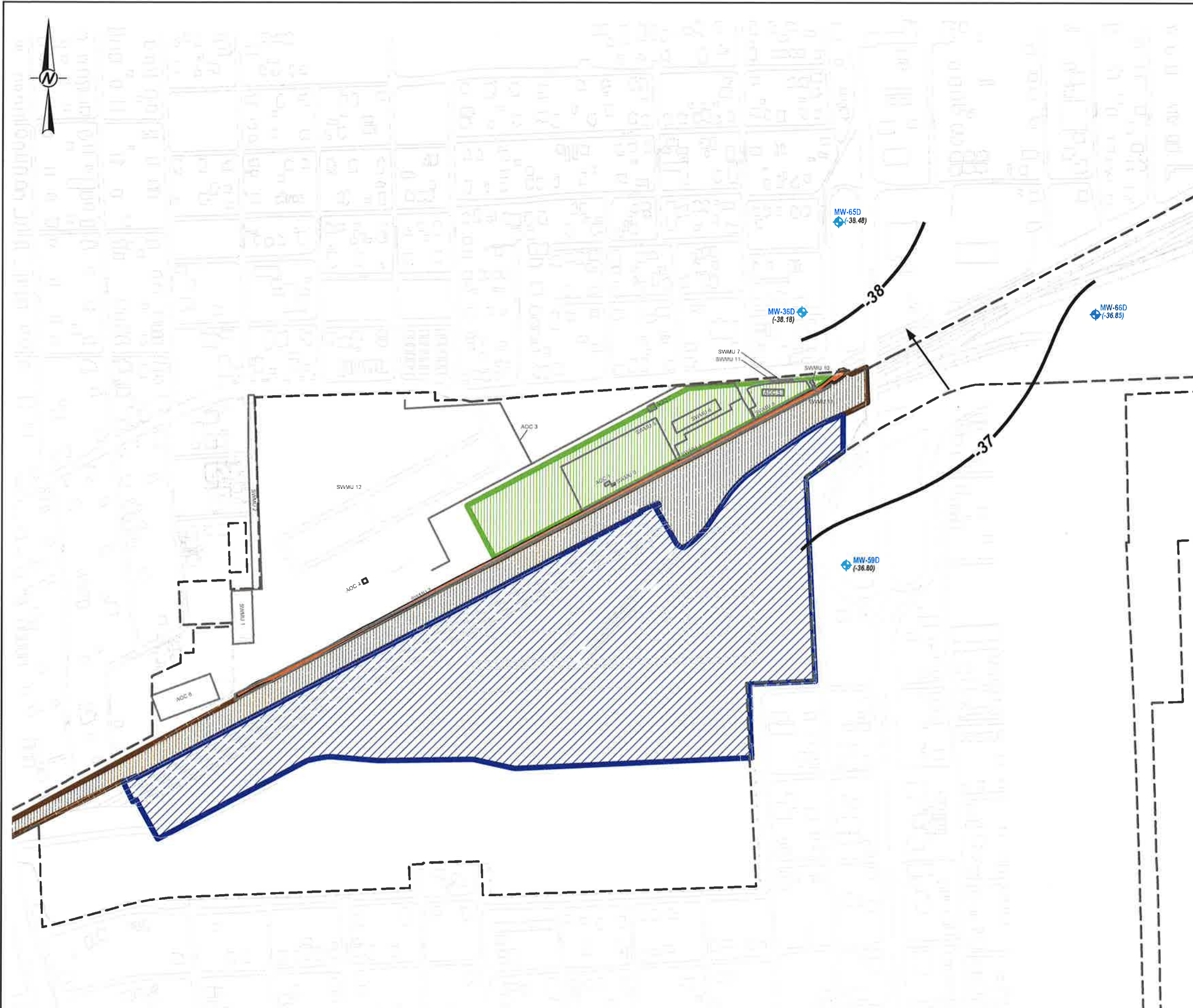
PROJECT
HOUSTON WOOD PRESERVING WORKS

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

CONSULTANT	YYYY-MM-DD	2019-07-09
	DESIGNED	AJD
	PREPARED	AJD
	REVIEWED	SG
	APPROVED	ECM

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

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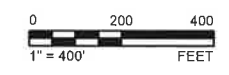
- UPRR PROPERTY BOUNDARY
- HISTORIC STRUCTURE AND FEATURE
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- D-TZ MONITORING WELL LOCATION
- GROUNDWATER ELEVATION (FT, HVD) (NM = NOT MEASURED)
- GROUNDWATER ELEVATION CONTOUR (FT, HVD) C.I. = 1 FT
- INFERRED GROUNDWATER FLOW DIRECTION
- RAILROAD BALLAST 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 (JANUARY 2019).

REFERENCE(S)

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



CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
GROUNDWATER GRADIENT MAP D-TZ
JANUARY 2019

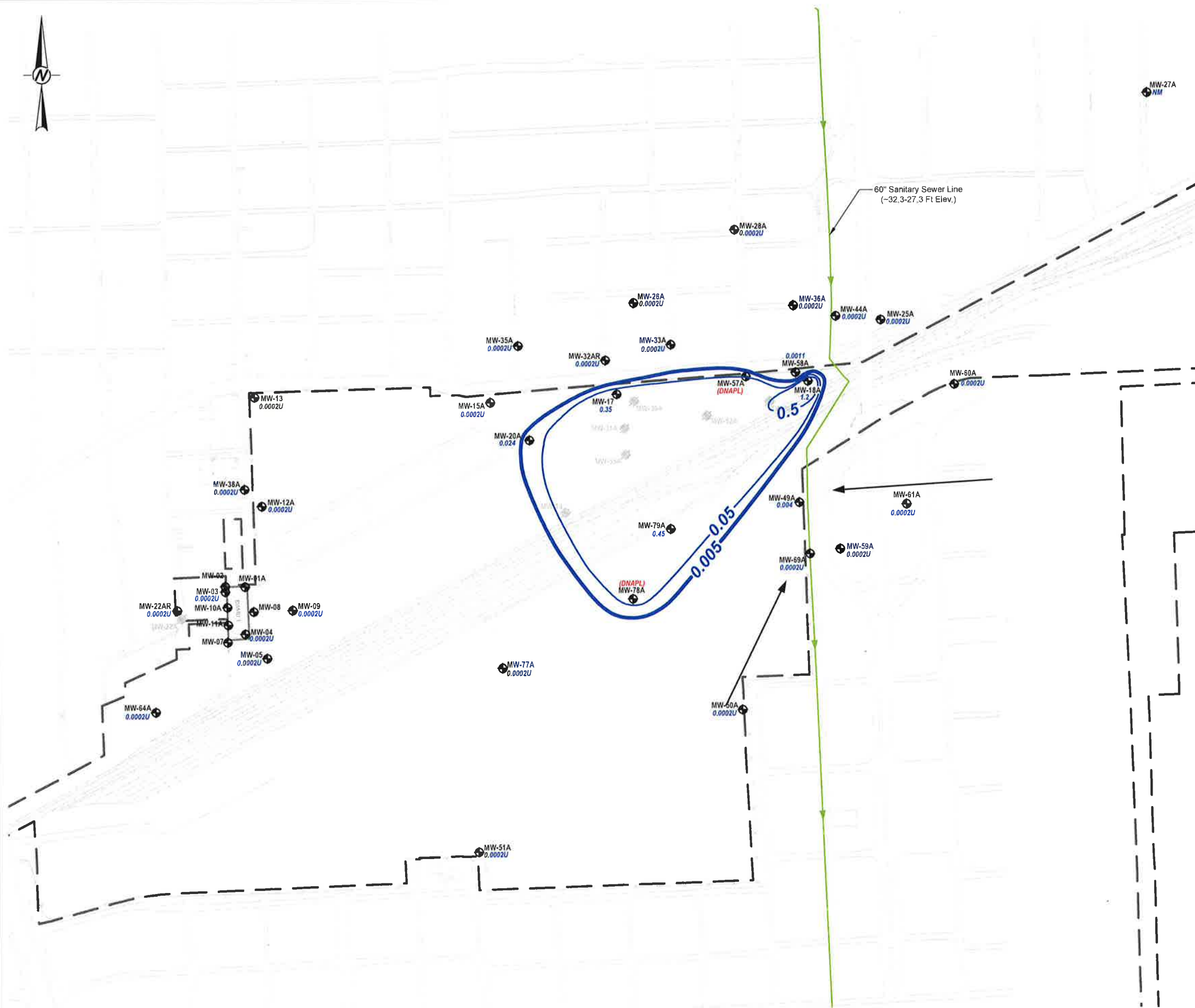
CONSULTANT	YYYY-MM-DD	2019-05-06
	DESIGNED	AJD
	PREPARED	AJD
	REVIEWED	SG
	APPROVED	ECM

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

1/4" IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B



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LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARLING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- 0.108 BENZENE CONCENTRATION IN mg/L
- 0.005 BENZENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION

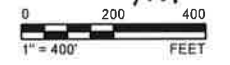
NOTE(S)

1. DNAPL = DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2019).
2. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0,005 mg/L).
3. NM - NOT MEASURED

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

ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST

7/19/19



CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
A-TZ GROUNDWATER COC CONCENTRATION MAP
BENZENE - JANUARY 2019

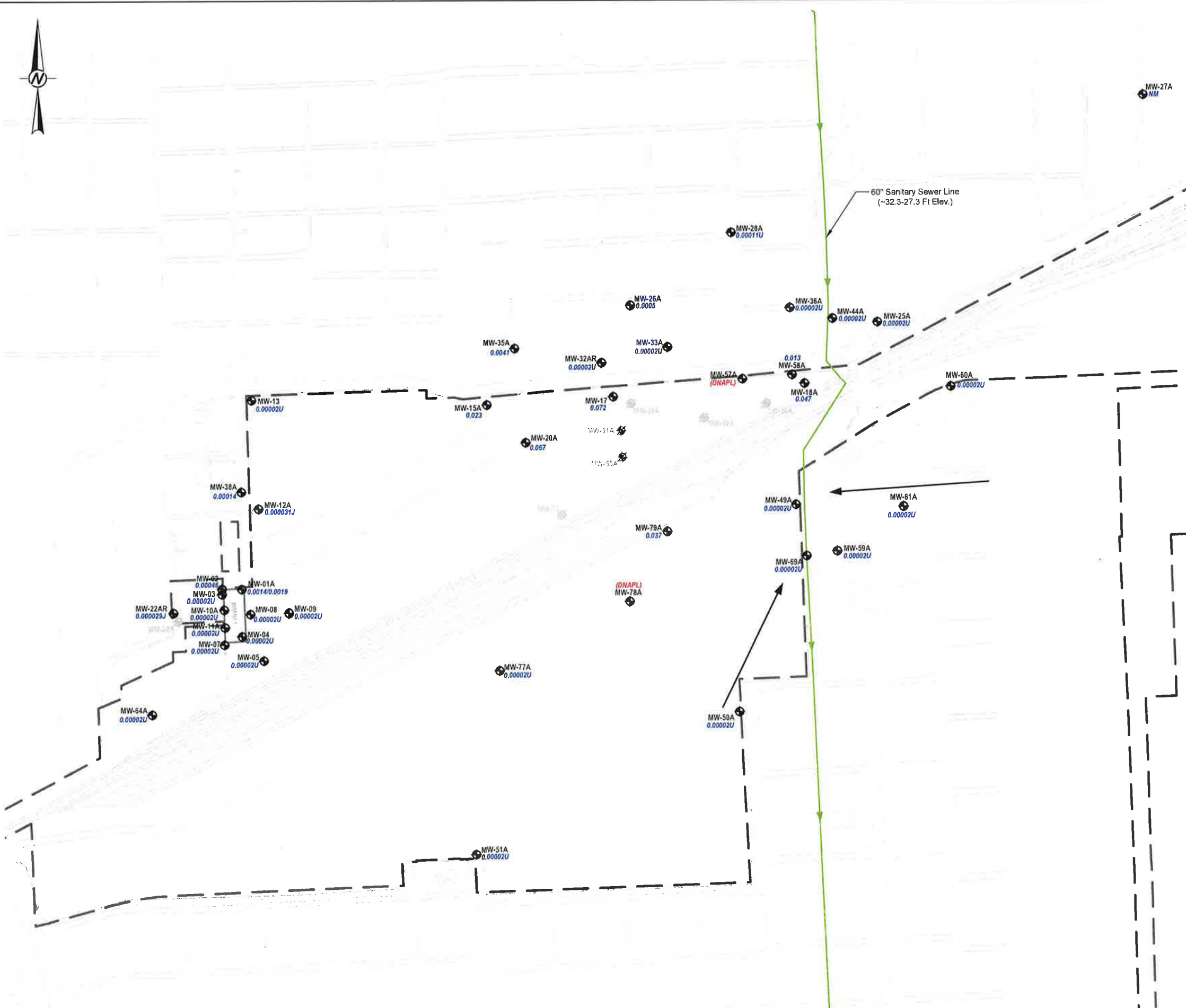
CONSULTANT	YYYY-MM-DD	2019-07-10
	DESIGNED	AJD
	PREPARED	AJD
	REVIEWED	MH
	APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5B-5

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LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARLING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- 5.27 DIBENZOFURAN CONCENTRATION IN mg/L
- DIBENZOFURAN CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION

NOTE(S)

1. DNAPL = DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2019).
2. CONTOURS ARE BOLDED AT THE RAL AND C/P CL (0.098 mg/L AND 0.29 mg/L, RESPECTIVELY).
3. NM - NOT MEASURED

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



CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

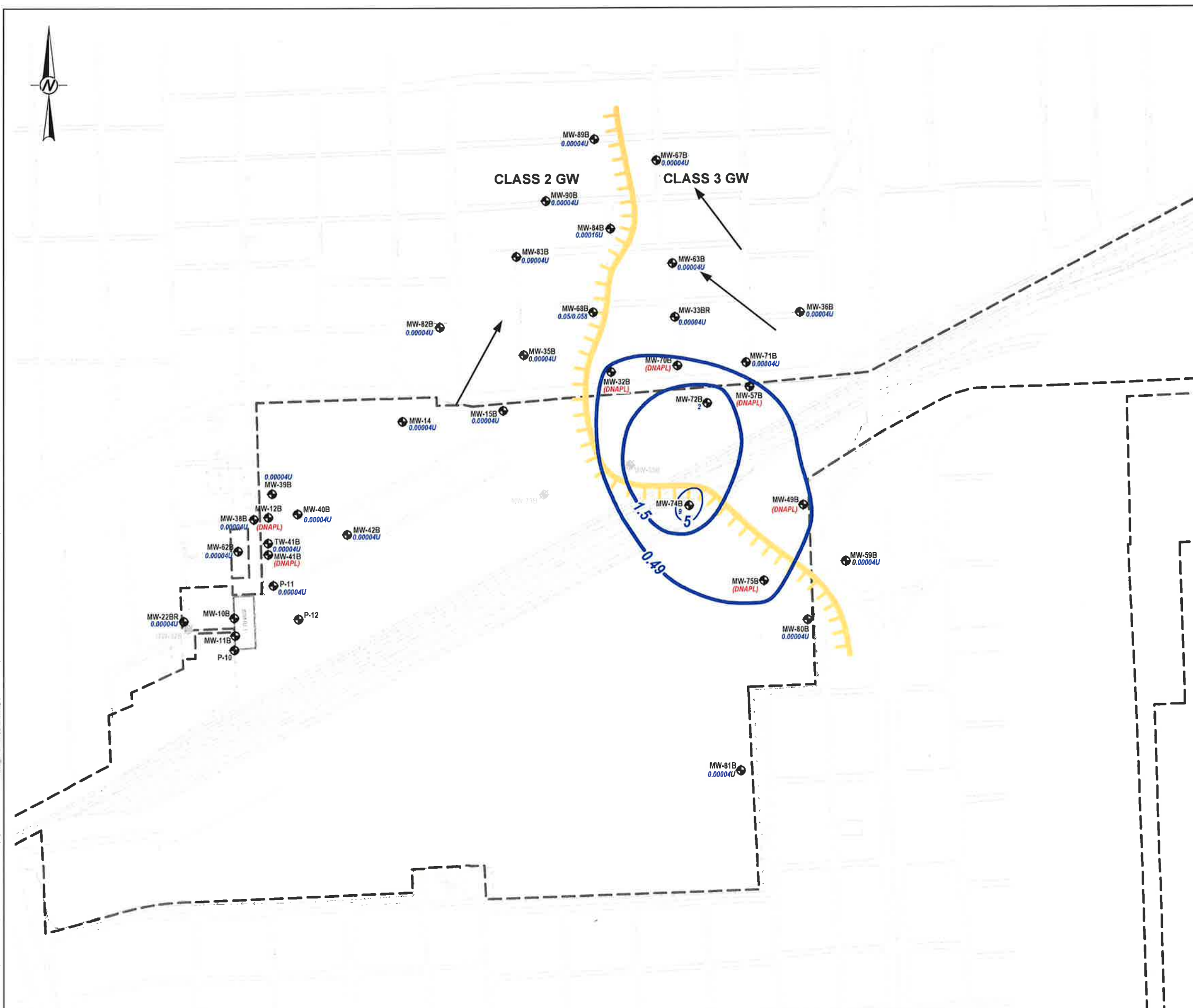
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A-TZ GROUNDWATER COC CONCENTRATION MAP
DIBENZOFURAN - JANUARY 2019

CONSULTANT	YYYY-MM-DD	2019-07-10
DESIGNED	AJD	
PREPARED	AJD	
REVIEWED	MH	
APPROVED	ECM	



PROJECT NO. 19119232 REV. 0 FIGURE 5B-8

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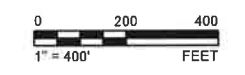


LEGEND

- 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) 13.6 2,4-DIMETHYLPHENOL CONCENTRATION IN 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 (JANUARY 2019).
 2. 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.



CLIENT
 UNION PACIFIC RAILROAD CO.

PROJECT
 HOUSTON WOOD PRESERVING WORKS

TITLE
**B-CZ/B-TZ GROUNDWATER COC CONCENTRATION MAP
 2,4-DIMETHYLPHENOL - JANUARY 2019**

CONSULTANT	YYYY-MM-DD	2019-07-09
	DESIGNED	AJD
	PREPARED	AJD
	REVIEWED	MH
	APPROVED	ECM

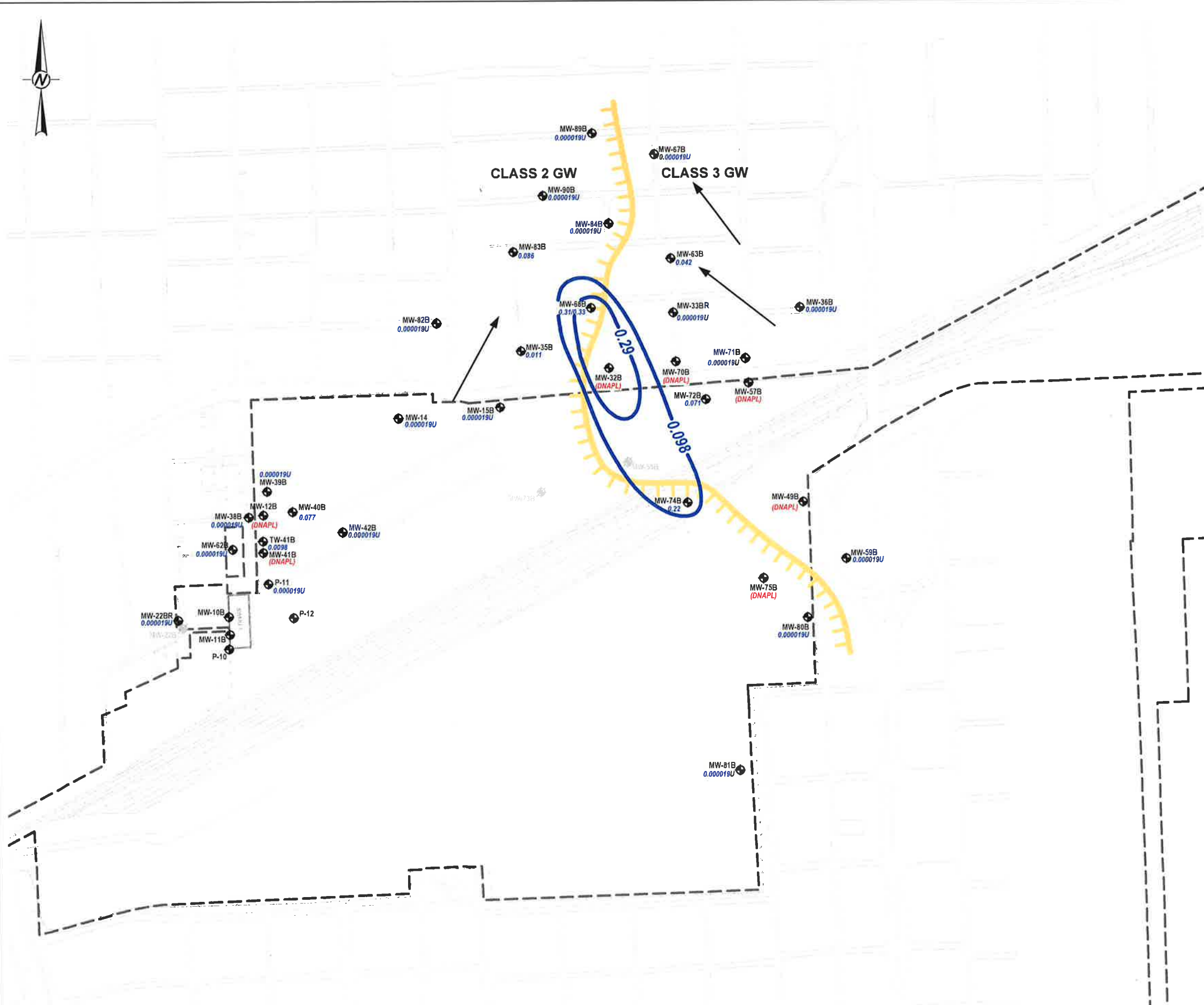
PROJECT NO. 19119232 REV. 0 FIGURE 5B-11

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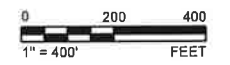


LEGEND

- 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)
- 0.276 2-METHYLNAPHTHALENE CONCENTRATION IN mg/L
- 0.098 2-METHYLNAPHTHALENE CONCENTRATION CONTOUR (mg/L)
- INFERRED GROUNDWATER FLOW DIRECTION

- NOTE(S)**
1. DNAPL = DENSE NON-AQUEOUS PHASE LIQUIDS DETECTED IN MONITORING WELL (JANUARY 2019).
 2. 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.



CLIENT
 UNION PACIFIC RAILROAD CO.

PROJECT
 HOUSTON WOOD PRESERVING WORKS

TITLE
 B-CZ/B-TZ GROUNDWATER COC CONCENTRATION MAP
 2-METHYLNAPHTHALENE - JANUARY 2019

CONSULTANT	YYYY-MM-DD	2019-07-10
DESIGNED		AJD
PREPARED		AJD
REVIEWED		MH
APPROVED		ECM

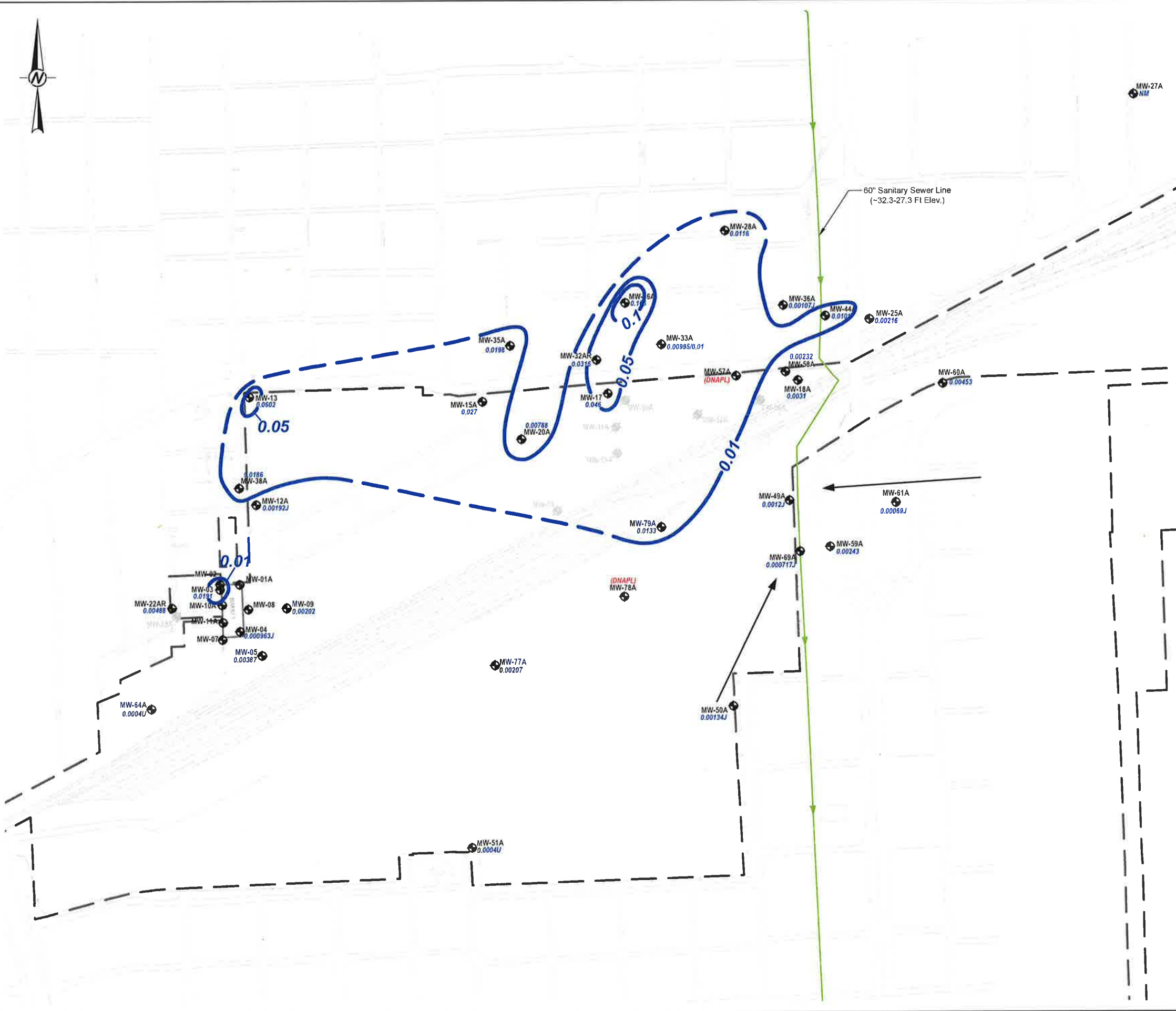


PROJECT NO. 19119232 REV. 0 FIGURE 5B-12

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LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARLING LOT, SIDEWALK
- FENCE
- RAILROAD
- A-TZ MONITORING WELL LOCATION
- PLUGGED AND ABANDONED MONITORING WELL
- 0.108 ARSENIC CONCENTRATION IN 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 2019).
2. CONTOURS ARE BOLDED AT THE RAL AND C/I PCL (0.01 mg/L).
3. NM - NOT MEASURED

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

CLIENT
UNION PACIFIC RAILROAD CO.

PROJECT
HOUSTON WOOD PRESERVING WORKS

TITLE
**A-TZ GROUNDWATER COC CONCENTRATION MAP
ARSENIC - JANUARY 2019**

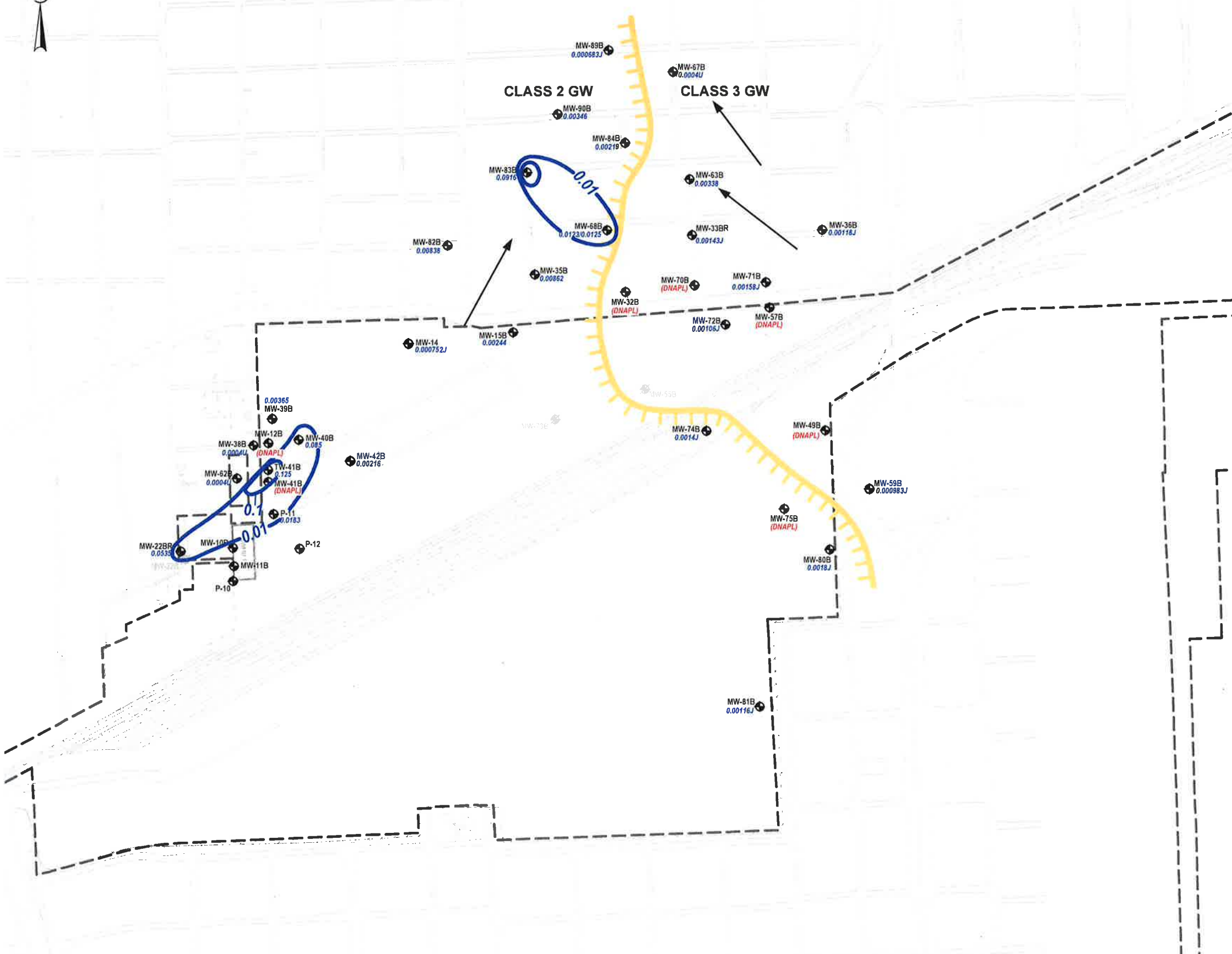
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DESIGNED	AJD	
PREPARED	AJD	
REVIEWED	MH	
APPROVED	ECM	



PROJECT NO. 19119232 REV. 0 FIGURE 5B-20



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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)
- 0.346 ARSENIC CONCENTRATION IN 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 2019).
2. 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.



CLIENT
 UNION PACIFIC RAILROAD CO.

PROJECT
 HOUSTON WOOD PRESERVING WORKS

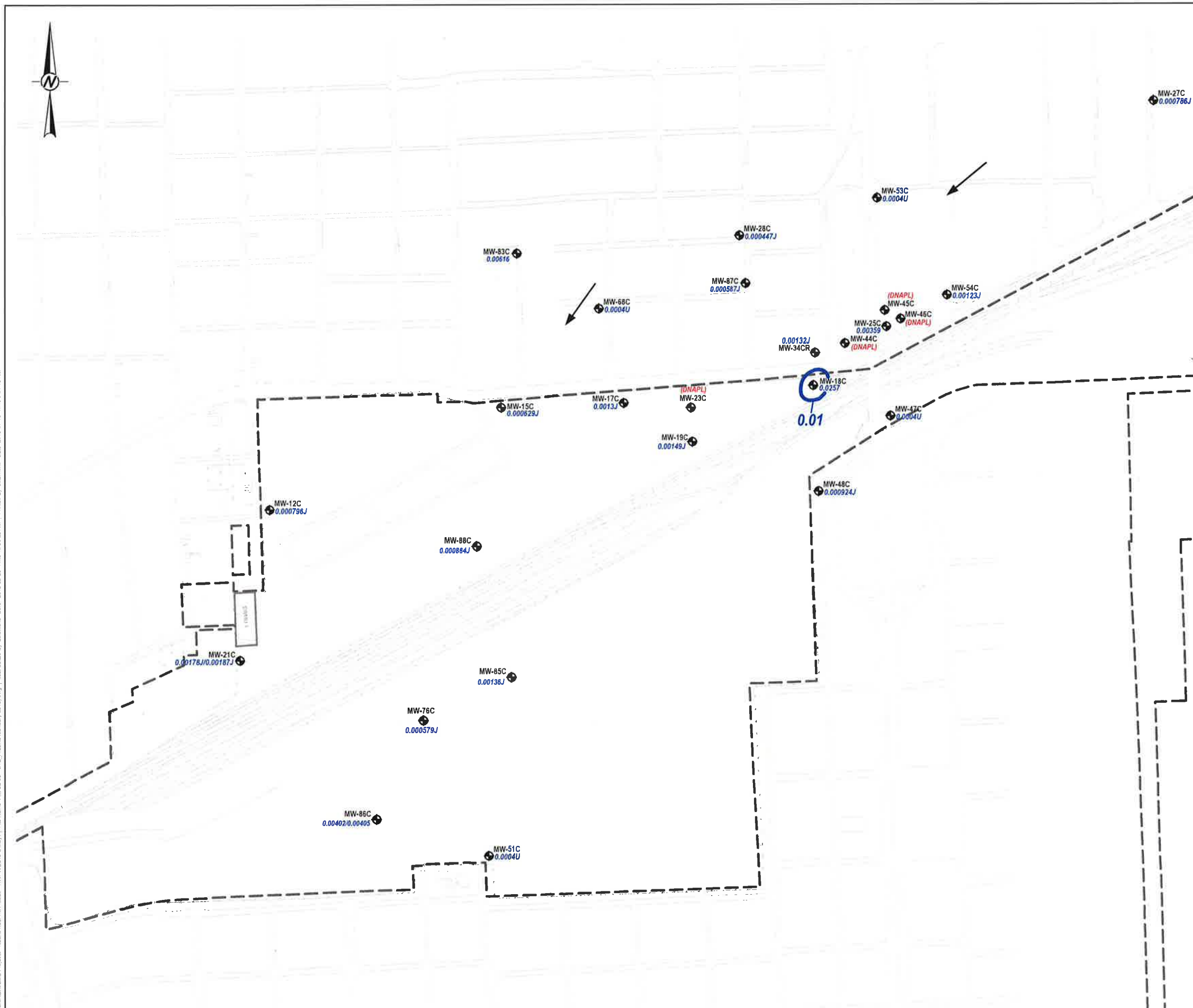
TITLE
 B-CZ/B-TZ GROUNDWATER COC CONCENTRATION MAP
 ARSENIC - JANUARY 2019

CONSULTANT	YYYY-MM-DD	2019-07-10
	DESIGNED	AJD
	PREPARED	AJD
	REVIEWED	MH
	APPROVED	ECM

PROJECT NO. 19119232 REV. 0 FIGURE 5B-21

IF THIS DOCUMENT FOR A NOT PUBLIC WORKS, THE SINGLE LINE REPRESENTS THE PROPERTY BOUNDARY.

Path: \\sra\k\lab\Projects - Round Rock\1919232 - HWPW\2019-07-10 - C-TZ_Arsenic January 2019.dwg | Last Edited By: adamone | Date: 2019-07-10 | Time: 8:31:10 AM
 Print: \\sra\k\lab\Projects - Round Rock\1919232 - HWPW\2019-07-10 - C-TZ_Arsenic January 2019.dwg | Last Edited By: adamone | Date: 2019-07-10 | Time: 8:31:10 AM



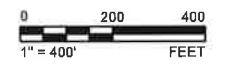
LEGEND

- UPRR PROPERTY BOUNDARY
- ROAD, PARKING LOT, SIDEWALK
- FENCE
- RAILROAD
- ⊕ C-TZ MONITORING WELL LOCATION
- 8.01 ARSENIC CONCENTRATION IN 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 2019).
2. 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.



CLIENT
 UNION PACIFIC RAILROAD CO.

PROJECT
 HOUSTON WOOD PRESERVING WORKS

TITLE
 C-TZ GROUNDWATER COC CONCENTRATION MAP
 ARSENIC - JANUARY 2019

CONSULTANT	YYYY-MM-DD	2019-07-10
DESIGNED	AJD	
PREPARED	AJD	
REVIEWED	MH	
APPROVED	ECM	



PROJECT NO. 19119232 **REV** 0 **FIGURE** 5B-22

If this document is to be used for any purpose other than that for which it was prepared, the user assumes all liability.

ATTACHMENT A

**Data Usability Summary and
Analytical Reports from January
2019 Site-Wide Sampling Event**



Memorandum

February 26, 2019

To: Eric Matzner Ref. No.: 11183954-1620

From: *CK*
Chris G. Knight/mkd/176-NF Tel: 512-506-8803

cc: Jesse Orth, Jon Lang; Julie Lidstone

**Subject: Data Usability Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR)/Houston TX-Wood Preserving Works
Houston, Texas
January-February 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 Site Wide Groundwater Monitoring Event at the Union Pacific Railroad (UPRR)/Houston TX-Wood Preserving Works site during January-February 2019. Samples were submitted to ALS Environmental (ALS), located in Houston, Texas and are reported in data packages HS19010437, HS19010488, HS19010754, HS19011117, HS19011199, and HS19020155. The intended use of the data is to support the Site Wide 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 analyses, 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 analyses, matrix spike/matrix spike duplicate (MS/MSD) analyses, and duplicate sample analysis.

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) The collection time on the sample containers did not match the sample times listed on the chain of custody for the following samples: WG-1620-TW41B-20190109 and WG-1620-MW05-20190109. The sample times listed on the chain of custody were used. No further action was required.
- ii) WG-1620-FB02-20190109 was missing the sample date and time on the container labels. The sample was logged in using the date and time listed on the chain of custody. No further action was required.
- iii) 1620-MW71B-20190115 was missing the sample time on the voa vial labels. The sample was logged in using the time listed on the chain of custody. No further action was required.
- iv) All samples submitted on January 25, 2019 in data package HS19011199 were missing collection dates and times from their container lables. All samples were logged in using the date and time listed on the chain of custodies. 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 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 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 volatile organic compounds (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 (greater than five times) 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:

- i) One LCS/LCSD was reported with elevated RPDs for several SVOCs. All associated sample results were non-detect and not affected by the indicated variability. No further action was required.

4.7 Matrix Spike/Matrix Spike Duplicate 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/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

The 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 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 elevated recoveries for chlorobenzene and ethylbenzene. Non-detect sample results associated with high MS/MSD recoveries were not qualified – they would not be impacted by any indicated high bias. 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.
- ii) One MS/MSD was reported with low recoveries for multiple SVOCs due to possible matrix interference and were not assessed. No further action was required.

The laboratory 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 metals analysis. The laboratory performed additional site-specific duplicate analyses internally. The relative percent differences (RPD) 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 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 six trip blank samples, eight field blank samples, and five field duplicate sample sets.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, six 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, eight 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 4):

- i) The following field blanks yielded low level detections for multiple SVOCs: WQ-1620-FB01-20190108, WQ-1620-FB02-20190109, WQ-1620-FB03-20190111, WQ-1620-FB04-20190114, WQ-1620-FB05-20190115, WQ-1620-FB07-20190123, and WQ-1620-FB08-20190124. 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 were qualified as non-detect.

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.

4.10 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.

All detectability check standard (DCS) results supported the laboratory MDL.



5. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are usable for the purpose of supporting the Site Wide Groundwater Monitoring Event at the site by providing current concentration of chemicals of concern with the specific qualifications noted herein.

Table 1

Sample Collection and Analysis Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameter:			Comments
					VOCs	SVOCs	Metals	
WG-1620-MW13-20190108	MW-13	Water	01/08/2019	09:45	X	X	X	MS/MSD-P
WG-1620-MW14-20190108	MW-14	Water	01/08/2019	10:40	X	X	X	
WG-1620-MW15A-20190108	MW-15A	Water	01/08/2019	11:30	X	X	X	
WG-1620-MW15C-20190108	MW-15C	Water	01/08/2019	12:20	X	X	X	
WG-1620-MW15B-20190108	MW-15B	Water	01/08/2019	13:05	X	X	X	
WG-1620-MW20A-20190108	MW-20A	Water	01/08/2019	15:00	X	X	X	
WG-1620-MW88C-20190108	MW-88C	Water	01/08/2019	16:00	X	X	X	
WG-1620-MW42B-20190108	MW-42B	Water	01/08/2019	16:55	X	X	X	
WG-1620-MW40B-20190108	MW-40B	Water	01/08/2019	17:45	X	X	X	
WG-1620-MW39B-20190108	MW-39B	Water	01/08/2019	18:45	X	X	X	
WQ-1620-FB01-20190108	-	Water	01/08/2019	19:00	X	X	X	Field Blank
WQ-1620-TB01-20190108	-	Water	01/09/2019	00:00	X			Trip Blank
WG-1620-MW12A-20190109	MW-12A	Water	01/09/2019	07:35	X	X	X	
WG-1620-MW12C-20190109	MW-12C	Water	01/09/2019	08:25	X	X	X	
WG-1620-TW41B-20190109	TW-41B	Water	01/09/2019	10:35	X	X	X	
WG-1620-MW05-20190109	MW-05	Water	01/09/2019	11:25	X	X	X	MS/MSD-P
WG-1620-P11-20190109	P-11	Water	01/09/2019	12:25	X	X	X	
WG-1620-MW03-20190109	MW-03	Water	01/09/2019	13:15	X	X	X	
WG-1620-MW09-20190109	MW-09	Water	01/09/2019	14:05	X	X	X	
WG-1620-MW04-20190109	MW-04	Water	01/09/2019	15:05	X	X	X	MS/MSD-P

Table 1

Sample Collection and Analysis Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameter:			Comments
					VOCs	SVOCs	Metals	
WG-1620-MW21C-20190109	MW-21C	Water	01/09/2019	16:20	X	X	X	
WG-1620-FD01-20190109	MW-21C	Water	01/09/2019	16:20	X	X	X	Field duplicate of MW21C
WG-1620-MW17-20190109	MW-17	Water	01/09/2019	17:20	X	X	X	
WQ-1620-FB02-20190109	-	Water	01/09/2019	17:35	X	X	X	Field Blank
WQ-1620-TB02-20190110	-	Water	01/10/2019	00:00	X			Trip Blank
WG-1620-MW17C-20190110	MW-17C	Water	01/10/2019	07:25	X	X	X	
WG-1620-MW18C-20190110	MW-18C	Water	01/10/2019	08:20	X	X	X	
WG-1620-MW18A-20190110	MW-18A	Water	01/10/2019	10:45	X	X	X	
WG-1620-MW48C-20190110	MW-48C	Water	01/10/2019	11:45	X	X	X	
WG-1620-MW69A-20190110	MW-69A	Water	01/10/2019	12:45	X	X	X	
WG-1620-MW80B-20190110	MW-80B	Water	01/10/2019	13:50	X	X	X	
WG-1620-MW50A-20190110	MW-50A	Water	01/10/2019	14:40	X	X	X	
WG-1620-MW81B-20190110	MW-81B	Water	01/10/2019	15:30	X	X	X	
WG-1620-MW51A-20190110	MW-51A	Water	01/10/2019	16:40	X	X	X	
WG-1620-MW51C-20190110	MW-51C	Water	01/10/2019	17:30	X	X	X	
WG-1620-MW86C-20190111	MW-86C	Water	01/11/2019	08:25	X	X	X	
WG-1620-FD02-20190111	MW-86C	Water	01/11/2019	08:25	X	X	X	Field duplicate of MW86C
WG-1620-MW60A-20190111	MW-60A	Water	01/11/2019	10:15	X	X	X	
WQ-1620-FB03-20190111	-	Water	01/11/2019	11:15	X	X	X	Field Blank
WG-1620-MW53C-20190114	MW-53C	Water	01/14/2019	12:05	X	X	X	

Table 1

Sample Collection and Analysis Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameter:			Comments
					VOCs	SVOCs	Metals	
WG-1620-MW54C-20190114	MW-54C	Water	01/14/2019	13:00	X	X	X	
WG-1620-MW36B-20190114	MW-36B	Water	01/14/2019	14:05	X	X	X	
WG-1620-MW36A-20190114	MW-36A	Water	01/14/2019	14:55	X	X	X	
WG-1620-MW28A-20190114	MW-28A	Water	01/14/2019	15:50	X	X	X	
WG-1620-MW28C-20190114	MW-28C	Water	01/14/2019	16:35	X	X	X	MS/MSD; DUP
WG-1620-MW63B-20190114	MW-63B	Water	01/14/2019	17:40	X	X	X	
WG-1620-FB04-20190114	-	Water	01/14/2019	18:00	X	X	X	Field Blank
WQ-1620-TB04-20190115	-	Water	01/15/2019	00:00	X			Trip Blank
WG-1620-MW26A-20190115	MW-26A	Water	01/15/2019	07:40	X	X	X	
WG-1620-MW68B-20190115	MW-68B	Water	01/15/2019	08:55	X	X	X	
WG-1620-FD03-20190115	MW-68B	Water	01/15/2019	08:55	X	X	X	Field duplicate of MW68B
WG-1620-MW68C-20190115	MW-68C	Water	01/15/2019	09:45	X	X	X	
WG-1620-MW83B-20190115	MW-83B	Water	01/15/2019	10:40	X	X	X	
WG-1620-MW83C-20190115	MW-83C	Water	01/15/2019	11:15	X	X	X	
WG-1620-MW35A-20190115	MW-35A	Water	01/15/2019	12:45	X	X	X	
WG-1620-MW35B-20190115	MW-35B	Water	01/15/2019	13:25	X	X	X	
WG-1620-MW25A-20190115	MW-25A	Water	01/15/2019	14:25	X	X	X	
WG-1620-MW25C-20190115	MW-25C	Water	01/15/2019	15:10	X	X	X	
WG-1620-MW34CR-20190115	MW-34CR	Water	01/15/2019	15:55	X	X	X	
WG-1620-MW71B-20190115	MW-71B	Water	01/15/2019	16:50	X	X	X	

Table 1

Sample Collection and Analysis Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameter:			Comments
					VOCs	SVOCs	Metals	
WG-1620-FB05-20190115	-	Water	01/15/2019	17:15	X	X	X	Field Blank
WG-1620-MW44A-20190122	MW-44A	Water	01/22/2019	07:25	X	X	X	
WG-1620-MW87C-20190122	MW-87C	Water	01/22/2019	08:15	X	X	X	
WG-1620-MW33BR-20190122	MW-33BR	Water	01/22/2019	09:05	X	X	X	
WG-1620-MW33A-20190122	MW-33A	Water	01/22/2019	10:00	X	X	X	
WG-1620-FD04-20190122	MW-33A	Water	01/22/2019	10:00	X	X	X	Field duplicate of MW33A
WG-1620-MW38B-20190122	MW-38B	Water	01/22/2019	11:00	X	X	X	
WG-1620-MW22AR-20190122	MW-22AR	Water	01/22/2019	11:50	X	X	X	
WG-1620-MW22BR-20190122	MW-22BR	Water	01/22/2019	12:35	X	X	X	
WG-1620-MW38A-20190122	MW-38A	Water	01/22/2019	13:40	X	X	X	
WG-1620-MW82B-20190122	MW-82B	Water	01/22/2019	14:55	X	X	X	MS/MSD-P; DUP
WG-1620-MW90B-20190122	MW-90B	Water	01/22/2019	16:00	X	X	X	
WG-1620-MW89B-20190122	MW-89B	Water	01/22/2019	16:50	X	X	X	
WG-1620-MW27C-20190122	MW-27C	Water	01/22/2019	17:45	X	X	X	
WQ-1620-FB06-20190122	-	Water	01/22/2019	18:00	X	X	X	Field Blank
WQ-1620-TB05-20190123	-	Water	01/23/2019	00:00	X			Trip Blank
WG-1620-MW62B-20190123	MW-62B	Water	01/23/2019	07:15	X	X	X	
WG-1620-MW64A-20190123	MW-64A	Water	01/23/2019	08:10	X	X	X	
WG-1620-MW61A-20190123	MW-61A	Water	01/23/2019	09:20	X	X	X	MS/MSD; DUP
WG-1620-MW47C-20190123	MW-47C	Water	01/23/2019	10:15	X	X	X	

Table 1

Sample Collection and Analysis Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameter:			Comments
					VOCs	SVOCs	Metals	
WG-1620-MW58A-20190123	MW-58A	Water	01/23/2019	11:20	X	X	X	
WG-1620-MW32AR-20190123	MW-32AR	Water	01/23/2019	12:15	X	X	X	
WG-1620-MW76C-20190123	MW-76C	Water	01/23/2019	13:20	X	X	X	
WG-1620-MW74B-20190123	MW-74B	Water	01/23/2019	14:15	X	X	X	
WG-1620-MW79A-20190123	MW-79A	Water	01/23/2019	15:05	X	X	X	
WG-1620-MW49A-20190123	MW-49A	Water	01/23/2019	15:50	X	X	X	
WG-1620-MW59A-20190123	MW-59A	Water	01/23/2019	16:40	X	X	X	
WQ-1620-FB07-20190123	-	Water	01/23/2019	17:00	X	X	X	Field Blank
WG-1620-MW59B-20190123	MW-59B	Water	01/23/2019	17:30	X	X	X	
WQ-1620-TB06-20190124	-	Water	01/24/2019	00:00	X			Trip Blank
WG-1620-MW59D-20190124	MW-59D	Water	01/24/2019	07:20	X	X	X	
WG-1620-FD05-20190124	MW-59D	Water	01/24/2019	07:20	X	X	X	Field duplicate of MW59D
WG-1620-MW36D-20190124	MW-36D	Water	01/24/2019	08:25	X	X	X	
WG-1620-MW65D-20190124	MW-65D	Water	01/24/2019	09:25	X	X	X	MS/MSD-P; DUP
WG-1620-MW66D-20190124	MW-66D	Water	01/24/2019	10:30	X	X	X	
WG-1620-MW84B-20190124	MW-84B	Water	01/24/2019	11:40	X	X	X	
WG-1620-MW67B-20190124	MW-67B	Water	01/24/2019	12:50	X	X	X	MS/MSD; DUP
WG-1620-MW19C-20190124	MW-19C	Water	01/24/2019	13:50	X	X	X	
WG-1620-MW72B-20190124	MW-72B	Water	01/24/2019	14:55	X	X	X	
WQ-1620-FB08-20190124	-	Water	01/24/2019	16:15	X	X	X	Field Blank

Table 1

**Sample Collection and Analysis Summary
 Site Wide Groundwater Monitoring Event
 Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
 Houston, Texas
 January-February 2019**

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameter:			Comments
					VOCs	SVOCs	Metals	
WG-1620-TB07-20190201	-	Water	02/01/2019	00:00	X			Trip Blank
WG-1620-MW77A-201290201	MW-77A	Water	02/01/2019	13:05	X	X	X	
WG-1620-MW85C-201290201	MW-85C	Water	02/01/2019	14:00	X	X	X	

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

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

	Location ID:	MW-03	MW-04	MW-05	MW-09	MW-12A
	Sample Name:	WG-1620-MW03-20190109	WG-1620-MW04-20190109	WG-1620-MW05-20190109	WG-1620-MW09-20190109	WG-1620-MW12A-20190109
	Sample Date:	01/09/2019	01/09/2019	01/09/2019	01/09/2019	01/09/2019
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	0.0041	<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	<0.000059	<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	<0.000019	<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	<0.000027	<0.000027	<0.000027	<0.000027
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	mg/L	<0.000014	0.000079 J	<0.000014	0.000093 J	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000051	<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	<0.000037	<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	<0.000020	<0.000020	<0.000020	0.000031 J
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	<0.000020	<0.000020	<0.000020	<0.000026
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000080	<0.000079
Phenanthrene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021	<0.000021

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-03	MW-04	MW-05	MW-09	MW-12A
Sample Name:	WG-1620-MW03-20190109	WG-1620-MW04-20190109	WG-1620-MW05-20190109	WG-1620-MW09-20190109	WG-1620-MW12A-20190109
Sample Date:	01/09/2019	01/09/2019	01/09/2019	01/09/2019	01/09/2019

Parameters	Unit					
Semi-volatile Organic Compounds (Continued)						
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	<0.000019	<0.000019	<0.000019	<0.000019	<0.000019
Metals						
Arsenic	mg/L	0.0191	0.000963 J	0.00387	0.00202	0.00192 J
Lead	mg/L	0.00131 J	<0.000600	0.00149 J	0.000931 J	<0.000600

Notes:

< - Not detected at the associated reporting limit

J - Estimated concentration

"--" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-12C	MW-13	MW-14	MW-15A
Sample Name:	WG-1620-MW12C-20190109	WG-1620-MW13-20190108	WG-1620-MW14-20190108	WG-1620-MW15A-20190108
Sample Date:	01/09/2019	01/08/2019	01/08/2019	01/08/2019
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	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	0.00080 J
Semi-volatile Organic Compounds				
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.000040
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	<0.000021
2-Methylnaphthalene	mg/L	0.00039	<0.000019	0.0098
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	0.093	<0.000027	0.10
Acenaphthylene	mg/L	0.00082	<0.000015	<0.000015
Anthracene	mg/L	0.0084	0.00039	0.000052 J
Benzo(a)anthracene	mg/L	0.00014	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	0.000041 J	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.00011 J	<0.000037	<0.000037
Chrysene	mg/L	0.00013	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	0.000022 J
Dibenzofuran	mg/L	0.067	<0.000020	0.023
Fluoranthene	mg/L	0.0071	<0.000010	0.0012
Fluorene	mg/L	0.085	<0.000030	0.038
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	<0.00017	<0.00022	<0.000020
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	0.052	<0.000021	0.0090

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-12C	MW-13	MW-14	MW-15A
Sample Name:	WG-1620-MW12C-20190109	WG-1620-MW13-20190108	WG-1620-MW14-20190108	WG-1620-MW15A-20190108
Sample Date:	01/09/2019	01/08/2019	01/08/2019	01/08/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	0.0031	<0.000019	<0.000019	0.00051
Metals					
Arsenic	mg/L	0.000796 J	0.0602	0.000752 J	0.0270
Lead	mg/L	<0.000600	0.00133 J	<0.000600	0.000722 J

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "-" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

	Location ID:	MW-15B	MW-15C	MW-17	MW-17C
	Sample Name:	WG-1620-MW15B-20190108	WG-1620-MW15C-20190108	WG-1620-MW17-20190109	WG-1620-MW17C-20190110
	Sample Date:	01/08/2019	01/08/2019	01/09/2019	01/10/2019
Parameters	Unit				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.0020	<0.00020
Benzene	mg/L	<0.00020	0.00058 J	0.35	0.012
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.0030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	0.21	0.027
Methylene chloride	mg/L	<0.0010	<0.0010	<0.010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	0.68	0.0087
Vinyl chloride	mg/L	--	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	0.66	0.050
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.00021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	1.9	0.47
2,4-Dinitrotoluene	mg/L	<0.000059	<0.000058	<0.00058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.00042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.00021	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	<0.000019	0.23	0.025
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.00020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.00047	<0.000047
Acenaphthene	mg/L	0.0026	0.020	0.091	0.031
Acenaphthylene	mg/L	0.00015	0.0014	0.0029	0.00047
Anthracene	mg/L	0.00023	0.00031	0.0057	0.0012
Benzo(a)anthracene	mg/L	<0.000051	<0.000050	<0.00050	0.000062 J
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.00020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.00030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	<0.000037	<0.00037	0.00062
Chrysene	mg/L	<0.000021	<0.000021	<0.00021	0.000059 J
Di-n-butylphthalate (DBP)	mg/L	0.000022 J	<0.000020	<0.00020	<0.000020
Dibenzofuran	mg/L	0.00014	0.0053	0.072	0.027
Fluoranthene	mg/L	0.00045	0.00075	0.0015	0.00078
Fluorene	mg/L	0.000055 J	0.00056	0.043	0.012
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.00025	<0.000025
Naphthalene	mg/L	<0.000020	<0.00032	5.5	1.1
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.00024	<0.000024
Pentachlorophenol	mg/L	<0.000080	<0.000079	<0.00079	<0.000079
Phenanthrene	mg/L	<0.000021	<0.000021	0.028	0.010

Analytical Results Summary
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Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-15B	MW-15C	MW-17	MW-17C
Sample Name:	WG-1620-MW15B-20190108	WG-1620-MW15C-20190108	WG-1620-MW17-20190109	WG-1620-MW17C-20190110
Sample Date:	01/08/2019	01/08/2019	01/09/2019	01/10/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	<0.000035	<0.000035	2.2	0.033
Pyrene	mg/L	0.00027	0.00041	0.00081 J	0.00045
Metals					
Arsenic	mg/L	0.00244	0.000629 J	0.0460	0.00130 J
Lead	mg/L	<0.000600	<0.000600	<0.000600	<0.000600

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "-" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-18A	MW-18C	MW-19C	MW-20A
Sample Name:	WG-1620-MW18A-20190110	WG-1620-MW18C-20190110	WG-1620-MW19C-20190124	WG-1620-MW20A-20190108
Sample Date:	01/10/2019	01/10/2019	01/24/2019	01/08/2019
Parameters	Unit			
Volatile Organic Compounds				
1,2-Dichloroethane	mg/L	<0.0050	<0.0020	<0.00020
Benzene	mg/L	1.2	0.30	0.0044
Chlorobenzene	mg/L	<0.0075	<0.0030	<0.00030
Ethylbenzene	mg/L	0.34	0.41	0.0040
Methylene chloride	mg/L	<0.025	<0.010	<0.0010
Toluene	mg/L	0.92	0.030	0.0057
Vinyl chloride	mg/L	<0.0050	<0.0020	--
Xylenes (total)	mg/L	1.0	0.69	0.0037
Semi-volatile Organic Compounds				
1,2-Diphenylhydrazine	mg/L	<0.00021	<0.00021	<0.000021
2,4-Dimethylphenol	mg/L	0.0054	0.29	<0.00032
2,4-Dinitrotoluene	mg/L	<0.00058	<0.00059	<0.000058
2,6-Dinitrotoluene	mg/L	<0.00042	<0.00042	<0.000042
2-Chloronaphthalene	mg/L	<0.00021	<0.00021	<0.000021
2-Methylnaphthalene	mg/L	0.10	0.33	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.00020	<0.00020	<0.000020
4-Nitrophenol	mg/L	<0.00047	<0.00047	<0.000047
Acenaphthene	mg/L	0.048	0.21	0.00078
Acenaphthylene	mg/L	0.0016	0.0075	<0.000015
Anthracene	mg/L	0.0064	0.0070	0.000057 J
Benzo(a)anthracene	mg/L	<0.00050	<0.00051	<0.000050
Benzo(a)pyrene	mg/L	<0.00020	<0.00020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.00030	<0.00030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.00037	<0.00037	0.000096 J
Chrysene	mg/L	<0.00021	<0.00021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.00020	<0.00020	<0.000020
Dibenzofuran	mg/L	0.047	0.13	<0.000020
Fluoranthene	mg/L	0.0020	0.0023	<0.000010
Fluorene	mg/L	0.021	0.095	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.00025	<0.00025	<0.000025
Naphthalene	mg/L	3.2	4.4	<0.00036
Nitrobenzene	mg/L	<0.00024	<0.00024	<0.000024
Pentachlorophenol	mg/L	0.014	<0.00080	<0.000079
Phenanthrene	mg/L	0.024	0.084	<0.000021

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-18A	MW-18C	MW-19C	MW-20A
Sample Name:	WG-1620-MW18A-20190110	WG-1620-MW18C-20190110	WG-1620-MW19C-20190124	WG-1620-MW20A-20190108
Sample Date:	01/10/2019	01/10/2019	01/24/2019	01/08/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	0.0032	<0.00035	<0.00013	<0.000035
Pyrene	mg/L	0.0012	0.0012	<0.000019	0.00025
Metals					
Arsenic	mg/L	0.00310	0.0257	0.00149 J	0.00788
Lead	mg/L	<0.000600	<0.000600	<0.000600	<0.000600

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "-" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-21C	MW-21C	MW-22AR	MW-22BR
Sample Name:	WG-1620-MW21C-20190109	WG-1620-FD01-20190109	WG-1620-MW22AR-20190122	WG-1620-MW22BR-20190122
Sample Date:	01/09/2019	01/09/2019 Duplicate	01/22/2019	01/22/2019
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	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	--	--	--
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	<0.000040	<0.000040	<0.000040
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	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	<0.000019	<0.000019
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	<0.000027	<0.000027	0.00071
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015
Anthracene	mg/L	<0.000014	<0.000014	0.000028 J
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<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	0.000065 J
Chrysene	mg/L	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	0.00051
Dibenzofuran	mg/L	<0.000020	<0.000020	0.000029 J
Fluoranthene	mg/L	<0.000010	<0.000010	0.000079 J
Fluorene	mg/L	<0.000030	<0.000030	0.00014
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	<0.000020	<0.000020	<0.000020
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000021	<0.000021	0.000068 J

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

	Location ID:	MW-21C	MW-21C	MW-22AR	MW-22BR
	Sample Name:	WG-1620-MW21C-20190109	WG-1620-FD01-20190109	WG-1620-MW22AR-20190122	WG-1620-MW22BR-20190122
	Sample Date:	01/09/2019	01/09/2019 Duplicate	01/22/2019	01/22/2019
Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	<0.000019	<0.000019	0.000084 J	0.00046
Metals					
Arsenic	mg/L	0.00187 J	0.00178 J	0.00488	0.0535
Lead	mg/L	<0.000600	<0.000600	0.00526	<0.000600

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "-" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

	Location ID:	MW-25A	MW-25C	MW-26A	MW-27C
	Sample Name:	WG-1620-MW25A-20190115	WG-1620-MW25C-20190115	WG-1620-MW26A-20190115	WG-1620-MW27C-20190122
	Sample Date:	01/15/2019	01/15/2019	01/15/2019	01/22/2019
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	0.00056 J	<0.00030
Ethylbenzene	mg/L	<0.00030	0.038	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	0.013	<0.00020	<0.00020
Vinyl chloride	mg/L	<0.00020	<0.00020	--	--
Xylenes (total)	mg/L	<0.00030	0.27	<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	<0.000051	0.40	<0.000090	<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	0.000036 J	0.13	0.042	<0.000027
Acenaphthylene	mg/L	<0.000015	0.0012	0.00027	<0.000015
Anthracene	mg/L	0.000015 J	0.011	0.00087	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	0.00065	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	0.00021	<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	<0.000078	<0.000037	<0.000037	<0.000037
Chrysene	mg/L	<0.000021	0.00074	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	0.000020 J	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	<0.000020	0.14	0.00050	<0.000020
Fluoranthene	mg/L	0.000015 J	0.0079	0.0044	<0.000010
Fluorene	mg/L	<0.000030	0.062	0.0039	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	<0.00029	3.5	<0.00049	<0.000020
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	0.000029 J	0.077	0.00012	<0.000021

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-25A	MW-25C	MW-26A	MW-27C
Sample Name:	WG-1620-MW25A-20190115	WG-1620-MW25C-20190115	WG-1620-MW26A-20190115	WG-1620-MW27C-20190122
Sample Date:	01/15/2019	01/15/2019	01/15/2019	01/22/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	0.000027 J	0.0052	0.0025	<0.000019
Metals					
Arsenic	mg/L	0.00216	0.00359	0.166	0.000786 J
Lead	mg/L	<0.000600	<0.000600	<0.000600	0.000831 J

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "-" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

	Location ID:	MW-28A	MW-28C	MW-32AR	MW-33A
	Sample Name:	WG-1620-MW28A-20190114	WG-1620-MW28C-20190114	WG-1620-MW32AR-20190123	WG-1620-MW33A-20190122
	Sample Date:	01/14/2019	01/14/2019	01/23/2019	01/22/2019
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	--	--	--	--
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	0.00013 J	<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	<0.000055	<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	0.000092 J	<0.000027	0.00010	<0.000027
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	<0.000015
Anthracene	mg/L	<0.000014	<0.000014	0.000020 J	<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	0.000061 J	<0.000037	<0.000044	<0.000037
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	0.000025 J
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	0.000020 J	<0.000020
Dibenzofuran	mg/L	<0.00011	<0.000020	<0.000020	<0.000020
Fluoranthene	mg/L	<0.000010	<0.000010	0.000051 J	0.00033
Fluorene	mg/L	0.000056 J	<0.000030	<0.000030	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	<0.0024	<0.000020	0.000067 J	<0.000020
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	0.000034 J	<0.000021

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-28A	MW-28C	MW-32AR	MW-33A
Sample Name:	WG-1620-MW28A-20190114	WG-1620-MW28C-20190114	WG-1620-MW32AR-20190123	WG-1620-MW33A-20190122
Sample Date:	01/14/2019	01/14/2019	01/23/2019	01/22/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	0.000065 J	<0.000019	0.000036 J	0.00015
Metals					
Arsenic	mg/L	0.0116	0.000447 J	0.0316	0.0100
Lead	mg/L	<0.000600	<0.000600	0.000644 J	<0.000600

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "-" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-33A	MW-33BR	MW-34CR	MW-35A
Sample Name:	WG-1620-FD04-20190122	WG-1620-MW33BR-20190122	WG-1620-MW34CR-20190115	WG-1620-MW35A-20190115
Sample Date:	01/22/2019 Duplicate	01/22/2019	01/15/2019	01/15/2019
Parameters	Unit			
Volatile Organic Compounds				
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020
Benzene	mg/L	<0.00020	0.0025	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	0.013	<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	<0.00030
Semi-volatile Organic Compounds				
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	0.0021
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	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	<0.000019	0.016
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	<0.000027	0.0013	0.000029 J
Acenaphthylene	mg/L	<0.000015	<0.000015	0.000068 J
Anthracene	mg/L	<0.000014	<0.000014	0.00044
Benzo(a)anthracene	mg/L	0.000062 J	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<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	0.000034 J	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	0.000021 J
Dibenzofuran	mg/L	<0.000020	0.000079 J	0.000027 J
Fluoranthene	mg/L	0.00044	0.000053 J	0.000014 J
Fluorene	mg/L	<0.000030	<0.000030	0.0022
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	<0.000020	0.000040 J	0.22
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000021	<0.000021	0.0025

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

	Location ID:	MW-33A	MW-33BR	MW-34CR	MW-35A
	Sample Name:	WG-1620-FD04-20190122	WG-1620-MW33BR-20190122	WG-1620-MW34CR-20190115	WG-1620-MW35A-20190115
	Sample Date:	01/22/2019 Duplicate	01/22/2019	01/15/2019	01/15/2019
Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	0.00034	0.000030 J	<0.000019	0.000070 J
Metals					
Arsenic	mg/L	0.00995	0.00143 J	0.00132 J	0.0198
Lead	mg/L	<0.000600	0.000636 J	<0.000600	0.000654 J

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "-" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

	Location ID:	MW-35B	MW-36A	MW-36B	MW-36D
	Sample Name:	WG-1620-MW35B-20190115	WG-1620-MW36A-20190114	WG-1620-MW36B-20190114	WG-1620-MW36D-20190124
	Sample Date:	01/15/2019	01/14/2019	01/14/2019	01/24/2019
Parameters	Unit				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	0.0033	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	0.0094	<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	<0.00020	--
Xylenes (total)	mg/L	0.0040	<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	0.011	<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	0.013	<0.000027	<0.000027	<0.000027
Acenaphthylene	mg/L	0.00018	<0.000015	<0.000015	<0.000015
Anthracene	mg/L	0.0011	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	mg/L	0.000077 J	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	0.000058 J	<0.000020	<0.000020	0.000027 J
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.00014	<0.000037	0.00022	0.000055 J
Chrysene	mg/L	0.000098 J	<0.000021	<0.000021	0.000031 J
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	0.015	<0.000020	<0.000020	<0.000020
Fluoranthene	mg/L	0.0013	<0.000010	<0.000010	0.000048 J
Fluorene	mg/L	0.0066	<0.000030	<0.000030	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	0.079	<0.000062	<0.000020	<0.000020
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	0.0086	<0.000021	<0.000021	<0.000021

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-35B	MW-36A	MW-36B	MW-36D
Sample Name:	WG-1620-MW35B-20190115	WG-1620-MW36A-20190114	WG-1620-MW36B-20190114	WG-1620-MW36D-20190124
Sample Date:	01/15/2019	01/14/2019	01/14/2019	01/24/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	0.00075	<0.000019	<0.000019	0.000042 J
Metals					
Arsenic	mg/L	0.00862	0.00107 J	0.00118 J	0.000417 J
Lead	mg/L	0.00165 J	0.00108 J	<0.000600	0.000910 J

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "--" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

	Location ID:	MW-38A	MW-38B	MW-39B	MW-40B
	Sample Name:	WG-1620-MW38A-20190122	WG-1620-MW38B-20190122	WG-1620-MW39B-20190108	WG-1620-MW40B-20190108
	Sample Date:	01/22/2019	01/22/2019	01/08/2019	01/08/2019
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	0.0063
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	0.041
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	0.0048
Vinyl chloride	mg/L	--	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	0.052
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	0.000055 J	<0.000019	<0.000019	0.077
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	0.014	<0.000027	0.00062	0.12
Acenaphthylene	mg/L	0.00020	<0.000015	<0.000015	0.00083
Anthracene	mg/L	0.00017	0.00010	0.00016	0.0070
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	<0.000037	<0.000037	<0.000037	0.000079 J
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	0.000045 J
Di-n-butylphthalate (DBP)	mg/L	0.000068 J	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	0.00014	<0.000020	<0.000020	0.069
Fluoranthene	mg/L	0.0013	<0.000010	0.000067 J	0.0041
Fluorene	mg/L	0.0024	<0.000030	<0.000030	0.087
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	0.00015	<0.000020	<0.000092	1.3
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	0.00058	<0.000021	0.000039 J	0.068

**Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019**

Location ID:	MW-38A	MW-38B	MW-39B	MW-40B
Sample Name:	WG-1620-MW38A-20190122	WG-1620-MW38B-20190122	WG-1620-MW39B-20190108	WG-1620-MW40B-20190108
Sample Date:	01/22/2019	01/22/2019	01/08/2019	01/08/2019

Parameters	Unit	MW-38A	MW-38B	MW-39B	MW-40B
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	0.0011	<0.000019	0.000052 J	0.0020
Metals					
Arsenic	mg/L	0.0186	<0.000400	0.00365	0.0850
Lead	mg/L	<0.000600	<0.000600	<0.000600	<0.000600

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "--" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

	Location ID:	MW-42B	MW-44A	MW-47C	MW-48C
	Sample Name:	WG-1620-MW42B-20190108	WG-1620-MW44A-20190122	WG-1620-MW47C-20190123	WG-1620-MW48C-20190110
	Sample Date:	01/08/2019	01/22/2019	01/23/2019	01/10/2019
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	0.000095 J	0.0010
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	0.00038
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	0.037	<0.000027	0.000098 J
Acenaphthylene	mg/L	<0.000015	0.00036	<0.000015	<0.000015
Anthracene	mg/L	<0.000014	0.00044	<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	0.000061 J	<0.000037	<0.000056	<0.000037
Chrysene	mg/L	<0.000021	0.000026 J	<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	0.000034 J	<0.000020
Fluoranthene	mg/L	0.00011	0.0058	0.000028 J	<0.000010
Fluorene	mg/L	<0.000030	0.0097	<0.000030	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	<0.000020	0.00011	0.00083	0.0085
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	0.000052 J	<0.000021

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-42B	MW-44A	MW-47C	MW-48C
Sample Name:	WG-1620-MW42B-20190108	WG-1620-MW44A-20190122	WG-1620-MW47C-20190123	WG-1620-MW48C-20190110
Sample Date:	01/08/2019	01/22/2019	01/23/2019	01/10/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	<0.000035	<0.000035	<0.000035	0.0020
Pyrene	mg/L	0.00010	0.0033	0.000021 J	<0.000019
Metals					
Arsenic	mg/L	0.00216	0.0101	<0.000400	0.000924 J
Lead	mg/L	0.00412	<0.000600	0.000859 J	0.00141 J

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "-" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-49A	MW-50A	MW-51A	MW-51C
Sample Name:	WG-1620-MW49A-20190123	WG-1620-MW50A-20190110	WG-1620-MW51A-20190110	WG-1620-MW51C-20190110
Sample Date:	01/23/2019	01/10/2019	01/10/2019	01/10/2019
Parameters	Unit			
Volatile Organic Compounds				
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020
Benzene	mg/L	0.0040	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	0.0031	<0.00030	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.0023	<0.00020	<0.00020
Vinyl chloride	mg/L	<0.00020	--	--
Xylenes (total)	mg/L	0.0087	<0.00030	<0.00030
Semi-volatile Organic Compounds				
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.000040
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	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	<0.000019	<0.000019
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	<0.000027	<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	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000055	<0.000037	0.000078 J
Chrysene	mg/L	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	<0.000020	<0.000020	<0.000020
Fluoranthene	mg/L	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	<0.000030	<0.000030	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	0.000089 J	<0.000020	0.00017
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000021	<0.000021	<0.000021

**Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019**

Location ID:	MW-49A	MW-50A	MW-51A	MW-51C
Sample Name:	WG-1620-MW49A-20190123	WG-1620-MW50A-20190110	WG-1620-MW51A-20190110	WG-1620-MW51C-20190110
Sample Date:	01/23/2019	01/10/2019	01/10/2019	01/10/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	<0.000019	<0.000019	<0.000019	<0.000019
Metals					
Arsenic	mg/L	0.00120 J	0.00134 J	<0.000400	<0.000400
Lead	mg/L	0.00778	<0.000600	<0.000600	<0.000600

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "-" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

	Location ID:	MW-53C	MW-54C	MW-58A	MW-59A
	Sample Name:	WG-1620-MW53C-20190114	WG-1620-MW54C-20190114	WG-1620-MW58A-20190123	WG-1620-MW59A-20190123
	Sample Date:	01/14/2019	01/14/2019	01/23/2019	01/23/2019
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	0.0011	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	0.00046 J	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	0.0032	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	0.0014	<0.00020
Vinyl chloride	mg/L	--	--	<0.00020	<0.00020
Xylenes (total)	mg/L	<0.00030	<0.00030	0.0050	<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	0.00010 J	<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	0.0014	0.000072 J	<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	0.014	0.023	<0.000027
Acenaphthylene	mg/L	<0.000015	<0.00020	0.00038	<0.000015
Anthracene	mg/L	<0.000014	0.0013	0.0020	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	0.000039 J	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	0.000056 J	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	0.000096 J	<0.000070	<0.000037
Chrysene	mg/L	<0.000021	0.000038 J	0.000030 J	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	0.000032 J	<0.000020
Dibenzofuran	mg/L	<0.000020	0.015	0.013	<0.000020
Fluoranthene	mg/L	<0.000010	0.0020	0.0020	<0.000010
Fluorene	mg/L	<0.000030	0.0085	0.015	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	<0.00025	0.019	0.00042	<0.000020
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	0.0052	0.0038	<0.000021

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-53C	MW-54C	MW-58A	MW-59A
Sample Name:	WG-1620-MW53C-20190114	WG-1620-MW54C-20190114	WG-1620-MW58A-20190123	WG-1620-MW59A-20190123
Sample Date:	01/14/2019	01/14/2019	01/23/2019	01/23/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	<0.000035	<0.000035	0.000074 J	<0.000035
Pyrene	mg/L	<0.000019	0.0010	0.00088	<0.000019
Metals					
Arsenic	mg/L	<0.000400	0.00123 J	0.00232	0.00243
Lead	mg/L	<0.000600	<0.000600	<0.000600	<0.000600

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "-" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

	Location ID:	MW-59B	MW-59D	MW-59D	MW-60A
	Sample Name:	WG-1620-MW59B-20190123	WG-1620-MW59D-20190124	WG-1620-FD05-20190124	WG-1620-MW60A-20190111
	Sample Date:	01/23/2019	01/24/2019	01/24/2019 Duplicate	01/11/2019
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	--	--	<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	0.000033 J	<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	<0.000056	<0.000037	<0.000037	<0.000092
Chrysene	mg/L	0.000036 J	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	0.000064 J
Dibenzofuran	mg/L	<0.000020	<0.000020	<0.000020	<0.000020
Fluoranthene	mg/L	0.000051 J	<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	0.000072 J	<0.000020	<0.000020	<0.000020
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

**Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019**

Location ID:	MW-59B	MW-59D	MW-59D	MW-60A
Sample Name:	WG-1620-MW59B-20190123	WG-1620-MW59D-20190124	WG-1620-FD05-20190124	WG-1620-MW60A-20190111
Sample Date:	01/23/2019	01/24/2019	01/24/2019 Duplicate	01/11/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	0.000053 J	<0.000019	<0.000019	<0.000019
Metals					
Arsenic	mg/L	0.000983 J	0.000765 J	0.000637 J	0.00453
Lead	mg/L	0.00108 J	0.000917 J	0.000727 J	<0.000600

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "-" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

	Location ID:	MW-61A	MW-62B	MW-63B	MW-64A
	Sample Name:	WG-1620-MW61A-20190123	WG-1620-MW62B-20190123	WG-1620-MW63B-20190114	WG-1620-MW64A-20190123
	Sample Date:	01/23/2019	01/23/2019	01/14/2019	01/23/2019
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	0.35	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	0.00073 J	<0.00030
Ethylbenzene	mg/L	<0.00030	<0.00030	0.48	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	0.0071	<0.00020
Vinyl chloride	mg/L	<0.00020	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	0.11	<0.00030
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.00021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.00040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.00059	<0.000058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.00042	<0.000042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.00021	<0.000021
2-Methylnaphthalene	mg/L	<0.000019	<0.000019	0.042	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.00020	<0.000020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.00047	<0.000047
Acenaphthene	mg/L	<0.000027	<0.000027	<0.00027	<0.000027
Acenaphthylene	mg/L	<0.000015	<0.000015	0.0029	<0.000015
Anthracene	mg/L	<0.000014	<0.000014	0.00017 J	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.00051	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.00020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.00030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000037	<0.000037	<0.00037	<0.000037
Chrysene	mg/L	<0.000021	<0.000021	<0.00021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.00020	<0.000020
Dibenzofuran	mg/L	<0.000020	<0.000020	0.0087	<0.000020
Fluoranthene	mg/L	<0.000010	<0.000010	<0.00010	<0.000010
Fluorene	mg/L	<0.000030	<0.000030	0.0029	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.00025	<0.000025
Naphthalene	mg/L	<0.000020	<0.000020	2.1	<0.000020
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.00024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.00080	<0.000079
Phenanthrene	mg/L	<0.000021	<0.000021	0.00094 J	<0.000021

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-61A	MW-62B	MW-63B	MW-64A
Sample Name:	WG-1620-MW61A-20190123	WG-1620-MW62B-20190123	WG-1620-MW63B-20190114	WG-1620-MW64A-20190123
Sample Date:	01/23/2019	01/23/2019	01/14/2019	01/23/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	<0.000035	<0.000035	<0.00035	<0.000035
Pyrene	mg/L	<0.000019	<0.000019	<0.00019	<0.000019
Metals					
Arsenic	mg/L	0.000690 J	<0.000400	0.00338	<0.000400
Lead	mg/L	<0.000600	<0.000600	<0.000600	<0.000600

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "-" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

	Location ID:	MW-65D	MW-66D	MW-67B	MW-68B
	Sample Name:	WG-1620-MW65D-20190124	WG-1620-MW66D-20190124	WG-1620-MW67B-20190124	WG-1620-MW68B-20190115
	Sample Date:	01/24/2019	01/24/2019	01/24/2019	01/15/2019
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	2.0
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	0.00056 J
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	0.50
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	0.086
Vinyl chloride	mg/L	--	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	1.2
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	<0.000021	<0.000021	<0.00021
2,4-Dimethylphenol	mg/L	<0.000090	<0.000040	<0.000040	0.050
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.00058
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.00042
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.00021
2-Methylnaphthalene	mg/L	0.00016	<0.000019	<0.000019	0.33
4,6-Dinitro-2-methylphenol	mg/L	<0.000020	<0.000020	<0.000020	<0.00020
4-Nitrophenol	mg/L	<0.000047	<0.000047	<0.000047	<0.00047
Acenaphthene	mg/L	<0.000027	<0.000027	<0.000027	0.100
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	0.0012
Anthracene	mg/L	<0.000014	<0.000014	<0.000014	0.0080
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<0.00050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	<0.00020
bis(2-Chloroethoxy)methane	mg/L	<0.000030	<0.000030	<0.000030	<0.00030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.000060 J	0.00017 J	0.000051 J	<0.00037
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	<0.00021
Di-n-butylphthalate (DBP)	mg/L	<0.000020	<0.000020	<0.000020	<0.00020
Dibenzofuran	mg/L	0.000039 J	<0.000020	<0.000020	0.10
Fluoranthene	mg/L	0.000027 J	<0.000010	<0.000010	0.0031
Fluorene	mg/L	<0.000030	<0.000030	<0.000030	0.057
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.00025
Naphthalene	mg/L	<0.0026	<0.000020	<0.000020	5.0
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.00024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.00079
Phenanthrene	mg/L	<0.000021	<0.000021	<0.000021	0.065

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-65D	MW-66D	MW-67B	MW-68B
Sample Name:	WG-1620-MW65D-20190124	WG-1620-MW66D-20190124	WG-1620-MW67B-20190124	WG-1620-MW68B-20190115
Sample Date:	01/24/2019	01/24/2019	01/24/2019	01/15/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	<0.00019	<0.000035	<0.000035	0.0019 J
Pyrene	mg/L	<0.000019	<0.000019	<0.000019	0.0015
Metals					
Arsenic	mg/L	0.00202	0.00204	<0.000400	0.0123
Lead	mg/L	<0.000600	<0.000600	0.00331	<0.000600

Notes:

< - Not detected at the associated reporting limit
 J - Estimated concentration
 "--" Not Applicable

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-68B	MW-68C	MW-69A	MW-71B
Sample Name:	WG-1620-FD03-20190115	WG-1620-MW68C-20190115	WG-1620-MW69A-20190110	WG-1620-MW71B-20190115
Sample Date:	01/15/2019 Duplicate	01/15/2019	01/10/2019	01/15/2019
Parameters	Unit			
Volatile Organic Compounds				
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020
Benzene	mg/L	1.9	<0.00020	0.0024
Chlorobenzene	mg/L	0.00056 J	<0.00030	<0.00030
Ethylbenzene	mg/L	0.49	<0.00030	0.00093 J
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.084	<0.00020	<0.00020
Vinyl chloride	mg/L	--	--	--
Xylenes (total)	mg/L	1.2	0.0011	<0.00030
Semi-volatile Organic Compounds				
1,2-Diphenylhydrazine	mg/L	<0.00021	<0.00021	<0.00021
2,4-Dimethylphenol	mg/L	0.058	<0.00040	<0.00040
2,4-Dinitrotoluene	mg/L	0.0013 J	<0.00059	<0.00058
2,6-Dinitrotoluene	mg/L	<0.00042	<0.00042	<0.00042
2-Chloronaphthalene	mg/L	<0.00021	<0.00021	<0.00021
2-Methylnaphthalene	mg/L	0.31	<0.00077	<0.00019
4,6-Dinitro-2-methylphenol	mg/L	0.0011 J	<0.00020	<0.00020
4-Nitrophenol	mg/L	0.0074 J	<0.00047	<0.00047
Acenaphthene	mg/L	0.13	<0.00027	<0.00027
Acenaphthylene	mg/L	0.0014	<0.00015	<0.00015
Anthracene	mg/L	0.0098	<0.00014	<0.00014
Benzo(a)anthracene	mg/L	<0.00050	<0.00051	<0.00050
Benzo(a)pyrene	mg/L	<0.00020	<0.00020	0.00021 J
bis(2-Chloroethoxy)methane	mg/L	0.0036	<0.00030	<0.00030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.00037	<0.00044	<0.00037
Chrysene	mg/L	<0.00021	<0.00021	<0.00021
Di-n-butylphthalate (DBP)	mg/L	<0.00020	<0.00020	<0.00020
Dibenzofuran	mg/L	0.12	0.00066 J	<0.00020
Fluoranthene	mg/L	0.0039	<0.00010	0.00039 J
Fluorene	mg/L	0.065	0.00057 J	<0.00030
N-Nitrosodiphenylamine	mg/L	0.0051	<0.00025	<0.00025
Naphthalene	mg/L	3.8	<0.00079	<0.00020
Nitrobenzene	mg/L	<0.00024	<0.00024	<0.00024
Pentachlorophenol	mg/L	<0.00079	<0.00080	<0.00079
Phenanthrene	mg/L	0.073	0.00062 J	<0.00021

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-68B	MW-68C	MW-69A	MW-71B
Sample Name:	WG-1620-FD03-20190115	WG-1620-MW68C-20190115	WG-1620-MW69A-20190110	WG-1620-MW71B-20190115
Sample Date:	01/15/2019 Duplicate	01/15/2019	01/10/2019	01/15/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	0.0015 J	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	0.0018	<0.000019	<0.000019	0.000037 J
Metals					
Arsenic	mg/L	0.0125	<0.000400	0.000717 J	0.00158 J
Lead	mg/L	<0.000600	<0.000600	0.000712 J	0.000845 J

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "-" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-72B	MW-74B	MW-76C	MW-77A
Sample Name:	WG-1620-MW72B-20190124	WG-1620-MW74B-20190123	WG-1620-MW76C-20190123	WG-1620-MW77A-201290201
Sample Date:	01/24/2019	01/23/2019	01/23/2019	02/01/2019

Parameters	Unit				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	0.011	<0.0020	<0.00020	<0.00020
Benzene	mg/L	0.63	0.83	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.0030	<0.0030	<0.00030	<0.00030
Ethylbenzene	mg/L	0.20	0.22	<0.00030	<0.00030
Methylene chloride	mg/L	<0.010	<0.010	<0.0010	<0.0010
Toluene	mg/L	0.58	0.69	<0.00020	<0.00020
Vinyl chloride	mg/L	--	--	--	--
Xylenes (total)	mg/L	0.63	0.63	<0.00030	<0.00030
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.00021	<0.00021	<0.000021	<0.000022
2,4-Dimethylphenol	mg/L	2.0	9.0	0.0041	<0.000042
2,4-Dinitrotoluene	mg/L	<0.00058	<0.00058	<0.000058	<0.000060
2,6-Dinitrotoluene	mg/L	<0.00042	<0.00042	<0.000042	<0.000044
2-Chloronaphthalene	mg/L	<0.00021	<0.00021	<0.000021	<0.000022
2-Methylnaphthalene	mg/L	0.071	0.22	0.00031	<0.000020
4,6-Dinitro-2-methylphenol	mg/L	<0.00020	<0.00020	<0.000020	<0.000021
4-Nitrophenol	mg/L	0.0073 J	<0.00047	<0.000047	<0.000049
Acenaphthene	mg/L	0.019	0.098	0.00011	<0.000028
Acenaphthylene	mg/L	0.00069 J	0.0032	<0.000015	<0.000016
Anthracene	mg/L	0.0015	0.0074	0.000041 J	<0.000015
Benzo(a)anthracene	mg/L	<0.00050	<0.00050	<0.000050	<0.000052
Benzo(a)pyrene	mg/L	<0.00020	<0.00020	<0.000020	<0.000021
bis(2-Chloroethoxy)methane	mg/L	<0.00030	<0.00030	<0.000030	<0.000031
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.00037	<0.00037	<0.000091	0.00010 J
Chrysene	mg/L	<0.00021	<0.00021	<0.000021	<0.000022
Di-n-butylphthalate (DBP)	mg/L	<0.00020	<0.00020	0.000027 J	0.000081 J
Dibenzofuran	mg/L	0.017	0.079	0.00011	<0.000021
Fluoranthene	mg/L	<0.00010	0.0038	<0.000010	<0.000010
Fluorene	mg/L	0.0091	0.056	0.000076 J	<0.000031
N-Nitrosodiphenylamine	mg/L	<0.00025	<0.00025	<0.000025	<0.000026
Naphthalene	mg/L	1.2	4.0	0.0070	<0.000021
Nitrobenzene	mg/L	<0.00024	<0.0024	<0.000024	<0.000025
Pentachlorophenol	mg/L	<0.00079	<0.00079	<0.000079	<0.000082
Phenanthrene	mg/L	0.0042	0.046	0.000086 J	<0.000022

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-72B	MW-74B	MW-76C	MW-77A
Sample Name:	WG-1620-MW72B-20190124	WG-1620-MW74B-20190123	WG-1620-MW76C-20190123	WG-1620-MW77A-20190201
Sample Date:	01/24/2019	01/23/2019	01/23/2019	02/01/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	0.58	5.0	0.0012	<0.000036
Pyrene	mg/L	<0.00019	0.0020	<0.000019	<0.000020
Metals					
Arsenic	mg/L	0.00106 J	0.00140 J	0.000579 J	0.00207
Lead	mg/L	<0.000600	<0.000600	<0.000600	<0.000600

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "--" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

	Location ID:	MW-79A	MW-80B	MW-81B	MW-82B
	Sample Name:	WG-1620-MW79A-20190123	WG-1620-MW80B-20190110	WG-1620-MW81B-20190110	WG-1620-MW82B-20190122
	Sample Date:	01/23/2019	01/10/2019	01/10/2019	01/22/2019
Parameters	Unit				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.0020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	0.45	<0.00020	<0.00020	<0.00020
Chlorobenzene	mg/L	<0.0030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	0.19	<0.00030	<0.00030	<0.00030
Methylene chloride	mg/L	<0.010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.55	<0.00020	<0.00020	<0.00020
Vinyl chloride	mg/L	--	--	--	--
Xylenes (total)	mg/L	0.54	<0.00030	<0.00030	<0.00030
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.00021	<0.000021	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	2.5	<0.000040	<0.000040	<0.000040
2,4-Dinitrotoluene	mg/L	<0.00058	<0.000058	<0.000058	<0.000058
2,6-Dinitrotoluene	mg/L	<0.00042	<0.000042	<0.000042	<0.000042
2-Chloronaphthalene	mg/L	<0.00021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.10	<0.000019	<0.000019	<0.000019
4,6-Dinitro-2-methylphenol	mg/L	<0.00020	<0.000020	<0.000020	<0.000020
4-Nitrophenol	mg/L	<0.00047	<0.000047	<0.000047	<0.000047
Acenaphthene	mg/L	0.039	<0.000027	<0.000027	<0.000027
Acenaphthylene	mg/L	0.0015	<0.000015	<0.000015	<0.000015
Anthracene	mg/L	0.0021	<0.000014	<0.000014	0.000042 J
Benzo(a)anthracene	mg/L	<0.00050	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.00020	<0.000020	<0.000020	<0.000020
bis(2-Chloroethoxy)methane	mg/L	<0.00030	<0.000030	<0.000030	<0.000030
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.00037	<0.000037	0.000058 J	<0.000037
Chrysene	mg/L	<0.00021	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	<0.00020	<0.000020	<0.000020	<0.000020
Dibenzofuran	mg/L	0.037	<0.000020	<0.000020	<0.000020
Fluoranthene	mg/L	0.0010	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.022	<0.000030	<0.000030	<0.000030
N-Nitrosodiphenylamine	mg/L	<0.00025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	1.9	0.000068 J	0.00016	<0.000020
Nitrobenzene	mg/L	<0.00024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.00079	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	0.012	<0.000021	<0.000021	<0.000021

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Location ID:	MW-79A	MW-80B	MW-81B	MW-82B
Sample Name:	WG-1620-MW79A-20190123	WG-1620-MW80B-20190110	WG-1620-MW81B-20190110	WG-1620-MW82B-20190122
Sample Date:	01/23/2019	01/10/2019	01/10/2019	01/22/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	0.51	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	0.00063 J	<0.000019	<0.000019	<0.000019
Metals					
Arsenic	mg/L	0.0133	0.00180 J	0.00116 J	0.00838
Lead	mg/L	<0.000600	<0.000600	<0.000600	<0.000600

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "--" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

	Location ID:	MW-83B	MW-83C	MW-84B	MW-85C
	Sample Name:	WG-1620-MW83B-20190115	WG-1620-MW83C-20190115	WG-1620-MW84B-20190124	WG-1620-MW85C-201290201
	Sample Date:	01/15/2019	01/15/2019	01/24/2019	02/01/2019
Parameters	Unit				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.00020
Benzene	mg/L	0.032	<0.00020	0.0024	<0.00020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.00030
Ethylbenzene	mg/L	0.091	<0.00030	0.0051	<0.00030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.0010
Toluene	mg/L	0.0082	<0.00020	0.00056 J	<0.00020
Vinyl chloride	mg/L	--	--	--	--
Xylenes (total)	mg/L	0.100	<0.00030	0.0033	<0.00030
Semi-volatile Organic Compounds					
1,2-Diphenylhydrazine	mg/L	<0.000021	0.000087 J	<0.000021	<0.000021
2,4-Dimethylphenol	mg/L	<0.000040	<0.000040	<0.00016	<0.000041
2,4-Dinitrotoluene	mg/L	<0.000058	<0.000058	<0.000058	<0.000059
2,6-Dinitrotoluene	mg/L	<0.000042	<0.000042	<0.000042	<0.000043
2-Chloronaphthalene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
2-Methylnaphthalene	mg/L	0.086	<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	<0.000048
Acenaphthene	mg/L	0.026	<0.000027	0.000032 J	<0.000028
Acenaphthylene	mg/L	0.00034	<0.000015	0.000043 J	<0.000015
Anthracene	mg/L	0.0012	<0.000014	<0.000014	<0.000014
Benzo(a)anthracene	mg/L	<0.000050	<0.000050	<0.000050	<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	<0.000030	<0.000031
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000064	<0.000037	<0.000037	<0.000038
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	0.00015 J	0.000060 J	<0.000020	<0.000020
Dibenzofuran	mg/L	0.020	<0.000020	<0.000020	<0.000020
Fluoranthene	mg/L	0.00051	<0.000010	<0.000010	<0.000010
Fluorene	mg/L	0.0099	<0.000030	<0.000030	<0.000031
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000026
Naphthalene	mg/L	1.6	<0.00036	<0.000020	<0.000020
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000079	<0.000079	<0.000079	<0.000081
Phenanthrene	mg/L	0.0074	<0.000021	<0.000021	<0.000021

**Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019**

Location ID:	MW-83B	MW-83C	MW-84B	MW-85C
Sample Name:	WG-1620-MW83B-20190115	WG-1620-MW83C-20190115	WG-1620-MW84B-20190124	WG-1620-MW85C-201290201
Sample Date:	01/15/2019	01/15/2019	01/24/2019	02/01/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	<0.000035	0.000038 J	<0.000035	<0.000036
Pyrene	mg/L	0.00030	<0.000019	<0.000019	<0.000019
Metals					
Arsenic	mg/L	0.0916	0.00616	0.00219	0.00136 J
Lead	mg/L	<0.000600	<0.000600	<0.000600	<0.000600

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "--" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

	Location ID:	MW-86C	MW-86C	MW-87C	MW-88C
	Sample Name:	WG-1620-MW86C-20190111	WG-1620-FD02-20190111	WG-1620-MW87C-20190122	WG-1620-MW88C-20190108
	Sample Date:	01/11/2019	01/11/2019 Duplicate	01/22/2019	01/08/2019
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	--	--	--	--
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	<0.000057	<0.00010	<0.000037	<0.000037
Chrysene	mg/L	<0.000021	<0.000021	<0.000021	<0.000021
Di-n-butylphthalate (DBP)	mg/L	0.000072 J	0.00011 J	<0.000020	<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	0.000079 J	<0.000020	<0.000020	<0.000059
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

**Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019**

Location ID:	MW-86C	MW-86C	MW-87C	MW-88C
Sample Name:	WG-1620-MW86C-20190111	WG-1620-FD02-20190111	WG-1620-MW87C-20190122	WG-1620-MW88C-20190108
Sample Date:	01/11/2019	01/11/2019 Duplicate	01/22/2019	01/08/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	<0.000019	<0.000019	<0.000019	<0.000019
Metals					
Arsenic	mg/L	0.00402	0.00405	0.000587 J	0.000864 J
Lead	mg/L	<0.000600	<0.000600	0.00124 J	<0.000600

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "--" Not Applicable

Table 2

Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

	Location ID:	MW-89B	MW-90B	P-11	TW-41B
	Sample Name:	WG-1620-MW89B-20190122	WG-1620-MW90B-20190122	WG-1620-P11-20190109	WG-1620-TW41B-20190109
	Sample Date:	01/22/2019	01/22/2019	01/09/2019	01/09/2019
Parameters	Unit				
Volatile Organic Compounds					
1,2-Dichloroethane	mg/L	<0.00020	<0.00020	<0.00020	<0.0020
Benzene	mg/L	<0.00020	<0.00020	<0.00020	<0.0020
Chlorobenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.0030
Ethylbenzene	mg/L	<0.00030	<0.00030	<0.00030	<0.0030
Methylene chloride	mg/L	<0.0010	<0.0010	<0.0010	<0.010
Toluene	mg/L	<0.00020	<0.00020	<0.00020	<0.0020
Vinyl chloride	mg/L	--	--	--	--
Xylenes (total)	mg/L	<0.00030	<0.00030	<0.00030	<0.0030
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	<0.000059	<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	0.0098
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	0.058
Acenaphthylene	mg/L	<0.000015	<0.000015	<0.000015	0.00091
Anthracene	mg/L	<0.000014	<0.000014	<0.000014	0.0023
Benzo(a)anthracene	mg/L	<0.000051	<0.000050	<0.000050	<0.000050
Benzo(a)pyrene	mg/L	<0.000020	<0.000020	<0.000020	0.000097 J
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	<0.000037	<0.000037
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	0.026
Fluoranthene	mg/L	<0.000010	<0.000010	<0.000010	0.0014
Fluorene	mg/L	<0.000030	<0.000030	<0.000030	0.035
N-Nitrosodiphenylamine	mg/L	<0.000025	<0.000025	<0.000025	<0.000025
Naphthalene	mg/L	<0.000020	0.000045 J	<0.000020	0.061
Nitrobenzene	mg/L	<0.000024	<0.000024	<0.000024	<0.000024
Pentachlorophenol	mg/L	<0.000080	<0.000079	<0.000079	<0.000079
Phenanthrene	mg/L	<0.000021	<0.000021	<0.000021	0.0035

**Analytical Results Summary
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019**

Location ID:	MW-89B	MW-90B	P-11	TW-41B
Sample Name:	WG-1620-MW89B-20190122	WG-1620-MW90B-20190122	WG-1620-P11-20190109	WG-1620-TW41B-20190109
Sample Date:	01/22/2019	01/22/2019	01/09/2019	01/09/2019

Parameters	Unit				
Semi-volatile Organic Compounds (Continued)					
Phenol	mg/L	<0.000035	<0.000035	<0.000035	<0.000035
Pyrene	mg/L	<0.000019	<0.000019	<0.000019	0.00056
Metals					
Arsenic	mg/L	0.000683 J	0.00346	0.0183	0.125
Lead	mg/L	<0.000600	<0.000600	0.00192 J	<0.000600

Notes:

- < - Not detected at the associated reporting limit
- J - Estimated concentration
- "--" Not Applicable

Table 3

Analytical Methods
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Extraction to Analysis (Days)
VOCs	SW-846 8260C	Water	-	14
SVOCs	SW-846 8270	Water	7	40
Metals	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 Data Due to Analyte Concentrations in the Field Blanks
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Parameter	Field Blank ID	Blank Date (dd/mm/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
SVOCs	WQ-1620-FB01-20190108	01/08/2019	Naphthalene	0.000096 J	WG-1620-MW13-20190108	0.00022	<0.00022	mg/L
					WG-1620-MW15A-20190108	0.00032	<0.00032	mg/L
					WG-1620-MW15C-20190108	0.00032	<0.00032	mg/L
					WG-1620-MW39B-20190108	0.000092 J	<0.000092	mg/L
					WG-1620-MW88C-20190108	0.000059 J	<0.000059	mg/L
SVOCs	WQ-1620-FB02-20190109	01/09/2019	Naphthalene	0.00031	WG-1620-MW12A-20190109	0.00026	<0.00026	mg/L
					WG-1620-MW12C-20190109	0.00017	<0.00017	mg/L
SVOCs	WQ-1620-FB03-20190111	01/11/2019	bis(2-Ethylhexyl)phthalate (DEHP)	0.000058 J	WG-1620-FD02-20190111	0.00010 J	<0.00010	mg/L
					WG-1620-MW60A-20190111	0.000092 J	<0.000092	mg/L
					WG-1620-MW86C-20190111	0.000057 J	<0.000057	mg/L
SVOCs	WQ-1620-FB04-20190114	01/14/2019	2-Methylnaphthalene	0.00021	WG-1620-MW28A-20190114	0.000055 J	<0.000055	mg/L
			Acenaphthylene	0.000045 J	WG-1620-MW54C-20190114	0.00020	<0.00020	mg/L
			Dibenzofuran	0.000026 J	WG-1620-MW28A-20190114	0.00011	<0.00011	mg/L
			Naphthalene	0.0031	WG-1620-MW28A-20190114	0.0024	<0.0024	mg/L
					WG-1620-MW36A-20190114	0.000062 J	<0.000062	mg/L
		WG-1620-MW53C-20190114	0.00025	<0.00025	mg/L			
SVOCs	WQ-1620-FB05-20190115	01/15/2019	2-Methylnaphthalene	0.000046 J	WG-1620-MW25A-20190115	0.000051 J	<0.000051	mg/L
					WG-1620-MW26A-20190115	0.000090 J	<0.000090	mg/L
					WG-1620-MW34CR-20190115	0.000079 J	<0.000079	mg/L
			bis(2-Ethylhexyl)phthalate (DEHP)	0.000057 J	WG-1620-MW68C-20190115	0.000077 J	<0.000077	mg/L
					WG-1620-MW25A-20190115	0.000078 J	<0.000078	mg/L
					WG-1620-MW35B-20190115	0.00014 J	<0.00014	mg/L
		WG-1620-MW68C-20190115	0.000044 J	<0.000044	mg/L			

Table 4

Qualified Sample Data Due to Analyte Concentrations in the Field Blanks
Site Wide Groundwater Monitoring Event
Union Pacific Railroad (UPRR) / Houston TX-Wood Preserving Works
Houston, Texas
January-February 2019

Parameter	Field Blank ID	Blank Date (dd/mm/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units	
SVOCs	WQ-1620-FB05-20190115	01/15/2019	bis(2-Ethylhexyl)phthalate (DEHP) Naphthalene	0.000057 J 0.00056	WG-1620-MW83B-20190115	0.000064 J	<0.000064	mg/L	
					WG-1620-MW25A-20190115	0.00029	<0.00029	mg/L	
					WG-1620-MW26A-20190115	0.00049	<0.00049	mg/L	
					WG-1620-MW34CR-20190115	0.00069	<0.00069	mg/L	
					WG-1620-MW68C-20190115	0.00079	<0.00079	mg/L	
					WG-1620-MW83C-20190115	0.00036	<0.00036	mg/L	
SVOCs	WQ-1620-FB07-20190123	01/23/2019	bis(2-Ethylhexyl)phthalate (DEHP)	0.000053 J	WG-1620-MW32AR-20190123	0.000044 J	<0.000044	mg/L	
					WG-1620-MW47C-20190123	0.000056 J	<0.000056	mg/L	
					WG-1620-MW49A-20190123	0.000055 J	<0.000055	mg/L	
					WG-1620-MW58A-20190123	0.000070 J	<0.000070	mg/L	
					WG-1620-MW59B-20190123	0.000056 J	<0.000056	mg/L	
					WG-1620-MW76C-20190123	0.000091 J	<0.000091	mg/L	
SVOCs	WQ-1620-FB08-20190124	01/24/2019	2,4-Dimethylphenol	0.00057	WG-1620-MW19C-20190124	0.00032	<0.00032	mg/L	
					WG-1620-MW65D-20190124	0.000090 J	<0.000090	mg/L	
					WG-1620-MW84B-20190124	0.00016 J	<0.00016	mg/L	
			Naphthalene		0.00075	WG-1620-MW19C-20190124	0.00036	<0.00036	mg/L
						WG-1620-MW65D-20190124	0.0026	<0.0026	mg/L
						Phenol	0.00041	WG-1620-MW19C-20190124	0.00013 J
WG-1620-MW65D-20190124	0.00019 J	<0.00019	mg/L						

Notes:

SVOCs - Semi-volatile Organic Compounds

< - Not detected at the associated reporting limit

J - Estimated concentration

Attachment A

Laboratory NELAP Certificate



Texas Commission on Environmental Quality

NELAP-Recognized Laboratory Accreditation is hereby awarded to



ALS Laboratory Group, Environmental Services Division (Houston, Texas)

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

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

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

Certificate Number: T104704231-18-21

Effective Date: 5/1/2018

Expiration Date: 4/30/2019

A handwritten signature in black ink, reading "Stephani Bergesen Perdue".

Executive Director Texas Commission on
Environmental Quality



Texas Commission on Environmental Quality



NELAP - Recognized Laboratory Fields of Accreditation

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

Certificate: T104704231-18-21
Expiration Date: 4/30/2019
Issue Date: 5/1/2018

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 200.8

Analyte	AB	Analyte ID	Method ID
Copper	TX	1055	10014605
Lead	TX	1075	10014605



Texas Commission on Environmental Quality



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Matrix: Non-Potable Water

Method	Analyte	AB	Analyte ID	Method ID
EPA 1010	Ignitability	TX	1780	10116606
EPA 110.1	Color	TX	1605	10005206
EPA 120.1	Conductivity	TX	1610	10006403
EPA 1311	TCLP	TX	849	10118806
EPA 1312	SPLP	TX	850	10119003
EPA 150.1	pH	TX	1900	10008409
EPA 160.1	Residue-filterable (TDS)	TX	1955	10009208
EPA 160.2	Residue-nonfilterable (TSS)	TX	1960	10009606
EPA 160.3	Residue-total (total solids)	TX	1950	10010001
EPA 160.4	Residue-volatile	TX	1970	10010409
EPA 1613		AB	Analyte ID	Method ID



Texas Commission on Environmental Quality



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Matrix: Non-Potable Water

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
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



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Issue Date: 5/1/2018

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Matrix: *Non-Potable Water*

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
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



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Matrix: Non-Potable Water

Method	Analyte	AB	Analyte ID	Method ID
EPA 245.1	Mercury	TX	1095	10036609
EPA 300.0	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
EPA 305.1	Acidity, as CaCO ₃	TX	1500	10276207
EPA 310.1	Alkalinity as CaCO ₃	TX	1505	10054805
EPA 325.1	Chloride	TX	1575	10056801
EPA 335.1	Amenable cyanide	TX	1510	10060001
EPA 335.2	Total cyanide	TX	1645	10278203
EPA 335.3	Total cyanide	TX	1645	10061004



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Matrix: Non-Potable Water

Method	Analyte	AB	Analyte ID	Method ID
EPA 335.4	Total cyanide	TX	1645	10061402
EPA 350.3	Ammonia as N	TX	1515	10064401
EPA 351.3	Kjeldahl Nitrogen (Total Kjeldahl Nitrogen-TKN)	TX	1790	10065802
EPA 360.1	Oxygen, dissolved	TX	1880	10069008
EPA 365.3	Orthophosphate as P	TX	1870	10070801
	Phosphorus	TX	1910	10070801
EPA 375.4	Sulfate	TX	2000	10073800
EPA 376.1	Sulfide	TX	2005	10074201
EPA 405.1	Biochemical oxygen demand (BOD)	TX	1530	10075602
	Carbonaceous BOD, CBOD	TX	1555	10075602
EPA 410.4	Chemical oxygen demand (COD)	TX	1565	10077404
EPA 415.1	Total Organic Carbon (TOC)	TX	2040	10078407



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Matrix: Non-Potable Water

Method EPA 420.1

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10079400

Method EPA 420.4

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10080203

Method EPA 425.1

Analyte	AB	Analyte ID	Method ID
Surfactants - MBAS	TX	2025	10080601

Method EPA 602

Analyte	AB	Analyte ID	Method ID
Benzene	TX	4375	10102202
Ethylbenzene	TX	4765	10102202
m+p-xylene	TX	5240	10102202
Methyl tert-butyl ether (MTBE)	TX	5000	10102202
o-Xylene	TX	5250	10102202
Toluene	TX	5140	10102202
Xylene (total)	TX	5260	10102202

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



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Matrix: Non-Potable Water

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
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



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Matrix: Non-Potable Water

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
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



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Matrix: Non-Potable Water

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
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



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Matrix: Non-Potable Water

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
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



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Matrix: Non-Potable Water

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
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



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Matrix: Non-Potable Water

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
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



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Matrix: Non-Potable Water

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
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



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Matrix: Non-Potable Water

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
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 (Dichloroprop, 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



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Matrix: Non-Potable Water

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
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



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NELAP - Recognized Laboratory Fields of Accreditation

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

10450 Stancliff Road, Suite 210
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Certificate: T104704231-18-21
Expiration Date: 4/30/2019
Issue Date: 5/1/2018

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Matrix: Non-Potable Water

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
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



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Matrix: *Non-Potable Water*

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
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



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Matrix: Non-Potable Water

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

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



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Matrix: Non-Potable Water

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-Acetylamino fluorene	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



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Matrix: Non-Potable Water

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
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



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Matrix: *Non-Potable Water*

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
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
Dichlorvos (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



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Matrix: *Non-Potable Water*

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
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



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Matrix: *Non-Potable Water*

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
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



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Matrix: Non-Potable Water

Toluene diisocyanate	TX	6775	10185203
Trifluralin (Treflan)	TX	8295	10185203

Method EPA 8280

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	TX	9516	10186808
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	TX	9519	10186808
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	TX	9420	10186808
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	TX	9426	10186808
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	TX	9423	10186808
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	TX	9471	10186808
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	TX	9453	10186808
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	TX	9474	10186808
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	TX	9456	10186808
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	TX	9477	10186808
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	TX	9459	10186808
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	TX	9543	10186808
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	TX	9540	10186808
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	TX	9480	10186808
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF)	TX	9549	10186808
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	TX	9612	10186808
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10186808
Total Heptachlorodibenzofuran (Total HpCDF)	TX	9444	10186808
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	TX	9438	10186808
Total Hexachlorodibenzofuran (Total HxCDF)	TX	9483	10186808
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	TX	9468	10186808
Total Pentachlorodibenzofuran (Total PeCDF)	TX	9552	10186808
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	TX	9555	10186808
Total Tetrachlorodibenzofuran (Total TCDF)	TX	9615	10186808
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	TX	9609	10186808

Method EPA 8290

Analyte	AB	Analyte ID	Method ID
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Matrix: Non-Potable Water

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
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 8315

Analyte	AB	Analyte ID	Method ID
Formaldehyde	TX	4815	10187801

Method EPA 8316

Analyte	AB	Analyte ID	Method ID
Acrylamide	TX	4330	10188202



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Matrix: Non-Potable Water

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 9012

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	TX	1510	10243206
Total cyanide	TX	1645	10243206

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



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Matrix: Non-Potable Water

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 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



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Matrix: Non-Potable Water

n-Butane	TX	5007	10212905
n-Propane	TX	5029	10212905
Method HACH 8000			
Analyte Chemical oxygen demand (COD)	AB TX	Analyte ID 1565	Method ID 60003001
Method SM 2120 B			
Analyte Color	AB TX	Analyte ID 1605	Method ID 20223807
Method SM 2310 B (4a)			
Analyte Acidity, as CaCO ₃	AB TX	Analyte ID 1500	Method ID 20002806
Method SM 2320 B			
Analyte Alkalinity as CaCO ₃	AB TX	Analyte ID 1505	Method ID 20045005
Method SM 2340 B			
Analyte Total hardness as CaCO ₃	AB TX	Analyte ID 1755	Method ID 20046008
Method SM 2510 B			
Analyte Conductivity	AB TX	Analyte ID 1610	Method ID 20048004
Method SM 2540 B			
Analyte Residue-total (total solids)	AB TX	Analyte ID 1950	Method ID 20004608
Method SM 2540 C			
Analyte Residue-filterable (TDS)	AB TX	Analyte ID 1955	Method ID 20049803
Method SM 2540 D			
Analyte Residue-nonfilterable (TSS)	AB TX	Analyte ID 1960	Method ID 20004802
Method SM 3500-Cr B			
Analyte Chromium (VI)	AB TX	Analyte ID 1045	Method ID 20065809



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Matrix: Non-Potable Water

Method	Analyte	AB	Analyte ID	Method ID
SM 4500-Cl ⁻ F	Total residual chlorine	TX	1940	20080482
SM 4500-Cl ⁻ E	Chloride	TX	1575	20019209
SM 4500-CN ⁻ C	Total cyanide	TX	1645	20020808
SM 4500-CN ⁻ E	Total cyanide	TX	1645	20021209
SM 4500-CN ⁻ G	Amenable cyanide	TX	1510	20021607
SM 4500-H ⁺ B	pH	TX	1900	20104603
SM 4500-NH ₃ D	Ammonia as N	TX	1515	20108809
	Kjeldahl Nitrogen (Total Kjeldahl Nitrogen-TKN)	TX	1790	20108809
SM 4500-NH ₃ F	Ammonia as N	TX	1515	20023001
SM 4500-O G	Oxygen, dissolved	TX	1880	20025405
SM 4500-P E	Orthophosphate as P	TX	1870	20025803
	Phosphorus	TX	1910	20025803



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Matrix: Non-Potable Water

Method	AB	Analyte ID	Method ID
SM 4500-S2 ⁻ F			
Analyte	AB	Analyte ID	Method ID
Sulfide	TX	2005	20126209
SM 4500-SiO2 D			
Analyte	AB	Analyte ID	Method ID
Silica as SiO2	TX	1990	20127202
SM 4500-SO3 ⁻ B			
Analyte	AB	Analyte ID	Method ID
Sulfite	TX	2015	20026806
SM 5210 B			
Analyte	AB	Analyte ID	Method ID
Biochemical oxygen demand (BOD)	TX	1530	20027401
Carbonaceous BOD, CBOD	TX	1555	20027401
SM 5310 B			
Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	20137206
SM 5310 C			
Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	20138209
SM 5540 C			
Analyte	AB	Analyte ID	Method ID
Surfactants - MBAS	TX	2025	20144405
TCEQ 1005			
Analyte	AB	Analyte ID	Method ID
Total Petroleum Hydrocarbons (TPH)	TX	2050	90019208



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Matrix: Solid & Chemical Materials

Method	Analyte	AB	Analyte ID	Method ID
ASTM D2216	Moisture	TX	10337	ASTM D2216-05
EPA 1010	Ignitability	TX	1780	10116606
EPA 1030	Ignitability	TX	1780	10117201
EPA 1311	TCLP	TX	849	10118806
EPA 1312	SPLP	TX	850	10119003
EPA 1668	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
EPA 200.8	Uranium	TX	3035	10014605



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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



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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



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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



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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 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 (Dichloroprop, Weedone)	TX	8605	10183003



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Matrix: Solid & Chemical Materials

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
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



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Matrix: Solid & Chemical Materials

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
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



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Matrix: *Solid & Chemical Materials*

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
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



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Matrix: Solid & Chemical Materials

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
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



Texas Commission on Environmental Quality



NELAP - Recognized Laboratory Fields of Accreditation

ALS Laboratory Group, Environmental Services Division (Houston, Texas)

10450 Stancliff Road, Suite 210
Houston, TX 77099-4338

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Expiration Date: 4/30/2019
Issue Date: 5/1/2018

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Matrix: Solid & Chemical Materials

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-Acetylamino fluorene	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



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Matrix: Solid & Chemical Materials

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
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



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Matrix: Solid & Chemical Materials

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
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



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Matrix: Solid & Chemical Materials

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
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



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Matrix: Solid & Chemical Materials

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
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 8280

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	TX	9516	10186808
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	TX	9519	10186808
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	TX	9420	10186808
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	TX	9426	10186808
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	TX	9423	10186808
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	TX	9471	10186808
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	TX	9453	10186808
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	TX	9474	10186808
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	TX	9456	10186808



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Matrix: Solid & Chemical Materials

1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	TX	9477	10186808
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	TX	9459	10186808
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	TX	9543	10186808
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	TX	9540	10186808
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	TX	9480	10186808
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF)	TX	9549	10186808
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	TX	9612	10186808
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	TX	9618	10186808
Total Heptachlorodibenzofuran (Total HpCDF)	TX	9444	10186808
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	TX	9438	10186808
Total Hexachlorodibenzofuran (Total HxCDF)	TX	9483	10186808
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	TX	9468	10186808
Total Pentachlorodibenzofuran (Total PeCDF)	TX	9552	10186808
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	TX	9555	10186808
Total Tetrachlorodibenzofuran (Total TCDF)	TX	9615	10186808
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	TX	9609	10186808

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



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Matrix: Solid & Chemical Materials

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 8315

Analyte	AB	Analyte ID	Method ID
Formaldehyde	TX	4815	10187801

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



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Matrix: Solid & Chemical Materials

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
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



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Matrix: Solid & Chemical Materials

Sulfate	TX	2000	10199209
Method EPA 9060			
Analyte Total Organic Carbon (TOC)	AB TX	Analyte ID 2040	Method ID 10200201
Method EPA 9065			
Analyte Total phenolics	AB TX	Analyte ID 1905	Method ID 10200405
Method EPA 9071			
Analyte n-Hexane Extractable Material (HEM) (O&G)	AB TX	Analyte ID 1803	Method ID 10201204
Method EPA 9095			
Analyte Paint Filter Liquids Test	AB TX	Analyte ID 10312	Method ID 10204009
Method EPA 9250			
Analyte Chloride	AB TX	Analyte ID 1575	Method ID 10207202
Method SM 2320 B			
Analyte Alkalinity as CaCO ₃	AB TX	Analyte ID 1505	Method ID 20045005
Method SM 2510 B			
Analyte Conductivity	AB TX	Analyte ID 1610	Method ID 20048004
Method SM 2540 G			
Analyte Residue-total (total solids)	AB TX	Analyte ID 1950	Method ID 20005203
Method SSA/ASA Part 3:34			
Analyte Carbon, organic (Walkley-Black)	AB TX	Analyte ID 10340	Method ID SSA/ASA Pt 3:34
Method TCEQ 1005			
Analyte Total Petroleum Hydrocarbons (TPH)	AB TX	Analyte ID 2050	Method ID 90019208



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January 24, 2019

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS19010437**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 14 sample(s) on Jan 10, 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.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010437

**TRRP Laboratory Data
Package Cover Page**

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: HS19010437

**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: 01/24/2019			
Project Name: Houston TX-Wood Preserving Works				Laboratory Job Number: HS19010437			
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 136572,136574,136587,R331023,R331030			
# 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			4
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
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 effects 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: 01/24/2019			
Project Name: Houston TX-Wood Preserving Works				Laboratory Job Number: HS19010437			
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 136572,136574,136587,R331023,R331030			
# 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: 01/24/2019
Project Name: Houston TX-Wood Preserving Works		Laboratory Job Number: HS19010437
Reviewer Name: Dane Wacasey		Prep Batch Number(s): 136572,136574,136587,R331023,R331030
ER# ⁵	Description	
1	Semivolatile Organics Method SW8270, samples WG-1620-MW15A-20190108, WG-1620-MW20A-20190108, WG-1620-MW40B-20190108; the surrogate recoveries could not be determined due to dilution below the calibration range.	
2	Batch 136673, Texas TPH by TX1005, LCS/LCSD RPD was above the RPD limit for surrogates 2-Fluorobiphenyl and Trifluoromethyl benzene. The individual recoveries were in control.	
3	Batches 136572 and 136574, Semivolatile Organics Method SW8270, LCS/LCSD were analyzed and reported in lieu of an MS/MSD for the batches.	
4	Batch R331030, Volatile Organics Method SW8260, sample HS19010488-02, MS and MSD were performed on unrelated sample.	
<p>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.</p> <p>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).</p>		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19010437

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19010437-01	WG-1620-MW13-20190108	Groundwater		08-Jan-2019 09:45	10-Jan-2019 09:05	<input type="checkbox"/>
HS19010437-02	WG-1620-MW14-20190108	Groundwater		08-Jan-2019 10:40	10-Jan-2019 09:05	<input type="checkbox"/>
HS19010437-03	WG-1620-MW15A-20190108	Groundwater		08-Jan-2019 11:30	10-Jan-2019 09:05	<input type="checkbox"/>
HS19010437-04	WG-1620-MW15C-20190108	Groundwater		08-Jan-2019 12:20	10-Jan-2019 09:05	<input type="checkbox"/>
HS19010437-05	WG-1620-MW15B-20190108	Groundwater		08-Jan-2019 13:05	10-Jan-2019 09:05	<input type="checkbox"/>
HS19010437-06	WG-1620-MW20A-20190108	Groundwater		08-Jan-2019 15:00	10-Jan-2019 09:05	<input type="checkbox"/>
HS19010437-07	WG-1620-MW88C-20190108	Groundwater		08-Jan-2019 16:00	10-Jan-2019 09:05	<input type="checkbox"/>
HS19010437-08	WG-1620-MW42B-20190108	Groundwater		08-Jan-2019 16:55	10-Jan-2019 09:05	<input type="checkbox"/>
HS19010437-09	WG-1620-MW40B-20190108	Groundwater		08-Jan-2019 17:45	10-Jan-2019 09:05	<input type="checkbox"/>
HS19010437-10	WG-1620-MW39B-20190108	Groundwater		08-Jan-2019 18:45	10-Jan-2019 09:05	<input type="checkbox"/>
HS19010437-11	WG-1620-MW12A-20190109	Groundwater		09-Jan-2019 07:35	10-Jan-2019 09:05	<input type="checkbox"/>
HS19010437-12	WG-1620-MW12C-20190109	Groundwater		09-Jan-2019 08:25	10-Jan-2019 09:05	<input type="checkbox"/>
HS19010437-13	WQ-1620-FB01-20190108	Water		08-Jan-2019 19:00	10-Jan-2019 09:05	<input type="checkbox"/>
HS19010437-14	WQ-1620-TB01-20190108	Water	ALS- 121118-63	09-Jan-2019 00:00	10-Jan-2019 09:05	<input type="checkbox"/>

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WG-1620-MW13-20190108
 Collection Date: 08-Jan-2019 09:45

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-01
 Matrix:Groundwater

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-2019 15:27
Benzene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 15:27
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 15:27
Ethylbenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 15:27
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jan-2019 15:27
Toluene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 15:27
Xylenes, Total	U		0.00030	0.0010	mg/L	1	14-Jan-2019 15:27
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>91.8</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 15:27</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>92.9</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 15:27</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 15:27</i>
<i>Surr: Toluene-d8</i>	<i>101</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 15:27</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WG-1620-MW13-20190108
 Collection Date: 08-Jan-2019 09:45

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jan-2019 13:45
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jan-2019 13:45
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jan-2019 13:45
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jan-2019 13:45
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jan-2019 13:45
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	22-Jan-2019 13:45
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jan-2019 13:45
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jan-2019 13:45
Acenaphthene	U		0.000027	0.00010	mg/L	1	22-Jan-2019 13:45
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jan-2019 13:45
Anthracene	0.00039		0.000014	0.00010	mg/L	1	22-Jan-2019 13:45
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jan-2019 13:45
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jan-2019 13:45
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jan-2019 13:45
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	22-Jan-2019 13:45
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 13:45
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jan-2019 13:45
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jan-2019 13:45
Fluoranthene	U		0.000010	0.00010	mg/L	1	22-Jan-2019 13:45
Fluorene	U		0.000030	0.00010	mg/L	1	22-Jan-2019 13:45
Naphthalene	0.00022		0.000020	0.00010	mg/L	1	22-Jan-2019 13:45
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jan-2019 13:45
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jan-2019 13:45
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jan-2019 13:45
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 13:45
Phenol	U		0.000035	0.00020	mg/L	1	22-Jan-2019 13:45
Pyrene	U		0.000019	0.00010	mg/L	1	22-Jan-2019 13:45
<i>Surr: 2,4,6-Tribromophenol</i>	<i>58.1</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 13:45</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>52.4</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 13:45</i>
<i>Surr: 2-Fluorophenol</i>	<i>40.8</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 13:45</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>62.5</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 13:45</i>
<i>Surr: Nitrobenzene-d5</i>	<i>45.3</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 13:45</i>
<i>Surr: Phenol-d6</i>	<i>54.1</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 13:45</i>
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 16-Jan-2019		Analyst: JHD
Arsenic	0.0602		0.000400	0.00200	mg/L	1	18-Jan-2019 23:42
Lead	0.00133	J	0.000600	0.00200	mg/L	1	21-Jan-2019 15:32

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-MW14-20190108
 Collection Date: 08-Jan-2019 10:40

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jan-2019 16:39
Benzene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 16:39
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 16:39
Ethylbenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 16:39
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jan-2019 16:39
Toluene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 16:39
Xylenes, Total	U		0.00030	0.0010	mg/L	1	14-Jan-2019 16:39
<i>Surr: 1,2-Dichloroethane-d4</i>		96.9		70-126	%REC	1	14-Jan-2019 16:39
<i>Surr: 4-Bromofluorobenzene</i>		96.1		81-113	%REC	1	14-Jan-2019 16:39
<i>Surr: Dibromofluoromethane</i>		104		77-123	%REC	1	14-Jan-2019 16:39
<i>Surr: Toluene-d8</i>		99.5		82-127	%REC	1	14-Jan-2019 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-MW14-20190108
 Collection Date: 08-Jan-2019 10:40

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jan-2019 14:04
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jan-2019 14:04
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jan-2019 14:04
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jan-2019 14:04
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jan-2019 14:04
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	22-Jan-2019 14:04
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jan-2019 14:04
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jan-2019 14:04
Acenaphthene	U		0.000027	0.00010	mg/L	1	22-Jan-2019 14:04
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jan-2019 14:04
Anthracene	0.000052	J	0.000014	0.00010	mg/L	1	22-Jan-2019 14:04
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jan-2019 14:04
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jan-2019 14:04
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jan-2019 14:04
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	22-Jan-2019 14:04
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 14:04
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jan-2019 14:04
Di-n-butyl phthalate	0.000022	J	0.000020	0.00020	mg/L	1	22-Jan-2019 14:04
Fluoranthene	U		0.000010	0.00010	mg/L	1	22-Jan-2019 14:04
Fluorene	U		0.000030	0.00010	mg/L	1	22-Jan-2019 14:04
Naphthalene	U		0.000020	0.00010	mg/L	1	22-Jan-2019 14:04
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jan-2019 14:04
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jan-2019 14:04
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jan-2019 14:04
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 14:04
Phenol	U		0.000035	0.00020	mg/L	1	22-Jan-2019 14:04
Pyrene	U		0.000019	0.00010	mg/L	1	22-Jan-2019 14:04
<i>Surr: 2,4,6-Tribromophenol</i>	<i>57.9</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 14:04</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>59.0</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 14:04</i>
<i>Surr: 2-Fluorophenol</i>	<i>56.3</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 14:04</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>60.8</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 14:04</i>
<i>Surr: Nitrobenzene-d5</i>	<i>60.1</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 14:04</i>
<i>Surr: Phenol-d6</i>	<i>64.8</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 14:04</i>
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 16-Jan-2019		Analyst: JHD
Arsenic	0.000752	J	0.000400	0.00200	mg/L	1	18-Jan-2019 23:44
Lead	U		0.000600	0.00200	mg/L	1	21-Jan-2019 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-MW15A-20190108
 Collection Date: 08-Jan-2019 11:30

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jan-2019 17:02
Benzene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 17:02
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 17:02
Ethylbenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 17:02
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jan-2019 17:02
Toluene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 17:02
Xylenes, Total	0.00080	J	0.00030	0.0010	mg/L	1	14-Jan-2019 17:02
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>95.1</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 17:02</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>97.1</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 17:02</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 17:02</i>
<i>Surr: Toluene-d8</i>	<i>99.1</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 17:02</i>

Note: See 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-20190108
 Collection Date: 08-Jan-2019 11:30

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 14-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jan-2019 14:23
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jan-2019 14:23
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jan-2019 14:23
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jan-2019 14:23
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jan-2019 14:23
2-Methylnaphthalene	0.0098		0.000019	0.00010	mg/L	1	22-Jan-2019 14:23
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jan-2019 14:23
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jan-2019 14:23
Acenaphthene	0.10		0.0027	0.010	mg/L	100	24-Jan-2019 15:16
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jan-2019 14:23
Anthracene	0.0025		0.000014	0.00010	mg/L	1	22-Jan-2019 14:23
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jan-2019 14:23
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jan-2019 14:23
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jan-2019 14:23
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	22-Jan-2019 14:23
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 14:23
Dibenzofuran	0.023		0.00020	0.0010	mg/L	10	23-Jan-2019 15:05
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jan-2019 14:23
Fluoranthene	0.0012		0.000010	0.00010	mg/L	1	22-Jan-2019 14:23
Fluorene	0.038		0.00030	0.0010	mg/L	10	23-Jan-2019 15:05
Naphthalene	0.00032		0.000020	0.00010	mg/L	1	22-Jan-2019 14:23
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jan-2019 14:23
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jan-2019 14:23
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jan-2019 14:23
Phenanthrene	0.0090		0.000021	0.00010	mg/L	1	22-Jan-2019 14:23
Phenol	U		0.000035	0.00020	mg/L	1	22-Jan-2019 14:23
Pyrene	0.00051		0.000019	0.00010	mg/L	1	22-Jan-2019 14:23
Surr: 2,4,6-Tribromophenol	62.1			34-129	%REC	10	23-Jan-2019 15:05
Surr: 2,4,6-Tribromophenol	0	JS		34-129	%REC	100	24-Jan-2019 15:16
Surr: 2,4,6-Tribromophenol	47.6			34-129	%REC	1	22-Jan-2019 14:23
Surr: 2-Fluorobiphenyl	45.3			40-125	%REC	1	22-Jan-2019 14:23
Surr: 2-Fluorobiphenyl	0	JS		40-125	%REC	100	24-Jan-2019 15:16
Surr: 2-Fluorobiphenyl	60.9			40-125	%REC	10	23-Jan-2019 15:05
Surr: 2-Fluorophenol	57.7			20-120	%REC	10	23-Jan-2019 15:05
Surr: 2-Fluorophenol	0	JS		20-120	%REC	100	24-Jan-2019 15:16
Surr: 2-Fluorophenol	47.6			20-120	%REC	1	22-Jan-2019 14:23
Surr: 4-Terphenyl-d14	60.3			40-135	%REC	1	22-Jan-2019 14:23
Surr: 4-Terphenyl-d14	0	JS		40-135	%REC	100	24-Jan-2019 15:16
Surr: 4-Terphenyl-d14	67.5			40-135	%REC	10	23-Jan-2019 15:05

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-MW15A-20190108
 Collection Date: 08-Jan-2019 11:30

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: GEY
Surr: Nitrobenzene-d5	59.8			41-120	%REC	10	23-Jan-2019 15:05
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	100	24-Jan-2019 15:16
Surr: Nitrobenzene-d5	53.1			41-120	%REC	1	22-Jan-2019 14:23
Surr: Phenol-d6	56.1			20-120	%REC	1	22-Jan-2019 14:23
Surr: Phenol-d6	0	JS		20-120	%REC	100	24-Jan-2019 15:16
Surr: Phenol-d6	58.6			20-120	%REC	10	23-Jan-2019 15:05
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 16-Jan-2019		Analyst: JHD
Arsenic	0.0270		0.000400	0.00200	mg/L	1	18-Jan-2019 23:46
Lead	0.000722	J	0.000600	0.00200	mg/L	1	21-Jan-2019 15:36

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-MW15C-20190108
 Collection Date: 08-Jan-2019 12:20

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jan-2019 17:26
Benzene	0.00058	J	0.00020	0.0010	mg/L	1	14-Jan-2019 17:26
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 17:26
Ethylbenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 17:26
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jan-2019 17:26
Toluene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 17:26
Xylenes, Total	U		0.00030	0.0010	mg/L	1	14-Jan-2019 17:26
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>96.1</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 17:26</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>98.1</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 17:26</i>
<i>Surr: Dibromofluoromethane</i>	<i>103</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 17:26</i>
<i>Surr: Toluene-d8</i>	<i>98.8</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 17:26</i>

Note: See 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-20190108
 Collection Date: 08-Jan-2019 12:20

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 14-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jan-2019 14:43
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jan-2019 14:43
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jan-2019 14:43
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jan-2019 14:43
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jan-2019 14:43
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	22-Jan-2019 14:43
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jan-2019 14:43
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jan-2019 14:43
Acenaphthene	0.020		0.00027	0.0010	mg/L	10	23-Jan-2019 15:25
Acenaphthylene	0.0014		0.000015	0.00010	mg/L	1	22-Jan-2019 14:43
Anthracene	0.00031		0.000014	0.00010	mg/L	1	22-Jan-2019 14:43
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jan-2019 14:43
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jan-2019 14:43
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jan-2019 14:43
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	22-Jan-2019 14:43
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 14:43
Dibenzofuran	0.0053		0.000020	0.00010	mg/L	1	22-Jan-2019 14:43
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jan-2019 14:43
Fluoranthene	0.00075		0.000010	0.00010	mg/L	1	22-Jan-2019 14:43
Fluorene	0.00056		0.000030	0.00010	mg/L	1	22-Jan-2019 14:43
Naphthalene	0.00032		0.000020	0.00010	mg/L	1	22-Jan-2019 14:43
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jan-2019 14:43
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jan-2019 14:43
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jan-2019 14:43
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 14:43
Phenol	U		0.000035	0.00020	mg/L	1	22-Jan-2019 14:43
Pyrene	0.00041		0.000019	0.00010	mg/L	1	22-Jan-2019 14:43
<i>Surr: 2,4,6-Tribromophenol</i>	<i>46.7</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 14:43</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>51.4</i>			<i>34-129</i>	<i>%REC</i>	<i>10</i>	<i>23-Jan-2019 15:25</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>41.6</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 14:43</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>48.6</i>			<i>40-125</i>	<i>%REC</i>	<i>10</i>	<i>23-Jan-2019 15:25</i>
<i>Surr: 2-Fluorophenol</i>	<i>43.2</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>23-Jan-2019 15:25</i>
<i>Surr: 2-Fluorophenol</i>	<i>40.8</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 14:43</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>61.4</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 14:43</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>68.2</i>			<i>40-135</i>	<i>%REC</i>	<i>10</i>	<i>23-Jan-2019 15:25</i>
<i>Surr: Nitrobenzene-d5</i>	<i>48.2</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 14:43</i>
<i>Surr: Nitrobenzene-d5</i>	<i>52.9</i>			<i>41-120</i>	<i>%REC</i>	<i>10</i>	<i>23-Jan-2019 15:25</i>
<i>Surr: Phenol-d6</i>	<i>49.0</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>23-Jan-2019 15:25</i>
<i>Surr: Phenol-d6</i>	<i>46.7</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 14:43</i>

Note: See 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-20190108
 Collection Date: 08-Jan-2019 12:20

ANALYTICAL REPORT

WorkOrder:HS19010437
 Lab ID:HS19010437-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 16-Jan-2019		Analyst: JHD	
Arsenic	0.000629	J	0.000400	0.00200	mg/L	1	18-Jan-2019 23:48
Lead		U	0.000600	0.00200	mg/L	1	21-Jan-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-MW15B-20190108
 Collection Date: 08-Jan-2019 13:05

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jan-2019 17:50
Benzene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 17:50
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 17:50
Ethylbenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 17:50
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jan-2019 17:50
Toluene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 17:50
Xylenes, Total	U		0.00030	0.0010	mg/L	1	14-Jan-2019 17:50
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>95.9</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 17:50</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>96.4</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 17:50</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 17:50</i>
<i>Surr: Toluene-d8</i>	<i>99.4</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 17:50</i>

Note: See 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-20190108
 Collection Date: 08-Jan-2019 13:05

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jan-2019 15:02
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jan-2019 15:02
2,4-Dinitrotoluene	U		0.000059	0.00020	mg/L	1	22-Jan-2019 15:02
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jan-2019 15:02
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jan-2019 15:02
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	22-Jan-2019 15:02
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jan-2019 15:02
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jan-2019 15:02
Acenaphthene	0.0026		0.000027	0.00010	mg/L	1	22-Jan-2019 15:02
Acenaphthylene	0.00015		0.000015	0.00010	mg/L	1	22-Jan-2019 15:02
Anthracene	0.00023		0.000014	0.00010	mg/L	1	22-Jan-2019 15:02
Benz(a)anthracene	U		0.000051	0.00010	mg/L	1	22-Jan-2019 15:02
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jan-2019 15:02
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jan-2019 15:02
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	22-Jan-2019 15:02
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 15:02
Dibenzofuran	0.00014		0.000020	0.00010	mg/L	1	22-Jan-2019 15:02
Di-n-butyl phthalate	0.000022	J	0.000020	0.00020	mg/L	1	22-Jan-2019 15:02
Fluoranthene	0.00045		0.000010	0.00010	mg/L	1	22-Jan-2019 15:02
Fluorene	0.000055	J	0.000030	0.00010	mg/L	1	22-Jan-2019 15:02
Naphthalene	U		0.000020	0.00010	mg/L	1	22-Jan-2019 15:02
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jan-2019 15:02
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jan-2019 15:02
Pentachlorophenol	U		0.000080	0.00020	mg/L	1	22-Jan-2019 15:02
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 15:02
Phenol	U		0.000035	0.00020	mg/L	1	22-Jan-2019 15:02
Pyrene	0.00027		0.000019	0.00010	mg/L	1	22-Jan-2019 15:02
<i>Surr: 2,4,6-Tribromophenol</i>	59.1			34-129	%REC	1	22-Jan-2019 15:02
<i>Surr: 2-Fluorobiphenyl</i>	55.9			40-125	%REC	1	22-Jan-2019 15:02
<i>Surr: 2-Fluorophenol</i>	53.6			20-120	%REC	1	22-Jan-2019 15:02
<i>Surr: 4-Terphenyl-d14</i>	63.0			40-135	%REC	1	22-Jan-2019 15:02
<i>Surr: Nitrobenzene-d5</i>	57.7			41-120	%REC	1	22-Jan-2019 15:02
<i>Surr: Phenol-d6</i>	58.9			20-120	%REC	1	22-Jan-2019 15:02
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 16-Jan-2019		Analyst: JHD
Arsenic	0.00244		0.000400	0.00200	mg/L	1	18-Jan-2019 23:54
Lead	U		0.000600	0.00200	mg/L	1	18-Jan-2019 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-MW20A-20190108
 Collection Date: 08-Jan-2019 15:00

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jan-2019 18:14
Benzene	0.024		0.00020	0.0010	mg/L	1	14-Jan-2019 18:14
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 18:14
Ethylbenzene	0.024		0.00030	0.0010	mg/L	1	14-Jan-2019 18:14
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jan-2019 18:14
Toluene	0.00077	J	0.00020	0.0010	mg/L	1	14-Jan-2019 18:14
Xylenes, Total	0.022		0.00030	0.0010	mg/L	1	14-Jan-2019 18:14
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>94.9</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 18:14</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>101</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 18:14</i>
<i>Surr: Dibromofluoromethane</i>	<i>103</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 18:14</i>
<i>Surr: Toluene-d8</i>	<i>97.2</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 18:14</i>

Note: See 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-20190108
 Collection Date: 08-Jan-2019 15:00

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 14-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jan-2019 15:21
2,4-Dimethylphenol	0.0076		0.000040	0.00020	mg/L	1	22-Jan-2019 15:21
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jan-2019 15:21
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jan-2019 15:21
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jan-2019 15:21
2-Methylnaphthalene	0.069		0.00019	0.0010	mg/L	10	23-Jan-2019 21:28
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jan-2019 15:21
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jan-2019 15:21
Acenaphthene	0.10		0.0027	0.010	mg/L	100	23-Jan-2019 16:22
Acenaphthylene	0.00057		0.000015	0.00010	mg/L	1	22-Jan-2019 15:21
Anthracene	0.0058		0.000014	0.00010	mg/L	1	22-Jan-2019 15:21
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jan-2019 15:21
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jan-2019 15:21
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jan-2019 15:21
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	22-Jan-2019 15:21
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 15:21
Dibenzofuran	0.067		0.00020	0.0010	mg/L	10	23-Jan-2019 21:28
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jan-2019 15:21
Fluoranthene	0.00041		0.000010	0.00010	mg/L	1	22-Jan-2019 15:21
Fluorene	0.062		0.00030	0.0010	mg/L	10	23-Jan-2019 21:28
Naphthalene	1.4		0.020	0.10	mg/L	1000	23-Jan-2019 16:41
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jan-2019 15:21
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jan-2019 15:21
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jan-2019 15:21
Phenanthrene	0.025		0.00021	0.0010	mg/L	10	23-Jan-2019 21:28
Phenol	U		0.000035	0.00020	mg/L	1	22-Jan-2019 15:21
Pyrene	0.00025		0.000019	0.00010	mg/L	1	22-Jan-2019 15:21
Surr: 2,4,6-Tribromophenol	0	JS		34-129	%REC	1000	23-Jan-2019 16:41
Surr: 2,4,6-Tribromophenol	60.2			34-129	%REC	10	23-Jan-2019 21:28
Surr: 2,4,6-Tribromophenol	0	JS		34-129	%REC	100	23-Jan-2019 16:22
Surr: 2,4,6-Tribromophenol	44.2			34-129	%REC	1	22-Jan-2019 15:21
Surr: 2-Fluorobiphenyl	40.7			40-125	%REC	1	22-Jan-2019 15:21
Surr: 2-Fluorobiphenyl	0	JS		40-125	%REC	100	23-Jan-2019 16:22
Surr: 2-Fluorobiphenyl	0	JS		40-125	%REC	1000	23-Jan-2019 16:41
Surr: 2-Fluorobiphenyl	59.2			40-125	%REC	10	23-Jan-2019 21:28
Surr: 2-Fluorophenol	0	JS		20-120	%REC	100	23-Jan-2019 16:22
Surr: 2-Fluorophenol	0	JS		20-120	%REC	1000	23-Jan-2019 16:41
Surr: 2-Fluorophenol	57.4			20-120	%REC	10	23-Jan-2019 21:28
Surr: 2-Fluorophenol	60.4			20-120	%REC	1	22-Jan-2019 15:21

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-MW20A-20190108
 Collection Date: 08-Jan-2019 15:00

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: GEY
Surr: 4-Terphenyl-d14	59.9			40-135	%REC	1	22-Jan-2019 15:21
Surr: 4-Terphenyl-d14	0	JS		40-135	%REC	100	23-Jan-2019 16:22
Surr: 4-Terphenyl-d14	0	JS		40-135	%REC	1000	23-Jan-2019 16:41
Surr: 4-Terphenyl-d14	72.1			40-135	%REC	10	23-Jan-2019 21:28
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	100	23-Jan-2019 16:22
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	1000	23-Jan-2019 16:41
Surr: Nitrobenzene-d5	61.4			41-120	%REC	10	23-Jan-2019 21:28
Surr: Nitrobenzene-d5	60.5			41-120	%REC	1	22-Jan-2019 15:21
Surr: Phenol-d6	56.6			20-120	%REC	1	22-Jan-2019 15:21
Surr: Phenol-d6	0	JS		20-120	%REC	1000	23-Jan-2019 16:41
Surr: Phenol-d6	60.1			20-120	%REC	10	23-Jan-2019 21:28
Surr: Phenol-d6	0	JS		20-120	%REC	100	23-Jan-2019 16:22
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 16-Jan-2019		Analyst: JHD
Arsenic	0.00788		0.000400	0.00200	mg/L	1	18-Jan-2019 23:56
Lead		U	0.000600	0.00200	mg/L	1	18-Jan-2019 23:56

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-MW88C-20190108
 Collection Date: 08-Jan-2019 16:00

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jan-2019 18:38
Benzene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 18:38
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 18:38
Ethylbenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 18:38
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jan-2019 18:38
Toluene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 18:38
Xylenes, Total	U		0.00030	0.0010	mg/L	1	14-Jan-2019 18:38
<i>Surr: 1,2-Dichloroethane-d4</i>		96.8		70-126	%REC	1	14-Jan-2019 18:38
<i>Surr: 4-Bromofluorobenzene</i>		97.8		81-113	%REC	1	14-Jan-2019 18:38
<i>Surr: Dibromofluoromethane</i>		101		77-123	%REC	1	14-Jan-2019 18:38
<i>Surr: Toluene-d8</i>		98.2		82-127	%REC	1	14-Jan-2019 18:38

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-MW88C-20190108
 Collection Date: 08-Jan-2019 16:00

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jan-2019 15:40
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jan-2019 15:40
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jan-2019 15:40
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jan-2019 15:40
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jan-2019 15:40
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	22-Jan-2019 15:40
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jan-2019 15:40
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jan-2019 15:40
Acenaphthene	U		0.000027	0.00010	mg/L	1	22-Jan-2019 15:40
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jan-2019 15:40
Anthracene	U		0.000014	0.00010	mg/L	1	22-Jan-2019 15:40
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jan-2019 15:40
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jan-2019 15:40
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jan-2019 15:40
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	22-Jan-2019 15:40
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 15:40
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jan-2019 15:40
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jan-2019 15:40
Fluoranthene	U		0.000010	0.00010	mg/L	1	22-Jan-2019 15:40
Fluorene	U		0.000030	0.00010	mg/L	1	22-Jan-2019 15:40
Naphthalene	0.000059	J	0.000020	0.00010	mg/L	1	22-Jan-2019 15:40
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jan-2019 15:40
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jan-2019 15:40
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jan-2019 15:40
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 15:40
Phenol	U		0.000035	0.00020	mg/L	1	22-Jan-2019 15:40
Pyrene	U		0.000019	0.00010	mg/L	1	22-Jan-2019 15:40
<i>Surr: 2,4,6-Tribromophenol</i>	<i>47.4</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 15:40</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>40.4</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 15:40</i>
<i>Surr: 2-Fluorophenol</i>	<i>37.2</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 15:40</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>55.6</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 15:40</i>
<i>Surr: Nitrobenzene-d5</i>	<i>42.6</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 15:40</i>
<i>Surr: Phenol-d6</i>	<i>41.2</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 15:40</i>
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 16-Jan-2019		Analyst: JHD
Arsenic	0.000864	J	0.000400	0.00200	mg/L	1	18-Jan-2019 23:58
Lead	U		0.000600	0.00200	mg/L	1	18-Jan-2019 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-MW42B-20190108
 Collection Date: 08-Jan-2019 16:55

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jan-2019 19:02
Benzene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 19:02
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 19:02
Ethylbenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 19:02
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jan-2019 19:02
Toluene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 19:02
Xylenes, Total	U		0.00030	0.0010	mg/L	1	14-Jan-2019 19:02
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>97.3</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 19:02</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>96.7</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 19:02</i>
<i>Surr: Dibromofluoromethane</i>	<i>103</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 19:02</i>
<i>Surr: Toluene-d8</i>	<i>98.6</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 19:02</i>

Note: See 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-20190108
 Collection Date: 08-Jan-2019 16:55

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 14-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jan-2019 18:03
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jan-2019 18:03
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jan-2019 18:03
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jan-2019 18:03
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jan-2019 18:03
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 18:03
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jan-2019 18:03
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jan-2019 18:03
Acenaphthene	U		0.000027	0.00010	mg/L	1	18-Jan-2019 18:03
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jan-2019 18:03
Anthracene	U		0.000014	0.00010	mg/L	1	18-Jan-2019 18:03
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jan-2019 18:03
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 18:03
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jan-2019 18:03
Bis(2-ethylhexyl)phthalate	0.000061	J	0.000037	0.00020	mg/L	1	18-Jan-2019 18:03
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 18:03
Dibenzofuran	U		0.000020	0.00010	mg/L	1	18-Jan-2019 18:03
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jan-2019 18:03
Fluoranthene	0.00011		0.000010	0.00010	mg/L	1	18-Jan-2019 18:03
Fluorene	U		0.000030	0.00010	mg/L	1	18-Jan-2019 18:03
Naphthalene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 18:03
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jan-2019 18:03
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jan-2019 18:03
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jan-2019 18:03
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 18:03
Phenol	U		0.000035	0.00020	mg/L	1	18-Jan-2019 18:03
Pyrene	0.00010		0.000019	0.00010	mg/L	1	18-Jan-2019 18:03
<i>Surr: 2,4,6-Tribromophenol</i>	<i>58.9</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 18:03</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>43.4</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 18:03</i>
<i>Surr: 2-Fluorophenol</i>	<i>34.7</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 18:03</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>69.9</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 18:03</i>
<i>Surr: Nitrobenzene-d5</i>	<i>41.5</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 18:03</i>
<i>Surr: Phenol-d6</i>	<i>47.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 18:03</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 16-Jan-2019		Analyst: JHD	
Arsenic	0.00216		0.000400	0.00200	mg/L	1	19-Jan-2019 00:00
Lead	0.00412		0.000600	0.00200	mg/L	1	19-Jan-2019 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-MW40B-20190108
 Collection Date: 08-Jan-2019 17:45

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-09
 Matrix:Groundwater

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-2019 19:26
Benzene	0.0063		0.00020	0.0010	mg/L	1	14-Jan-2019 19:26
Chlorobenzene		U	0.00030	0.0010	mg/L	1	14-Jan-2019 19:26
Ethylbenzene	0.041		0.00030	0.0010	mg/L	1	14-Jan-2019 19:26
Methylene chloride		U	0.0010	0.0020	mg/L	1	14-Jan-2019 19:26
Toluene	0.0048		0.00020	0.0010	mg/L	1	14-Jan-2019 19:26
Xylenes, Total	0.052		0.00030	0.0010	mg/L	1	14-Jan-2019 19:26
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>95.6</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 19:26</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>101</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 19:26</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 19:26</i>
<i>Surr: Toluene-d8</i>	<i>97.1</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 19:26</i>

Note: See 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-20190108
 Collection Date: 08-Jan-2019 17:45

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 14-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jan-2019 18:23
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jan-2019 18:23
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jan-2019 18:23
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jan-2019 18:23
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jan-2019 18:23
2-Methylnaphthalene	0.077		0.00019	0.0010	mg/L	10	21-Jan-2019 16:07
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jan-2019 18:23
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jan-2019 18:23
Acenaphthene	0.12		0.0027	0.010	mg/L	100	21-Jan-2019 16:27
Acenaphthylene	0.00083		0.000015	0.00010	mg/L	1	18-Jan-2019 18:23
Anthracene	0.0070		0.000014	0.00010	mg/L	1	18-Jan-2019 18:23
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jan-2019 18:23
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 18:23
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jan-2019 18:23
Bis(2-ethylhexyl)phthalate	0.000079	J	0.000037	0.00020	mg/L	1	18-Jan-2019 18:23
Chrysene	0.000045	J	0.000021	0.00010	mg/L	1	18-Jan-2019 18:23
Dibenzofuran	0.069		0.00020	0.0010	mg/L	10	21-Jan-2019 16:07
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jan-2019 18:23
Fluoranthene	0.0041		0.000010	0.00010	mg/L	1	18-Jan-2019 18:23
Fluorene	0.087		0.00030	0.0010	mg/L	10	21-Jan-2019 16:07
Naphthalene	1.3		0.020	0.10	mg/L	1000	24-Jan-2019 14:56
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jan-2019 18:23
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jan-2019 18:23
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jan-2019 18:23
Phenanthrene	0.068		0.00021	0.0010	mg/L	10	21-Jan-2019 16:07
Phenol	U		0.000035	0.00020	mg/L	1	18-Jan-2019 18:23
Pyrene	0.0020		0.000019	0.00010	mg/L	1	18-Jan-2019 18:23
<i>Surr: 2,4,6-Tribromophenol</i>	<i>74.0</i>			<i>34-129</i>	<i>%REC</i>	<i>10</i>	<i>21-Jan-2019 16:07</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>0</i>	<i>JS</i>		<i>34-129</i>	<i>%REC</i>	<i>100</i>	<i>21-Jan-2019 16:27</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>0</i>	<i>JS</i>		<i>34-129</i>	<i>%REC</i>	<i>1000</i>	<i>24-Jan-2019 14:56</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>57.7</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 18:23</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>45.4</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 18:23</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>69.3</i>			<i>40-125</i>	<i>%REC</i>	<i>10</i>	<i>21-Jan-2019 16:07</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>0</i>	<i>JS</i>		<i>40-125</i>	<i>%REC</i>	<i>100</i>	<i>21-Jan-2019 16:27</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>0</i>	<i>JS</i>		<i>40-125</i>	<i>%REC</i>	<i>1000</i>	<i>24-Jan-2019 14:56</i>
<i>Surr: 2-Fluorophenol</i>	<i>0</i>	<i>JS</i>		<i>20-120</i>	<i>%REC</i>	<i>1000</i>	<i>24-Jan-2019 14:56</i>
<i>Surr: 2-Fluorophenol</i>	<i>63.6</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>21-Jan-2019 16:07</i>
<i>Surr: 2-Fluorophenol</i>	<i>0</i>	<i>JS</i>		<i>20-120</i>	<i>%REC</i>	<i>100</i>	<i>21-Jan-2019 16:27</i>
<i>Surr: 2-Fluorophenol</i>	<i>63.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 18:23</i>

Note: See 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-20190108
 Collection Date: 08-Jan-2019 17:45

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 14-Jan-2019		Analyst: GEY	
Surr: 4-Terphenyl-d14	96.8			40-135	%REC	10	21-Jan-2019 16:07
Surr: 4-Terphenyl-d14	0	JS		40-135	%REC	100	21-Jan-2019 16:27
Surr: 4-Terphenyl-d14	69.3			40-135	%REC	1	18-Jan-2019 18:23
Surr: 4-Terphenyl-d14	0	JS		40-135	%REC	1000	24-Jan-2019 14:56
Surr: Nitrobenzene-d5	42.0			41-120	%REC	1	18-Jan-2019 18:23
Surr: Nitrobenzene-d5	60.5			41-120	%REC	10	21-Jan-2019 16:07
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	100	21-Jan-2019 16:27
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	1000	24-Jan-2019 14:56
Surr: Phenol-d6	0	JS		20-120	%REC	1000	24-Jan-2019 14:56
Surr: Phenol-d6	62.7			20-120	%REC	10	21-Jan-2019 16:07
Surr: Phenol-d6	0	JS		20-120	%REC	100	21-Jan-2019 16:27
Surr: Phenol-d6	50.3			20-120	%REC	1	18-Jan-2019 18:23
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 16-Jan-2019		Analyst: JHD	
Arsenic	0.0850		0.000400	0.00200	mg/L	1	19-Jan-2019 00:02
Lead	U		0.000600	0.00200	mg/L	1	19-Jan-2019 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-MW39B-20190108
 Collection Date: 08-Jan-2019 18:45

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-10
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jan-2019 19:50
Benzene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 19:50
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 19:50
Ethylbenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 19:50
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jan-2019 19:50
Toluene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 19:50
Xylenes, Total	U		0.00030	0.0010	mg/L	1	14-Jan-2019 19:50
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>95.8</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 19:50</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>97.8</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 19:50</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 19:50</i>
<i>Surr: Toluene-d8</i>	<i>98.6</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 19:50</i>

Note: See 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-20190108
 Collection Date: 08-Jan-2019 18:45

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-10
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jan-2019 18:42
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jan-2019 18:42
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jan-2019 18:42
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jan-2019 18:42
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jan-2019 18:42
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 18:42
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jan-2019 18:42
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jan-2019 18:42
Acenaphthene	0.00062		0.000027	0.00010	mg/L	1	18-Jan-2019 18:42
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jan-2019 18:42
Anthracene	0.00016		0.000014	0.00010	mg/L	1	18-Jan-2019 18:42
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jan-2019 18:42
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 18:42
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jan-2019 18:42
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	18-Jan-2019 18:42
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 18:42
Dibenzofuran	U		0.000020	0.00010	mg/L	1	18-Jan-2019 18:42
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jan-2019 18:42
Fluoranthene	0.000067	J	0.000010	0.00010	mg/L	1	18-Jan-2019 18:42
Fluorene	U		0.000030	0.00010	mg/L	1	18-Jan-2019 18:42
Naphthalene	0.000092	J	0.000020	0.00010	mg/L	1	18-Jan-2019 18:42
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jan-2019 18:42
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jan-2019 18:42
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jan-2019 18:42
Phenanthrene	0.000039	J	0.000021	0.00010	mg/L	1	18-Jan-2019 18:42
Phenol	U		0.000035	0.00020	mg/L	1	18-Jan-2019 18:42
Pyrene	0.000052	J	0.000019	0.00010	mg/L	1	18-Jan-2019 18:42
<i>Surr: 2,4,6-Tribromophenol</i>	70.2			34-129	%REC	1	18-Jan-2019 18:42
<i>Surr: 2-Fluorobiphenyl</i>	67.6			40-125	%REC	1	18-Jan-2019 18:42
<i>Surr: 2-Fluorophenol</i>	60.3			20-120	%REC	1	18-Jan-2019 18:42
<i>Surr: 4-Terphenyl-d14</i>	73.1			40-135	%REC	1	18-Jan-2019 18:42
<i>Surr: Nitrobenzene-d5</i>	62.9			41-120	%REC	1	18-Jan-2019 18:42
<i>Surr: Phenol-d6</i>	64.3			20-120	%REC	1	18-Jan-2019 18:42
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 16-Jan-2019		Analyst: JHD
Arsenic	0.00365		0.000400	0.00200	mg/L	1	19-Jan-2019 00:04
Lead	U		0.000600	0.00200	mg/L	1	19-Jan-2019 00:04

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-MW12A-20190109
 Collection Date: 09-Jan-2019 07:35

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-11
 Matrix:Groundwater

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-2019 20:14
Benzene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 20:14
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 20:14
Ethylbenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 20:14
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jan-2019 20:14
Toluene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 20:14
Xylenes, Total	U		0.00030	0.0010	mg/L	1	14-Jan-2019 20:14
<i>Surr: 1,2-Dichloroethane-d4</i>		<i>94.7</i>		<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 20:14</i>
<i>Surr: 4-Bromofluorobenzene</i>		<i>97.0</i>		<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 20:14</i>
<i>Surr: Dibromofluoromethane</i>		<i>102</i>		<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 20:14</i>
<i>Surr: Toluene-d8</i>		<i>99.3</i>		<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 20:14</i>

Note: See 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-20190109
 Collection Date: 09-Jan-2019 07:35

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jan-2019 19:02
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jan-2019 19:02
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jan-2019 19:02
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jan-2019 19:02
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jan-2019 19:02
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 19:02
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jan-2019 19:02
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jan-2019 19:02
Acenaphthene	U		0.000027	0.00010	mg/L	1	18-Jan-2019 19:02
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jan-2019 19:02
Anthracene	U		0.000014	0.00010	mg/L	1	18-Jan-2019 19:02
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jan-2019 19:02
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 19:02
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jan-2019 19:02
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	18-Jan-2019 19:02
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 19:02
Dibenzofuran	0.000031	J	0.000020	0.00010	mg/L	1	18-Jan-2019 19:02
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jan-2019 19:02
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jan-2019 19:02
Fluorene	U		0.000030	0.00010	mg/L	1	18-Jan-2019 19:02
Naphthalene	0.00026		0.000020	0.00010	mg/L	1	18-Jan-2019 19:02
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jan-2019 19:02
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jan-2019 19:02
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jan-2019 19:02
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 19:02
Phenol	U		0.000035	0.00020	mg/L	1	18-Jan-2019 19:02
Pyrene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 19:02
<i>Surr: 2,4,6-Tribromophenol</i>	<i>59.9</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 19:02</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>54.5</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 19:02</i>
<i>Surr: 2-Fluorophenol</i>	<i>52.2</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 19:02</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>77.0</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 19:02</i>
<i>Surr: Nitrobenzene-d5</i>	<i>48.6</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 19:02</i>
<i>Surr: Phenol-d6</i>	<i>52.0</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 19:02</i>
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 16-Jan-2019		Analyst: JHD
Arsenic	0.00192	J	0.000400	0.00200	mg/L	1	19-Jan-2019 00:06
Lead	U		0.000600	0.00200	mg/L	1	19-Jan-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-MW12C-20190109
 Collection Date: 09-Jan-2019 08:25

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	14-Jan-2019 20:38
Benzene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 20:38
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 20:38
Ethylbenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 20:38
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jan-2019 20:38
Toluene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 20:38
Xylenes, Total	U		0.00030	0.0010	mg/L	1	14-Jan-2019 20:38
<i>Surr: 1,2-Dichloroethane-d4</i>		96.1		70-126	%REC	1	14-Jan-2019 20:38
<i>Surr: 4-Bromofluorobenzene</i>		99.1		81-113	%REC	1	14-Jan-2019 20:38
<i>Surr: Dibromofluoromethane</i>		103		77-123	%REC	1	14-Jan-2019 20:38
<i>Surr: Toluene-d8</i>		98.4		82-127	%REC	1	14-Jan-2019 20:38

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-MW12C-20190109
 Collection Date: 09-Jan-2019 08:25

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 14-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jan-2019 19:22
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jan-2019 19:22
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jan-2019 19:22
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jan-2019 19:22
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jan-2019 19:22
2-Methylnaphthalene	0.00039		0.000019	0.00010	mg/L	1	18-Jan-2019 19:22
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jan-2019 19:22
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jan-2019 19:22
Acenaphthene	0.093		0.00027	0.0010	mg/L	10	21-Jan-2019 18:25
Acenaphthylene	0.00082		0.000015	0.00010	mg/L	1	18-Jan-2019 19:22
Anthracene	0.0084		0.000014	0.00010	mg/L	1	18-Jan-2019 19:22
Benz(a)anthracene	0.00014		0.000050	0.00010	mg/L	1	18-Jan-2019 19:22
Benzo(a)pyrene	0.000041	J	0.000020	0.00010	mg/L	1	18-Jan-2019 19:22
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jan-2019 19:22
Bis(2-ethylhexyl)phthalate	0.00011	J	0.000037	0.00020	mg/L	1	18-Jan-2019 19:22
Chrysene	0.00013		0.000021	0.00010	mg/L	1	18-Jan-2019 19:22
Dibenzofuran	0.067		0.00020	0.0010	mg/L	10	21-Jan-2019 18:25
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jan-2019 19:22
Fluoranthene	0.0071		0.000010	0.00010	mg/L	1	18-Jan-2019 19:22
Fluorene	0.085		0.00030	0.0010	mg/L	10	21-Jan-2019 18:25
Naphthalene	0.00017		0.000020	0.00010	mg/L	1	18-Jan-2019 19:22
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jan-2019 19:22
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jan-2019 19:22
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jan-2019 19:22
Phenanthrene	0.052		0.00021	0.0010	mg/L	10	21-Jan-2019 18:25
Phenol	U		0.000035	0.00020	mg/L	1	18-Jan-2019 19:22
Pyrene	0.0031		0.000019	0.00010	mg/L	1	18-Jan-2019 19:22
<i>Surr: 2,4,6-Tribromophenol</i>	<i>67.7</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 19:22</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>53.9</i>			<i>34-129</i>	<i>%REC</i>	<i>10</i>	<i>21-Jan-2019 18:25</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>46.8</i>			<i>40-125</i>	<i>%REC</i>	<i>10</i>	<i>21-Jan-2019 18:25</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>42.5</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 19:22</i>
<i>Surr: 2-Fluorophenol</i>	<i>39.0</i>	J		<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>21-Jan-2019 18:25</i>
<i>Surr: 2-Fluorophenol</i>	<i>45.0</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 19:22</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>71.6</i>			<i>40-135</i>	<i>%REC</i>	<i>10</i>	<i>21-Jan-2019 18:25</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>75.5</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 19:22</i>
<i>Surr: Nitrobenzene-d5</i>	<i>41.9</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 19:22</i>
<i>Surr: Nitrobenzene-d5</i>	<i>44.5</i>			<i>41-120</i>	<i>%REC</i>	<i>10</i>	<i>21-Jan-2019 18:25</i>
<i>Surr: Phenol-d6</i>	<i>36.7</i>	J		<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>21-Jan-2019 18:25</i>
<i>Surr: Phenol-d6</i>	<i>39.7</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 19:22</i>

Note: See 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-20190109
 Collection Date: 09-Jan-2019 08:25

ANALYTICAL REPORT

WorkOrder:HS19010437
 Lab ID:HS19010437-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 16-Jan-2019		Analyst: JHD	
Arsenic	0.000796	J	0.000400	0.00200	mg/L	1	19-Jan-2019 00:08
Lead		U	0.000600	0.00200	mg/L	1	19-Jan-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: WQ-1620-FB01-20190108
 Collection Date: 08-Jan-2019 19:00

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-13
 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	15-Jan-2019 00:14
Benzene	U		0.00020	0.0010	mg/L	1	15-Jan-2019 00:14
Chlorobenzene	U		0.00030	0.0010	mg/L	1	15-Jan-2019 00:14
Ethylbenzene	U		0.00030	0.0010	mg/L	1	15-Jan-2019 00:14
Methylene chloride	U		0.0010	0.0020	mg/L	1	15-Jan-2019 00:14
Toluene	U		0.00020	0.0010	mg/L	1	15-Jan-2019 00:14
Xylenes, Total	U		0.00030	0.0010	mg/L	1	15-Jan-2019 00:14
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>95.8</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>15-Jan-2019 00:14</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>95.8</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>15-Jan-2019 00:14</i>
<i>Surr: Dibromofluoromethane</i>	<i>104</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>15-Jan-2019 00:14</i>
<i>Surr: Toluene-d8</i>	<i>98.8</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>15-Jan-2019 00:14</i>

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-FB01-20190108
 Collection Date: 08-Jan-2019 19:00

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-13
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 14-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	21-Jan-2019 15:48
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	21-Jan-2019 15:48
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2019 15:48
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	21-Jan-2019 15:48
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2019 15:48
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	21-Jan-2019 15:48
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2019 15:48
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2019 15:48
Acenaphthene	U		0.000027	0.00010	mg/L	1	21-Jan-2019 15:48
Acenaphthylene	U		0.000015	0.00010	mg/L	1	21-Jan-2019 15:48
Anthracene	U		0.000014	0.00010	mg/L	1	21-Jan-2019 15:48
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	21-Jan-2019 15:48
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	21-Jan-2019 15:48
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2019 15:48
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	21-Jan-2019 15:48
Chrysene	U		0.000021	0.00010	mg/L	1	21-Jan-2019 15:48
Dibenzofuran	U		0.000020	0.00010	mg/L	1	21-Jan-2019 15:48
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2019 15:48
Fluoranthene	U		0.000010	0.00010	mg/L	1	21-Jan-2019 15:48
Fluorene	U		0.000030	0.00010	mg/L	1	21-Jan-2019 15:48
Naphthalene	0.000096	J	0.000020	0.00010	mg/L	1	21-Jan-2019 15:48
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2019 15:48
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2019 15:48
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2019 15:48
Phenanthrene	U		0.000021	0.00010	mg/L	1	21-Jan-2019 15:48
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2019 15:48
Pyrene	U		0.000019	0.00010	mg/L	1	21-Jan-2019 15:48
<i>Surr: 2,4,6-Tribromophenol</i>	<i>61.4</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>21-Jan-2019 15:48</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>65.7</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>21-Jan-2019 15:48</i>
<i>Surr: 2-Fluorophenol</i>	<i>59.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>21-Jan-2019 15:48</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>81.4</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>21-Jan-2019 15:48</i>
<i>Surr: Nitrobenzene-d5</i>	<i>61.2</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>21-Jan-2019 15:48</i>
<i>Surr: Phenol-d6</i>	<i>68.4</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>21-Jan-2019 15:48</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 16-Jan-2019		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	19-Jan-2019 00:10
Lead	U		0.000600	0.00200	mg/L	1	19-Jan-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-TB01-20190108
 Collection Date: 09-Jan-2019 00:00

ANALYTICAL REPORT
 WorkOrder:HS19010437
 Lab ID:HS19010437-14
 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	14-Jan-2019 23:50
Benzene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 23:50
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 23:50
Ethylbenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 23:50
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jan-2019 23:50
Toluene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 23:50
Xylenes, Total	U		0.00030	0.0010	mg/L	1	14-Jan-2019 23:50
<i>Surr: 1,2-Dichloroethane-d4</i>	93.9			70-126	%REC	1	14-Jan-2019 23:50
<i>Surr: 4-Bromofluorobenzene</i>	95.9			81-113	%REC	1	14-Jan-2019 23:50
<i>Surr: Dibromofluoromethane</i>	102			77-123	%REC	1	14-Jan-2019 23:50
<i>Surr: Toluene-d8</i>	99.8			82-127	%REC	1	14-Jan-2019 23:50

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: HS19010437

Batch ID: 136572 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3510_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19010437-01	1	1000	1 (mL)	0.001
HS19010437-02	1	1000	1 (mL)	0.001
HS19010437-03	1	1000	1 (mL)	0.001
HS19010437-04	1	1000	1 (mL)	0.001
HS19010437-05	1	990	1 (mL)	0.00101
HS19010437-06	1	1000	1 (mL)	0.001
HS19010437-07	1	1000	1 (mL)	0.001

Batch ID: 136574 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3510_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19010437-08	1	1000	1 (mL)	0.001
HS19010437-09	1	1000	1 (mL)	0.001
HS19010437-10	1	1000	1 (mL)	0.001
HS19010437-11	1	1000	1 (mL)	0.001
HS19010437-12	1	1000	1 (mL)	0.001
HS19010437-13	1	1000	1 (mL)	0.001

Batch ID: 136687 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19010437-01	1	10	10 (mL)	1
HS19010437-02	1	10	10 (mL)	1
HS19010437-03	1	10	10 (mL)	1
HS19010437-04	1	10	10 (mL)	1
HS19010437-05	1	10	10 (mL)	1
HS19010437-06	1	10	10 (mL)	1
HS19010437-07	1	10	10 (mL)	1
HS19010437-08	1	10	10 (mL)	1
HS19010437-09	1	10	10 (mL)	1
HS19010437-10	1	10	10 (mL)	1
HS19010437-11	1	10	10 (mL)	1
HS19010437-12	1	10	10 (mL)	1
HS19010437-13	1	10	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010437

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 136572	Test Name : LOW-LEVEL SEMIVOLATILES			Matrix: Groundwater		
HS19010437-01	WG-1620-MW13-20190108	08 Jan 2019 09:45		14 Jan 2019 11:18	22 Jan 2019 13:45	1
HS19010437-02	WG-1620-MW14-20190108	08 Jan 2019 10:40		14 Jan 2019 11:18	22 Jan 2019 14:04	1
HS19010437-03	WG-1620-MW15A-20190108	08 Jan 2019 11:30		14 Jan 2019 11:18	24 Jan 2019 15:16	100
HS19010437-03	WG-1620-MW15A-20190108	08 Jan 2019 11:30		14 Jan 2019 11:18	23 Jan 2019 15:05	10
HS19010437-03	WG-1620-MW15A-20190108	08 Jan 2019 11:30		14 Jan 2019 11:18	22 Jan 2019 14:23	1
HS19010437-04	WG-1620-MW15C-20190108	08 Jan 2019 12:20		14 Jan 2019 11:18	23 Jan 2019 15:25	10
HS19010437-04	WG-1620-MW15C-20190108	08 Jan 2019 12:20		14 Jan 2019 11:18	22 Jan 2019 14:43	1
HS19010437-05	WG-1620-MW15B-20190108	08 Jan 2019 13:05		14 Jan 2019 11:18	22 Jan 2019 15:02	1
HS19010437-06	WG-1620-MW20A-20190108	08 Jan 2019 15:00		14 Jan 2019 11:18	23 Jan 2019 21:28	10
HS19010437-06	WG-1620-MW20A-20190108	08 Jan 2019 15:00		14 Jan 2019 11:18	23 Jan 2019 16:41	1000
HS19010437-06	WG-1620-MW20A-20190108	08 Jan 2019 15:00		14 Jan 2019 11:18	23 Jan 2019 16:22	100
HS19010437-06	WG-1620-MW20A-20190108	08 Jan 2019 15:00		14 Jan 2019 11:18	22 Jan 2019 15:21	1
HS19010437-07	WG-1620-MW88C-20190108	08 Jan 2019 16:00		14 Jan 2019 11:18	22 Jan 2019 15:40	1
Batch ID 136574	Test Name : LOW-LEVEL SEMIVOLATILES			Matrix: Water		
HS19010437-13	WQ-1620-FB01-20190108	08 Jan 2019 19:00		14 Jan 2019 11:18	21 Jan 2019 15:48	1
Batch ID 136574	Test Name : LOW-LEVEL SEMIVOLATILES			Matrix: Groundwater		
HS19010437-08	WG-1620-MW42B-20190108	08 Jan 2019 16:55		14 Jan 2019 11:18	18 Jan 2019 18:03	1
HS19010437-09	WG-1620-MW40B-20190108	08 Jan 2019 17:45		14 Jan 2019 11:18	24 Jan 2019 14:56	1000
HS19010437-09	WG-1620-MW40B-20190108	08 Jan 2019 17:45		14 Jan 2019 11:18	21 Jan 2019 16:27	100
HS19010437-09	WG-1620-MW40B-20190108	08 Jan 2019 17:45		14 Jan 2019 11:18	21 Jan 2019 16:07	10
HS19010437-09	WG-1620-MW40B-20190108	08 Jan 2019 17:45		14 Jan 2019 11:18	18 Jan 2019 18:23	1
HS19010437-10	WG-1620-MW39B-20190108	08 Jan 2019 18:45		14 Jan 2019 11:18	18 Jan 2019 18:42	1
HS19010437-11	WG-1620-MW12A-20190109	09 Jan 2019 07:35		14 Jan 2019 11:18	18 Jan 2019 19:02	1
HS19010437-12	WG-1620-MW12C-20190109	09 Jan 2019 08:25		14 Jan 2019 11:18	21 Jan 2019 18:25	10
HS19010437-12	WG-1620-MW12C-20190109	09 Jan 2019 08:25		14 Jan 2019 11:18	18 Jan 2019 19:22	1
Batch ID 136687	Test Name : ICP-MS METALS BY SW6020A			Matrix: Water		
HS19010437-13	WQ-1620-FB01-20190108	08 Jan 2019 19:00		16 Jan 2019 13:30	19 Jan 2019 00:10	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010437

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 136687 Test Name : ICP-MS METALS BY SW6020A Matrix: Groundwater						
HS19010437-01	WG-1620-MW13-20190108	08 Jan 2019 09:45		16 Jan 2019 13:30	21 Jan 2019 15:32	1
HS19010437-01	WG-1620-MW13-20190108	08 Jan 2019 09:45		16 Jan 2019 13:30	18 Jan 2019 23:42	1
HS19010437-02	WG-1620-MW14-20190108	08 Jan 2019 10:40		16 Jan 2019 13:30	21 Jan 2019 15:34	1
HS19010437-02	WG-1620-MW14-20190108	08 Jan 2019 10:40		16 Jan 2019 13:30	18 Jan 2019 23:44	1
HS19010437-03	WG-1620-MW15A-20190108	08 Jan 2019 11:30		16 Jan 2019 13:30	21 Jan 2019 15:36	1
HS19010437-03	WG-1620-MW15A-20190108	08 Jan 2019 11:30		16 Jan 2019 13:30	18 Jan 2019 23:46	1
HS19010437-04	WG-1620-MW15C-20190108	08 Jan 2019 12:20		16 Jan 2019 13:30	21 Jan 2019 15:38	1
HS19010437-04	WG-1620-MW15C-20190108	08 Jan 2019 12:20		16 Jan 2019 13:30	18 Jan 2019 23:48	1
HS19010437-05	WG-1620-MW15B-20190108	08 Jan 2019 13:05		16 Jan 2019 13:30	18 Jan 2019 23:54	1
HS19010437-06	WG-1620-MW20A-20190108	08 Jan 2019 15:00		16 Jan 2019 13:30	18 Jan 2019 23:56	1
HS19010437-07	WG-1620-MW88C-20190108	08 Jan 2019 16:00		16 Jan 2019 13:30	18 Jan 2019 23:58	1
HS19010437-08	WG-1620-MW42B-20190108	08 Jan 2019 16:55		16 Jan 2019 13:30	19 Jan 2019 00:00	1
HS19010437-09	WG-1620-MW40B-20190108	08 Jan 2019 17:45		16 Jan 2019 13:30	19 Jan 2019 00:02	1
HS19010437-10	WG-1620-MW39B-20190108	08 Jan 2019 18:45		16 Jan 2019 13:30	19 Jan 2019 00:04	1
HS19010437-11	WG-1620-MW12A-20190109	09 Jan 2019 07:35		16 Jan 2019 13:30	19 Jan 2019 00:06	1
HS19010437-12	WG-1620-MW12C-20190109	09 Jan 2019 08:25		16 Jan 2019 13:30	19 Jan 2019 00:08	1
Batch ID R331023 Test Name : LOW LEVEL VOLATILES BY SW8260C Matrix: Groundwater						
HS19010437-01	WG-1620-MW13-20190108	08 Jan 2019 09:45			14 Jan 2019 15:27	1
HS19010437-02	WG-1620-MW14-20190108	08 Jan 2019 10:40			14 Jan 2019 16:39	1
HS19010437-03	WG-1620-MW15A-20190108	08 Jan 2019 11:30			14 Jan 2019 17:02	1
HS19010437-04	WG-1620-MW15C-20190108	08 Jan 2019 12:20			14 Jan 2019 17:26	1
HS19010437-05	WG-1620-MW15B-20190108	08 Jan 2019 13:05			14 Jan 2019 17:50	1
HS19010437-06	WG-1620-MW20A-20190108	08 Jan 2019 15:00			14 Jan 2019 18:14	1
HS19010437-07	WG-1620-MW88C-20190108	08 Jan 2019 16:00			14 Jan 2019 18:38	1
HS19010437-08	WG-1620-MW42B-20190108	08 Jan 2019 16:55			14 Jan 2019 19:02	1
HS19010437-09	WG-1620-MW40B-20190108	08 Jan 2019 17:45			14 Jan 2019 19:26	1
HS19010437-10	WG-1620-MW39B-20190108	08 Jan 2019 18:45			14 Jan 2019 19:50	1
HS19010437-11	WG-1620-MW12A-20190109	09 Jan 2019 07:35			14 Jan 2019 20:14	1
HS19010437-12	WG-1620-MW12C-20190109	09 Jan 2019 08:25			14 Jan 2019 20:38	1
Batch ID R331030 Test Name : LOW LEVEL VOLATILES BY SW8260C Matrix: Water						
HS19010437-13	WQ-1620-FB01-20190108	08 Jan 2019 19:00			15 Jan 2019 00:14	1
HS19010437-14	WQ-1620-TB01-20190108	09 Jan 2019 00:00			14 Jan 2019 23:50	1

WorkOrder: HS19010437
 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	0.000460	0.000400	0.00200
A	Lead	7439-92-1	0.00100	0.00100	0.000600	0.00200

WorkOrder: HS19010437
 InstrumentID: SV-7
 Test Code: 8270_LOW_W
 Test Number: SW8270
 Test Name: Low-Level Semivolatiles

**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	0.000068	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000065	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000062	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000081	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.000072	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000041	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000036	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000053	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000036	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000056	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000051	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000067	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000076	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000077	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00010	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000070	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000047	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.000094	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000061	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000052	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000045	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.000064	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.000065	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000082	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000051	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000078	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000066	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: HS19010437
 InstrumentID: SV-6
 Test Code: 8270_LOW_W
 Test Number: SW8270
 Test Name: Low-Level Semivolatiles

**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	0.000070	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000041	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000052	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000052	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.000061	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000056	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000022	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00020	0.00019	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000066	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000072	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000074	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000074	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000066	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000069	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.000083	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000082	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000060	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.000080	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000074	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000073	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000065	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.000083	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.000068	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.00016	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000077	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000066	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000074	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: HS19010437
 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	0.00066	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00060	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00063	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	0.00051	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00065	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00056	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: HS19010437

QC BATCH REPORT

Batch ID: 136687		Instrument: ICPMS05		Method: SW6020					
MBLK	Sample ID: MBLK-136687	Units: mg/L		Analysis Date: 18-Jan-2019 23:12					
Client ID:		Run ID: ICPMS05_331295	SeqNo: 4916084	PrepDate: 16-Jan-2019	DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Arsenic	U	0.00200							
MBLK	Sample ID: MBLK-136687	Units: mg/L		Analysis Date: 21-Jan-2019 12:35					
Client ID:		Run ID: ICPMS04_331384	SeqNo: 4916877	PrepDate: 16-Jan-2019	DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Lead	U	0.00200							
LCS	Sample ID: LCS-136687	Units: mg/L		Analysis Date: 18-Jan-2019 23:14					
Client ID:		Run ID: ICPMS05_331295	SeqNo: 4916085	PrepDate: 16-Jan-2019	DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Arsenic	0.05083	0.00200	0.05	0	102	80 - 120			
LCS	Sample ID: LCS-136687	Units: mg/L		Analysis Date: 21-Jan-2019 12:37					
Client ID:		Run ID: ICPMS04_331384	SeqNo: 4916878	PrepDate: 16-Jan-2019	DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Lead	0.04843	0.00200	0.05	0	96.9	80 - 120			
MS	Sample ID: HS19010555-01MS	Units: mg/L		Analysis Date: 18-Jan-2019 23:20					
Client ID:		Run ID: ICPMS05_331295	SeqNo: 4916088	PrepDate: 16-Jan-2019	DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Arsenic	0.05243	0.00200	0.05	0.000065	105	80 - 120			
MS	Sample ID: HS19010555-01MS	Units: mg/L		Analysis Date: 21-Jan-2019 12:44					
Client ID:		Run ID: ICPMS04_331384	SeqNo: 4916881	PrepDate: 16-Jan-2019	DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit Qual
Lead	0.04854	0.00200	0.05	0.000012	97.1	80 - 120			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010437

QC BATCH REPORT

Batch ID: 136687 **Instrument:** ICPMS05 **Method:** SW6020

MSD Sample ID: **HS19010555-01MSD** Units: **mg/L** Analysis Date: **18-Jan-2019 23:22**
 Client ID: Run ID: **ICPMS05_331295** SeqNo: **4916089** PrepDate: **16-Jan-2019** DF: **1**
 Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

Arsenic 0.05203 0.00200 0.05 0.000065 104 80 - 120 0.05243 0.77 20

MSD Sample ID: **HS19010555-01MSD** Units: **mg/L** Analysis Date: **21-Jan-2019 12:46**
 Client ID: Run ID: **ICPMS04_331384** SeqNo: **4916882** PrepDate: **16-Jan-2019** DF: **1**
 Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

Lead 0.04827 0.00200 0.05 0.000012 96.5 80 - 120 0.04854 0.564 20

PDS Sample ID: **HS19010555-01PDS** Units: **mg/L** Analysis Date: **18-Jan-2019 23:24**
 Client ID: Run ID: **ICPMS05_331295** SeqNo: **4916090** PrepDate: **16-Jan-2019** DF: **1**
 Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

Arsenic 0.1068 0.00200 0.1 0.000065 107 75 - 125

PDS Sample ID: **HS19010555-01PDS** Units: **mg/L** Analysis Date: **21-Jan-2019 12:49**
 Client ID: Run ID: **ICPMS04_331384** SeqNo: **4916883** PrepDate: **16-Jan-2019** DF: **1**
 Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %RPD RPD Limit Qual

Lead 0.09723 0.00200 0.1 0.000012 97.2 75 - 125

SD Sample ID: **HS19010555-01SD** Units: **mg/L** Analysis Date: **18-Jan-2019 23:18**
 Client ID: Run ID: **ICPMS05_331295** SeqNo: **4916087** PrepDate: **16-Jan-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 0.000065 0 10

SD Sample ID: **HS19010555-01SD** Units: **mg/L** Analysis Date: **21-Jan-2019 12:42**
 Client ID: Run ID: **ICPMS04_331384** SeqNo: **4916880** PrepDate: **16-Jan-2019** DF: **5**
 Analyte Result MQL SPK Val SPK Ref Value %REC Control Limit RPD Ref Value %D %D Limit Qual

Lead U 0.0100 0.000012 0 10

The following samples were analyzed in this batch:

HS19010437-01	HS19010437-02	HS19010437-03	HS19010437-04
HS19010437-05	HS19010437-06	HS19010437-07	HS19010437-08
HS19010437-09	HS19010437-10	HS19010437-11	HS19010437-12
HS19010437-13			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010437

QC BATCH REPORT

Batch ID: 136572		Instrument: SV-7		Method: SW8270						
MBLK	Sample ID: MBLK-136572	Units: ug/L			Analysis Date: 22-Jan-2019 12:09					
Client ID:	Run ID: SV-7_331539	SeqNo: 4921851	PrepDate: 14-Jan-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								
<i>Surr: 2,4,6-Tribromophenol</i>	3.111	0.20	5	0	62.2	34 - 129				
<i>Surr: 2-Fluorobiphenyl</i>	3.579	0.20	5	0	71.6	40 - 125				
<i>Surr: 2-Fluorophenol</i>	3.29	0.20	5	0	65.8	20 - 120				
<i>Surr: 4-Terphenyl-d14</i>	3.791	0.20	5	0	75.8	40 - 135				
<i>Surr: Nitrobenzene-d5</i>	3.544	0.20	5	0	70.9	41 - 120				
<i>Surr: Phenol-d6</i>	3.571	0.20	5	0	71.4	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010437

QC BATCH REPORT

Batch ID: 136572		Instrument: SV-7		Method: SW8270						
LCS	Sample ID: LCS-136572	Units: ug/L			Analysis Date: 22-Jan-2019 12:28					
Client ID:	Run ID: SV-7_331539	SeqNo: 4921852		PrepDate: 14-Jan-2019		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.25	0.20	5	0	65.0	39 - 127				
2,4-Dimethylphenol	2.654	0.20	5	0	53.1	35 - 120				
2,4-Dinitrotoluene	2.946	0.20	5	0	58.9	50 - 122				
2,6-Dinitrotoluene	2.813	0.20	5	0	56.3	50 - 120				
2-Chloronaphthalene	2.834	0.20	5	0	56.7	50 - 120				
2-Methylnaphthalene	2.863	0.10	5	0	57.3	50 - 120				
4,6-Dinitro-2-methylphenol	2.928	0.20	5	0	58.6	25 - 121				
4-Nitrophenol	3.083	1.0	5	0	61.7	30 - 130				
Acenaphthene	2.566	0.10	5	0	51.3	45 - 120				
Acenaphthylene	2.772	0.10	5	0	55.4	47 - 120				
Anthracene	2.947	0.10	5	0	58.9	45 - 120				
Benz(a)anthracene	2.971	0.10	5	0	59.4	40 - 120				
Benzo(a)pyrene	3.115	0.10	5	0	62.3	45 - 120				
Bis(2-chloroethoxy)methane	2.916	0.20	5	0	58.3	45 - 120				
Bis(2-ethylhexyl)phthalate	3.205	0.20	5	0	64.1	40 - 139				
Chrysene	2.906	0.10	5	0	58.1	43 - 120				
Dibenzofuran	2.848	0.10	5	0	57.0	50 - 120				
Di-n-butyl phthalate	3.195	0.20	5	0	63.9	45 - 123				
Fluoranthene	3.091	0.10	5	0	61.8	45 - 125				
Fluorene	2.956	0.10	5	0	59.1	49 - 120				
Naphthalene	2.834	0.10	5	0	56.7	45 - 120				
Nitrobenzene	3.097	0.20	5	0	61.9	44 - 120				
N-Nitrosodiphenylamine	2.761	0.20	5	0	55.2	40 - 125				
Pentachlorophenol	2.15	0.20	5	0	43.0	19 - 121				
Phenanthrene	2.871	0.10	5	0	57.4	45 - 121				
Phenol	2.818	0.20	5	0	56.4	20 - 124				
Pyrene	3.018	0.10	5	0	60.4	40 - 130				
<i>Surr: 2,4,6-Tribromophenol</i>	<i>2.845</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>56.9</i>	<i>34 - 129</i>				
<i>Surr: 2-Fluorobiphenyl</i>	<i>2.873</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>57.5</i>	<i>40 - 125</i>				
<i>Surr: 2-Fluorophenol</i>	<i>2.831</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>56.6</i>	<i>20 - 120</i>				
<i>Surr: 4-Terphenyl-d14</i>	<i>2.997</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>59.9</i>	<i>40 - 135</i>				
<i>Surr: Nitrobenzene-d5</i>	<i>3.066</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>61.3</i>	<i>41 - 120</i>				
<i>Surr: Phenol-d6</i>	<i>3.129</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>62.6</i>	<i>20 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010437

QC BATCH REPORT

Batch ID: 136572		Instrument: SV-7			Method: SW8270					
LCSD		Sample ID: LCSD-136572			Units: ug/L		Analysis Date: 22-Jan-2019 12:48			
Client ID:		Run ID: SV-7_331539			SeqNo: 4921853		PrepDate: 14-Jan-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.261	0.20	5	0	65.2	39 - 127	3.25	0.342	20	
2,4-Dimethylphenol	2.585	0.20	5	0	51.7	35 - 120	2.654	2.62	20	
2,4-Dinitrotoluene	2.853	0.20	5	0	57.1	50 - 122	2.946	3.2	20	
2,6-Dinitrotoluene	2.835	0.20	5	0	56.7	50 - 120	2.813	0.779	20	
2-Chloronaphthalene	2.883	0.20	5	0	57.7	50 - 120	2.834	1.69	20	
2-Methylnaphthalene	2.781	0.10	5	0	55.6	50 - 120	2.863	2.92	20	
4,6-Dinitro-2-methylphenol	2.849	0.20	5	0	57.0	25 - 121	2.928	2.72	30	
4-Nitrophenol	2.819	1.0	5	0	56.4	30 - 130	3.083	8.94	20	
Acenaphthene	2.539	0.10	5	0	50.8	45 - 120	2.566	1.06	20	
Acenaphthylene	2.725	0.10	5	0	54.5	47 - 120	2.772	1.69	20	
Anthracene	2.807	0.10	5	0	56.1	45 - 120	2.947	4.86	20	
Benz(a)anthracene	3.013	0.10	5	0	60.3	40 - 120	2.971	1.4	20	
Benzo(a)pyrene	3.05	0.10	5	0	61.0	45 - 120	3.115	2.11	20	
Bis(2-chloroethoxy)methane	2.77	0.20	5	0	55.4	45 - 120	2.916	5.17	20	
Bis(2-ethylhexyl)phthalate	3.301	0.20	5	0	66.0	40 - 139	3.205	2.96	20	
Chrysene	2.992	0.10	5	0	59.8	43 - 120	2.906	2.94	20	
Dibenzofuran	2.816	0.10	5	0	56.3	50 - 120	2.848	1.14	20	
Di-n-butyl phthalate	3.144	0.20	5	0	62.9	45 - 123	3.195	1.58	20	
Fluoranthene	2.91	0.10	5	0	58.2	45 - 125	3.091	6.04	20	
Fluorene	2.867	0.10	5	0	57.3	49 - 120	2.956	3.06	20	
Naphthalene	2.818	0.10	5	0	56.4	45 - 120	2.834	0.569	20	
Nitrobenzene	2.964	0.20	5	0	59.3	44 - 120	3.097	4.41	20	
N-Nitrosodiphenylamine	2.798	0.20	5	0	56.0	40 - 125	2.761	1.34	20	
Pentachlorophenol	2.022	0.20	5	0	40.4	19 - 121	2.15	6.16	20	
Phenanthrene	2.853	0.10	5	0	57.1	45 - 121	2.871	0.657	20	
Phenol	3.092	0.20	5	0	61.8	20 - 124	2.818	9.26	20	
Pyrene	3.078	0.10	5	0	61.6	40 - 130	3.018	1.95	20	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>2.638</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>52.8</i>	<i>34 - 129</i>	<i>2.845</i>	<i>7.55</i>	<i>20</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>2.882</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>57.6</i>	<i>40 - 125</i>	<i>2.873</i>	<i>0.327</i>	<i>20</i>	
<i>Surr: 2-Fluorophenol</i>	<i>2.881</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>57.6</i>	<i>20 - 120</i>	<i>2.831</i>	<i>1.74</i>	<i>20</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>3.126</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>62.5</i>	<i>40 - 135</i>	<i>2.997</i>	<i>4.2</i>	<i>20</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>2.929</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>58.6</i>	<i>41 - 120</i>	<i>3.066</i>	<i>4.58</i>	<i>20</i>	
<i>Surr: Phenol-d6</i>	<i>3.065</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>61.3</i>	<i>20 - 120</i>	<i>3.129</i>	<i>2.08</i>	<i>20</i>	

The following samples were analyzed in this batch: HS19010437-01 HS19010437-02 HS19010437-03 HS19010437-04
 HS19010437-05 HS19010437-06 HS19010437-07

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010437

QC BATCH REPORT

Batch ID: 136574		Instrument: SV-6		Method: SW8270						
MBLK	Sample ID: MBLK-136574	Units: ug/L			Analysis Date: 21-Jan-2019 16:47					
Client ID:	Run ID: SV-6_331448	SeqNo: 4923243	PrepDate: 14-Jan-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								
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3.108</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>62.2</i>	<i>34 - 129</i>				
<i>Surr: 2-Fluorobiphenyl</i>	<i>3.184</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>63.7</i>	<i>40 - 125</i>				
<i>Surr: 2-Fluorophenol</i>	<i>3.135</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>62.7</i>	<i>20 - 120</i>				
<i>Surr: 4-Terphenyl-d14</i>	<i>3.842</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>76.8</i>	<i>40 - 135</i>				
<i>Surr: Nitrobenzene-d5</i>	<i>3.149</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>63.0</i>	<i>41 - 120</i>				
<i>Surr: Phenol-d6</i>	<i>3.133</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>62.7</i>	<i>20 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010437

QC BATCH REPORT

Batch ID: 136574		Instrument: SV-6		Method: SW8270						
LCS	Sample ID: LCS-136574	Units: ug/L			Analysis Date: 21-Jan-2019 17:06					
Client ID:	Run ID: SV-6_331448	SeqNo: 4923244		PrepDate: 14-Jan-2019		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.425	0.20	5	0	68.5	39 - 127				
2,4-Dimethylphenol	2.909	0.20	5	0	58.2	35 - 120				
2,4-Dinitrotoluene	3.257	0.20	5	0	65.1	50 - 122				
2,6-Dinitrotoluene	3.348	0.20	5	0	67.0	50 - 120				
2-Chloronaphthalene	3.311	0.20	5	0	66.2	50 - 120				
2-Methylnaphthalene	3.319	0.10	5	0	66.4	50 - 120				
4,6-Dinitro-2-methylphenol	2.839	0.20	5	0	56.8	25 - 121				
4-Nitrophenol	3.667	1.0	5	0	73.3	30 - 130				
Acenaphthene	2.962	0.10	5	0	59.2	45 - 120				
Acenaphthylene	3.213	0.10	5	0	64.3	47 - 120				
Anthracene	3.335	0.10	5	0	66.7	45 - 120				
Benz(a)anthracene	3.534	0.10	5	0	70.7	40 - 120				
Benzo(a)pyrene	3.583	0.10	5	0	71.7	45 - 120				
Bis(2-chloroethoxy)methane	3.193	0.20	5	0	63.9	45 - 120				
Bis(2-ethylhexyl)phthalate	3.532	0.20	5	0	70.6	40 - 139				
Chrysene	3.656	0.10	5	0	73.1	43 - 120				
Dibenzofuran	3.153	0.10	5	0	63.1	50 - 120				
Di-n-butyl phthalate	3.53	0.20	5	0	70.6	45 - 123				
Fluoranthene	3.345	0.10	5	0	66.9	45 - 125				
Fluorene	3.258	0.10	5	0	65.2	49 - 120				
Naphthalene	3.154	0.10	5	0	63.1	45 - 120				
Nitrobenzene	3.125	0.20	5	0	62.5	44 - 120				
N-Nitrosodiphenylamine	3.485	0.20	5	0	69.7	40 - 125				
Pentachlorophenol	1.947	0.20	5	0	38.9	19 - 121				
Phenanthrene	3.258	0.10	5	0	65.2	45 - 121				
Phenol	3.007	0.20	5	0	60.1	20 - 124				
Pyrene	3.499	0.10	5	0	70.0	40 - 130				
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3.918</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>78.4</i>	<i>34 - 129</i>				
<i>Surr: 2-Fluorobiphenyl</i>	<i>3.542</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>70.8</i>	<i>40 - 125</i>				
<i>Surr: 2-Fluorophenol</i>	<i>3.197</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>63.9</i>	<i>20 - 120</i>				
<i>Surr: 4-Terphenyl-d14</i>	<i>3.935</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>78.7</i>	<i>40 - 135</i>				
<i>Surr: Nitrobenzene-d5</i>	<i>3.356</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>67.1</i>	<i>41 - 120</i>				
<i>Surr: Phenol-d6</i>	<i>3.433</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>68.7</i>	<i>20 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010437

QC BATCH REPORT

Batch ID: 136574		Instrument: SV-6		Method: SW8270						
LCSD		Sample ID: LCSD-136574		Units: ug/L		Analysis Date: 21-Jan-2019 17:26				
Client ID:		Run ID: SV-6_331448		SeqNo: 4923245		PrepDate: 14-Jan-2019		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.542	0.20	5	0	70.8	39 - 127	3.425	3.38	20	
2,4-Dimethylphenol	2.885	0.20	5	0	57.7	35 - 120	2.909	0.836	20	
2,4-Dinitrotoluene	3.412	0.20	5	0	68.2	50 - 122	3.257	4.64	20	
2,6-Dinitrotoluene	3.653	0.20	5	0	73.1	50 - 120	3.348	8.71	20	
2-Chloronaphthalene	3.275	0.20	5	0	65.5	50 - 120	3.311	1.08	20	
2-Methylnaphthalene	3.455	0.10	5	0	69.1	50 - 120	3.319	4.01	20	
4,6-Dinitro-2-methylphenol	2.502	0.20	5	0	50.0	25 - 121	2.839	12.6	30	
4-Nitrophenol	3.099	1.0	5	0	62.0	30 - 130	3.667	16.8	20	
Acenaphthene	3.033	0.10	5	0	60.7	45 - 120	2.962	2.37	20	
Acenaphthylene	3.372	0.10	5	0	67.4	47 - 120	3.213	4.84	20	
Anthracene	3.326	0.10	5	0	66.5	45 - 120	3.335	0.279	20	
Benz(a)anthracene	3.597	0.10	5	0	71.9	40 - 120	3.534	1.77	20	
Benzo(a)pyrene	3.783	0.10	5	0	75.7	45 - 120	3.583	5.42	20	
Bis(2-chloroethoxy)methane	3.321	0.20	5	0	66.4	45 - 120	3.193	3.94	20	
Bis(2-ethylhexyl)phthalate	3.63	0.20	5	0	72.6	40 - 139	3.532	2.72	20	
Chrysene	3.715	0.10	5	0	74.3	43 - 120	3.656	1.6	20	
Dibenzofuran	3.225	0.10	5	0	64.5	50 - 120	3.153	2.28	20	
Di-n-butyl phthalate	3.561	0.20	5	0	71.2	45 - 123	3.53	0.865	20	
Fluoranthene	3.507	0.10	5	0	70.1	45 - 125	3.345	4.74	20	
Fluorene	3.396	0.10	5	0	67.9	49 - 120	3.258	4.13	20	
Naphthalene	3.137	0.10	5	0	62.7	45 - 120	3.154	0.533	20	
Nitrobenzene	3.302	0.20	5	0	66.0	44 - 120	3.125	5.5	20	
N-Nitrosodiphenylamine	3.648	0.20	5	0	73.0	40 - 125	3.485	4.59	20	
Pentachlorophenol	1.865	0.20	5	0	37.3	19 - 121	1.947	4.33	20	
Phenanthrene	3.466	0.10	5	0	69.3	45 - 121	3.258	6.17	20	
Phenol	2.767	0.20	5	0	55.3	20 - 124	3.007	8.3	20	
Pyrene	3.583	0.10	5	0	71.7	40 - 130	3.499	2.37	20	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3.67</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>73.4</i>	<i>34 - 129</i>	<i>3.918</i>	<i>6.54</i>	<i>20</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>3.491</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>69.8</i>	<i>40 - 125</i>	<i>3.542</i>	<i>1.44</i>	<i>20</i>	
<i>Surr: 2-Fluorophenol</i>	<i>2.782</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>55.6</i>	<i>20 - 120</i>	<i>3.197</i>	<i>13.9</i>	<i>20</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>3.868</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>77.4</i>	<i>40 - 135</i>	<i>3.935</i>	<i>1.72</i>	<i>20</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>3.24</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>64.8</i>	<i>41 - 120</i>	<i>3.356</i>	<i>3.51</i>	<i>20</i>	
<i>Surr: Phenol-d6</i>	<i>3.045</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>60.9</i>	<i>20 - 120</i>	<i>3.433</i>	<i>12</i>	<i>20</i>	

The following samples were analyzed in this batch: HS19010437-08 HS19010437-09 HS19010437-10 HS19010437-11
 HS19010437-12 HS19010437-13

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010437

QC BATCH REPORT

Batch ID: R331023 **Instrument:** VOA2 **Method:** SW8260

MBLK		Sample ID: VBLKW-190114			Units: ug/L		Analysis Date: 14-Jan-2019 11:44			
Client ID:		Run ID: VOA2_331023			SeqNo: 4908196		PrepDate:		DF: 1	
Analyte	Result	MLQ	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								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>47.11</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>94.2</i>	<i>70 - 123</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>47.66</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>95.3</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>50.4</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>49.79</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.6</i>	<i>81 - 120</i>				

LCS		Sample ID: VLCSW-190114			Units: ug/L		Analysis Date: 14-Jan-2019 10:56			
Client ID:		Run ID: VOA2_331023			SeqNo: 4908195		PrepDate:		DF: 1	
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.48	1.0	20	0	92.4	70 - 124				
Benzene	18.31	1.0	20	0	91.5	74 - 120				
Chlorobenzene	19.85	1.0	20	0	99.2	76 - 113				
Ethylbenzene	19.67	1.0	20	0	98.3	77 - 117				
Methylene chloride	18.97	2.0	20	0	94.9	70 - 127				
Toluene	19.01	1.0	20	0	95.0	77 - 118				
Xylenes, Total	58.55	1.0	60	0	97.6	75 - 122				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.34</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.7</i>	<i>70 - 130</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.17</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.3</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>50.29</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>49.06</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.1</i>	<i>81 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010437

QC BATCH REPORT

Batch ID: R331023 **Instrument:** VOA2 **Method:** SW8260

MS		Sample ID: HS19010437-01MS			Units: ug/L		Analysis Date: 14-Jan-2019 15:51			
Client ID: WG-1620-MW13-20190108		Run ID: VOA2_331023			SeqNo: 4908205		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	16.25	1.0	20	0	81.2	70 - 127				
Chlorobenzene	17.48	1.0	20	0	87.4	70 - 114				
Ethylbenzene	18.16	1.0	20	0	90.8	70 - 124				
Methylene chloride	15.39	2.0	20	0	76.9	70 - 128				
Toluene	17.05	1.0	20	0	85.3	70 - 123				
Xylenes, Total	52.77	1.0	60	0	88.0	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>50.06</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.03</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.1</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>50.4</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>48.48</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.0</i>	<i>82 - 127</i>				

MSD		Sample ID: HS19010437-01MSD			Units: ug/L		Analysis Date: 14-Jan-2019 16:15			
Client ID: WG-1620-MW13-20190108		Run ID: VOA2_331023			SeqNo: 4908206		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.54	1.0	20	0	82.7	70 - 127	15.74	4.96	20	
Benzene	16.74	1.0	20	0	83.7	70 - 127	16.25	2.99	20	
Chlorobenzene	18.07	1.0	20	0	90.3	70 - 114	17.48	3.32	20	
Ethylbenzene	19.07	1.0	20	0	95.4	70 - 124	18.16	4.88	20	
Methylene chloride	16.41	2.0	20	0	82.1	70 - 128	15.39	6.45	20	
Toluene	17.79	1.0	20	0	89.0	70 - 123	17.05	4.23	20	
Xylenes, Total	55.22	1.0	60	0	92.0	70 - 130	52.77	4.54	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>49.47</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.9</i>	<i>70 - 126</i>	<i>50.06</i>	<i>1.19</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.97</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.9</i>	<i>81 - 113</i>	<i>49.03</i>	<i>0.12</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>50.1</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>77 - 123</i>	<i>50.4</i>	<i>0.594</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>48.98</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.0</i>	<i>82 - 127</i>	<i>48.48</i>	<i>1.02</i>	<i>20</i>	

The following samples were analyzed in this batch:

HS19010437-01	HS19010437-02	HS19010437-03	HS19010437-04
HS19010437-05	HS19010437-06	HS19010437-07	HS19010437-08
HS19010437-09	HS19010437-10	HS19010437-11	HS19010437-12

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010437

QC BATCH REPORT

Batch ID: R331030 **Instrument:** VOA2 **Method:** SW8260

MBLK		Sample ID: VBLKW-190114			Units: ug/L		Analysis Date: 14-Jan-2019 23:26			
Client ID:		Run ID: VOA2_331030			SeqNo: 4908344		PrepDate:		DF: 1	
Analyte	Result	MLQ	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								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>47.99</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.0</i>	<i>70 - 123</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.31</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.6</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>51.08</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>102</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>49.07</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.1</i>	<i>81 - 120</i>				

LCS		Sample ID: VLCSW-190114			Units: ug/L		Analysis Date: 14-Jan-2019 22:38			
Client ID:		Run ID: VOA2_331030			SeqNo: 4908367		PrepDate:		DF: 1	
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	19.25	1.0	20	0	96.3	70 - 124				
Benzene	18.74	1.0	20	0	93.7	74 - 120				
Chlorobenzene	20.42	1.0	20	0	102	76 - 113				
Ethylbenzene	20.53	1.0	20	0	103	77 - 117				
Methylene chloride	19.15	2.0	20	0	95.7	70 - 127				
Toluene	19.5	1.0	20	0	97.5	77 - 118				
Xylenes, Total	61.55	1.0	60	0	103	75 - 122				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>51.25</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>102</i>	<i>70 - 130</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.3</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.6</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>50.3</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>48.78</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.6</i>	<i>81 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010437

QC BATCH REPORT

Batch ID: R331030		Instrument: VOA2		Method: SW8260						
MS	Sample ID: HS19010488-02MS	Units: ug/L			Analysis Date: 15-Jan-2019 01:28					
Client ID:	Run ID: VOA2_331030	SeqNo: 4908349		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	22.83	1.0	20	0	114	70 - 127				
Benzene	22.47	1.0	20	0	112	70 - 127				
Chlorobenzene	24.15	1.0	20	0	121	70 - 114				S
Ethylbenzene	24.94	1.0	20	0	125	70 - 124				S
Methylene chloride	22.3	2.0	20	0	112	70 - 128				
Toluene	23.63	1.0	20	0	118	70 - 123				
Xylenes, Total	72.41	1.0	60	0	121	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>51.71</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>103</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.81</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.6</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>50.81</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>102</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>48.43</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.9</i>	<i>82 - 127</i>				

MSD	Sample ID: HS19010488-02MSD	Units: ug/L			Analysis Date: 15-Jan-2019 01:52					
Client ID:	Run ID: VOA2_331030	SeqNo: 4908350		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	22.17	1.0	20	0	111	70 - 127	22.83	2.94	20	
Benzene	22.05	1.0	20	0	110	70 - 127	22.47	1.87	20	
Chlorobenzene	24.13	1.0	20	0	121	70 - 114	24.15	0.0925	20	S
Ethylbenzene	24.35	1.0	20	0	122	70 - 124	24.94	2.38	20	
Methylene chloride	21.15	2.0	20	0	106	70 - 128	22.3	5.27	20	
Toluene	23.48	1.0	20	0	117	70 - 123	23.63	0.623	20	
Xylenes, Total	72.09	1.0	60	0	120	70 - 130	72.41	0.437	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>50.31</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>70 - 126</i>	<i>51.71</i>	<i>2.75</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.85</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.7</i>	<i>81 - 113</i>	<i>49.81</i>	<i>0.0761</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>50.75</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>102</i>	<i>77 - 123</i>	<i>50.81</i>	<i>0.117</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>48.58</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.2</i>	<i>82 - 127</i>	<i>48.43</i>	<i>0.305</i>	<i>20</i>	

The following samples were analyzed in this batch: HS19010437-13 HS19010437-14

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010437

**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 Quantitation 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	88-0356	27-Mar-2019
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193 2018-2019	30-Apr-2019
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043 - 2018	30-Apr-2019
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019

Sample Receipt Checklist

Client Name: PBW
 Work Order: HS19010437

Date/Time Received: **10-Jan-2019 09:05**
 Received by: **PJM**

Checklist completed by: Pablo Martinez 10-Jan-2019
 eSignature Date

Reviewed by: Dane J. Wacasey 16-Jan-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
- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Samples in proper container/bottle? Yes No
- Sample containers intact? Yes No
- TX1005 solids received in hermetically sealed vials? Yes No N/A
- 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): 2.8C/3.2C, 2.3C/2.7C, 2.7C/3.1C, 2.2C/2.6C UC/C IR # 11
 Cooler(s)/Kit(s): 44417, 25283, 43015, 24932
 Date/Time sample(s) sent to storage: 1/10/19 20:30

- 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:



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Chain of Custody Form

Page 1 of 2

COC ID: 194315

HS19010437

wv

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	1620-06-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	Address	1400 Douglas Street	E	
	Suite 4004		Stop 0750	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-TBO-20190108 WG-1620-MW13-20190108	1-8-19	0945	Water	1	6	X		X	X							
2	WG-1620-MW14-20190108	1-8-19	1040	W		6	X		X	X							
3	WG-1620-MW15A-20190108		1130	W		6	X		X	X							
4	WG-1620-MW15C-20190108		1220	W		6	X		X	X							
5	WG-1620-MW15B-20190108		1305	W		6	X		X	X							
6	WG-1620-MW20A-20190108		1500	W		6	X		X	X							
7	WG-1620-MW88C-20190108		1600	W		6	X		X	X							
8	WG-1620-MW42B-20190108		1655	W		6	X		X	X							
9	WG-1620-MW40B-20190108		1745	W		6	X		X	X							
10	WG-1620-MW39B-20190108		1845	W		6	X		X	X							

Sampler(s) Please Print & Sign
JOHN BRAYTON *John Br*
 Relinquished by: *John Br* Date: 1-10-19 Time: 9:05
 Relinquished by: *John Br* Date: 1-10-19 Time: 9:05
 Logged by (Laboratory): _____ Date: _____ Time: _____
 Shipment Method: **HAND DELIVERED**
 Required Turnaround Time: (Check Box) STD 10 Wk Days 5 Wk Days 2 Wk Days 24 Hour
 Results Due Date: _____
 Notes: UPRR Houston MWPW
 Cooler ID: 25283 Cooler Temp.: 2.3C
24932 2.2C
43015 2.7C
44417 2.8C
 QC Package: (Check One Box Below)
 Level II Std QC TRRP Checklist
 Level III Std QC/Raw Data TRRP Level IV
 Level IV SWB46/CLP
 Other _____

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 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.

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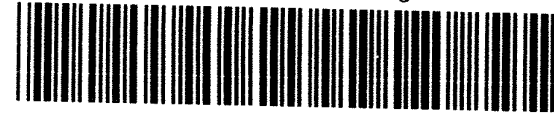
Chain of Custody Form

Page 2 of 2

COC ID: 194308

HS19010437

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	1620-06-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 TBO 201801			Water	+	2											
2	WG-1620-MW12A-20190109	1-9-19	0735	W		6	X		X	X							
3	WG-1620-MW12C-20190109	1-9-19	0825	W		6	X		X	X							
4	WG-1620-FB01-20190108	1-8-19	1900	W		6	X		X	X							
5	WG-1620-TB01-20190108	-	-	-		2	X										
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>John Graydon</i>		Shipment Method HAND DELIVERED		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:	
Relinquished by:	Date: 1-10-19	Time: 9:05	Received by:	Notes: UPRR Houston MWPW				
Relinquished by:	Date: 1-10-19	Time: 9:05	Received by (Laboratory): PM	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRRP Checklist			
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035				<input type="checkbox"/> Level III Std QC/Raw Date	<input type="checkbox"/> TRRP Level IV			
				<input type="checkbox"/> Level IV SWB46/CLP				
				<input type="checkbox"/> Other:				

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.
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January 25, 2019

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS19010488**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 25 sample(s) on Jan 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: DAYNA.FISHER

Dane J. Wacasey

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

**TRRP Laboratory Data
Package Cover Page**

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: HS19010488

**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: 01/25/2019				
Project Name: Houston TX-Wood Preserving Works				Laboratory Job Number: HS19010488				
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 136574, 136614, 136717, 136742, R331030, R331042, R331088, R331375				
# 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					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: 01/25/2019					
Project Name: Houston TX-Wood Preserving Works		Laboratory Job Number: HS19010488					
Reviewer Name: Dane Wacasey		Prep Batch Number(s): 136574, 136614, 136717, 136742, R331030, R331042, R331088, R331375					
# 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: 01/25/2019
Project Name: Houston TX-Wood Preserving Works		Laboratory Job Number: HS19010488
Reviewer Name: Dane Wacasey		Prep Batch Number(s): 136574, 136614, 136717, 136742, R331030, R331042, R331088, R331375
ER# ⁵	Description	
1	Semivolatile Organics Method SW8270, samples WG-1620-MW17-20190109, WG-1620-MW17C-20190110, WG-1620-MW18C-20190110, WG-1620-MW18A-20190110, the surrogate recoveries could not be determined due to dilution below the calibration range.	
2	Batch 136574, Semivolatile Organics Method SW8270, LCS/LCSD were analyzed and reported in lieu of an MS/MSD for this batch. Batch 136614, Semivolatile Organics Method SW8270, LCS/LCSD were analyzed and reported in lieu of an MS/MSD for this batch.	
3	Batch R331030, Volatile Organics Method SW8260, sample WG-1620-MW05-20190109, MS and or MSD recovered outside the control limits due to suspect matrix effect.	
4	Batch 136574, Semivolatile Organics Method SW8270, samples WG-1620-MW17-20190109, WG-1620-MW18C-20190110, WG-1620-MW18A-20190110; GCMS semi-volatile extract of these samples were run at a dilution due to a high level of matrix interference. Volatile Organics Method SW8260, samples WG-1620-TW41B-20190109, WG-1620-MW17-20190109, WG-1620-MW18C-20190110, WG-1620-MW18A-20190110: Lowest practical dilution performed o these samples due to high concentration of non-target analyte(s).	
<p>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.</p> <p>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).</p>		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19010488

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19010488-01	WG-1620-TW41B-20190109	Groundwater		09-Jan-2019 10:35	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-02	WG-1620-MW05-20190109	Groundwater		09-Jan-2019 11:25	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-03	WG-1620-P11-20190109	Groundwater		09-Jan-2019 12:25	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-04	WG-1620-MW03-20190109	Groundwater		09-Jan-2019 13:15	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-05	WG-1620-MW09-20190109	Groundwater		09-Jan-2019 14:05	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-06	WG-1620-MW04-20190109	Groundwater		09-Jan-2019 15:05	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-07	WG-1620-MW21C-20190109	Groundwater		09-Jan-2019 16:20	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-08	WG-1620-FD01-20190109	Groundwater		09-Jan-2019 16:20	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-09	WG-1620-MW17-20190109	Groundwater		09-Jan-2019 17:20	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-10	WQ-1620-FB02-20190109	Water		09-Jan-2019 17:35	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-11	WG-1620-MW17C-20190110	Groundwater		10-Jan-2019 07:25	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-12	WG-1620-MW18C-20190110	Groundwater		10-Jan-2019 08:20	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-13	WG-1620-MW18A-20190110	Groundwater		10-Jan-2019 10:45	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-14	WG-1620-MW48C-20190110	Groundwater		10-Jan-2019 11:45	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-15	WG-1620-MW69A-20190110	Groundwater		10-Jan-2019 12:45	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-16	WQ-1620-TB02-20190110	Water	ALS-121118-61	10-Jan-2019 00:00	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-17	WG-1620-MW80B-20190110	Groundwater		10-Jan-2019 13:50	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-18	WG-1620-MW50A-20190110	Groundwater		10-Jan-2019 14:40	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-19	WG-1620-MW81B-20190110	Groundwater		10-Jan-2019 15:30	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-20	WG-1620-MW51A-20190110	Groundwater		10-Jan-2019 16:40	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-21	WG-1620-MW51C-20190110	Groundwater		10-Jan-2019 17:30	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-22	WG-1620-MW86C-20190111	Groundwater		11-Jan-2019 08:25	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-23	WG-1620-FD02-20190111	Groundwater		11-Jan-2019 08:25	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-24	WQ-1620-FB03-20190111	Water		11-Jan-2019 11:15	11-Jan-2019 14:00	<input type="checkbox"/>
HS19010488-25	WG-1620-MW60A-20190111	Groundwater		11-Jan-2019 10:15	11-Jan-2019 14:00	<input type="checkbox"/>

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WG-1620-TW41B-20190109
 Collection Date: 09-Jan-2019 10:35

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-01
 Matrix:Groundwater

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-2019 01:04
Benzene	U		0.0020	0.010	mg/L	10	15-Jan-2019 01:04
Chlorobenzene	U		0.0030	0.010	mg/L	10	15-Jan-2019 01:04
Ethylbenzene	U		0.0030	0.010	mg/L	10	15-Jan-2019 01:04
Methylene chloride	U		0.010	0.020	mg/L	10	15-Jan-2019 01:04
Toluene	U		0.0020	0.010	mg/L	10	15-Jan-2019 01:04
Xylenes, Total	U		0.0030	0.010	mg/L	10	15-Jan-2019 01:04
<i>Surr: 1,2-Dichloroethane-d4</i>		96.2		70-126	%REC	10	15-Jan-2019 01:04
<i>Surr: 4-Bromofluorobenzene</i>		97.9		81-113	%REC	10	15-Jan-2019 01:04
<i>Surr: Dibromofluoromethane</i>		102		77-123	%REC	10	15-Jan-2019 01:04
<i>Surr: Toluene-d8</i>		98.4		82-127	%REC	10	15-Jan-2019 01:04

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-TW41B-20190109
 Collection Date: 09-Jan-2019 10:35

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: ACN
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	21-Jan-2019 23:41
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	21-Jan-2019 23:41
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	21-Jan-2019 23:41
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	21-Jan-2019 23:41
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	21-Jan-2019 23:41
2-Methylnaphthalene	0.0098		0.000019	0.00010	mg/L	1	21-Jan-2019 23:41
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	21-Jan-2019 23:41
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	21-Jan-2019 23:41
Acenaphthene	0.058		0.00027	0.0010	mg/L	10	23-Jan-2019 17:26
Acenaphthylene	0.00091		0.000015	0.00010	mg/L	1	21-Jan-2019 23:41
Anthracene	0.0023		0.000014	0.00010	mg/L	1	21-Jan-2019 23:41
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	21-Jan-2019 23:41
Benzo(a)pyrene	0.000097	J	0.000020	0.00010	mg/L	1	21-Jan-2019 23:41
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	21-Jan-2019 23:41
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	21-Jan-2019 23:41
Chrysene	U		0.000021	0.00010	mg/L	1	21-Jan-2019 23:41
Dibenzofuran	0.026		0.00020	0.0010	mg/L	10	23-Jan-2019 17:26
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	21-Jan-2019 23:41
Fluoranthene	0.0014		0.000010	0.00010	mg/L	1	21-Jan-2019 23:41
Fluorene	0.035		0.00030	0.0010	mg/L	10	23-Jan-2019 17:26
Naphthalene	0.061		0.00020	0.0010	mg/L	10	23-Jan-2019 17:26
Nitrobenzene	U		0.000024	0.00020	mg/L	1	21-Jan-2019 23:41
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	21-Jan-2019 23:41
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	21-Jan-2019 23:41
Phenanthrene	0.0035		0.000021	0.00010	mg/L	1	21-Jan-2019 23:41
Phenol	U		0.000035	0.00020	mg/L	1	21-Jan-2019 23:41
Pyrene	0.00056		0.000019	0.00010	mg/L	1	21-Jan-2019 23:41
<i>Surr: 2,4,6-Tribromophenol</i>	<i>70.2</i>			<i>34-129</i>	<i>%REC</i>	<i>10</i>	<i>23-Jan-2019 17:26</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>73.2</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>21-Jan-2019 23:41</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>57.7</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>21-Jan-2019 23:41</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>47.1</i>			<i>40-125</i>	<i>%REC</i>	<i>10</i>	<i>23-Jan-2019 17:26</i>
<i>Surr: 2-Fluorophenol</i>	<i>46.3</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>23-Jan-2019 17:26</i>
<i>Surr: 2-Fluorophenol</i>	<i>55.4</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>21-Jan-2019 23:41</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>71.2</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>21-Jan-2019 23:41</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>74.2</i>			<i>40-135</i>	<i>%REC</i>	<i>10</i>	<i>23-Jan-2019 17:26</i>
<i>Surr: Nitrobenzene-d5</i>	<i>52.3</i>			<i>41-120</i>	<i>%REC</i>	<i>10</i>	<i>23-Jan-2019 17:26</i>
<i>Surr: Nitrobenzene-d5</i>	<i>54.5</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>21-Jan-2019 23:41</i>
<i>Surr: Phenol-d6</i>	<i>56.0</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>21-Jan-2019 23:41</i>
<i>Surr: Phenol-d6</i>	<i>49.9</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>23-Jan-2019 17:26</i>

Note: See 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-20190109
 Collection Date: 09-Jan-2019 10:35

ANALYTICAL REPORT

WorkOrder:HS19010488
 Lab ID:HS19010488-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 17-Jan-2019		Analyst: JCJ	
Arsenic	0.125		0.000400	0.00200	mg/L	1	23-Jan-2019 20:04
Lead		U	0.000600	0.00200	mg/L	1	23-Jan-2019 20:04

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-MW05-20190109
 Collection Date: 09-Jan-2019 11:25

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	15-Jan-2019 00:37
Benzene	U		0.00020	0.0010	mg/L	1	15-Jan-2019 00:37
Chlorobenzene	U		0.00030	0.0010	mg/L	1	15-Jan-2019 00:37
Ethylbenzene	U		0.00030	0.0010	mg/L	1	15-Jan-2019 00:37
Methylene chloride	U		0.0010	0.0020	mg/L	1	15-Jan-2019 00:37
Toluene	U		0.00020	0.0010	mg/L	1	15-Jan-2019 00:37
Xylenes, Total	U		0.00030	0.0010	mg/L	1	15-Jan-2019 00:37
<i>Surr: 1,2-Dichloroethane-d4</i>		93.7		70-126	%REC	1	15-Jan-2019 00:37
<i>Surr: 4-Bromofluorobenzene</i>		95.4		81-113	%REC	1	15-Jan-2019 00:37
<i>Surr: Dibromofluoromethane</i>		102		77-123	%REC	1	15-Jan-2019 00:37
<i>Surr: Toluene-d8</i>		99.2		82-127	%REC	1	15-Jan-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-MW05-20190109
 Collection Date: 09-Jan-2019 11:25

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: ACN
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jan-2019 00:01
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jan-2019 00:01
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jan-2019 00:01
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jan-2019 00:01
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jan-2019 00:01
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	22-Jan-2019 00:01
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jan-2019 00:01
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jan-2019 00:01
Acenaphthene	U		0.000027	0.00010	mg/L	1	22-Jan-2019 00:01
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jan-2019 00:01
Anthracene	U		0.000014	0.00010	mg/L	1	22-Jan-2019 00:01
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jan-2019 00:01
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jan-2019 00:01
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jan-2019 00:01
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	22-Jan-2019 00:01
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 00:01
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jan-2019 00:01
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jan-2019 00:01
Fluoranthene	U		0.000010	0.00010	mg/L	1	22-Jan-2019 00:01
Fluorene	U		0.000030	0.00010	mg/L	1	22-Jan-2019 00:01
Naphthalene	U		0.000020	0.00010	mg/L	1	22-Jan-2019 00:01
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jan-2019 00:01
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jan-2019 00:01
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jan-2019 00:01
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 00:01
Phenol	U		0.000035	0.00020	mg/L	1	22-Jan-2019 00:01
Pyrene	U		0.000019	0.00010	mg/L	1	22-Jan-2019 00:01
<i>Surr: 2,4,6-Tribromophenol</i>	68.8			34-129	%REC	1	22-Jan-2019 00:01
<i>Surr: 2-Fluorobiphenyl</i>	65.1			40-125	%REC	1	22-Jan-2019 00:01
<i>Surr: 2-Fluorophenol</i>	53.4			20-120	%REC	1	22-Jan-2019 00:01
<i>Surr: 4-Terphenyl-d14</i>	71.4			40-135	%REC	1	22-Jan-2019 00:01
<i>Surr: Nitrobenzene-d5</i>	55.5			41-120	%REC	1	22-Jan-2019 00:01
<i>Surr: Phenol-d6</i>	59.8			20-120	%REC	1	22-Jan-2019 00:01
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 17-Jan-2019		Analyst: JCJ
Arsenic	0.00387		0.000400	0.00200	mg/L	1	23-Jan-2019 20:06
Lead	0.00149	J	0.000600	0.00200	mg/L	1	23-Jan-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-P11-20190109
 Collection Date: 09-Jan-2019 12:25

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	15-Jan-2019 05:52
Benzene	U		0.00020	0.0010	mg/L	1	15-Jan-2019 05:52
Chlorobenzene	U		0.00030	0.0010	mg/L	1	15-Jan-2019 05:52
Ethylbenzene	U		0.00030	0.0010	mg/L	1	15-Jan-2019 05:52
Methylene chloride	U		0.0010	0.0020	mg/L	1	15-Jan-2019 05:52
Toluene	U		0.00020	0.0010	mg/L	1	15-Jan-2019 05:52
Xylenes, Total	U		0.00030	0.0010	mg/L	1	15-Jan-2019 05:52
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>95.1</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>15-Jan-2019 05:52</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>97.1</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>15-Jan-2019 05:52</i>
<i>Surr: Dibromofluoromethane</i>	<i>103</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>15-Jan-2019 05:52</i>
<i>Surr: Toluene-d8</i>	<i>99.4</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>15-Jan-2019 05:52</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WG-1620-P11-20190109
 Collection Date: 09-Jan-2019 12:25

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: ACN
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jan-2019 00:20
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jan-2019 00:20
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jan-2019 00:20
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jan-2019 00:20
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jan-2019 00:20
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	22-Jan-2019 00:20
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jan-2019 00:20
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jan-2019 00:20
Acenaphthene	U		0.000027	0.00010	mg/L	1	22-Jan-2019 00:20
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jan-2019 00:20
Anthracene	U		0.000014	0.00010	mg/L	1	22-Jan-2019 00:20
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jan-2019 00:20
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jan-2019 00:20
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jan-2019 00:20
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	22-Jan-2019 00:20
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 00:20
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jan-2019 00:20
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jan-2019 00:20
Fluoranthene	U		0.000010	0.00010	mg/L	1	22-Jan-2019 00:20
Fluorene	U		0.000030	0.00010	mg/L	1	22-Jan-2019 00:20
Naphthalene	U		0.000020	0.00010	mg/L	1	22-Jan-2019 00:20
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jan-2019 00:20
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jan-2019 00:20
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jan-2019 00:20
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 00:20
Phenol	U		0.000035	0.00020	mg/L	1	22-Jan-2019 00:20
Pyrene	U		0.000019	0.00010	mg/L	1	22-Jan-2019 00:20
<i>Surr: 2,4,6-Tribromophenol</i>	65.2			34-129	%REC	1	22-Jan-2019 00:20
<i>Surr: 2-Fluorobiphenyl</i>	59.8			40-125	%REC	1	22-Jan-2019 00:20
<i>Surr: 2-Fluorophenol</i>	48.8			20-120	%REC	1	22-Jan-2019 00:20
<i>Surr: 4-Terphenyl-d14</i>	69.7			40-135	%REC	1	22-Jan-2019 00:20
<i>Surr: Nitrobenzene-d5</i>	48.9			41-120	%REC	1	22-Jan-2019 00:20
<i>Surr: Phenol-d6</i>	50.1			20-120	%REC	1	22-Jan-2019 00:20
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 17-Jan-2019		Analyst: JCJ
Arsenic	0.0183		0.000400	0.00200	mg/L	1	23-Jan-2019 20:08
Lead	0.00192	J	0.000600	0.00200	mg/L	1	23-Jan-2019 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-MW03-20190109
 Collection Date: 09-Jan-2019 13:15

ANALYTICAL REPORT

WorkOrder:HS19010488
 Lab ID:HS19010488-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	15-Jan-2019 06:16
Benzene	U		0.00020	0.0010	mg/L	1	15-Jan-2019 06:16
Chlorobenzene	U		0.00030	0.0010	mg/L	1	15-Jan-2019 06:16
Ethylbenzene	U		0.00030	0.0010	mg/L	1	15-Jan-2019 06:16
Methylene chloride	U		0.0010	0.0020	mg/L	1	15-Jan-2019 06:16
Toluene	U		0.00020	0.0010	mg/L	1	15-Jan-2019 06:16
Xylenes, Total	U		0.00030	0.0010	mg/L	1	15-Jan-2019 06:16
<i>Surr: 1,2-Dichloroethane-d4</i>		96.2		70-126	%REC	1	15-Jan-2019 06:16
<i>Surr: 4-Bromofluorobenzene</i>		96.8		81-113	%REC	1	15-Jan-2019 06:16
<i>Surr: Dibromofluoromethane</i>		102		77-123	%REC	1	15-Jan-2019 06:16
<i>Surr: Toluene-d8</i>		99.1		82-127	%REC	1	15-Jan-2019 06:16

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-MW03-20190109
 Collection Date: 09-Jan-2019 13:15

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: ACN
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	22-Jan-2019 00:40
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	22-Jan-2019 00:40
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	22-Jan-2019 00:40
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	22-Jan-2019 00:40
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	22-Jan-2019 00:40
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	22-Jan-2019 00:40
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	22-Jan-2019 00:40
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	22-Jan-2019 00:40
Acenaphthene	U		0.000027	0.00010	mg/L	1	22-Jan-2019 00:40
Acenaphthylene	U		0.000015	0.00010	mg/L	1	22-Jan-2019 00:40
Anthracene	U		0.000014	0.00010	mg/L	1	22-Jan-2019 00:40
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	22-Jan-2019 00:40
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	22-Jan-2019 00:40
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	22-Jan-2019 00:40
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	22-Jan-2019 00:40
Chrysene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 00:40
Dibenzofuran	U		0.000020	0.00010	mg/L	1	22-Jan-2019 00:40
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	22-Jan-2019 00:40
Fluoranthene	U		0.000010	0.00010	mg/L	1	22-Jan-2019 00:40
Fluorene	U		0.000030	0.00010	mg/L	1	22-Jan-2019 00:40
Naphthalene	U		0.000020	0.00010	mg/L	1	22-Jan-2019 00:40
Nitrobenzene	U		0.000024	0.00020	mg/L	1	22-Jan-2019 00:40
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	22-Jan-2019 00:40
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	22-Jan-2019 00:40
Phenanthrene	U		0.000021	0.00010	mg/L	1	22-Jan-2019 00:40
Phenol	U		0.000035	0.00020	mg/L	1	22-Jan-2019 00:40
Pyrene	U		0.000019	0.00010	mg/L	1	22-Jan-2019 00:40
<i>Surr: 2,4,6-Tribromophenol</i>	<i>67.1</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 00:40</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>61.3</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 00:40</i>
<i>Surr: 2-Fluorophenol</i>	<i>48.8</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 00:40</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>77.5</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 00:40</i>
<i>Surr: Nitrobenzene-d5</i>	<i>54.5</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 00:40</i>
<i>Surr: Phenol-d6</i>	<i>55.7</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>22-Jan-2019 00:40</i>
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 17-Jan-2019		Analyst: JCJ
Arsenic	0.0191		0.000400	0.00200	mg/L	1	23-Jan-2019 20:10
Lead	0.00131	J	0.000600	0.00200	mg/L	1	23-Jan-2019 20:10

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-MW09-20190109
 Collection Date: 09-Jan-2019 14:05

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	15-Jan-2019 06:42
Benzene	U		0.00020	0.0010	mg/L	1	15-Jan-2019 06:42
Chlorobenzene	0.0041		0.00030	0.0010	mg/L	1	15-Jan-2019 06:42
Ethylbenzene	U		0.00030	0.0010	mg/L	1	15-Jan-2019 06:42
Methylene chloride	U		0.0010	0.0020	mg/L	1	15-Jan-2019 06:42
Toluene	U		0.00020	0.0010	mg/L	1	15-Jan-2019 06:42
Xylenes, Total	U		0.00030	0.0010	mg/L	1	15-Jan-2019 06:42
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>94.4</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>15-Jan-2019 06:42</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>95.5</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>15-Jan-2019 06:42</i>
<i>Surr: Dibromofluoromethane</i>	<i>99.2</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>15-Jan-2019 06:42</i>
<i>Surr: Toluene-d8</i>	<i>99.4</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>15-Jan-2019 06:42</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WG-1620-MW09-20190109
 Collection Date: 09-Jan-2019 14:05

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 14-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jan-2019 17:46
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jan-2019 17:46
2,4-Dinitrotoluene	U		0.000059	0.00020	mg/L	1	23-Jan-2019 17:46
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jan-2019 17:46
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jan-2019 17:46
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	23-Jan-2019 17:46
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jan-2019 17:46
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jan-2019 17:46
Acenaphthene	U		0.000027	0.00010	mg/L	1	23-Jan-2019 17:46
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jan-2019 17:46
Anthracene	0.000093	J	0.000014	0.00010	mg/L	1	23-Jan-2019 17:46
Benz(a)anthracene	U		0.000051	0.00010	mg/L	1	23-Jan-2019 17:46
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jan-2019 17:46
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jan-2019 17:46
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	23-Jan-2019 17:46
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jan-2019 17:46
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jan-2019 17:46
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jan-2019 17:46
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jan-2019 17:46
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jan-2019 17:46
Naphthalene	U		0.000020	0.00010	mg/L	1	23-Jan-2019 17:46
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jan-2019 17:46
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jan-2019 17:46
Pentachlorophenol	U		0.000080	0.00020	mg/L	1	23-Jan-2019 17:46
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jan-2019 17:46
Phenol	U		0.000035	0.00020	mg/L	1	23-Jan-2019 17:46
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jan-2019 17:46
<i>Surr: 2,4,6-Tribromophenol</i>	<i>64.4</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 17:46</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>62.8</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 17:46</i>
<i>Surr: 2-Fluorophenol</i>	<i>37.9</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 17:46</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>81.3</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 17:46</i>
<i>Surr: Nitrobenzene-d5</i>	<i>45.2</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 17:46</i>
<i>Surr: Phenol-d6</i>	<i>45.8</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 17:46</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 17-Jan-2019		Analyst: JCJ	
Arsenic	0.00202		0.000400	0.00200	mg/L	1	23-Jan-2019 20:13
Lead	0.000931	J	0.000600	0.00200	mg/L	1	23-Jan-2019 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-MW04-20190109
 Collection Date: 09-Jan-2019 15:05

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	16-Jan-2019 01:09
Benzene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 01:09
Chlorobenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 01:09
Ethylbenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 01:09
Methylene chloride	U		0.0010	0.0020	mg/L	1	16-Jan-2019 01:09
Toluene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 01:09
Xylenes, Total	U		0.00030	0.0010	mg/L	1	16-Jan-2019 01:09
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>92.9</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 01:09</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>96.1</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 01:09</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 01:09</i>
<i>Surr: Toluene-d8</i>	<i>98.4</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 01:09</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WG-1620-MW04-20190109
 Collection Date: 09-Jan-2019 15:05

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jan-2019 18:05
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jan-2019 18:05
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jan-2019 18:05
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jan-2019 18:05
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jan-2019 18:05
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	23-Jan-2019 18:05
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jan-2019 18:05
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jan-2019 18:05
Acenaphthene	U		0.000027	0.00010	mg/L	1	23-Jan-2019 18:05
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jan-2019 18:05
Anthracene	0.000079	J	0.000014	0.00010	mg/L	1	23-Jan-2019 18:05
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jan-2019 18:05
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jan-2019 18:05
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jan-2019 18:05
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	23-Jan-2019 18:05
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jan-2019 18:05
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jan-2019 18:05
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jan-2019 18:05
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jan-2019 18:05
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jan-2019 18:05
Naphthalene	U		0.000020	0.00010	mg/L	1	23-Jan-2019 18:05
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jan-2019 18:05
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jan-2019 18:05
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jan-2019 18:05
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jan-2019 18:05
Phenol	U		0.000035	0.00020	mg/L	1	23-Jan-2019 18:05
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jan-2019 18:05
<i>Surr: 2,4,6-Tribromophenol</i>	<i>59.0</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 18:05</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>52.9</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 18:05</i>
<i>Surr: 2-Fluorophenol</i>	<i>41.3</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 18:05</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>62.6</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 18:05</i>
<i>Surr: Nitrobenzene-d5</i>	<i>48.8</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 18:05</i>
<i>Surr: Phenol-d6</i>	<i>49.4</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 18:05</i>
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 17-Jan-2019		Analyst: JCJ
Arsenic	0.000963	J	0.000400	0.00200	mg/L	1	23-Jan-2019 20:15
Lead	U		0.000600	0.00200	mg/L	1	23-Jan-2019 20:15

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-MW21C-20190109
 Collection Date: 09-Jan-2019 16:20

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	16-Jan-2019 02:45
Benzene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 02:45
Chlorobenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 02:45
Ethylbenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 02:45
Methylene chloride	U		0.0010	0.0020	mg/L	1	16-Jan-2019 02:45
Toluene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 02:45
Xylenes, Total	U		0.00030	0.0010	mg/L	1	16-Jan-2019 02:45
<i>Surr: 1,2-Dichloroethane-d4</i>		94.6		70-126	%REC	1	16-Jan-2019 02:45
<i>Surr: 4-Bromofluorobenzene</i>		96.4		81-113	%REC	1	16-Jan-2019 02:45
<i>Surr: Dibromofluoromethane</i>		102		77-123	%REC	1	16-Jan-2019 02:45
<i>Surr: Toluene-d8</i>		98.9		82-127	%REC	1	16-Jan-2019 02:45

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-MW21C-20190109
 Collection Date: 09-Jan-2019 16:20

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jan-2019 18:25
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jan-2019 18:25
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jan-2019 18:25
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jan-2019 18:25
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jan-2019 18:25
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	23-Jan-2019 18:25
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jan-2019 18:25
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jan-2019 18:25
Acenaphthene	U		0.000027	0.00010	mg/L	1	23-Jan-2019 18:25
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jan-2019 18:25
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jan-2019 18:25
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jan-2019 18:25
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jan-2019 18:25
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jan-2019 18:25
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	23-Jan-2019 18:25
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jan-2019 18:25
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jan-2019 18:25
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jan-2019 18:25
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jan-2019 18:25
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jan-2019 18:25
Naphthalene	U		0.000020	0.00010	mg/L	1	23-Jan-2019 18:25
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jan-2019 18:25
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jan-2019 18:25
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jan-2019 18:25
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jan-2019 18:25
Phenol	U		0.000035	0.00020	mg/L	1	23-Jan-2019 18:25
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jan-2019 18:25
<i>Surr: 2,4,6-Tribromophenol</i>	<i>42.3</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 18:25</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>43.2</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 18:25</i>
<i>Surr: 2-Fluorophenol</i>	<i>36.0</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 18:25</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>74.0</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 18:25</i>
<i>Surr: Nitrobenzene-d5</i>	<i>41.1</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 18:25</i>
<i>Surr: Phenol-d6</i>	<i>42.2</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 18:25</i>
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 17-Jan-2019		Analyst: JCJ
Arsenic	0.00187	J	0.000400	0.00200	mg/L	1	23-Jan-2019 20:17
Lead	U		0.000600	0.00200	mg/L	1	23-Jan-2019 20:17

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-FD01-20190109
 Collection Date: 09-Jan-2019 16:20

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	16-Jan-2019 03:09
Benzene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 03:09
Chlorobenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 03:09
Ethylbenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 03:09
Methylene chloride	U		0.0010	0.0020	mg/L	1	16-Jan-2019 03:09
Toluene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 03:09
Xylenes, Total	U		0.00030	0.0010	mg/L	1	16-Jan-2019 03:09
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>101</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 03:09</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>92.6</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 03:09</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 03:09</i>
<i>Surr: Toluene-d8</i>	<i>99.8</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 03:09</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WG-1620-FD01-20190109
 Collection Date: 09-Jan-2019 16:20

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jan-2019 18:45
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jan-2019 18:45
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jan-2019 18:45
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jan-2019 18:45
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jan-2019 18:45
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	23-Jan-2019 18:45
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jan-2019 18:45
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jan-2019 18:45
Acenaphthene	U		0.000027	0.00010	mg/L	1	23-Jan-2019 18:45
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jan-2019 18:45
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jan-2019 18:45
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jan-2019 18:45
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jan-2019 18:45
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jan-2019 18:45
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	23-Jan-2019 18:45
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jan-2019 18:45
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jan-2019 18:45
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jan-2019 18:45
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jan-2019 18:45
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jan-2019 18:45
Naphthalene	U		0.000020	0.00010	mg/L	1	23-Jan-2019 18:45
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jan-2019 18:45
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jan-2019 18:45
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jan-2019 18:45
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jan-2019 18:45
Phenol	U		0.000035	0.00020	mg/L	1	23-Jan-2019 18:45
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jan-2019 18:45
<i>Surr: 2,4,6-Tribromophenol</i>	35.2			34-129	%REC	1	23-Jan-2019 18:45
<i>Surr: 2-Fluorobiphenyl</i>	42.3			40-125	%REC	1	23-Jan-2019 18:45
<i>Surr: 2-Fluorophenol</i>	29.9			20-120	%REC	1	23-Jan-2019 18:45
<i>Surr: 4-Terphenyl-d14</i>	65.1			40-135	%REC	1	23-Jan-2019 18:45
<i>Surr: Nitrobenzene-d5</i>	41.6			41-120	%REC	1	23-Jan-2019 18:45
<i>Surr: Phenol-d6</i>	34.1			20-120	%REC	1	23-Jan-2019 18:45
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 17-Jan-2019		Analyst: JCJ
Arsenic	0.00178	J	0.000400	0.00200	mg/L	1	23-Jan-2019 20:19
Lead	U		0.000600	0.00200	mg/L	1	23-Jan-2019 20:19

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-MW17-20190109
 Collection Date: 09-Jan-2019 17:20

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-09
 Matrix:Groundwater

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	16-Jan-2019 07:59
Benzene	0.35		0.0020	0.010	mg/L	10	16-Jan-2019 07:59
Chlorobenzene	U		0.0030	0.010	mg/L	10	16-Jan-2019 07:59
Ethylbenzene	0.21		0.0030	0.010	mg/L	10	16-Jan-2019 07:59
Methylene chloride	U		0.010	0.020	mg/L	10	16-Jan-2019 07:59
Toluene	0.68		0.0020	0.010	mg/L	10	16-Jan-2019 07:59
Xylenes, Total	0.66		0.0030	0.010	mg/L	10	16-Jan-2019 07:59
<i>Surr: 1,2-Dichloroethane-d4</i>	95.5			70-126	%REC	10	16-Jan-2019 07:59
<i>Surr: 4-Bromofluorobenzene</i>	102			81-113	%REC	10	16-Jan-2019 07:59
<i>Surr: Dibromofluoromethane</i>	99.8			77-123	%REC	10	16-Jan-2019 07:59
<i>Surr: Toluene-d8</i>	97.5			82-127	%REC	10	16-Jan-2019 07:59

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-MW17-20190109
 Collection Date: 09-Jan-2019 17:20

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 14-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	24-Jan-2019 17:10
2,4-Dimethylphenol	1.9		0.040	0.20	mg/L	1000	25-Jan-2019 11:27
2,4-Dinitrotoluene	U		0.00058	0.0020	mg/L	10	24-Jan-2019 17:10
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	24-Jan-2019 17:10
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	24-Jan-2019 17:10
2-Methylnaphthalene	0.23		0.0019	0.010	mg/L	100	24-Jan-2019 17:29
4,6-Dinitro-2-methylphenol	U		0.00020	0.0020	mg/L	10	24-Jan-2019 17:10
4-Nitrophenol	U		0.00047	0.010	mg/L	10	24-Jan-2019 17:10
Acenaphthene	0.091		0.00027	0.0010	mg/L	10	24-Jan-2019 17:10
Acenaphthylene	0.0029		0.00015	0.0010	mg/L	10	24-Jan-2019 17:10
Anthracene	0.0057		0.00014	0.0010	mg/L	10	24-Jan-2019 17:10
Benz(a)anthracene	U		0.00050	0.0010	mg/L	10	24-Jan-2019 17:10
Benzo(a)pyrene	U		0.00020	0.0010	mg/L	10	24-Jan-2019 17:10
Bis(2-chloroethoxy)methane	U		0.00030	0.0020	mg/L	10	24-Jan-2019 17:10
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	24-Jan-2019 17:10
Chrysene	U		0.00021	0.0010	mg/L	10	24-Jan-2019 17:10
Dibenzofuran	0.072		0.00020	0.0010	mg/L	10	24-Jan-2019 17:10
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	24-Jan-2019 17:10
Fluoranthene	0.0015		0.00010	0.0010	mg/L	10	24-Jan-2019 17:10
Fluorene	0.043		0.00030	0.0010	mg/L	10	24-Jan-2019 17:10
Naphthalene	5.5		0.020	0.10	mg/L	1000	25-Jan-2019 11:27
Nitrobenzene	U		0.00024	0.0020	mg/L	10	24-Jan-2019 17:10
N-Nitrosodiphenylamine	U		0.00025	0.0020	mg/L	10	24-Jan-2019 17:10
Pentachlorophenol	U		0.00079	0.0020	mg/L	10	24-Jan-2019 17:10
Phenanthrene	0.028		0.00021	0.0010	mg/L	10	24-Jan-2019 17:10
Phenol	2.2		0.035	0.20	mg/L	1000	25-Jan-2019 11:27
Pyrene	0.00081	J	0.00019	0.0010	mg/L	10	24-Jan-2019 17:10
<i>Surr: 2,4,6-Tribromophenol</i>	0	JS		34-129	%REC	1000	25-Jan-2019 11:27
<i>Surr: 2,4,6-Tribromophenol</i>	0	JS		34-129	%REC	100	24-Jan-2019 17:29
<i>Surr: 2,4,6-Tribromophenol</i>	76.5			34-129	%REC	10	24-Jan-2019 17:10
<i>Surr: 2-Fluorobiphenyl</i>	67.3			40-125	%REC	10	24-Jan-2019 17:10
<i>Surr: 2-Fluorobiphenyl</i>	0	JS		40-125	%REC	100	24-Jan-2019 17:29
<i>Surr: 2-Fluorobiphenyl</i>	0	JS		40-125	%REC	1000	25-Jan-2019 11:27
<i>Surr: 2-Fluorophenol</i>	0	JS		20-120	%REC	1000	25-Jan-2019 11:27
<i>Surr: 2-Fluorophenol</i>	0	JS		20-120	%REC	100	24-Jan-2019 17:29
<i>Surr: 2-Fluorophenol</i>	105			20-120	%REC	10	24-Jan-2019 17:10
<i>Surr: 4-Terphenyl-d14</i>	73.8			40-135	%REC	10	24-Jan-2019 17:10
<i>Surr: 4-Terphenyl-d14</i>	0	JS		40-135	%REC	100	24-Jan-2019 17:29
<i>Surr: 4-Terphenyl-d14</i>	0	JS		40-135	%REC	1000	25-Jan-2019 11:27

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-MW17-20190109
 Collection Date: 09-Jan-2019 17:20

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: GEY
Surr: Nitrobenzene-d5	60.3			41-120	%REC	10	24-Jan-2019 17:10
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	100	24-Jan-2019 17:29
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	1000	25-Jan-2019 11:27
Surr: Phenol-d6	0	JS		20-120	%REC	1000	25-Jan-2019 11:27
Surr: Phenol-d6	90.5			20-120	%REC	10	24-Jan-2019 17:10
Surr: Phenol-d6	0	JS		20-120	%REC	100	24-Jan-2019 17:29
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 17-Jan-2019		Analyst: JHD
Arsenic	0.0460		0.000400	0.00200	mg/L	1	24-Jan-2019 14:42
Lead		U	0.000600	0.00200	mg/L	1	24-Jan-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: WQ-1620-FB02-20190109
 Collection Date: 09-Jan-2019 17:35

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-10
 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-2019 23:31
Benzene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 23:31
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 23:31
Ethylbenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 23:31
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jan-2019 23:31
Toluene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 23:31
Xylenes, Total	U		0.00030	0.0010	mg/L	1	14-Jan-2019 23:31
<i>Surr: 1,2-Dichloroethane-d4</i>		<i>107</i>		<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 23:31</i>
<i>Surr: 4-Bromofluorobenzene</i>		<i>99.1</i>		<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 23:31</i>
<i>Surr: Dibromofluoromethane</i>		<i>97.4</i>		<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 23:31</i>
<i>Surr: Toluene-d8</i>		<i>108</i>		<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>14-Jan-2019 23:31</i>

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-FB02-20190109
 Collection Date: 09-Jan-2019 17:35

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-10
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jan-2019 19:24
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	23-Jan-2019 19:24
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jan-2019 19:24
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jan-2019 19:24
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jan-2019 19:24
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	23-Jan-2019 19:24
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jan-2019 19:24
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jan-2019 19:24
Acenaphthene	U		0.000027	0.00010	mg/L	1	23-Jan-2019 19:24
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jan-2019 19:24
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jan-2019 19:24
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jan-2019 19:24
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jan-2019 19:24
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jan-2019 19:24
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	23-Jan-2019 19:24
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jan-2019 19:24
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jan-2019 19:24
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jan-2019 19:24
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jan-2019 19:24
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jan-2019 19:24
Naphthalene	0.00031		0.000020	0.00010	mg/L	1	23-Jan-2019 19:24
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jan-2019 19:24
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jan-2019 19:24
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jan-2019 19:24
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jan-2019 19:24
Phenol	U		0.000035	0.00020	mg/L	1	23-Jan-2019 19:24
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jan-2019 19:24
<i>Surr: 2,4,6-Tribromophenol</i>	<i>53.6</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 19:24</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>59.9</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 19:24</i>
<i>Surr: 2-Fluorophenol</i>	<i>56.7</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 19:24</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>65.9</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 19:24</i>
<i>Surr: Nitrobenzene-d5</i>	<i>75.0</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 19:24</i>
<i>Surr: Phenol-d6</i>	<i>60.9</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 19:24</i>
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 17-Jan-2019		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	24-Jan-2019 14:44
Lead	U		0.000600	0.00200	mg/L	1	24-Jan-2019 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-MW17C-20190110
 Collection Date: 10-Jan-2019 07:25

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-11
 Matrix:Groundwater

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-2019 03:33
Benzene	0.012		0.00020	0.0010	mg/L	1	16-Jan-2019 03:33
Chlorobenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 03:33
Ethylbenzene	0.027		0.00030	0.0010	mg/L	1	16-Jan-2019 03:33
Methylene chloride	U		0.0010	0.0020	mg/L	1	16-Jan-2019 03:33
Toluene	0.0087		0.00020	0.0010	mg/L	1	16-Jan-2019 03:33
Xylenes, Total	0.050		0.00030	0.0010	mg/L	1	16-Jan-2019 03:33
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>94.8</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 03:33</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>99.1</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 03:33</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 03:33</i>
<i>Surr: Toluene-d8</i>	<i>96.6</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 03:33</i>

Note: See 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-20190110
 Collection Date: 10-Jan-2019 07:25

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 14-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jan-2019 19:44
2,4-Dimethylphenol	0.47		0.0040	0.020	mg/L	100	24-Jan-2019 18:07
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jan-2019 19:44
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jan-2019 19:44
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jan-2019 19:44
2-Methylnaphthalene	0.025		0.00019	0.0010	mg/L	10	24-Jan-2019 17:48
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jan-2019 19:44
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jan-2019 19:44
Acenaphthene	0.031		0.00027	0.0010	mg/L	10	24-Jan-2019 17:48
Acenaphthylene	0.00047		0.000015	0.00010	mg/L	1	23-Jan-2019 19:44
Anthracene	0.0012		0.000014	0.00010	mg/L	1	23-Jan-2019 19:44
Benz(a)anthracene	0.000062	J	0.000050	0.00010	mg/L	1	23-Jan-2019 19:44
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jan-2019 19:44
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jan-2019 19:44
Bis(2-ethylhexyl)phthalate	0.00062		0.000037	0.00020	mg/L	1	23-Jan-2019 19:44
Chrysene	0.000059	J	0.000021	0.00010	mg/L	1	23-Jan-2019 19:44
Dibenzofuran	0.027		0.00020	0.0010	mg/L	10	24-Jan-2019 17:48
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jan-2019 19:44
Fluoranthene	0.00078		0.000010	0.00010	mg/L	1	23-Jan-2019 19:44
Fluorene	0.012		0.00030	0.0010	mg/L	10	24-Jan-2019 17:48
Naphthalene	1.1		0.020	0.10	mg/L	1000	24-Jan-2019 18:26
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jan-2019 19:44
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jan-2019 19:44
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jan-2019 19:44
Phenanthrene	0.010		0.00021	0.0010	mg/L	10	24-Jan-2019 17:48
Phenol	0.033		0.00035	0.0020	mg/L	10	24-Jan-2019 17:48
Pyrene	0.00045		0.000019	0.00010	mg/L	1	23-Jan-2019 19:44
<i>Surr: 2,4,6-Tribromophenol</i>	<i>51.1</i>			<i>34-129</i>	<i>%REC</i>	<i>10</i>	<i>24-Jan-2019 17:48</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>0</i>	<i>JS</i>		<i>34-129</i>	<i>%REC</i>	<i>100</i>	<i>24-Jan-2019 18:07</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>0</i>	<i>JS</i>		<i>34-129</i>	<i>%REC</i>	<i>1000</i>	<i>24-Jan-2019 18:26</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>65.5</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 19:44</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>50.5</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 19:44</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>63.0</i>			<i>40-125</i>	<i>%REC</i>	<i>10</i>	<i>24-Jan-2019 17:48</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>0</i>	<i>JS</i>		<i>40-125</i>	<i>%REC</i>	<i>100</i>	<i>24-Jan-2019 18:07</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>0</i>	<i>JS</i>		<i>40-125</i>	<i>%REC</i>	<i>1000</i>	<i>24-Jan-2019 18:26</i>
<i>Surr: 2-Fluorophenol</i>	<i>64.2</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>24-Jan-2019 17:48</i>
<i>Surr: 2-Fluorophenol</i>	<i>0</i>	<i>JS</i>		<i>20-120</i>	<i>%REC</i>	<i>100</i>	<i>24-Jan-2019 18:07</i>
<i>Surr: 2-Fluorophenol</i>	<i>0</i>	<i>JS</i>		<i>20-120</i>	<i>%REC</i>	<i>1000</i>	<i>24-Jan-2019 18:26</i>
<i>Surr: 2-Fluorophenol</i>	<i>60.3</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 19:44</i>

Note: See 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-20190110
 Collection Date: 10-Jan-2019 07:25

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: GEY
Surr: 4-Terphenyl-d14	62.4			40-135	%REC	1	23-Jan-2019 19:44
Surr: 4-Terphenyl-d14	70.3			40-135	%REC	10	24-Jan-2019 17:48
Surr: 4-Terphenyl-d14	0	JS		40-135	%REC	100	24-Jan-2019 18:07
Surr: 4-Terphenyl-d14	0	JS		40-135	%REC	1000	24-Jan-2019 18:26
Surr: Nitrobenzene-d5	67.8			41-120	%REC	10	24-Jan-2019 17:48
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	100	24-Jan-2019 18:07
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	1000	24-Jan-2019 18:26
Surr: Nitrobenzene-d5	79.0			41-120	%REC	1	23-Jan-2019 19:44
Surr: Phenol-d6	67.9			20-120	%REC	1	23-Jan-2019 19:44
Surr: Phenol-d6	63.7			20-120	%REC	10	24-Jan-2019 17:48
Surr: Phenol-d6	0	JS		20-120	%REC	100	24-Jan-2019 18:07
Surr: Phenol-d6	0	JS		20-120	%REC	1000	24-Jan-2019 18:26
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 17-Jan-2019		Analyst: JHD
Arsenic	0.00130	J	0.000400	0.00200	mg/L	1	24-Jan-2019 14:46
Lead		U	0.000600	0.00200	mg/L	1	24-Jan-2019 14:46

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-MW18C-20190110
 Collection Date: 10-Jan-2019 08:20

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	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	16-Jan-2019 08:25
Benzene	0.30		0.0020	0.010	mg/L	10	16-Jan-2019 08:25
Chlorobenzene		U	0.0030	0.010	mg/L	10	16-Jan-2019 08:25
Ethylbenzene	0.41		0.0030	0.010	mg/L	10	16-Jan-2019 08:25
Methylene chloride		U	0.010	0.020	mg/L	10	16-Jan-2019 08:25
Toluene	0.030		0.0020	0.010	mg/L	10	16-Jan-2019 08:25
Vinyl chloride		U	0.0020	0.010	mg/L	10	16-Jan-2019 08:25
Xylenes, Total	0.69		0.0030	0.010	mg/L	10	16-Jan-2019 08:25
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>96.4</i>			<i>70-126</i>	<i>%REC</i>	<i>10</i>	<i>16-Jan-2019 08:25</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>97.4</i>			<i>81-113</i>	<i>%REC</i>	<i>10</i>	<i>16-Jan-2019 08:25</i>
<i>Surr: Dibromofluoromethane</i>	<i>99.7</i>			<i>77-123</i>	<i>%REC</i>	<i>10</i>	<i>16-Jan-2019 08:25</i>
<i>Surr: Toluene-d8</i>	<i>97.1</i>			<i>82-127</i>	<i>%REC</i>	<i>10</i>	<i>16-Jan-2019 08:25</i>

Note: See 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-20190110
 Collection Date: 10-Jan-2019 08:20

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 14-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	24-Jan-2019 18:45
2,4-Dimethylphenol	0.29		0.0040	0.020	mg/L	100	24-Jan-2019 19:04
2,4-Dinitrotoluene	U		0.00059	0.0020	mg/L	10	24-Jan-2019 18:45
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	24-Jan-2019 18:45
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	24-Jan-2019 18:45
2-Methylnaphthalene	0.33		0.0019	0.010	mg/L	100	24-Jan-2019 19:04
4,6-Dinitro-2-methylphenol	U		0.00020	0.0020	mg/L	10	24-Jan-2019 18:45
4-Nitrophenol	U		0.00047	0.010	mg/L	10	24-Jan-2019 18:45
Acenaphthene	0.21		0.0027	0.010	mg/L	100	24-Jan-2019 19:04
Acenaphthylene	0.0075		0.00015	0.0010	mg/L	10	24-Jan-2019 18:45
Anthracene	0.0070		0.00014	0.0010	mg/L	10	24-Jan-2019 18:45
Benz(a)anthracene	U		0.00051	0.0010	mg/L	10	24-Jan-2019 18:45
Benzo(a)pyrene	U		0.00020	0.0010	mg/L	10	24-Jan-2019 18:45
Bis(2-chloroethoxy)methane	U		0.00030	0.0020	mg/L	10	24-Jan-2019 18:45
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	24-Jan-2019 18:45
Chrysene	U		0.00021	0.0010	mg/L	10	24-Jan-2019 18:45
Dibenzofuran	0.13		0.0020	0.010	mg/L	100	24-Jan-2019 19:04
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	24-Jan-2019 18:45
Fluoranthene	0.0023		0.00010	0.0010	mg/L	10	24-Jan-2019 18:45
Fluorene	0.095		0.00030	0.0010	mg/L	10	24-Jan-2019 18:45
Naphthalene	4.4		0.020	0.10	mg/L	1000	24-Jan-2019 19:23
Nitrobenzene	U		0.00024	0.0020	mg/L	10	24-Jan-2019 18:45
N-Nitrosodiphenylamine	U		0.00025	0.0020	mg/L	10	24-Jan-2019 18:45
Pentachlorophenol	U		0.00080	0.0020	mg/L	10	24-Jan-2019 18:45
Phenanthrene	0.084		0.00021	0.0010	mg/L	10	24-Jan-2019 18:45
Phenol	U		0.00035	0.0020	mg/L	10	24-Jan-2019 18:45
Pyrene	0.0012		0.00019	0.0010	mg/L	10	24-Jan-2019 18:45
<i>Surr: 2,4,6-Tribromophenol</i>	<i>0</i>	<i>JS</i>		<i>34-129</i>	<i>%REC</i>	<i>1000</i>	<i>24-Jan-2019 19:23</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>57.2</i>			<i>34-129</i>	<i>%REC</i>	<i>10</i>	<i>24-Jan-2019 18:45</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>0</i>	<i>JS</i>		<i>34-129</i>	<i>%REC</i>	<i>100</i>	<i>24-Jan-2019 19:04</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>59.3</i>			<i>40-125</i>	<i>%REC</i>	<i>10</i>	<i>24-Jan-2019 18:45</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>0</i>	<i>JS</i>		<i>40-125</i>	<i>%REC</i>	<i>100</i>	<i>24-Jan-2019 19:04</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>0</i>	<i>JS</i>		<i>40-125</i>	<i>%REC</i>	<i>1000</i>	<i>24-Jan-2019 19:23</i>
<i>Surr: 2-Fluorophenol</i>	<i>0</i>	<i>JS</i>		<i>20-120</i>	<i>%REC</i>	<i>1000</i>	<i>24-Jan-2019 19:23</i>
<i>Surr: 2-Fluorophenol</i>	<i>84.1</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>24-Jan-2019 18:45</i>
<i>Surr: 2-Fluorophenol</i>	<i>0</i>	<i>JS</i>		<i>20-120</i>	<i>%REC</i>	<i>100</i>	<i>24-Jan-2019 19:04</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>65.3</i>			<i>40-135</i>	<i>%REC</i>	<i>10</i>	<i>24-Jan-2019 18:45</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>0</i>	<i>JS</i>		<i>40-135</i>	<i>%REC</i>	<i>100</i>	<i>24-Jan-2019 19:04</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>0</i>	<i>JS</i>		<i>40-135</i>	<i>%REC</i>	<i>1000</i>	<i>24-Jan-2019 19:23</i>

Note: See 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-20190110
 Collection Date: 10-Jan-2019 08:20

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: GEY
Surr: Nitrobenzene-d5	67.5			41-120	%REC	10	24-Jan-2019 18:45
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	100	24-Jan-2019 19:04
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	1000	24-Jan-2019 19:23
Surr: Phenol-d6	68.2			20-120	%REC	10	24-Jan-2019 18:45
Surr: Phenol-d6	0	JS		20-120	%REC	100	24-Jan-2019 19:04
Surr: Phenol-d6	0	JS		20-120	%REC	1000	24-Jan-2019 19:23
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 17-Jan-2019		Analyst: JHD
Arsenic	0.0257		0.000400	0.00200	mg/L	1	24-Jan-2019 14:48
Lead		U	0.000600	0.00200	mg/L	1	24-Jan-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-MW18A-20190110
 Collection Date: 10-Jan-2019 10:45

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-13
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	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	16-Jan-2019 08:52
Benzene	1.2		0.0050	0.025	mg/L	25	16-Jan-2019 08:52
Chlorobenzene	U		0.0075	0.025	mg/L	25	16-Jan-2019 08:52
Ethylbenzene	0.34		0.0075	0.025	mg/L	25	16-Jan-2019 08:52
Methylene chloride	U		0.025	0.050	mg/L	25	16-Jan-2019 08:52
Toluene	0.92		0.0050	0.025	mg/L	25	16-Jan-2019 08:52
Vinyl chloride	U		0.0050	0.025	mg/L	25	16-Jan-2019 08:52
Xylenes, Total	1.0		0.0075	0.025	mg/L	25	16-Jan-2019 08:52
<i>Surr: 1,2-Dichloroethane-d4</i>	93.3			70-126	%REC	25	16-Jan-2019 08:52
<i>Surr: 4-Bromofluorobenzene</i>	99.2			81-113	%REC	25	16-Jan-2019 08:52
<i>Surr: Dibromofluoromethane</i>	99.6			77-123	%REC	25	16-Jan-2019 08:52
<i>Surr: Toluene-d8</i>	97.0			82-127	%REC	25	16-Jan-2019 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-MW18A-20190110
 Collection Date: 10-Jan-2019 10:45

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-13
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	24-Jan-2019 19:42
2,4-Dimethylphenol	0.0054		0.00040	0.0020	mg/L	10	24-Jan-2019 19:42
2,4-Dinitrotoluene	U		0.00058	0.0020	mg/L	10	24-Jan-2019 19:42
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	24-Jan-2019 19:42
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	24-Jan-2019 19:42
2-Methylnaphthalene	0.10		0.0019	0.010	mg/L	100	24-Jan-2019 20:01
4,6-Dinitro-2-methylphenol	U		0.00020	0.0020	mg/L	10	24-Jan-2019 19:42
4-Nitrophenol	U		0.00047	0.010	mg/L	10	24-Jan-2019 19:42
Acenaphthene	0.048		0.00027	0.0010	mg/L	10	24-Jan-2019 19:42
Acenaphthylene	0.0016		0.00015	0.0010	mg/L	10	24-Jan-2019 19:42
Anthracene	0.0064		0.00014	0.0010	mg/L	10	24-Jan-2019 19:42
Benz(a)anthracene	U		0.00050	0.0010	mg/L	10	24-Jan-2019 19:42
Benzo(a)pyrene	U		0.00020	0.0010	mg/L	10	24-Jan-2019 19:42
Bis(2-chloroethoxy)methane	U		0.00030	0.0020	mg/L	10	24-Jan-2019 19:42
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	24-Jan-2019 19:42
Chrysene	U		0.00021	0.0010	mg/L	10	24-Jan-2019 19:42
Dibenzofuran	0.047		0.00020	0.0010	mg/L	10	24-Jan-2019 19:42
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	24-Jan-2019 19:42
Fluoranthene	0.0020		0.00010	0.0010	mg/L	10	24-Jan-2019 19:42
Fluorene	0.021		0.00030	0.0010	mg/L	10	24-Jan-2019 19:42
Naphthalene	3.2		0.020	0.10	mg/L	1000	24-Jan-2019 20:20
Nitrobenzene	U		0.00024	0.0020	mg/L	10	24-Jan-2019 19:42
N-Nitrosodiphenylamine	U		0.00025	0.0020	mg/L	10	24-Jan-2019 19:42
Pentachlorophenol	0.014		0.00079	0.0020	mg/L	10	24-Jan-2019 19:42
Phenanthrene	0.024		0.00021	0.0010	mg/L	10	24-Jan-2019 19:42
Phenol	0.0032		0.00035	0.0020	mg/L	10	24-Jan-2019 19:42
Pyrene	0.0012		0.00019	0.0010	mg/L	10	24-Jan-2019 19:42
<i>Surr: 2,4,6-Tribromophenol</i>	69.5			34-129	%REC	10	24-Jan-2019 19:42
<i>Surr: 2,4,6-Tribromophenol</i>	0	JS		34-129	%REC	100	24-Jan-2019 20:01
<i>Surr: 2,4,6-Tribromophenol</i>	0	JS		34-129	%REC	1000	24-Jan-2019 20:20
<i>Surr: 2-Fluorobiphenyl</i>	62.7			40-125	%REC	10	24-Jan-2019 19:42
<i>Surr: 2-Fluorobiphenyl</i>	0	JS		40-125	%REC	100	24-Jan-2019 20:01
<i>Surr: 2-Fluorobiphenyl</i>	0	JS		40-125	%REC	1000	24-Jan-2019 20:20
<i>Surr: 2-Fluorophenol</i>	116			20-120	%REC	10	24-Jan-2019 19:42
<i>Surr: 2-Fluorophenol</i>	0	JS		20-120	%REC	100	24-Jan-2019 20:01
<i>Surr: 2-Fluorophenol</i>	0	JS		20-120	%REC	1000	24-Jan-2019 20:20
<i>Surr: 4-Terphenyl-d14</i>	72.6			40-135	%REC	10	24-Jan-2019 19:42
<i>Surr: 4-Terphenyl-d14</i>	0	JS		40-135	%REC	100	24-Jan-2019 20:01
<i>Surr: 4-Terphenyl-d14</i>	0	JS		40-135	%REC	1000	24-Jan-2019 20:20

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-MW18A-20190110
 Collection Date: 10-Jan-2019 10:45

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-13
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 14-Jan-2019		Analyst: GEY
Surr: Nitrobenzene-d5	53.7			41-120	%REC	10	24-Jan-2019 19:42
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	100	24-Jan-2019 20:01
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	1000	24-Jan-2019 20:20
Surr: Phenol-d6	0	JS		20-120	%REC	1000	24-Jan-2019 20:20
Surr: Phenol-d6	68.1			20-120	%REC	10	24-Jan-2019 19:42
Surr: Phenol-d6	0	JS		20-120	%REC	100	24-Jan-2019 20:01
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 17-Jan-2019		Analyst: JHD
Arsenic	0.00310		0.000400	0.00200	mg/L	1	24-Jan-2019 14:50
Lead		U	0.000600	0.00200	mg/L	1	24-Jan-2019 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-MW48C-20190110
 Collection Date: 10-Jan-2019 11:45

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-14
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	16-Jan-2019 03:57
Benzene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 03:57
Chlorobenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 03:57
Ethylbenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 03:57
Methylene chloride	U		0.0010	0.0020	mg/L	1	16-Jan-2019 03:57
Toluene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 03:57
Xylenes, Total	U		0.00030	0.0010	mg/L	1	16-Jan-2019 03:57
<i>Surr: 1,2-Dichloroethane-d4</i>		96.0		70-126	%REC	1	16-Jan-2019 03:57
<i>Surr: 4-Bromofluorobenzene</i>		99.3		81-113	%REC	1	16-Jan-2019 03:57
<i>Surr: Dibromofluoromethane</i>		102		77-123	%REC	1	16-Jan-2019 03:57
<i>Surr: Toluene-d8</i>		98.7		82-127	%REC	1	16-Jan-2019 03:57

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-MW48C-20190110
 Collection Date: 10-Jan-2019 11:45

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-14
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 14-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	23-Jan-2019 20:43
2,4-Dimethylphenol	0.0010		0.000040	0.00020	mg/L	1	23-Jan-2019 20:43
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	23-Jan-2019 20:43
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	23-Jan-2019 20:43
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	23-Jan-2019 20:43
2-Methylnaphthalene	0.00038		0.000019	0.00010	mg/L	1	23-Jan-2019 20:43
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	23-Jan-2019 20:43
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	23-Jan-2019 20:43
Acenaphthene	0.000098	J	0.000027	0.00010	mg/L	1	23-Jan-2019 20:43
Acenaphthylene	U		0.000015	0.00010	mg/L	1	23-Jan-2019 20:43
Anthracene	U		0.000014	0.00010	mg/L	1	23-Jan-2019 20:43
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	23-Jan-2019 20:43
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	23-Jan-2019 20:43
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	23-Jan-2019 20:43
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	23-Jan-2019 20:43
Chrysene	U		0.000021	0.00010	mg/L	1	23-Jan-2019 20:43
Dibenzofuran	U		0.000020	0.00010	mg/L	1	23-Jan-2019 20:43
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	23-Jan-2019 20:43
Fluoranthene	U		0.000010	0.00010	mg/L	1	23-Jan-2019 20:43
Fluorene	U		0.000030	0.00010	mg/L	1	23-Jan-2019 20:43
Naphthalene	0.0085		0.000020	0.00010	mg/L	1	23-Jan-2019 20:43
Nitrobenzene	U		0.000024	0.00020	mg/L	1	23-Jan-2019 20:43
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	23-Jan-2019 20:43
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	23-Jan-2019 20:43
Phenanthrene	U		0.000021	0.00010	mg/L	1	23-Jan-2019 20:43
Phenol	0.0020		0.000035	0.00020	mg/L	1	23-Jan-2019 20:43
Pyrene	U		0.000019	0.00010	mg/L	1	23-Jan-2019 20:43
<i>Surr: 2,4,6-Tribromophenol</i>	<i>41.9</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 20:43</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>50.3</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 20:43</i>
<i>Surr: 2-Fluorophenol</i>	<i>49.9</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 20:43</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>67.4</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 20:43</i>
<i>Surr: Nitrobenzene-d5</i>	<i>51.2</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 20:43</i>
<i>Surr: Phenol-d6</i>	<i>55.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>23-Jan-2019 20:43</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 17-Jan-2019		Analyst: JHD	
Arsenic	0.000924	J	0.000400	0.00200	mg/L	1	24-Jan-2019 14:53
Lead	0.00141	J	0.000600	0.00200	mg/L	1	24-Jan-2019 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-MW69A-20190110
 Collection Date: 10-Jan-2019 12:45

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-15
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	SQL	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-2019 04:21
Benzene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 04:21
Chlorobenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 04:21
Ethylbenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 04:21
Methylene chloride	U		0.0010	0.0020	mg/L	1	16-Jan-2019 04:21
Toluene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 04:21
Vinyl chloride	U		0.00020	0.0010	mg/L	1	16-Jan-2019 04:21
Xylenes, Total	U		0.00030	0.0010	mg/L	1	16-Jan-2019 04:21
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>94.6</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 04:21</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>97.4</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 04:21</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 04:21</i>
<i>Surr: Toluene-d8</i>	<i>98.5</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 04:21</i>

Note: See 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-20190110
 Collection Date: 10-Jan-2019 12:45

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-15
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 15-Jan-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jan-2019 14:30
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jan-2019 14:30
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jan-2019 14:30
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jan-2019 14:30
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jan-2019 14:30
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 14:30
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jan-2019 14:30
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jan-2019 14:30
Acenaphthene	U		0.000027	0.00010	mg/L	1	18-Jan-2019 14:30
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jan-2019 14:30
Anthracene	U		0.000014	0.00010	mg/L	1	18-Jan-2019 14:30
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jan-2019 14:30
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 14:30
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jan-2019 14:30
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	18-Jan-2019 14:30
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 14:30
Dibenzofuran	U		0.000020	0.00010	mg/L	1	18-Jan-2019 14:30
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jan-2019 14:30
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jan-2019 14:30
Fluorene	U		0.000030	0.00010	mg/L	1	18-Jan-2019 14:30
Naphthalene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 14:30
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jan-2019 14:30
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jan-2019 14:30
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jan-2019 14:30
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 14:30
Phenol	U		0.000035	0.00020	mg/L	1	18-Jan-2019 14:30
Pyrene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 14:30
<i>Surr: 2,4,6-Tribromophenol</i>		35.6		34-129	%REC	1	18-Jan-2019 14:30
<i>Surr: 2-Fluorobiphenyl</i>		40.4		40-125	%REC	1	18-Jan-2019 14:30
<i>Surr: 2-Fluorophenol</i>		40.6		20-120	%REC	1	18-Jan-2019 14:30
<i>Surr: 4-Terphenyl-d14</i>		55.0		40-135	%REC	1	18-Jan-2019 14:30
<i>Surr: Nitrobenzene-d5</i>		41.3		41-120	%REC	1	18-Jan-2019 14:30
<i>Surr: Phenol-d6</i>		41.7		20-120	%REC	1	18-Jan-2019 14:30
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 17-Jan-2019		Analyst: JHD
Arsenic	0.000717	J	0.000400	0.00200	mg/L	1	24-Jan-2019 14:55
Lead	0.000712	J	0.000600	0.00200	mg/L	1	24-Jan-2019 14:55

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WQ-1620-TB02-20190110
 Collection Date: 10-Jan-2019 00:00

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-16
 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-Jan-2019 23:55
Benzene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 23:55
Chlorobenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 23:55
Ethylbenzene	U		0.00030	0.0010	mg/L	1	14-Jan-2019 23:55
Methylene chloride	U		0.0010	0.0020	mg/L	1	14-Jan-2019 23:55
Toluene	U		0.00020	0.0010	mg/L	1	14-Jan-2019 23:55
Xylenes, Total	U		0.00030	0.0010	mg/L	1	14-Jan-2019 23:55
<i>Surr: 1,2-Dichloroethane-d4</i>		106		70-126	%REC	1	14-Jan-2019 23:55
<i>Surr: 4-Bromofluorobenzene</i>		99.1		81-113	%REC	1	14-Jan-2019 23:55
<i>Surr: Dibromofluoromethane</i>		95.5		77-123	%REC	1	14-Jan-2019 23:55
<i>Surr: Toluene-d8</i>		106		82-127	%REC	1	14-Jan-2019 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-MW80B-20190110
 Collection Date: 10-Jan-2019 13:50

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-17
 Matrix:Groundwater

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-2019 05:09
Benzene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 05:09
Chlorobenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 05:09
Ethylbenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 05:09
Methylene chloride	U		0.0010	0.0020	mg/L	1	16-Jan-2019 05:09
Toluene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 05:09
Xylenes, Total	U		0.00030	0.0010	mg/L	1	16-Jan-2019 05:09
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>95.1</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 05:09</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>97.3</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 05:09</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 05:09</i>
<i>Surr: Toluene-d8</i>	<i>98.8</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 05:09</i>

Note: See 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-20190110
 Collection Date: 10-Jan-2019 13:50

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-17
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 15-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jan-2019 14:50
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jan-2019 14:50
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jan-2019 14:50
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jan-2019 14:50
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jan-2019 14:50
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 14:50
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jan-2019 14:50
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jan-2019 14:50
Acenaphthene	U		0.000027	0.00010	mg/L	1	18-Jan-2019 14:50
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jan-2019 14:50
Anthracene	U		0.000014	0.00010	mg/L	1	18-Jan-2019 14:50
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jan-2019 14:50
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 14:50
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jan-2019 14:50
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	18-Jan-2019 14:50
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 14:50
Dibenzofuran	U		0.000020	0.00010	mg/L	1	18-Jan-2019 14:50
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jan-2019 14:50
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jan-2019 14:50
Fluorene	U		0.000030	0.00010	mg/L	1	18-Jan-2019 14:50
Naphthalene	0.000068	J	0.000020	0.00010	mg/L	1	18-Jan-2019 14:50
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jan-2019 14:50
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jan-2019 14:50
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jan-2019 14:50
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 14:50
Phenol	U		0.000035	0.00020	mg/L	1	18-Jan-2019 14:50
Pyrene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 14:50
<i>Surr: 2,4,6-Tribromophenol</i>	<i>43.0</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 14:50</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>42.7</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 14:50</i>
<i>Surr: 2-Fluorophenol</i>	<i>36.2</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 14:50</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>56.1</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 14:50</i>
<i>Surr: Nitrobenzene-d5</i>	<i>42.9</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 14:50</i>
<i>Surr: Phenol-d6</i>	<i>41.8</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 14:50</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 17-Jan-2019		Analyst: JHD	
Arsenic	0.00180	J	0.000400	0.00200	mg/L	1	24-Jan-2019 14:57
Lead	U		0.000600	0.00200	mg/L	1	24-Jan-2019 14:57

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-MW50A-20190110
 Collection Date: 10-Jan-2019 14:40

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-18
 Matrix:Groundwater

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-2019 05:33
Benzene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 05:33
Chlorobenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 05:33
Ethylbenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 05:33
Methylene chloride	U		0.0010	0.0020	mg/L	1	16-Jan-2019 05:33
Toluene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 05:33
Xylenes, Total	U		0.00030	0.0010	mg/L	1	16-Jan-2019 05:33
<i>Surr: 1,2-Dichloroethane-d4</i>		93.8		70-126	%REC	1	16-Jan-2019 05:33
<i>Surr: 4-Bromofluorobenzene</i>		96.8		81-113	%REC	1	16-Jan-2019 05:33
<i>Surr: Dibromofluoromethane</i>		99.1		77-123	%REC	1	16-Jan-2019 05:33
<i>Surr: Toluene-d8</i>		99.0		82-127	%REC	1	16-Jan-2019 05:33

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-MW50A-20190110
 Collection Date: 10-Jan-2019 14:40

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-18
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 15-Jan-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jan-2019 15:09
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jan-2019 15:09
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jan-2019 15:09
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jan-2019 15:09
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jan-2019 15:09
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 15:09
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jan-2019 15:09
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jan-2019 15:09
Acenaphthene	U		0.000027	0.00010	mg/L	1	18-Jan-2019 15:09
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jan-2019 15:09
Anthracene	U		0.000014	0.00010	mg/L	1	18-Jan-2019 15:09
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jan-2019 15:09
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 15:09
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jan-2019 15:09
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	18-Jan-2019 15:09
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 15:09
Dibenzofuran	U		0.000020	0.00010	mg/L	1	18-Jan-2019 15:09
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jan-2019 15:09
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jan-2019 15:09
Fluorene	U		0.000030	0.00010	mg/L	1	18-Jan-2019 15:09
Naphthalene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 15:09
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jan-2019 15:09
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jan-2019 15:09
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jan-2019 15:09
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 15:09
Phenol	U		0.000035	0.00020	mg/L	1	18-Jan-2019 15:09
Pyrene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 15:09
<i>Surr: 2,4,6-Tribromophenol</i>	<i>41.9</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:09</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>41.6</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:09</i>
<i>Surr: 2-Fluorophenol</i>	<i>38.1</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:09</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>57.0</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:09</i>
<i>Surr: Nitrobenzene-d5</i>	<i>42.9</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:09</i>
<i>Surr: Phenol-d6</i>	<i>41.2</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:09</i>
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 17-Jan-2019		Analyst: JHD
Arsenic	0.00134	J	0.000400	0.00200	mg/L	1	24-Jan-2019 15:00
Lead	U		0.000600	0.00200	mg/L	1	24-Jan-2019 15:00

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-20190110
 Collection Date: 10-Jan-2019 15:30

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-19
 Matrix:Groundwater

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-2019 05:57
Benzene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 05:57
Chlorobenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 05:57
Ethylbenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 05:57
Methylene chloride	U		0.0010	0.0020	mg/L	1	16-Jan-2019 05:57
Toluene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 05:57
Xylenes, Total	U		0.00030	0.0010	mg/L	1	16-Jan-2019 05:57
<i>Surr: 1,2-Dichloroethane-d4</i>		94.9		70-126	%REC	1	16-Jan-2019 05:57
<i>Surr: 4-Bromofluorobenzene</i>		96.3		81-113	%REC	1	16-Jan-2019 05:57
<i>Surr: Dibromofluoromethane</i>		101		77-123	%REC	1	16-Jan-2019 05:57
<i>Surr: Toluene-d8</i>		99.2		82-127	%REC	1	16-Jan-2019 05:57

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-MW81B-20190110
 Collection Date: 10-Jan-2019 15:30

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-19
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 15-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jan-2019 15:29
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jan-2019 15:29
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jan-2019 15:29
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jan-2019 15:29
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jan-2019 15:29
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 15:29
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jan-2019 15:29
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jan-2019 15:29
Acenaphthene	U		0.000027	0.00010	mg/L	1	18-Jan-2019 15:29
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jan-2019 15:29
Anthracene	U		0.000014	0.00010	mg/L	1	18-Jan-2019 15:29
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jan-2019 15:29
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 15:29
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jan-2019 15:29
Bis(2-ethylhexyl)phthalate	0.000058	J	0.000037	0.00020	mg/L	1	18-Jan-2019 15:29
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 15:29
Dibenzofuran	U		0.000020	0.00010	mg/L	1	18-Jan-2019 15:29
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jan-2019 15:29
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jan-2019 15:29
Fluorene	U		0.000030	0.00010	mg/L	1	18-Jan-2019 15:29
Naphthalene	0.00016		0.000020	0.00010	mg/L	1	18-Jan-2019 15:29
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jan-2019 15:29
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jan-2019 15:29
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jan-2019 15:29
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 15:29
Phenol	U		0.000035	0.00020	mg/L	1	18-Jan-2019 15:29
Pyrene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 15:29
<i>Surr: 2,4,6-Tribromophenol</i>	<i>35.9</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:29</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>45.4</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:29</i>
<i>Surr: 2-Fluorophenol</i>	<i>44.9</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:29</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>53.4</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:29</i>
<i>Surr: Nitrobenzene-d5</i>	<i>50.6</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:29</i>
<i>Surr: Phenol-d6</i>	<i>50.6</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:29</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 17-Jan-2019		Analyst: JHD	
Arsenic	0.00116	J	0.000400	0.00200	mg/L	1	24-Jan-2019 15:15
Lead	U		0.000600	0.00200	mg/L	1	24-Jan-2019 15:15

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-MW51A-20190110
 Collection Date: 10-Jan-2019 16:40

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-20
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	16-Jan-2019 06:20
Benzene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 06:20
Chlorobenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 06:20
Ethylbenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 06:20
Methylene chloride	U		0.0010	0.0020	mg/L	1	16-Jan-2019 06:20
Toluene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 06:20
Xylenes, Total	U		0.00030	0.0010	mg/L	1	16-Jan-2019 06:20
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>93.8</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 06:20</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>97.1</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 06:20</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 06:20</i>
<i>Surr: Toluene-d8</i>	<i>99.1</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 06:20</i>

Note: See 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-20190110
 Collection Date: 10-Jan-2019 16:40

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-20
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 15-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jan-2019 15:49
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jan-2019 15:49
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jan-2019 15:49
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jan-2019 15:49
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jan-2019 15:49
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 15:49
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jan-2019 15:49
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jan-2019 15:49
Acenaphthene	U		0.000027	0.00010	mg/L	1	18-Jan-2019 15:49
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jan-2019 15:49
Anthracene	U		0.000014	0.00010	mg/L	1	18-Jan-2019 15:49
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jan-2019 15:49
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 15:49
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jan-2019 15:49
Bis(2-ethylhexyl)phthalate	0.000078	J	0.000037	0.00020	mg/L	1	18-Jan-2019 15:49
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 15:49
Dibenzofuran	U		0.000020	0.00010	mg/L	1	18-Jan-2019 15:49
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jan-2019 15:49
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jan-2019 15:49
Fluorene	U		0.000030	0.00010	mg/L	1	18-Jan-2019 15:49
Naphthalene	0.00012		0.000020	0.00010	mg/L	1	18-Jan-2019 15:49
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jan-2019 15:49
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jan-2019 15:49
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jan-2019 15:49
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 15:49
Phenol	U		0.000035	0.00020	mg/L	1	18-Jan-2019 15:49
Pyrene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 15:49
<i>Surr: 2,4,6-Tribromophenol</i>	<i>42.4</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:49</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>51.6</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:49</i>
<i>Surr: 2-Fluorophenol</i>	<i>52.4</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:49</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>54.0</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:49</i>
<i>Surr: Nitrobenzene-d5</i>	<i>55.3</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:49</i>
<i>Surr: Phenol-d6</i>	<i>55.0</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 15:49</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 17-Jan-2019		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	24-Jan-2019 15:18
Lead	U		0.000600	0.00200	mg/L	1	24-Jan-2019 15:18

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-MW51C-20190110
 Collection Date: 10-Jan-2019 17:30

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-21
 Matrix:Groundwater

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-2019 06:44
Benzene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 06:44
Chlorobenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 06:44
Ethylbenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 06:44
Methylene chloride	U		0.0010	0.0020	mg/L	1	16-Jan-2019 06:44
Toluene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 06:44
Xylenes, Total	U		0.00030	0.0010	mg/L	1	16-Jan-2019 06:44
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>95.1</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 06:44</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>97.4</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 06:44</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 06:44</i>
<i>Surr: Toluene-d8</i>	<i>99.7</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 06:44</i>

Note: See 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-20190110
 Collection Date: 10-Jan-2019 17:30

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-21
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 15-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jan-2019 16:08
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jan-2019 16:08
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jan-2019 16:08
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jan-2019 16:08
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jan-2019 16:08
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 16:08
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jan-2019 16:08
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jan-2019 16:08
Acenaphthene	U		0.000027	0.00010	mg/L	1	18-Jan-2019 16:08
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jan-2019 16:08
Anthracene	U		0.000014	0.00010	mg/L	1	18-Jan-2019 16:08
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jan-2019 16:08
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 16:08
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jan-2019 16:08
Bis(2-ethylhexyl)phthalate	0.00013	J	0.000037	0.00020	mg/L	1	18-Jan-2019 16:08
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 16:08
Dibenzofuran	U		0.000020	0.00010	mg/L	1	18-Jan-2019 16:08
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jan-2019 16:08
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jan-2019 16:08
Fluorene	U		0.000030	0.00010	mg/L	1	18-Jan-2019 16:08
Naphthalene	0.00017		0.000020	0.00010	mg/L	1	18-Jan-2019 16:08
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jan-2019 16:08
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jan-2019 16:08
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jan-2019 16:08
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 16:08
Phenol	U		0.000035	0.00020	mg/L	1	18-Jan-2019 16:08
Pyrene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 16:08
<i>Surr: 2,4,6-Tribromophenol</i>	<i>47.3</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:08</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>53.5</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:08</i>
<i>Surr: 2-Fluorophenol</i>	<i>61.9</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:08</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>55.4</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:08</i>
<i>Surr: Nitrobenzene-d5</i>	<i>57.0</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:08</i>
<i>Surr: Phenol-d6</i>	<i>62.7</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:08</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 17-Jan-2019		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	24-Jan-2019 15:20
Lead	U		0.000600	0.00200	mg/L	1	24-Jan-2019 15:20

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-MW86C-20190111
 Collection Date: 11-Jan-2019 08:25

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-22
 Matrix:Groundwater

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-2019 07:08
Benzene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 07:08
Chlorobenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 07:08
Ethylbenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 07:08
Methylene chloride	U		0.0010	0.0020	mg/L	1	16-Jan-2019 07:08
Toluene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 07:08
Xylenes, Total	U		0.00030	0.0010	mg/L	1	16-Jan-2019 07:08
<i>Surr: 1,2-Dichloroethane-d4</i>		96.9		70-126	%REC	1	16-Jan-2019 07:08
<i>Surr: 4-Bromofluorobenzene</i>		98.2		81-113	%REC	1	16-Jan-2019 07:08
<i>Surr: Dibromofluoromethane</i>		101		77-123	%REC	1	16-Jan-2019 07:08
<i>Surr: Toluene-d8</i>		99.0		82-127	%REC	1	16-Jan-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-MW86C-20190111
 Collection Date: 11-Jan-2019 08:25

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-22
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270		Prep:SW3510 / 15-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jan-2019 16:28
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jan-2019 16:28
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jan-2019 16:28
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jan-2019 16:28
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jan-2019 16:28
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 16:28
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jan-2019 16:28
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jan-2019 16:28
Acenaphthene	U		0.000027	0.00010	mg/L	1	18-Jan-2019 16:28
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jan-2019 16:28
Anthracene	U		0.000014	0.00010	mg/L	1	18-Jan-2019 16:28
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jan-2019 16:28
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 16:28
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jan-2019 16:28
Bis(2-ethylhexyl)phthalate	0.000057	J	0.000037	0.00020	mg/L	1	18-Jan-2019 16:28
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 16:28
Dibenzofuran	U		0.000020	0.00010	mg/L	1	18-Jan-2019 16:28
Di-n-butyl phthalate	0.000072	J	0.000020	0.00020	mg/L	1	18-Jan-2019 16:28
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jan-2019 16:28
Fluorene	U		0.000030	0.00010	mg/L	1	18-Jan-2019 16:28
Naphthalene	0.000079	J	0.000020	0.00010	mg/L	1	18-Jan-2019 16:28
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jan-2019 16:28
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jan-2019 16:28
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jan-2019 16:28
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 16:28
Phenol	U		0.000035	0.00020	mg/L	1	18-Jan-2019 16:28
Pyrene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 16:28
<i>Surr: 2,4,6-Tribromophenol</i>	<i>34.7</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:28</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>41.4</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:28</i>
<i>Surr: 2-Fluorophenol</i>	<i>33.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:28</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>53.8</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:28</i>
<i>Surr: Nitrobenzene-d5</i>	<i>42.7</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:28</i>
<i>Surr: Phenol-d6</i>	<i>36.4</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:28</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 17-Jan-2019		Analyst: JHD	
Arsenic	0.00402		0.000400	0.00200	mg/L	1	24-Jan-2019 15:22
Lead	U		0.000600	0.00200	mg/L	1	24-Jan-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-FD02-20190111
 Collection Date: 11-Jan-2019 08:25

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-23
 Matrix:Groundwater

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-2019 07:32
Benzene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 07:32
Chlorobenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 07:32
Ethylbenzene	U		0.00030	0.0010	mg/L	1	16-Jan-2019 07:32
Methylene chloride	U		0.0010	0.0020	mg/L	1	16-Jan-2019 07:32
Toluene	U		0.00020	0.0010	mg/L	1	16-Jan-2019 07:32
Xylenes, Total	U		0.00030	0.0010	mg/L	1	16-Jan-2019 07:32
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>94.1</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 07:32</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>97.5</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 07:32</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 07:32</i>
<i>Surr: Toluene-d8</i>	<i>98.7</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>16-Jan-2019 07:32</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WG-1620-FD02-20190111
 Collection Date: 11-Jan-2019 08:25

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-23
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 15-Jan-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jan-2019 16:48
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jan-2019 16:48
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jan-2019 16:48
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jan-2019 16:48
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jan-2019 16:48
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 16:48
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jan-2019 16:48
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jan-2019 16:48
Acenaphthene	U		0.000027	0.00010	mg/L	1	18-Jan-2019 16:48
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jan-2019 16:48
Anthracene	U		0.000014	0.00010	mg/L	1	18-Jan-2019 16:48
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jan-2019 16:48
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 16:48
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jan-2019 16:48
Bis(2-ethylhexyl)phthalate	0.00010	J	0.000037	0.00020	mg/L	1	18-Jan-2019 16:48
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 16:48
Dibenzofuran	U		0.000020	0.00010	mg/L	1	18-Jan-2019 16:48
Di-n-butyl phthalate	0.00011	J	0.000020	0.00020	mg/L	1	18-Jan-2019 16:48
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jan-2019 16:48
Fluorene	U		0.000030	0.00010	mg/L	1	18-Jan-2019 16:48
Naphthalene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 16:48
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jan-2019 16:48
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jan-2019 16:48
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jan-2019 16:48
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 16:48
Phenol	U		0.000035	0.00020	mg/L	1	18-Jan-2019 16:48
Pyrene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 16:48
<i>Surr: 2,4,6-Tribromophenol</i>	<i>36.0</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:48</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>42.0</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:48</i>
<i>Surr: 2-Fluorophenol</i>	<i>36.6</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:48</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>49.9</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:48</i>
<i>Surr: Nitrobenzene-d5</i>	<i>41.5</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:48</i>
<i>Surr: Phenol-d6</i>	<i>40.1</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 16:48</i>
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 17-Jan-2019		Analyst: JHD
Arsenic	0.00405		0.000400	0.00200	mg/L	1	24-Jan-2019 15:25
Lead	U		0.000600	0.00200	mg/L	1	24-Jan-2019 15:25

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WQ-1620-FB03-20190111
 Collection Date: 11-Jan-2019 11:15

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-24
 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	19-Jan-2019 07:36
Benzene	U		0.00020	0.0010	mg/L	1	19-Jan-2019 07:36
Chlorobenzene	U		0.00030	0.0010	mg/L	1	19-Jan-2019 07:36
Ethylbenzene	U		0.00030	0.0010	mg/L	1	19-Jan-2019 07:36
Methylene chloride	U		0.0010	0.0020	mg/L	1	19-Jan-2019 07:36
Toluene	U		0.00020	0.0010	mg/L	1	19-Jan-2019 07:36
Xylenes, Total	U		0.00030	0.0010	mg/L	1	19-Jan-2019 07:36
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>95.9</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>19-Jan-2019 07:36</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>95.9</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>19-Jan-2019 07:36</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>19-Jan-2019 07:36</i>
<i>Surr: Toluene-d8</i>	<i>103</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>19-Jan-2019 07:36</i>

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-FB03-20190111
 Collection Date: 11-Jan-2019 11:15

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-24
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 15-Jan-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jan-2019 17:07
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jan-2019 17:07
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jan-2019 17:07
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jan-2019 17:07
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jan-2019 17:07
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 17:07
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jan-2019 17:07
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jan-2019 17:07
Acenaphthene	U		0.000027	0.00010	mg/L	1	18-Jan-2019 17:07
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jan-2019 17:07
Anthracene	U		0.000014	0.00010	mg/L	1	18-Jan-2019 17:07
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jan-2019 17:07
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 17:07
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jan-2019 17:07
Bis(2-ethylhexyl)phthalate	0.000058	J	0.000037	0.00020	mg/L	1	18-Jan-2019 17:07
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 17:07
Dibenzofuran	U		0.000020	0.00010	mg/L	1	18-Jan-2019 17:07
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	18-Jan-2019 17:07
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jan-2019 17:07
Fluorene	U		0.000030	0.00010	mg/L	1	18-Jan-2019 17:07
Naphthalene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 17:07
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jan-2019 17:07
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jan-2019 17:07
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jan-2019 17:07
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 17:07
Phenol	U		0.000035	0.00020	mg/L	1	18-Jan-2019 17:07
Pyrene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 17:07
<i>Surr: 2,4,6-Tribromophenol</i>	<i>41.0</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 17:07</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>55.2</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 17:07</i>
<i>Surr: 2-Fluorophenol</i>	<i>53.1</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 17:07</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>60.2</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 17:07</i>
<i>Surr: Nitrobenzene-d5</i>	<i>57.9</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 17:07</i>
<i>Surr: Phenol-d6</i>	<i>59.8</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>18-Jan-2019 17:07</i>
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 17-Jan-2019		Analyst: JHD
Arsenic	U		0.000400	0.00200	mg/L	1	24-Jan-2019 15:27
Lead	U		0.000600	0.00200	mg/L	1	24-Jan-2019 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-MW60A-20190111
 Collection Date: 11-Jan-2019 10:15

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-25
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	SQL	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-Jan-2019 14:49
Benzene	U		0.00020	0.0010	mg/L	1	19-Jan-2019 14:49
Chlorobenzene	U		0.00030	0.0010	mg/L	1	19-Jan-2019 14:49
Ethylbenzene	U		0.00030	0.0010	mg/L	1	19-Jan-2019 14:49
Methylene chloride	U		0.0010	0.0020	mg/L	1	19-Jan-2019 14:49
Toluene	U		0.00020	0.0010	mg/L	1	19-Jan-2019 14:49
Vinyl chloride	U		0.00020	0.0010	mg/L	1	19-Jan-2019 14:49
Xylenes, Total	U		0.00030	0.0010	mg/L	1	19-Jan-2019 14:49
<i>Surr: 1,2-Dichloroethane-d4</i>		<i>94.3</i>		<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>19-Jan-2019 14:49</i>
<i>Surr: 4-Bromofluorobenzene</i>		<i>99.0</i>		<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>19-Jan-2019 14:49</i>
<i>Surr: Dibromofluoromethane</i>		<i>104</i>		<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>19-Jan-2019 14:49</i>
<i>Surr: Toluene-d8</i>		<i>103</i>		<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>19-Jan-2019 14:49</i>

Note: See 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-20190111
 Collection Date: 11-Jan-2019 10:15

ANALYTICAL REPORT
 WorkOrder:HS19010488
 Lab ID:HS19010488-25
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES		Method:SW8270			Prep:SW3510 / 15-Jan-2019		Analyst: GEY
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	18-Jan-2019 17:27
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	18-Jan-2019 17:27
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	18-Jan-2019 17:27
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	18-Jan-2019 17:27
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	18-Jan-2019 17:27
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 17:27
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	18-Jan-2019 17:27
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	18-Jan-2019 17:27
Acenaphthene	U		0.000027	0.00010	mg/L	1	18-Jan-2019 17:27
Acenaphthylene	U		0.000015	0.00010	mg/L	1	18-Jan-2019 17:27
Anthracene	U		0.000014	0.00010	mg/L	1	18-Jan-2019 17:27
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	18-Jan-2019 17:27
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 17:27
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	18-Jan-2019 17:27
Bis(2-ethylhexyl)phthalate	0.000092	J	0.000037	0.00020	mg/L	1	18-Jan-2019 17:27
Chrysene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 17:27
Dibenzofuran	U		0.000020	0.00010	mg/L	1	18-Jan-2019 17:27
Di-n-butyl phthalate	0.000064	J	0.000020	0.00020	mg/L	1	18-Jan-2019 17:27
Fluoranthene	U		0.000010	0.00010	mg/L	1	18-Jan-2019 17:27
Fluorene	U		0.000030	0.00010	mg/L	1	18-Jan-2019 17:27
Naphthalene	U		0.000020	0.00010	mg/L	1	18-Jan-2019 17:27
Nitrobenzene	U		0.000024	0.00020	mg/L	1	18-Jan-2019 17:27
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	18-Jan-2019 17:27
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	18-Jan-2019 17:27
Phenanthrene	U		0.000021	0.00010	mg/L	1	18-Jan-2019 17:27
Phenol	U		0.000035	0.00020	mg/L	1	18-Jan-2019 17:27
Pyrene	U		0.000019	0.00010	mg/L	1	18-Jan-2019 17:27
<i>Surr: 2,4,6-Tribromophenol</i>	36.6			34-129	%REC	1	18-Jan-2019 17:27
<i>Surr: 2-Fluorobiphenyl</i>	40.2			40-125	%REC	1	18-Jan-2019 17:27
<i>Surr: 2-Fluorophenol</i>	39.8			20-120	%REC	1	18-Jan-2019 17:27
<i>Surr: 4-Terphenyl-d14</i>	53.2			40-135	%REC	1	18-Jan-2019 17:27
<i>Surr: Nitrobenzene-d5</i>	41.5			41-120	%REC	1	18-Jan-2019 17:27
<i>Surr: Phenol-d6</i>	43.7			20-120	%REC	1	18-Jan-2019 17:27
ICP-MS METALS BY SW6020A		Method:SW6020			Prep:SW3010A / 17-Jan-2019		Analyst: JHD
Arsenic	0.00453		0.000400	0.00200	mg/L	1	24-Jan-2019 15:29
Lead	U		0.000600	0.00200	mg/L	1	24-Jan-2019 15:29

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: HS19010488

Batch ID: 136574 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3510_B_LOW

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19010488-01	1	1000	1 (mL)	0.001
HS19010488-02	1	1000	1 (mL)	0.001
HS19010488-03	1	1000	1 (mL)	0.001
HS19010488-04	1	1000	1 (mL)	0.001
HS19010488-05	1	990	1 (mL)	0.00101
HS19010488-06	1	1000	1 (mL)	0.001
HS19010488-07	1	1000	1 (mL)	0.001
HS19010488-08	1	1000	1 (mL)	0.001
HS19010488-09	1	1000	1 (mL)	0.001
HS19010488-10	1	1000	1 (mL)	0.001
HS19010488-11	1	1000	1 (mL)	0.001
HS19010488-12	1	990	1 (mL)	0.00101
HS19010488-13	1	1000	1 (mL)	0.001
HS19010488-14	1	1000	1 (mL)	0.001

Batch ID: 136614 **Method:** LOW-LEVEL SEMIVOLATILES **Prep:** 3510_B_LOW

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19010488-15	1	1000	1 (mL)	0.001
HS19010488-17	1	1000	1 (mL)	0.001
HS19010488-18	1	1000	1 (mL)	0.001
HS19010488-19	1	1000	1 (mL)	0.001
HS19010488-20	1	1000	1 (mL)	0.001
HS19010488-21	1	1000	1 (mL)	0.001
HS19010488-22	1	1000	1 (mL)	0.001
HS19010488-23	1	1000	1 (mL)	0.001
HS19010488-24	1	1000	1 (mL)	0.001
HS19010488-25	1	1000	1 (mL)	0.001

Batch ID: 136717 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19010488-01	1	10	10 (mL)	1
HS19010488-02	1	10	10 (mL)	1
HS19010488-03	1	10	10 (mL)	1
HS19010488-04	1	10	10 (mL)	1
HS19010488-05	1	10	10 (mL)	1
HS19010488-06	1	10	10 (mL)	1
HS19010488-07	1	10	10 (mL)	1
HS19010488-08	1	10	10 (mL)	1

WEIGHT LOG

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

Batch ID: 136742 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SamplID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19010488-09	1	10	10 (mL)	1
HS19010488-10	1	10	10 (mL)	1
HS19010488-11	1	10	10 (mL)	1
HS19010488-12	1	10	10 (mL)	1
HS19010488-13	1	10	10 (mL)	1
HS19010488-14	1	10	10 (mL)	1
HS19010488-15	1	10	10 (mL)	1
HS19010488-17	1	10	10 (mL)	1
HS19010488-18	1	10	10 (mL)	1
HS19010488-19	1	10	10 (mL)	1
HS19010488-20	1	10	10 (mL)	1
HS19010488-21	1	10	10 (mL)	1
HS19010488-22	1	10	10 (mL)	1
HS19010488-23	1	10	10 (mL)	1
HS19010488-24	1	10	10 (mL)	1
HS19010488-25	1	10	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 136574		Test Name : LOW-LEVEL SEMIVOLATILES		Matrix: Water		
HS19010488-10	WQ-1620-FB02-20190109	09 Jan 2019 17:35		14 Jan 2019 11:18	23 Jan 2019 19:24	1
Batch ID 136574		Test Name : LOW-LEVEL SEMIVOLATILES		Matrix: Groundwater		
HS19010488-01	WG-1620-TW41B-20190109	09 Jan 2019 10:35		14 Jan 2019 11:18	23 Jan 2019 17:26	10
HS19010488-01	WG-1620-TW41B-20190109	09 Jan 2019 10:35		14 Jan 2019 11:18	21 Jan 2019 23:41	1
HS19010488-02	WG-1620-MW05-20190109	09 Jan 2019 11:25		14 Jan 2019 11:18	22 Jan 2019 00:01	1
HS19010488-03	WG-1620-P11-20190109	09 Jan 2019 12:25		14 Jan 2019 11:18	22 Jan 2019 00:20	1
HS19010488-04	WG-1620-MW03-20190109	09 Jan 2019 13:15		14 Jan 2019 11:18	22 Jan 2019 00:40	1
HS19010488-05	WG-1620-MW09-20190109	09 Jan 2019 14:05		14 Jan 2019 11:18	23 Jan 2019 17:46	1
HS19010488-06	WG-1620-MW04-20190109	09 Jan 2019 15:05		14 Jan 2019 11:18	23 Jan 2019 18:05	1
HS19010488-07	WG-1620-MW21C-20190109	09 Jan 2019 16:20		14 Jan 2019 11:18	23 Jan 2019 18:25	1
HS19010488-08	WG-1620-FD01-20190109	09 Jan 2019 16:20		14 Jan 2019 11:18	23 Jan 2019 18:45	1
HS19010488-09	WG-1620-MW17-20190109	09 Jan 2019 17:20		14 Jan 2019 11:18	25 Jan 2019 11:27	1000
HS19010488-09	WG-1620-MW17-20190109	09 Jan 2019 17:20		14 Jan 2019 11:18	24 Jan 2019 17:29	100
HS19010488-09	WG-1620-MW17-20190109	09 Jan 2019 17:20		14 Jan 2019 11:18	24 Jan 2019 17:10	10
HS19010488-11	WG-1620-MW17C-20190110	10 Jan 2019 07:25		14 Jan 2019 11:18	24 Jan 2019 18:26	1000
HS19010488-11	WG-1620-MW17C-20190110	10 Jan 2019 07:25		14 Jan 2019 11:18	24 Jan 2019 18:07	100
HS19010488-11	WG-1620-MW17C-20190110	10 Jan 2019 07:25		14 Jan 2019 11:18	24 Jan 2019 17:48	10
HS19010488-11	WG-1620-MW17C-20190110	10 Jan 2019 07:25		14 Jan 2019 11:18	23 Jan 2019 19:44	1
HS19010488-12	WG-1620-MW18C-20190110	10 Jan 2019 08:20		14 Jan 2019 11:18	24 Jan 2019 19:23	1000
HS19010488-12	WG-1620-MW18C-20190110	10 Jan 2019 08:20		14 Jan 2019 11:18	24 Jan 2019 19:04	100
HS19010488-12	WG-1620-MW18C-20190110	10 Jan 2019 08:20		14 Jan 2019 11:18	24 Jan 2019 18:45	10
HS19010488-13	WG-1620-MW18A-20190110	10 Jan 2019 10:45		14 Jan 2019 11:18	24 Jan 2019 20:20	1000
HS19010488-13	WG-1620-MW18A-20190110	10 Jan 2019 10:45		14 Jan 2019 11:18	24 Jan 2019 20:01	100
HS19010488-13	WG-1620-MW18A-20190110	10 Jan 2019 10:45		14 Jan 2019 11:18	24 Jan 2019 19:42	10
HS19010488-14	WG-1620-MW48C-20190110	10 Jan 2019 11:45		14 Jan 2019 11:18	23 Jan 2019 20:43	1
Batch ID 136614		Test Name : LOW-LEVEL SEMIVOLATILES		Matrix: Water		
HS19010488-24	WQ-1620-FB03-20190111	11 Jan 2019 11:15		15 Jan 2019 10:05	18 Jan 2019 17:07	1
Batch ID 136614		Test Name : LOW-LEVEL SEMIVOLATILES		Matrix: Groundwater		
HS19010488-15	WG-1620-MW69A-20190110	10 Jan 2019 12:45		15 Jan 2019 10:05	18 Jan 2019 14:30	1
HS19010488-17	WG-1620-MW80B-20190110	10 Jan 2019 13:50		15 Jan 2019 10:05	18 Jan 2019 14:50	1
HS19010488-18	WG-1620-MW50A-20190110	10 Jan 2019 14:40		15 Jan 2019 10:05	18 Jan 2019 15:09	1
HS19010488-19	WG-1620-MW81B-20190110	10 Jan 2019 15:30		15 Jan 2019 10:05	18 Jan 2019 15:29	1
HS19010488-20	WG-1620-MW51A-20190110	10 Jan 2019 16:40		15 Jan 2019 10:05	18 Jan 2019 15:49	1
HS19010488-21	WG-1620-MW51C-20190110	10 Jan 2019 17:30		15 Jan 2019 10:05	18 Jan 2019 16:08	1
HS19010488-22	WG-1620-MW86C-20190111	11 Jan 2019 08:25		15 Jan 2019 10:05	18 Jan 2019 16:28	1
HS19010488-23	WG-1620-FD02-20190111	11 Jan 2019 08:25		15 Jan 2019 10:05	18 Jan 2019 16:48	1
HS19010488-25	WG-1620-MW60A-20190111	11 Jan 2019 10:15		15 Jan 2019 10:05	18 Jan 2019 17:27	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 136717 Test Name : ICP-MS METALS BY SW6020A Matrix: Groundwater						
HS19010488-01	WG-1620-TW41B-20190109	09 Jan 2019 10:35		17 Jan 2019 08:30	23 Jan 2019 20:04	1
HS19010488-02	WG-1620-MW05-20190109	09 Jan 2019 11:25		17 Jan 2019 08:30	23 Jan 2019 20:06	1
HS19010488-03	WG-1620-P11-20190109	09 Jan 2019 12:25		17 Jan 2019 08:30	23 Jan 2019 20:08	1
HS19010488-04	WG-1620-MW03-20190109	09 Jan 2019 13:15		17 Jan 2019 08:30	23 Jan 2019 20:10	1
HS19010488-05	WG-1620-MW09-20190109	09 Jan 2019 14:05		17 Jan 2019 08:30	23 Jan 2019 20:13	1
HS19010488-06	WG-1620-MW04-20190109	09 Jan 2019 15:05		17 Jan 2019 08:30	23 Jan 2019 20:15	1
HS19010488-07	WG-1620-MW21C-20190109	09 Jan 2019 16:20		17 Jan 2019 08:30	23 Jan 2019 20:17	1
HS19010488-08	WG-1620-FD01-20190109	09 Jan 2019 16:20		17 Jan 2019 08:30	23 Jan 2019 20:19	1
Batch ID 136742 Test Name : ICP-MS METALS BY SW6020A Matrix: Water						
HS19010488-10	WQ-1620-FB02-20190109	09 Jan 2019 17:35		17 Jan 2019 13:00	24 Jan 2019 14:44	1
HS19010488-24	WQ-1620-FB03-20190111	11 Jan 2019 11:15		17 Jan 2019 13:00	24 Jan 2019 15:27	1
Batch ID 136742 Test Name : ICP-MS METALS BY SW6020A Matrix: Groundwater						
HS19010488-09	WG-1620-MW17-20190109	09 Jan 2019 17:20		17 Jan 2019 13:00	24 Jan 2019 14:42	1
HS19010488-11	WG-1620-MW17C-20190110	10 Jan 2019 07:25		17 Jan 2019 13:00	24 Jan 2019 14:46	1
HS19010488-12	WG-1620-MW18C-20190110	10 Jan 2019 08:20		17 Jan 2019 13:00	24 Jan 2019 14:48	1
HS19010488-13	WG-1620-MW18A-20190110	10 Jan 2019 10:45		17 Jan 2019 13:00	24 Jan 2019 14:50	1
HS19010488-14	WG-1620-MW48C-20190110	10 Jan 2019 11:45		17 Jan 2019 13:00	24 Jan 2019 14:53	1
HS19010488-15	WG-1620-MW69A-20190110	10 Jan 2019 12:45		17 Jan 2019 13:00	24 Jan 2019 14:55	1
HS19010488-17	WG-1620-MW80B-20190110	10 Jan 2019 13:50		17 Jan 2019 13:00	24 Jan 2019 14:57	1
HS19010488-18	WG-1620-MW50A-20190110	10 Jan 2019 14:40		17 Jan 2019 13:00	24 Jan 2019 15:00	1
HS19010488-19	WG-1620-MW81B-20190110	10 Jan 2019 15:30		17 Jan 2019 13:00	24 Jan 2019 15:15	1
HS19010488-20	WG-1620-MW51A-20190110	10 Jan 2019 16:40		17 Jan 2019 13:00	24 Jan 2019 15:18	1
HS19010488-21	WG-1620-MW51C-20190110	10 Jan 2019 17:30		17 Jan 2019 13:00	24 Jan 2019 15:20	1
HS19010488-22	WG-1620-MW86C-20190111	11 Jan 2019 08:25		17 Jan 2019 13:00	24 Jan 2019 15:22	1
HS19010488-23	WG-1620-FD02-20190111	11 Jan 2019 08:25		17 Jan 2019 13:00	24 Jan 2019 15:25	1
HS19010488-25	WG-1620-MW60A-20190111	11 Jan 2019 10:15		17 Jan 2019 13:00	24 Jan 2019 15:29	1
Batch ID R331030 Test Name : LOW LEVEL VOLATILES BY SW8260C Matrix: Groundwater						
HS19010488-01	WG-1620-TW41B-20190109	09 Jan 2019 10:35			15 Jan 2019 01:04	10
HS19010488-02	WG-1620-MW05-20190109	09 Jan 2019 11:25			15 Jan 2019 00:37	1
HS19010488-03	WG-1620-P11-20190109	09 Jan 2019 12:25			15 Jan 2019 05:52	1
HS19010488-04	WG-1620-MW03-20190109	09 Jan 2019 13:15			15 Jan 2019 06:16	1
HS19010488-05	WG-1620-MW09-20190109	09 Jan 2019 14:05			15 Jan 2019 06:42	1
Batch ID R331042 Test Name : LOW LEVEL VOLATILES BY SW8260C Matrix: Water						
HS19010488-10	WQ-1620-FB02-20190109	09 Jan 2019 17:35			14 Jan 2019 23:31	1
HS19010488-16	WQ-1620-TB02-20190110	10 Jan 2019 00:00			14 Jan 2019 23:55	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R331088		Test Name : LOW LEVEL VOLATILES BY SW8260C			Matrix: Groundwater	
HS19010488-06	WG-1620-MW04-20190109	09 Jan 2019 15:05			16 Jan 2019 01:09	1
HS19010488-07	WG-1620-MW21C-20190109	09 Jan 2019 16:20			16 Jan 2019 02:45	1
HS19010488-08	WG-1620-FD01-20190109	09 Jan 2019 16:20			16 Jan 2019 03:09	1
HS19010488-09	WG-1620-MW17-20190109	09 Jan 2019 17:20			16 Jan 2019 07:59	10
HS19010488-11	WG-1620-MW17C-20190110	10 Jan 2019 07:25			16 Jan 2019 03:33	1
HS19010488-12	WG-1620-MW18C-20190110	10 Jan 2019 08:20			16 Jan 2019 08:25	10
HS19010488-13	WG-1620-MW18A-20190110	10 Jan 2019 10:45			16 Jan 2019 08:52	25
HS19010488-14	WG-1620-MW48C-20190110	10 Jan 2019 11:45			16 Jan 2019 03:57	1
HS19010488-15	WG-1620-MW69A-20190110	10 Jan 2019 12:45			16 Jan 2019 04:21	1
HS19010488-17	WG-1620-MW80B-20190110	10 Jan 2019 13:50			16 Jan 2019 05:09	1
HS19010488-18	WG-1620-MW50A-20190110	10 Jan 2019 14:40			16 Jan 2019 05:33	1
HS19010488-19	WG-1620-MW81B-20190110	10 Jan 2019 15:30			16 Jan 2019 05:57	1
HS19010488-20	WG-1620-MW51A-20190110	10 Jan 2019 16:40			16 Jan 2019 06:20	1
HS19010488-21	WG-1620-MW51C-20190110	10 Jan 2019 17:30			16 Jan 2019 06:44	1
HS19010488-22	WG-1620-MW86C-20190111	11 Jan 2019 08:25			16 Jan 2019 07:08	1
HS19010488-23	WG-1620-FD02-20190111	11 Jan 2019 08:25			16 Jan 2019 07:32	1
Batch ID R331375		Test Name : LOW LEVEL VOLATILES BY SW8260C			Matrix: Groundwater	
HS19010488-25	WG-1620-MW60A-20190111	11 Jan 2019 10:15			19 Jan 2019 14:49	1
Batch ID R331375		Test Name : LOW LEVEL VOLATILES BY SW8260C			Matrix: Water	
HS19010488-24	WQ-1620-FB03-20190111	11 Jan 2019 11:15			19 Jan 2019 07:36	1

WorkOrder: HS19010488
 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	0.000340	0.000400	0.00200
A	Lead	7439-92-1	0.00100	0.000916	0.000600	0.00200

WorkOrder: HS19010488
 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	0.000460	0.000400	0.00200
A	Lead	7439-92-1	0.00100	0.00100	0.000600	0.00200

WorkOrder: HS19010488
 InstrumentID: SV-6
 Test Code: 8270_LOW_W
 Test Number: SW8270
 Test Name: Low-Level Semivolatiles

**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	0.000070	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000041	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000052	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000052	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.000061	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000056	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000022	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00020	0.00019	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000066	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000072	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000074	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000074	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000066	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000069	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.000083	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000082	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000060	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.000080	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000074	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000073	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000065	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.000083	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.000068	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.00016	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000077	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000066	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000074	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: HS19010488
 InstrumentID: SV-7
 Test Code: 8270_LOW_W
 Test Number: SW8270
 Test Name: Low-Level Semivolatiles

**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	0.000068	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000065	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000062	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000081	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.000072	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000041	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000036	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000053	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000036	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000056	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000051	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000067	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000076	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000077	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.00010	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000070	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000047	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.000094	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000061	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000052	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000045	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.000064	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.000065	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000082	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000051	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000078	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000066	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: HS19010488
 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	0.00066	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00060	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00063	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	0.00051	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00065	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00054	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00056	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: HS19010488
 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	0.00062	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00052	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00055	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00052	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.0012	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00057	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00050	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: HS19010488

QC BATCH REPORT

Batch ID: 136717 **Instrument:** ICPMS05 **Method:** SW6020

MBLK		Sample ID: MBLK-136717			Units: mg/L		Analysis Date: 22-Jan-2019 16:33			
Client ID:		Run ID: ICPMS05_331472			SeqNo: 4920121		PrepDate: 17-Jan-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								
Lead	U	0.00200								

LCS		Sample ID: LCS-136717			Units: mg/L		Analysis Date: 22-Jan-2019 16:35			
Client ID:		Run ID: ICPMS05_331472			SeqNo: 4920122		PrepDate: 17-Jan-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05211	0.00200	0.05	0	104	80 - 120				
Lead	0.05367	0.00200	0.05	0	107	80 - 120				

MS		Sample ID: HS19010627-01MS			Units: mg/L		Analysis Date: 22-Jan-2019 16:41			
Client ID:		Run ID: ICPMS05_331472			SeqNo: 4920125		PrepDate: 17-Jan-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05757	0.00200	0.05	0.003203	109	80 - 120				
Lead	0.04375	0.00200	0.05	0	87.5	80 - 120				

MSD		Sample ID: HS19010627-01MSD			Units: mg/L		Analysis Date: 22-Jan-2019 16:42			
Client ID:		Run ID: ICPMS05_331472			SeqNo: 4920126		PrepDate: 17-Jan-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0581	0.00200	0.05	0.003203	110	80 - 120	0.05757	0.92	20	
Lead	0.04683	0.00200	0.05	0	93.7	80 - 120	0.04375	6.81	20	

PDS		Sample ID: HS19010627-01PDS			Units: mg/L		Analysis Date: 22-Jan-2019 16:44			
Client ID:		Run ID: ICPMS05_331472			SeqNo: 4920127		PrepDate: 17-Jan-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1073	0.00200	0.1	0.003203	104	75 - 125				
Lead	0.08872	0.00200	0.1	0.000038	88.7	75 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: 136717		Instrument: ICPMS05		Method: SW6020						
SD	Sample ID: HS19010627-01SD	Units: mg/L		Analysis Date: 22-Jan-2019 16:39						
Client ID:	Run ID: ICPMS05_331472	SeqNo: 4920124	PrepDate: 17-Jan-2019	DF: 5						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	Limit	Qual

Arsenic	0.003007	0.0100					0.003203	0	10	J
Lead	U	0.0100					0.000038	0	10	

The following samples were analyzed in this batch:

HS19010488-01	HS19010488-02	HS19010488-03	HS19010488-04
HS19010488-05	HS19010488-06	HS19010488-07	HS19010488-08

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: 136742 **Instrument:** ICPMS05 **Method:** SW6020

MBLK		Sample ID: MBLK-136742			Units: mg/L		Analysis Date: 18-Jan-2019 16:37			
Client ID:		Run ID: ICPMS05_331295			SeqNo: 4915229		PrepDate: 17-Jan-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								
Lead	U	0.00200								

LCS		Sample ID: LCS-136742			Units: mg/L		Analysis Date: 18-Jan-2019 16:39			
Client ID:		Run ID: ICPMS05_331295			SeqNo: 4915230		PrepDate: 17-Jan-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05049	0.00200	0.05	0	101	80 - 120				
Lead	0.05272	0.00200	0.05	0	105	80 - 120				

MS		Sample ID: HS19010531-01MS			Units: mg/L		Analysis Date: 18-Jan-2019 16:45			
Client ID:		Run ID: ICPMS05_331295			SeqNo: 4915233		PrepDate: 17-Jan-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.053	0.00200	0.05	0.000277	105	80 - 120				
Lead	0.04919	0.00200	0.05	0.000038	98.3	80 - 120				

MSD		Sample ID: HS19010531-01MSD			Units: mg/L		Analysis Date: 18-Jan-2019 16:47			
Client ID:		Run ID: ICPMS05_331295			SeqNo: 4915234		PrepDate: 17-Jan-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0533	0.00200	0.05	0.000277	106	80 - 120	0.053	0.566	20	
Lead	0.04072	0.00200	0.05	0.000038	81.4	80 - 120	0.04919	18.9	20	

PDS		Sample ID: HS19010531-01PDS			Units: mg/L		Analysis Date: 18-Jan-2019 16:49			
Client ID:		Run ID: ICPMS05_331295			SeqNo: 4915235		PrepDate: 17-Jan-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.09869	0.00200	0.1	0.000277	98.4	75 - 125				
Lead	0.08084	0.00200	0.1	0.000038	80.8	75 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: 136742		Instrument: ICPMS05		Method: SW6020						
SD	Sample ID: HS19010531-01SD	Units: mg/L		Analysis Date: 18-Jan-2019 16:43						
Client ID:	Run ID: ICPMS05_331295	SeqNo: 4915232	PrepDate: 17-Jan-2019	DF: 5						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	Limit	Qual

Arsenic	U	0.0100					-0.000909	0	10
Lead	U	0.0100					0.000118	0	10

The following samples were analyzed in this batch:

HS19010488-09	HS19010488-10	HS19010488-11	HS19010488-12
HS19010488-13	HS19010488-14	HS19010488-15	HS19010488-17
HS19010488-18	HS19010488-19	HS19010488-20	HS19010488-21
HS19010488-22	HS19010488-23	HS19010488-24	HS19010488-25

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: 136574		Instrument: SV-6		Method: SW8270						
MBLK	Sample ID: MBLK-136574	Units: ug/L			Analysis Date: 21-Jan-2019 16:47					
Client ID:	Run ID: SV-6_331448	SeqNo: 4923243	PrepDate: 14-Jan-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								
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3.108</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>62.2</i>	<i>34 - 129</i>				
<i>Surr: 2-Fluorobiphenyl</i>	<i>3.184</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>63.7</i>	<i>40 - 125</i>				
<i>Surr: 2-Fluorophenol</i>	<i>3.135</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>62.7</i>	<i>20 - 120</i>				
<i>Surr: 4-Terphenyl-d14</i>	<i>3.842</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>76.8</i>	<i>40 - 135</i>				
<i>Surr: Nitrobenzene-d5</i>	<i>3.149</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>63.0</i>	<i>41 - 120</i>				
<i>Surr: Phenol-d6</i>	<i>3.133</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>62.7</i>	<i>20 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: 136574		Instrument: SV-6		Method: SW8270						
LCS	Sample ID: LCS-136574	Units: ug/L			Analysis Date: 21-Jan-2019 17:06					
Client ID:	Run ID: SV-6_331448	SeqNo: 4923244		PrepDate: 14-Jan-2019		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.425	0.20	5	0	68.5	39 - 127				
2,4-Dimethylphenol	2.909	0.20	5	0	58.2	35 - 120				
2,4-Dinitrotoluene	3.257	0.20	5	0	65.1	50 - 122				
2,6-Dinitrotoluene	3.348	0.20	5	0	67.0	50 - 120				
2-Chloronaphthalene	3.311	0.20	5	0	66.2	50 - 120				
2-Methylnaphthalene	3.319	0.10	5	0	66.4	50 - 120				
4,6-Dinitro-2-methylphenol	2.839	0.20	5	0	56.8	25 - 121				
4-Nitrophenol	3.667	1.0	5	0	73.3	30 - 130				
Acenaphthene	2.962	0.10	5	0	59.2	45 - 120				
Acenaphthylene	3.213	0.10	5	0	64.3	47 - 120				
Anthracene	3.335	0.10	5	0	66.7	45 - 120				
Benz(a)anthracene	3.534	0.10	5	0	70.7	40 - 120				
Benzo(a)pyrene	3.583	0.10	5	0	71.7	45 - 120				
Bis(2-chloroethoxy)methane	3.193	0.20	5	0	63.9	45 - 120				
Bis(2-ethylhexyl)phthalate	3.532	0.20	5	0	70.6	40 - 139				
Chrysene	3.656	0.10	5	0	73.1	43 - 120				
Dibenzofuran	3.153	0.10	5	0	63.1	50 - 120				
Di-n-butyl phthalate	3.53	0.20	5	0	70.6	45 - 123				
Fluoranthene	3.345	0.10	5	0	66.9	45 - 125				
Fluorene	3.258	0.10	5	0	65.2	49 - 120				
Naphthalene	3.154	0.10	5	0	63.1	45 - 120				
Nitrobenzene	3.125	0.20	5	0	62.5	44 - 120				
N-Nitrosodiphenylamine	3.485	0.20	5	0	69.7	40 - 125				
Pentachlorophenol	1.947	0.20	5	0	38.9	19 - 121				
Phenanthrene	3.258	0.10	5	0	65.2	45 - 121				
Phenol	3.007	0.20	5	0	60.1	20 - 124				
Pyrene	3.499	0.10	5	0	70.0	40 - 130				
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3.918</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>78.4</i>	<i>34 - 129</i>				
<i>Surr: 2-Fluorobiphenyl</i>	<i>3.542</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>70.8</i>	<i>40 - 125</i>				
<i>Surr: 2-Fluorophenol</i>	<i>3.197</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>63.9</i>	<i>20 - 120</i>				
<i>Surr: 4-Terphenyl-d14</i>	<i>3.935</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>78.7</i>	<i>40 - 135</i>				
<i>Surr: Nitrobenzene-d5</i>	<i>3.356</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>67.1</i>	<i>41 - 120</i>				
<i>Surr: Phenol-d6</i>	<i>3.433</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>68.7</i>	<i>20 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: 136574		Instrument: SV-6			Method: SW8270					
LCSD		Sample ID: LCSD-136574			Units: ug/L		Analysis Date: 21-Jan-2019 17:26			
Client ID:		Run ID: SV-6_331448			SeqNo: 4923245		PrepDate: 14-Jan-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.542	0.20	5	0	70.8	39 - 127	3.425	3.38	20	
2,4-Dimethylphenol	2.885	0.20	5	0	57.7	35 - 120	2.909	0.836	20	
2,4-Dinitrotoluene	3.412	0.20	5	0	68.2	50 - 122	3.257	4.64	20	
2,6-Dinitrotoluene	3.653	0.20	5	0	73.1	50 - 120	3.348	8.71	20	
2-Chloronaphthalene	3.275	0.20	5	0	65.5	50 - 120	3.311	1.08	20	
2-Methylnaphthalene	3.455	0.10	5	0	69.1	50 - 120	3.319	4.01	20	
4,6-Dinitro-2-methylphenol	2.502	0.20	5	0	50.0	25 - 121	2.839	12.6	30	
4-Nitrophenol	3.099	1.0	5	0	62.0	30 - 130	3.667	16.8	20	
Acenaphthene	3.033	0.10	5	0	60.7	45 - 120	2.962	2.37	20	
Acenaphthylene	3.372	0.10	5	0	67.4	47 - 120	3.213	4.84	20	
Anthracene	3.326	0.10	5	0	66.5	45 - 120	3.335	0.279	20	
Benz(a)anthracene	3.597	0.10	5	0	71.9	40 - 120	3.534	1.77	20	
Benzo(a)pyrene	3.783	0.10	5	0	75.7	45 - 120	3.583	5.42	20	
Bis(2-chloroethoxy)methane	3.321	0.20	5	0	66.4	45 - 120	3.193	3.94	20	
Bis(2-ethylhexyl)phthalate	3.63	0.20	5	0	72.6	40 - 139	3.532	2.72	20	
Chrysene	3.715	0.10	5	0	74.3	43 - 120	3.656	1.6	20	
Dibenzofuran	3.225	0.10	5	0	64.5	50 - 120	3.153	2.28	20	
Di-n-butyl phthalate	3.561	0.20	5	0	71.2	45 - 123	3.53	0.865	20	
Fluoranthene	3.507	0.10	5	0	70.1	45 - 125	3.345	4.74	20	
Fluorene	3.396	0.10	5	0	67.9	49 - 120	3.258	4.13	20	
Naphthalene	3.137	0.10	5	0	62.7	45 - 120	3.154	0.533	20	
Nitrobenzene	3.302	0.20	5	0	66.0	44 - 120	3.125	5.5	20	
N-Nitrosodiphenylamine	3.648	0.20	5	0	73.0	40 - 125	3.485	4.59	20	
Pentachlorophenol	1.865	0.20	5	0	37.3	19 - 121	1.947	4.33	20	
Phenanthrene	3.466	0.10	5	0	69.3	45 - 121	3.258	6.17	20	
Phenol	2.767	0.20	5	0	55.3	20 - 124	3.007	8.3	20	
Pyrene	3.583	0.10	5	0	71.7	40 - 130	3.499	2.37	20	
Surr: 2,4,6-Tribromophenol	3.67	0.20	5	0	73.4	34 - 129	3.918	6.54	20	
Surr: 2-Fluorobiphenyl	3.491	0.20	5	0	69.8	40 - 125	3.542	1.44	20	
Surr: 2-Fluorophenol	2.782	0.20	5	0	55.6	20 - 120	3.197	13.9	20	
Surr: 4-Terphenyl-d14	3.868	0.20	5	0	77.4	40 - 135	3.935	1.72	20	
Surr: Nitrobenzene-d5	3.24	0.20	5	0	64.8	41 - 120	3.356	3.51	20	
Surr: Phenol-d6	3.045	0.20	5	0	60.9	20 - 120	3.433	12	20	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: 136574 **Instrument:** SV-6 **Method:** SW8270

The following samples were analyzed in this batch:

HS19010488-01	HS19010488-02	HS19010488-03	HS19010488-04
HS19010488-05	HS19010488-06	HS19010488-07	HS19010488-08
HS19010488-09	HS19010488-10	HS19010488-11	HS19010488-12
HS19010488-13	HS19010488-14		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: 136614		Instrument: SV-7		Method: SW8270						
MBLK	Sample ID: MBLK-136614	Units: ug/L			Analysis Date: 17-Jan-2019 19:01					
Client ID:	Run ID: SV-7_331241	SeqNo: 4915155	PrepDate: 15-Jan-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								
<i>Surr: 2,4,6-Tribromophenol</i>	3.152	0.20	5	0	63.0	34 - 129				
<i>Surr: 2-Fluorobiphenyl</i>	3.863	0.20	5	0	77.3	40 - 125				
<i>Surr: 2-Fluorophenol</i>	3.919	0.20	5	0	78.4	20 - 120				
<i>Surr: 4-Terphenyl-d14</i>	4.214	0.20	5	0	84.3	40 - 135				
<i>Surr: Nitrobenzene-d5</i>	3.915	0.20	5	0	78.3	41 - 120				
<i>Surr: Phenol-d6</i>	4.189	0.20	5	0	83.8	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: 136614		Instrument: SV-7		Method: SW8270						
LCS	Sample ID: LCS-136614	Units: ug/L			Analysis Date: 17-Jan-2019 16:40					
Client ID:	Run ID: SV-7_331241	SeqNo: 4915153		PrepDate: 15-Jan-2019		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.99	0.20	5	0	99.8	39 - 127				
2,4-Dimethylphenol	3.683	0.20	5	0	73.7	35 - 120				
2,4-Dinitrotoluene	3.944	0.20	5	0	78.9	50 - 122				
2,6-Dinitrotoluene	3.842	0.20	5	0	76.8	50 - 120				
2-Chloronaphthalene	4.065	0.20	5	0	81.3	50 - 120				
2-Methylnaphthalene	3.843	0.10	5	0	76.9	50 - 120				
4,6-Dinitro-2-methylphenol	3.213	0.20	5	0	64.3	25 - 121				
4-Nitrophenol	3.837	1.0	5	0	76.7	30 - 130				
Acenaphthene	3.79	0.10	5	0	75.8	45 - 120				
Acenaphthylene	4.016	0.10	5	0	80.3	47 - 120				
Anthracene	4.161	0.10	5	0	83.2	45 - 120				
Benz(a)anthracene	4.224	0.10	5	0	84.5	40 - 120				
Benzo(a)pyrene	4.464	0.10	5	0	89.3	45 - 120				
Bis(2-chloroethoxy)methane	4.216	0.20	5	0	84.3	45 - 120				
Bis(2-ethylhexyl)phthalate	4.92	0.20	5	0	98.4	40 - 139				
Chrysene	4.291	0.10	5	0	85.8	43 - 120				
Dibenzofuran	3.906	0.10	5	0	78.1	50 - 120				
Di-n-butyl phthalate	4.49	0.20	5	0	89.8	45 - 123				
Fluoranthene	4.015	0.10	5	0	80.3	45 - 125				
Fluorene	3.871	0.10	5	0	77.4	49 - 120				
Naphthalene	4.004	0.10	5	0	80.1	45 - 120				
Nitrobenzene	4.219	0.20	5	0	84.4	44 - 120				
N-Nitrosodiphenylamine	4.239	0.20	5	0	84.8	40 - 125				
Pentachlorophenol	1.934	0.20	5	0	38.7	19 - 121				
Phenanthrene	4.082	0.10	5	0	81.6	45 - 121				
Phenol	4.413	0.20	5	0	88.3	20 - 124				
Pyrene	4.499	0.10	5	0	90.0	40 - 130				
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3.432</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>68.6</i>	<i>34 - 129</i>				
<i>Surr: 2-Fluorobiphenyl</i>	<i>4.042</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>80.8</i>	<i>40 - 125</i>				
<i>Surr: 2-Fluorophenol</i>	<i>4.43</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>88.6</i>	<i>20 - 120</i>				
<i>Surr: 4-Terphenyl-d14</i>	<i>4.443</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>88.9</i>	<i>40 - 135</i>				
<i>Surr: Nitrobenzene-d5</i>	<i>4.201</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>84.0</i>	<i>41 - 120</i>				
<i>Surr: Phenol-d6</i>	<i>4.753</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>95.1</i>	<i>20 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: 136614		Instrument: SV-7			Method: SW8270					
LCSD		Sample ID: LCSD-136614			Units: ug/L		Analysis Date: 17-Jan-2019 17:00			
Client ID:		Run ID: SV-7_331241			SeqNo: 4915154		PrepDate: 15-Jan-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.972	0.20	5	0	99.4	39 - 127	4.99	0.356	20	
2,4-Dimethylphenol	4.037	0.20	5	0	80.7	35 - 120	3.683	9.15	20	
2,4-Dinitrotoluene	4.066	0.20	5	0	81.3	50 - 122	3.944	3.05	20	
2,6-Dinitrotoluene	4.093	0.20	5	0	81.9	50 - 120	3.842	6.35	20	
2-Chloronaphthalene	4.608	0.20	5	0	92.2	50 - 120	4.065	12.5	20	
2-Methylnaphthalene	4.041	0.10	5	0	80.8	50 - 120	3.843	5.03	20	
4,6-Dinitro-2-methylphenol	3.691	0.20	5	0	73.8	25 - 121	3.213	13.8	30	
4-Nitrophenol	4.013	1.0	5	0	80.3	30 - 130	3.837	4.49	20	
Acenaphthene	4.047	0.10	5	0	80.9	45 - 120	3.79	6.55	20	
Acenaphthylene	4.205	0.10	5	0	84.1	47 - 120	4.016	4.61	20	
Anthracene	4.086	0.10	5	0	81.7	45 - 120	4.161	1.83	20	
Benz(a)anthracene	4.252	0.10	5	0	85.0	40 - 120	4.224	0.65	20	
Benzo(a)pyrene	4.455	0.10	5	0	89.1	45 - 120	4.464	0.216	20	
Bis(2-chloroethoxy)methane	4.269	0.20	5	0	85.4	45 - 120	4.216	1.27	20	
Bis(2-ethylhexyl)phthalate	4.966	0.20	5	0	99.3	40 - 139	4.92	0.929	20	
Chrysene	4.279	0.10	5	0	85.6	43 - 120	4.291	0.268	20	
Dibenzofuran	4.031	0.10	5	0	80.6	50 - 120	3.906	3.15	20	
Di-n-butyl phthalate	4.433	0.20	5	0	88.7	45 - 123	4.49	1.28	20	
Fluoranthene	4.049	0.10	5	0	81.0	45 - 125	4.015	0.841	20	
Fluorene	4.017	0.10	5	0	80.3	49 - 120	3.871	3.7	20	
Naphthalene	4.287	0.10	5	0	85.7	45 - 120	4.004	6.82	20	
Nitrobenzene	4.559	0.20	5	0	91.2	44 - 120	4.219	7.75	20	
N-Nitrosodiphenylamine	4.288	0.20	5	0	85.8	40 - 125	4.239	1.15	20	
Pentachlorophenol	2.003	0.20	5	0	40.1	19 - 121	1.934	3.51	20	
Phenanthrene	4.101	0.10	5	0	82.0	45 - 121	4.082	0.45	20	
Phenol	4.418	0.20	5	0	88.4	20 - 124	4.413	0.108	20	
Pyrene	4.407	0.10	5	0	88.1	40 - 130	4.499	2.08	20	
<i>Surr: 2,4,6-Tribromophenol</i>	3.49	0.20	5	0	69.8	34 - 129	3.432	1.67	20	
<i>Surr: 2-Fluorobiphenyl</i>	4.292	0.20	5	0	85.8	40 - 125	4.042	5.99	20	
<i>Surr: 2-Fluorophenol</i>	4.447	0.20	5	0	88.9	20 - 120	4.43	0.376	20	
<i>Surr: 4-Terphenyl-d14</i>	4.457	0.20	5	0	89.1	40 - 135	4.443	0.312	20	
<i>Surr: Nitrobenzene-d5</i>	4.464	0.20	5	0	89.3	41 - 120	4.201	6.07	20	
<i>Surr: Phenol-d6</i>	4.808	0.20	5	0	96.2	20 - 120	4.753	1.14	20	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: 136614	Instrument: SV-7	Method: SW8270
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The following samples were analyzed in this batch:

HS19010488-15	HS19010488-17	HS19010488-18	HS19010488-19
HS19010488-20	HS19010488-21	HS19010488-22	HS19010488-23
HS19010488-24	HS19010488-25		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: R331030 **Instrument:** VOA2 **Method:** SW8260

MBLK		Sample ID: VBLKW-190114			Units: ug/L		Analysis Date: 14-Jan-2019 23:26			
Client ID:		Run ID: VOA2_331030			SeqNo: 4908344		PrepDate:		DF: 1	
Analyte	Result	MLQ	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								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>47.99</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.0</i>	<i>70 - 123</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.31</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.6</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>51.08</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>102</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>49.07</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.1</i>	<i>81 - 120</i>				

LCS		Sample ID: VLCSW-190114			Units: ug/L		Analysis Date: 14-Jan-2019 22:38			
Client ID:		Run ID: VOA2_331030			SeqNo: 4908367		PrepDate:		DF: 1	
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	19.25	1.0	20	0	96.3	70 - 124				
Benzene	18.74	1.0	20	0	93.7	74 - 120				
Chlorobenzene	20.42	1.0	20	0	102	76 - 113				
Ethylbenzene	20.53	1.0	20	0	103	77 - 117				
Methylene chloride	19.15	2.0	20	0	95.7	70 - 127				
Toluene	19.5	1.0	20	0	97.5	77 - 118				
Xylenes, Total	61.55	1.0	60	0	103	75 - 122				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>51.25</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>102</i>	<i>70 - 130</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.3</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.6</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>50.3</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>48.78</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.6</i>	<i>81 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: R331030		Instrument: VOA2		Method: SW8260						
MS		Sample ID: HS19010488-02MS		Units: ug/L		Analysis Date: 15-Jan-2019 01:28				
Client ID: WG-1620-MW05-20190109		Run ID: VOA2_331030		SeqNo: 4908349		PrepDate:		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
1,2-Dichloroethane	22.83	1.0	20	0	114	70 - 127				
Benzene	22.47	1.0	20	0	112	70 - 127				
Chlorobenzene	24.15	1.0	20	0	121	70 - 114			S	
Ethylbenzene	24.94	1.0	20	0	125	70 - 124			S	
Methylene chloride	22.3	2.0	20	0	112	70 - 128				
Toluene	23.63	1.0	20	0	118	70 - 123				
Xylenes, Total	72.41	1.0	60	0	121	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>51.71</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>103</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.81</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.6</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>50.81</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>102</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>48.43</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.9</i>	<i>82 - 127</i>				

MSD		Sample ID: HS19010488-02MSD		Units: ug/L		Analysis Date: 15-Jan-2019 01:52			
Client ID: WG-1620-MW05-20190109		Run ID: VOA2_331030		SeqNo: 4908350		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
1,2-Dichloroethane	22.17	1.0	20	0	111	70 - 127	22.83	2.94	20
Benzene	22.05	1.0	20	0	110	70 - 127	22.47	1.87	20
Chlorobenzene	24.13	1.0	20	0	121	70 - 114	24.15	0.0925	20 S
Ethylbenzene	24.35	1.0	20	0	122	70 - 124	24.94	2.38	20
Methylene chloride	21.15	2.0	20	0	106	70 - 128	22.3	5.27	20
Toluene	23.48	1.0	20	0	117	70 - 123	23.63	0.623	20
Xylenes, Total	72.09	1.0	60	0	120	70 - 130	72.41	0.437	20
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>50.31</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>70 - 126</i>	<i>51.71</i>	<i>2.75</i>	<i>20</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.85</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.7</i>	<i>81 - 113</i>	<i>49.81</i>	<i>0.0761</i>	<i>20</i>
<i>Surr: Dibromofluoromethane</i>	<i>50.75</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>102</i>	<i>77 - 123</i>	<i>50.81</i>	<i>0.117</i>	<i>20</i>
<i>Surr: Toluene-d8</i>	<i>48.58</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.2</i>	<i>82 - 127</i>	<i>48.43</i>	<i>0.305</i>	<i>20</i>

The following samples were analyzed in this batch: HS19010488-01 HS19010488-02 HS19010488-03 HS19010488-04
 HS19010488-05

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: R331042 **Instrument:** VOA9 **Method:** SW8260

MBLK		Sample ID: VBLKW-190114			Units: ug/L		Analysis Date: 14-Jan-2019 16:03			
Client ID:		Run ID: VOA9_331042			SeqNo: 4908590		PrepDate:		DF: 1	
Analyte	Result	MLQ	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								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>52.42</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>105</i>	<i>70 - 123</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>50.73</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>46.85</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>93.7</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>53.74</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>107</i>	<i>81 - 120</i>				

LCS		Sample ID: VLCSW-190114			Units: ug/L		Analysis Date: 14-Jan-2019 14:49			
Client ID:		Run ID: VOA9_331042			SeqNo: 4908589		PrepDate:		DF: 1	
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	22.08	1.0	20	0	110	70 - 124				
Benzene	21.79	1.0	20	0	109	74 - 120				
Chlorobenzene	20.68	1.0	20	0	103	76 - 113				
Ethylbenzene	21.73	1.0	20	0	109	77 - 117				
Methylene chloride	22.78	2.0	20	0	114	70 - 127				
Toluene	22.03	1.0	20	0	110	77 - 118				
Xylenes, Total	66.56	1.0	60	0	111	75 - 122				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>51.04</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>102</i>	<i>70 - 130</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>54.12</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>108</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>49.98</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100.0</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>50.7</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>81 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: R331042 **Instrument:** VOA9 **Method:** SW8260

MS		Sample ID: HS19010467-02MS			Units: ug/L		Analysis Date: 14-Jan-2019 18:36			
Client ID:		Run ID: VOA9_331042			SeqNo: 4908596		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	21.71	1.0	20	0	109	70 - 127				
Benzene	21.8	1.0	20	0	109	70 - 127				
Chlorobenzene	20.27	1.0	20	0	101	70 - 114				
Ethylbenzene	21.99	1.0	20	0	110	70 - 124				
Methylene chloride	21.99	2.0	20	0	110	70 - 128				
Toluene	21.85	1.0	20	0	109	70 - 123				
Xylenes, Total	66.02	1.0	60	0	110	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>52.54</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>105</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>52.06</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>104</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>50.09</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>49.13</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.3</i>	<i>82 - 127</i>				

MSD		Sample ID: HS19010467-02MSD			Units: ug/L		Analysis Date: 14-Jan-2019 19:00			
Client ID:		Run ID: VOA9_331042			SeqNo: 4908597		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	20.61	1.0	20	0	103	70 - 127	21.71	5.2	20	
Benzene	19.71	1.0	20	0	98.6	70 - 127	21.8	10.1	20	
Chlorobenzene	20.38	1.0	20	0	102	70 - 114	20.27	0.52	20	
Ethylbenzene	21.86	1.0	20	0	109	70 - 124	21.99	0.553	20	
Methylene chloride	21.1	2.0	20	0	106	70 - 128	21.99	4.11	20	
Toluene	21.9	1.0	20	0	110	70 - 123	21.85	0.227	20	
Xylenes, Total	66.02	1.0	60	0	110	70 - 130	66.02	0.00586	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>52.8</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>106</i>	<i>70 - 126</i>	<i>52.54</i>	<i>0.482</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>52.25</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>105</i>	<i>81 - 113</i>	<i>52.06</i>	<i>0.372</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>49.85</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.7</i>	<i>77 - 123</i>	<i>50.09</i>	<i>0.477</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>49.1</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.2</i>	<i>82 - 127</i>	<i>49.13</i>	<i>0.0609</i>	<i>20</i>	

The following samples were analyzed in this batch: HS19010488-10 HS19010488-16

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: R331088		Instrument: VOA2		Method: SW8260					
MBLK	Sample ID: VBLKW-190115	Units: ug/L			Analysis Date: 16-Jan-2019 00:45				
Client ID:	Run ID: VOA2_331088	SeqNo: 4909708		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							
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>45.9</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>91.8</i>	<i>70 - 123</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>47.85</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>95.7</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>49.78</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.6</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>49.71</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.4</i>	<i>81 - 120</i>			

LCS	Sample ID: VLCSW-190115	Units: ug/L			Analysis Date: 15-Jan-2019 23:57				
Client ID:	Run ID: VOA2_331088	SeqNo: 4909707		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	19.09	1.0	20	0	95.4	74 - 120			
Chlorobenzene	20.75	1.0	20	0	104	76 - 113			
Ethylbenzene	21.28	1.0	20	0	106	77 - 117			
Methylene chloride	18.35	2.0	20	0	91.8	70 - 127			
Toluene	20.36	1.0	20	0	102	77 - 118			
Vinyl chloride	19.58	1.0	20	0	97.9	70 - 130			
Xylenes, Total	62.79	1.0	60	0	105	75 - 122			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>49.91</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.8</i>	<i>70 - 130</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.41</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.8</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>50.13</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>48.78</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.6</i>	<i>81 - 120</i>			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: R331088 **Instrument:** VOA2 **Method:** SW8260

MS		Sample ID: HS19010488-06MS			Units: ug/L		Analysis Date: 16-Jan-2019 01:33			
Client ID: WG-1620-MW04-20190109		Run ID: VOA2_331088			SeqNo: 4909710		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.95	1.0	20	0	84.7	70 - 127				
Benzene	17.86	1.0	20	0	89.3	70 - 127				
Chlorobenzene	19.02	1.0	20	0	95.1	70 - 114				
Ethylbenzene	19.54	1.0	20	0	97.7	70 - 124				
Methylene chloride	16.69	2.0	20	0	83.4	70 - 128				
Toluene	18.79	1.0	20	0	93.9	70 - 123				
Vinyl chloride	17.28	1.0	20	0	86.4	70 - 130				
Xylenes, Total	57.26	1.0	60	0	95.4	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>50.2</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.41</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.8</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>50.42</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>48.54</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.1</i>	<i>82 - 127</i>				

MSD		Sample ID: HS19010488-06MSD			Units: ug/L		Analysis Date: 16-Jan-2019 01:57			
Client ID: WG-1620-MW04-20190109		Run ID: VOA2_331088			SeqNo: 4909711		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.52	1.0	20	0	87.6	70 - 127	16.95	3.31	20	
Benzene	17.44	1.0	20	0	87.2	70 - 127	17.86	2.42	20	
Chlorobenzene	19.05	1.0	20	0	95.3	70 - 114	19.02	0.135	20	
Ethylbenzene	19.44	1.0	20	0	97.2	70 - 124	19.54	0.474	20	
Methylene chloride	16.64	2.0	20	0	83.2	70 - 128	16.69	0.246	20	
Toluene	18.45	1.0	20	0	92.2	70 - 123	18.79	1.83	20	
Vinyl chloride	16.89	1.0	20	0	84.4	70 - 130	17.28	2.28	20	
Xylenes, Total	57.03	1.0	60	0	95.0	70 - 130	57.26	0.409	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.91</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.8</i>	<i>70 - 126</i>	<i>50.2</i>	<i>2.61</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.89</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.8</i>	<i>81 - 113</i>	<i>49.41</i>	<i>1.07</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>50.28</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>77 - 123</i>	<i>50.42</i>	<i>0.279</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>48.41</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.8</i>	<i>82 - 127</i>	<i>48.54</i>	<i>0.251</i>	<i>20</i>	

The following samples were analyzed in this batch:

HS19010488-06	HS19010488-07	HS19010488-08	HS19010488-09
HS19010488-11	HS19010488-12	HS19010488-13	HS19010488-14
HS19010488-15	HS19010488-17	HS19010488-18	HS19010488-19
HS19010488-20	HS19010488-21	HS19010488-22	HS19010488-23

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: R331375		Instrument: VOA2		Method: SW8260					
MBLK	Sample ID: VBLKW-190119	Units: ug/L			Analysis Date: 19-Jan-2019 06:48				
Client ID:	Run ID: VOA2_331375	SeqNo: 4916449		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							
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.02</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.0</i>	<i>70 - 123</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.55</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.1</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>51.36</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>103</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>51.2</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>102</i>	<i>81 - 120</i>			

LCS	Sample ID: VLCSW-190119	Units: ug/L			Analysis Date: 19-Jan-2019 06:00				
Client ID:	Run ID: VOA2_331375	SeqNo: 4916448		PrepDate:		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

1,2-Dichloroethane	18.42	1.0	20	0	92.1	70 - 124			
Benzene	21.42	1.0	20	0	107	74 - 120			
Chlorobenzene	20.64	1.0	20	0	103	76 - 113			
Ethylbenzene	20.92	1.0	20	0	105	77 - 117			
Methylene chloride	20.7	2.0	20	0	103	70 - 127			
Toluene	20.48	1.0	20	0	102	77 - 118			
Vinyl chloride	22.22	1.0	20	0	111	70 - 130			
Xylenes, Total	64.7	1.0	60	0	108	75 - 122			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.26</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.5</i>	<i>70 - 130</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.47</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.9</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>50.33</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>49.75</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.5</i>	<i>81 - 120</i>			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

QC BATCH REPORT

Batch ID: R331375 **Instrument:** VOA2 **Method:** SW8260

MS		Sample ID: HS19010732-02MS			Units: ug/L		Analysis Date: 19-Jan-2019 08:24			
Client ID:		Run ID: VOA2_331375			SeqNo: 4916453		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	14.89	1.0	20	0	74.5	70 - 127				
Benzene	18.1	1.0	20	0	90.5	70 - 127				
Chlorobenzene	17.84	1.0	20	0	89.2	70 - 114				
Ethylbenzene	18.19	1.0	20	0	90.9	70 - 124				
Methylene chloride	17.53	2.0	20	0	87.7	70 - 128				
Toluene	18.23	1.0	20	0	91.2	70 - 123				
Vinyl chloride	20.06	1.0	20	0	100	70 - 130				
Xylenes, Total	54.51	1.0	60	0	90.9	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>50.24</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.32</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.6</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>51.47</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>103</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>50</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>82 - 127</i>				

MSD		Sample ID: HS19010732-02MSD			Units: ug/L		Analysis Date: 19-Jan-2019 08:49			
Client ID:		Run ID: VOA2_331375			SeqNo: 4916454		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	14.77	1.0	20	0	73.8	70 - 127	14.89	0.821	20	
Benzene	17.86	1.0	20	0	89.3	70 - 127	18.1	1.33	20	
Chlorobenzene	17.56	1.0	20	0	87.8	70 - 114	17.84	1.56	20	
Ethylbenzene	18.02	1.0	20	0	90.1	70 - 124	18.19	0.904	20	
Methylene chloride	15.93	2.0	20	0	79.7	70 - 128	17.53	9.57	20	
Toluene	18.04	1.0	20	0	90.2	70 - 123	18.23	1.1	20	
Vinyl chloride	19.35	1.0	20	0	96.7	70 - 130	20.06	3.63	20	
Xylenes, Total	54.72	1.0	60	0	91.2	70 - 130	54.51	0.387	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>49.73</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.5</i>	<i>70 - 126</i>	<i>50.24</i>	<i>1.01</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>50.29</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>81 - 113</i>	<i>49.32</i>	<i>1.94</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>50.03</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>77 - 123</i>	<i>51.47</i>	<i>2.83</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>50.64</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>82 - 127</i>	<i>50</i>	<i>1.26</i>	<i>20</i>	

The following samples were analyzed in this batch: HS19010488-24 HS19010488-25

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010488

**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 Quantitation 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	88-0356	27-Mar-2019
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193 2018-2019	30-Apr-2019
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043 - 2018	30-Apr-2019
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019

Sample Receipt Checklist

Client Name: PBW
Work Order: HS19010488

Date/Time Received: 11-Jan-2019 14:00
Received by: PJM

Checklist completed by: Pablo Martinez 11-Jan-2019
Reviewed by: Dane J. Wacasey 16-Jan-2019

Matrices: WATER Carrier name: Client

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [] No [] Not Present [checked]
Custody seals intact on sample bottles? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Chain of custody agrees with sample labels? Yes [] No [checked]
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
TX1005 solids received in hermetically sealed vials? Yes [] No [] N/A [checked]
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Container/Temp Blank temperature in compliance? Yes [checked] No []

Temperature(s)/Thermometer(s): 0.8C/1.1C, 1.0C/1.3C, 1.3C/1.6C, 1.4C/1.7C, 1.5C/1.8C, 0.9C/1.2C UC/C IR # 25

Cooler(s)/Kit(s): 25701, 5678, 44264, 44416, 25009, 43599

Date/Time sample(s) sent to storage: 1/11/19 18:00

Water - VOA vials have zero headspace? Yes [checked] No [] No VOA vials submitted []

Water - pH acceptable upon receipt? Yes [checked] No [] N/A []

pH adjusted? Yes [] No [checked] N/A []

pH adjusted by: []

Login Notes: WG-1620-TW41B-20190109 & WG-1620-MW05-20190109 - Collection Time does not match, logged per CoC
TW41B - CoC = 10:35 Label = 9:35
MW05 - CoC = 11:25 Label = 10:10
WG-1620-FB02-20190109 - Sample Label missing Collection Date/Time, log per CoC (1-9-19 17:35)

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments: []

Corrective Action: []



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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: 194325

HS19010488

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	1620-06-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 0760
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	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WG-1620-TBO-201801			Water	1	2	X		X	X							
2	WG-1620-TW41B-20190109	1-9-19	1035	W		6	X		X	X							
3	WG-1620-MW05-20190109	1-9-19	1125	W		6	X		X	X							
4	WG-1620-P11-20190109	1-9-19	1225	W		6	X		X	X							
5	WG-1620-MW03-20190109	1-9-19	1315	W		6	X		X	X							
6	WG-1620-MW09-20190109	1-9-19	1405	W		6	X		X	X							
7	WG-1620-MW04-20190109	1-9-19	1505	W		6	X		X	X							
8	WG-1620-MW21C-20190109	1-9-19	1620	W		6	X		X	X							
9	WG-1620-FD01-20190109	1-9-19	1620	W		6	X		X	X							
10	WG-1620-MW17-20190109	1-9-19	1720	W		6	X		X	X							

Sampler(s) Please Print & Sign: JOHN BRAYSON John Br

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) STD 10 Wk Days 5 Wk Days 2 Wk Days 24 Hour

Results Due Date: _____

Relinquished by: John Br Date: 1-11-19 Time: 14:00

Relinquished by: John Br Date: 1-11-19 Time: 14:00

Logged by (Laboratory): _____ Date: _____ Time: _____

Received by: _____

Received by (Laboratory): PM

Checked by (Laboratory): _____

Notes: UPRR Houston MWPW

Cooler ID: 25701 Cooler Temp.: UC

Cooler ID: 5678 Cooler Temp.: 0.8C

Cooler ID: 1R25 Cooler Temp.: 0.70.3

QC Package: (Check One Box Below)

Level II Std QC TRRP Checklist

Level III Std QC/Raw Data TRRP Level IV

Level IV SWB46/CLP

Other

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.

44264 1.3C
 25009 1.5C

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Chain of Custody Form

Page 2 of 2

COC ID: 194309

HS19010488

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
Work Order		Project Number	1620-06-Rev0 SR 92688	B
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D
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-TB0-201901			Water	↑	2											
2	WG-1620-FB02-20190109	1-9-19	1735	W		6	X		X	X							
3	WG-1620-MW17C-20190110	1-10-19	0725	W		6	X		X	X							
4	WG-1620-MW18C-20190110	1-10-19	0820	W		6		X	X	X							
5	WG-1620-MW18A-20190110	1-10-19	1045	W		6		X	X	X							
6	WG-1620-MW48C-20190110	1-10-19	1145	W		6	X		X	X							
7	WG-1620-MW69A-20190110	1-10-19	1245	W		6		X	X	X							
8	WG-1620-TB02-20190110			W		2	X										
9	WG-1620-MW80B-20190110	1-10-19	1350	W		6	X		X	X							
10	WG-1620-MW50A-20190110	1-10-19	1440	W		6	X		X	X							

Sampler(s) Please Print & Sign: John Beaton

Shipment Method: Hand Delivered

Required Turnaround Time: (Check Box) STD 10 Wk Days 5 Wk Days 2 Wk Days 24 Hour

Results Due Date: _____

Relinquished by: [Signature] Date: 1-11-19 Time: 14:00

Received by: _____

Relinquished by: [Signature] Date: 1-11-19 Time: 14:00

Received by (Laboratory): PM

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 SWB46/CLP

Other: _____

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035

- Note:
- Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
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Chain of Custody Form

Page 3 of 3

COC ID: 194318

HS19010488

i, vv

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	1620-06-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	Ornaha NE 681790750
Phone	(512) 671-3434	Phone	
Fax	(512) 671-3446	Fax	
e-Mail Address	eric.matzner@pbwllc.com	e-Mail Address	

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											
2	WG-1620-MW81B-20190110	1-10-19	1530	W		6	X		X	X							
3	WG-1620-MWS1A-20190110	1-10-19	1640	W		6	X		X	X							
4	WG-1620-MWS1C-20190110	1-10-19	1730	W		6	X		X	X							
5	WG-1620-MW86C-20190111	1-11-19	0825	W		6	X		X	X							
6	WG-1620-FD02-20190111	1-11-19	0825	W		6	X		X	X							
7	WG-1620-FD03-20190111	1-11-19	1115	W		6	X		X	X							
8	WG-1620-MW60A-20190111	1-11-19	1015	W		6		X	X	X							
9																	
10																	

Sampler(s) Please Print & Sign <i>John A. Brown</i>		Shipment Method HAND DELIVERED		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:	
Relinquished by: <i>John A. Brown</i>	Date: 1-11-19	Time: 14:00	Received by:	Notes: UPRR Houston MWPW					
Relinquished by: <i>John A. Brown</i>	Date: 1-11-19	Time: 14:00	Received by (Laboratory): <i>PM</i>	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)			
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):			<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRRP Checklist		
						<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV		
						<input type="checkbox"/> Level IV SW846/CLP			
						<input type="checkbox"/> Other			

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
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 3. The Chain of Custody is a legal document. All information must be completed accurately.

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February 14, 2019

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS19010754**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 22 sample(s) on Jan 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.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

**TRRP Laboratory Data
Package Cover Page**

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: HS19010754

**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: 02/14/2019					
Project Name: Houston TX-Wood Preserving Works		Laboratory Job Number: HS19010754					
Reviewer Name: Dane Wacasey		Prep Batch Number(s): 136788,136815,136946,136947,R331619,R331648,R331734,R331781					
# 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			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: 02/14/2019			
Project Name: Houston TX-Wood Preserving Works				Laboratory Job Number: HS19010754			
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 136788,136815,136946,136947,R331619,R331648,R331734,R331781			
# 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			6
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: 02/14/2019
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS19010754
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 136788,136815,136946,136947,R331619,R331648,R331734,R331781

ER# ⁵	Description
1	Semivolatile Organics Method SW8270, samples WG-1620-MW63B-20190114, WG-1620-MW68B-20190115, WG-1620-FD03-20190115, WG-1620-MW83B-20190115, WG-1620-MW35A-20190115, WG-1620-MW25C-20190115, the surrogate recoveries could not be determined due to dilution below the calibration range.
2	Batch 136788, Semivolatile Organics Method SW8270, LCS/LCSD were analyzed and reported in lieu of an MS/MSD for this batch.
3	Batch R331648, Volatile Organics Method SW8260, sample HS19011106-02, MS was performed on unrelated sample.
4	Batch R331648, Volatile Organics Method SW8260, sample HS19011106-02, MS/MSD RPD is for an unrelated sample.
5	Batch 136815, Semivolatile Organics Method SW8270, sample WG-1620-MW68B-20190115, the GCMS semi-volatile extract of this sample was run at a dilution due to a high level of matrix interference.
6	See Run Log and CCB Exceptions Report.

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).

FORM 13 - ANALYSIS RUN LOG

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754
Start Date: 23-Jan-2019 **End Date:** 24-Jan-2019

Run ID: ICPMS05_331608
Instrument: ICPMS05
Method: SW6020

Sample No.	D/F	Time	FileID	Analyses
ICV	1	23-Jan-2019 19:14	016_ICV.d	AS PB
LLICV2	1	23-Jan-2019 19:16	017SMPL.d	AS PB
LLICV5	1	23-Jan-2019 19:18	018LICV.d	AS PB
ICB	1	23-Jan-2019 19:21	019_ICB.d	AS PB
ICSA	1	23-Jan-2019 19:25	021ICSA.d	AS PB
ICSAB	1	23-Jan-2019 19:41	025ICSB.d	AS PB
CCV 1	1	23-Jan-2019 20:01	032_CCV.d	AS PB
CCB 1	1	23-Jan-2019 20:04	033_CCB.d	AS PB
CCV 2	1	23-Jan-2019 20:29	044_CCV.d	AS PB
CCB 2	1	23-Jan-2019 20:31	045_CCB.d	AS PB
ICCV 3	1	23-Jan-2019 21:18	058_ICV.d	AS PB
LLCCV2	1	23-Jan-2019 21:20	059SMPL.d	AS PB
LLCCV5	1	23-Jan-2019 21:22	060LICV.d	AS PB
ICCB 3	1	23-Jan-2019 21:25	061_ICB.d	AS PB
CCB 4	1	23-Jan-2019 21:43	069_CCB.d	AS PB
CCV 4	1	23-Jan-2019 21:45	070_CCV.d	AS PB
CCV 5	1	23-Jan-2019 22:05	079_CCV.d	AS PB
CCB 5	1	23-Jan-2019 22:07	080_CCB.d	AS PB
CCB 6	1	23-Jan-2019 22:34	092_CCB.d	AS PB
CCV 6	1	23-Jan-2019 22:37	093_CCV.d	AS PB
ICSA	1	23-Jan-2019 22:39	094ICSA.d	AS PB
ICSAB	1	23-Jan-2019 22:41	095ICSB.d	AS PB
CCB 7	1	23-Jan-2019 22:56	100_CCB.d	AS PB
CCV 7	1	23-Jan-2019 22:58	101_CCV.d	AS PB
CCV 8	1	23-Jan-2019 23:16	109_CCV.d	AS PB
CCB 8	1	23-Jan-2019 23:18	110_CCB.d	AS PB
CCV 9	1	23-Jan-2019 23:43	121_CCV.d	AS PB
CCB 9	1	23-Jan-2019 23:45	122_CCB.d	AS PB
CCV 10	1	24-Jan-2019 00:03	130_CCV.d	AS PB
CCB 10	1	24-Jan-2019 00:05	131_CCB.d	AS PB
CCV 11	1	24-Jan-2019 00:30	142_CCV.d	AS PB
CCB 11	1	24-Jan-2019 00:32	143_CCB.d	AS PB
CCV 12	1	24-Jan-2019 00:57	154_CCV.d	AS PB
CCB 12	1	24-Jan-2019 00:59	155_CCB.d	AS PB
MBLK-136946	1	24-Jan-2019 01:01	156SMPL.d	AS PB
LCS-136946	1	24-Jan-2019 01:04	157SMPL.d	AS PB
ZZZZZSD	5	24-Jan-2019 01:08	159SMPL.d	AS PB
ZZZZZMS	1	24-Jan-2019 01:10	160SMPL.d	AS PB
ZZZZZMSD	1	24-Jan-2019 01:13	161SMPL.d	AS PB
ZZZZZPDS	1	24-Jan-2019 01:15	162SMPL.d	AS PB
CCV 13	1	24-Jan-2019 01:17	163_CCV.d	AS PB
CCB 13	1	24-Jan-2019 01:20	164_CCB.d	AS PB
WG-1620-MW53C-20190114	1	24-Jan-2019 01:29	168SMPL.d	AS PB
CCV 14	1	24-Jan-2019 01:44	175_CCV.d	AS PB
CCB 14	1	24-Jan-2019 01:47	176_CCB.d	AS PB
CCV 15	1	24-Jan-2019 02:11	187_CCV.d	AS PB
CCB 15	1	24-Jan-2019 02:14	188_CCB.d	AS PB
CCV 16	1	24-Jan-2019 02:18	190_CCV.d	AS PB
CCB 16	1	24-Jan-2019 02:20	191_CCB.d	AS PB
LLICV2	1	24-Jan-2019 02:23	192SMPL.d	AS PB
LLICV5	1	24-Jan-2019 02:25	193LICV.d	AS PB

CCB EXCEPTIONS REPORT

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

Run ID:ICPMS05_331608
Instrument:ICPMS05
Method:SW6020

ICB	Date: 23-Jan-2019 19:21	Seq: 4922194	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Arsenic	-0.419	0.4	2
CCB 1	Date: 23-Jan-2019 20:04	Seq: 4922207	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Arsenic	-1.286	0.4	2
CCB 2	Date: 23-Jan-2019 20:31	Seq: 4922219	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Arsenic	-1.388	0.4	2
CCB 5	Date: 23-Jan-2019 22:07	Seq: 4922251	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Arsenic	-0.528	0.4	2
CCB 8	Date: 23-Jan-2019 23:18	Seq: 4922500	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Arsenic	-0.463	0.4	2
CCB 9	Date: 23-Jan-2019 23:45	Seq: 4922512	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Arsenic	-0.527	0.4	2
CCB 10	Date: 24-Jan-2019 00:05	Seq: 4922647	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Arsenic	-0.509	0.4	2
CCB 11	Date: 24-Jan-2019 00:32	Seq: 4922659	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Arsenic	-0.506	0.4	2
CCB 12	Date: 24-Jan-2019 00:59	Seq: 4922671	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Arsenic	-0.553	0.4	2
CCB 13	Date: 24-Jan-2019 01:20	Seq: 4922680	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Arsenic	-0.56	0.4	2
CCB 14	Date: 24-Jan-2019 01:47	Seq: 4922692	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Arsenic	-0.578	0.4	2
CCB 15	Date: 24-Jan-2019 02:14	Seq: 4922704	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Arsenic	-0.749	0.4	2
CCB 16	Date: 24-Jan-2019 02:20	Seq: 4922707	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
	Arsenic	-0.785	0.4	2

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19010754

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19010754-01	WG-1620-MW53C-20190114	Groundwater		14-Jan-2019 12:05	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-02	WG-1620-MW54C-20190114	Groundwater		14-Jan-2019 13:00	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-03	WG-1620-MW36B-20190114	Groundwater		14-Jan-2019 14:05	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-04	WG-1620-MW36A-20190114	Groundwater		14-Jan-2019 14:55	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-05	WG-1620-MW28A-20190114	Groundwater		14-Jan-2019 15:50	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-06	WG-1620-MW28C-20190114	Groundwater		14-Jan-2019 16:35	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-07	WG-1620-MW63B-20190114	Groundwater		14-Jan-2019 17:40	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-08	WG-1620-FB04-20190114	Water		14-Jan-2019 18:00	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-09	WG-1620-MW26A-20190115	Groundwater		15-Jan-2019 07:40	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-10	WG-1620-MW68B-20190115	Groundwater		15-Jan-2019 08:55	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-11	WG-1620-FD03-20190115	Groundwater		15-Jan-2019 08:55	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-12	WG-1620-MW68C-20190115	Groundwater		15-Jan-2019 09:45	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-13	WG-1620-MW83B-20190115	Groundwater		15-Jan-2019 10:40	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-14	WG-1620-MW83C-20190115	Groundwater		15-Jan-2019 11:15	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-15	WG-1620-MW35A-20190115	Groundwater		15-Jan-2019 12:45	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-16	WG-1620-MW35B-20190115	Groundwater		15-Jan-2019 13:25	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-17	WG-1620-MW25A-20190115	Groundwater		15-Jan-2019 14:25	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-18	WG-1620-MW25C-20190115	Groundwater		15-Jan-2019 15:10	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-19	WG-1620-MW34CR-20190115	Groundwater		15-Jan-2019 15:55	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-20	WG-1620-MW71B-20190115	Groundwater		15-Jan-2019 16:50	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-21	WG-1620-FB05-20190115	Water		15-Jan-2019 17:15	17-Jan-2019 08:27	<input type="checkbox"/>
HS19010754-22	WQ-1620-TB04-20190115	Water		15-Jan-2019 00:00	17-Jan-2019 08:27	<input type="checkbox"/>

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WG-1620-MW53C-20190114
 Collection Date: 14-Jan-2019 12:05

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-01
 Matrix:Groundwater

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	24-Jan-2019 02:27
Benzene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 02:27
Chlorobenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 02:27
Ethylbenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 02:27
Methylene chloride	U		0.0010	0.0020	mg/L	1	24-Jan-2019 02:27
Toluene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 02:27
Xylenes, Total	U		0.00030	0.0010	mg/L	1	24-Jan-2019 02:27
<i>Surr: 1,2-Dichloroethane-d4</i>		94.2		70-126	%REC	1	24-Jan-2019 02:27
<i>Surr: 4-Bromofluorobenzene</i>		97.0		81-113	%REC	1	24-Jan-2019 02:27
<i>Surr: Dibromofluoromethane</i>		103		77-123	%REC	1	24-Jan-2019 02:27
<i>Surr: Toluene-d8</i>		103		82-127	%REC	1	24-Jan-2019 02:27

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-MW53C-20190114
 Collection Date: 14-Jan-2019 12:05

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	01-Feb-2019 10:32
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	01-Feb-2019 10:32
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	01-Feb-2019 10:32
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	01-Feb-2019 10:32
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	01-Feb-2019 10:32
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	01-Feb-2019 10:32
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	01-Feb-2019 10:32
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	01-Feb-2019 10:32
Acenaphthene	U		0.000027	0.00010	mg/L	1	01-Feb-2019 10:32
Acenaphthylene	U		0.000015	0.00010	mg/L	1	01-Feb-2019 10:32
Anthracene	U		0.000014	0.00010	mg/L	1	01-Feb-2019 10:32
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	01-Feb-2019 10:32
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	01-Feb-2019 10:32
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	01-Feb-2019 10:32
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	01-Feb-2019 10:32
Chrysene	U		0.000021	0.00010	mg/L	1	01-Feb-2019 10:32
Dibenzofuran	U		0.000020	0.00010	mg/L	1	01-Feb-2019 10:32
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	01-Feb-2019 10:32
Fluoranthene	U		0.000010	0.00010	mg/L	1	01-Feb-2019 10:32
Fluorene	U		0.000030	0.00010	mg/L	1	01-Feb-2019 10:32
Naphthalene	0.00025		0.000020	0.00010	mg/L	1	01-Feb-2019 10:32
Nitrobenzene	U		0.000024	0.00020	mg/L	1	01-Feb-2019 10:32
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	01-Feb-2019 10:32
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	01-Feb-2019 10:32
Phenanthrene	U		0.000021	0.00010	mg/L	1	01-Feb-2019 10:32
Phenol	U		0.000035	0.00020	mg/L	1	01-Feb-2019 10:32
Pyrene	U		0.000019	0.00010	mg/L	1	01-Feb-2019 10:32
<i>Surr: 2,4,6-Tribromophenol</i>	<i>46.9</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 10:32</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>43.8</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 10:32</i>
<i>Surr: 2-Fluorophenol</i>	<i>44.0</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 10:32</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>71.7</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 10:32</i>
<i>Surr: Nitrobenzene-d5</i>	<i>46.6</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 10:32</i>
<i>Surr: Phenol-d6</i>	<i>41.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 10:32</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	24-Jan-2019 01:29
Lead	U		0.000600	0.00200	mg/L	1	24-Jan-2019 01:29

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-MW54C-20190114
 Collection Date: 14-Jan-2019 13:00

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	24-Jan-2019 02:52
Benzene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 02:52
Chlorobenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 02:52
Ethylbenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 02:52
Methylene chloride	U		0.0010	0.0020	mg/L	1	24-Jan-2019 02:52
Toluene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 02:52
Xylenes, Total	U		0.00030	0.0010	mg/L	1	24-Jan-2019 02:52
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>94.1</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 02:52</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>99.9</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 02:52</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 02:52</i>
<i>Surr: Toluene-d8</i>	<i>102</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 02:52</i>

Note: See 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-20190114
 Collection Date: 14-Jan-2019 13:00

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	01-Feb-2019 10:52
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	01-Feb-2019 10:52
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	01-Feb-2019 10:52
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	01-Feb-2019 10:52
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	01-Feb-2019 10:52
2-Methylnaphthalene	0.0014		0.000019	0.00010	mg/L	1	01-Feb-2019 10:52
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	01-Feb-2019 10:52
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	01-Feb-2019 10:52
Acenaphthene	0.014		0.00027	0.0010	mg/L	10	01-Feb-2019 17:10
Acenaphthylene	0.00020		0.000015	0.00010	mg/L	1	01-Feb-2019 10:52
Anthracene	0.0013		0.000014	0.00010	mg/L	1	01-Feb-2019 10:52
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	01-Feb-2019 10:52
Benzo(a)pyrene	0.000039	J	0.000020	0.00010	mg/L	1	01-Feb-2019 10:52
Bis(2-chloroethoxy)methane	0.000056	J	0.000030	0.00020	mg/L	1	01-Feb-2019 10:52
Bis(2-ethylhexyl)phthalate	0.000096	J	0.000037	0.00020	mg/L	1	01-Feb-2019 10:52
Chrysene	0.000038	J	0.000021	0.00010	mg/L	1	01-Feb-2019 10:52
Dibenzofuran	0.015		0.00020	0.0010	mg/L	10	01-Feb-2019 17:10
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	01-Feb-2019 10:52
Fluoranthene	0.0020		0.000010	0.00010	mg/L	1	01-Feb-2019 10:52
Fluorene	0.0085		0.000030	0.00010	mg/L	1	01-Feb-2019 10:52
Naphthalene	0.019		0.00020	0.0010	mg/L	10	01-Feb-2019 17:10
Nitrobenzene	U		0.000024	0.00020	mg/L	1	01-Feb-2019 10:52
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	01-Feb-2019 10:52
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	01-Feb-2019 10:52
Phenanthrene	0.0052		0.000021	0.00010	mg/L	1	01-Feb-2019 10:52
Phenol	U		0.000035	0.00020	mg/L	1	01-Feb-2019 10:52
Pyrene	0.0010		0.000019	0.00010	mg/L	1	01-Feb-2019 10:52
<i>Surr: 2,4,6-Tribromophenol</i>	<i>52.5</i>			<i>34-129</i>	<i>%REC</i>	<i>10</i>	<i>01-Feb-2019 17:10</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>56.0</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 10:52</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>47.7</i>			<i>40-125</i>	<i>%REC</i>	<i>10</i>	<i>01-Feb-2019 17:10</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>45.4</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 10:52</i>
<i>Surr: 2-Fluorophenol</i>	<i>36.3</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 10:52</i>
<i>Surr: 2-Fluorophenol</i>	<i>44.1</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>01-Feb-2019 17:10</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>68.8</i>			<i>40-135</i>	<i>%REC</i>	<i>10</i>	<i>01-Feb-2019 17:10</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>73.8</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 10:52</i>
<i>Surr: Nitrobenzene-d5</i>	<i>42.8</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 10:52</i>
<i>Surr: Nitrobenzene-d5</i>	<i>44.1</i>			<i>41-120</i>	<i>%REC</i>	<i>10</i>	<i>01-Feb-2019 17:10</i>
<i>Surr: Phenol-d6</i>	<i>36.2</i>	J		<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>01-Feb-2019 17:10</i>
<i>Surr: Phenol-d6</i>	<i>46.2</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 10:52</i>

Note: See 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-20190114
 Collection Date: 14-Jan-2019 13:00

ANALYTICAL REPORT

WorkOrder:HS19010754
 Lab ID:HS19010754-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	0.00123	J	0.000400	0.00200	mg/L	1	25-Jan-2019 16:23
Lead		U	0.000600	0.00200	mg/L	1	25-Jan-2019 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-MW36B-20190114
 Collection Date: 14-Jan-2019 14:05

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	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	24-Jan-2019 03:16
Benzene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 03:16
Chlorobenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 03:16
Ethylbenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 03:16
Methylene chloride	U		0.0010	0.0020	mg/L	1	24-Jan-2019 03:16
Toluene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 03:16
Vinyl chloride	U		0.00020	0.0010	mg/L	1	24-Jan-2019 03:16
Xylenes, Total	U		0.00030	0.0010	mg/L	1	24-Jan-2019 03:16
<i>Surr: 1,2-Dichloroethane-d4</i>		95.6		70-126	%REC	1	24-Jan-2019 03:16
<i>Surr: 4-Bromofluorobenzene</i>		96.6		81-113	%REC	1	24-Jan-2019 03:16
<i>Surr: Dibromofluoromethane</i>		101		77-123	%REC	1	24-Jan-2019 03:16
<i>Surr: Toluene-d8</i>		103		82-127	%REC	1	24-Jan-2019 03:16

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-MW36B-20190114
 Collection Date: 14-Jan-2019 14:05

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	01-Feb-2019 11:11
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	01-Feb-2019 11:11
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	01-Feb-2019 11:11
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	01-Feb-2019 11:11
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	01-Feb-2019 11:11
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	01-Feb-2019 11:11
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	01-Feb-2019 11:11
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	01-Feb-2019 11:11
Acenaphthene	U		0.000027	0.00010	mg/L	1	01-Feb-2019 11:11
Acenaphthylene	U		0.000015	0.00010	mg/L	1	01-Feb-2019 11:11
Anthracene	U		0.000014	0.00010	mg/L	1	01-Feb-2019 11:11
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	01-Feb-2019 11:11
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	01-Feb-2019 11:11
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	01-Feb-2019 11:11
Bis(2-ethylhexyl)phthalate	0.00022		0.000037	0.00020	mg/L	1	01-Feb-2019 11:11
Chrysene	U		0.000021	0.00010	mg/L	1	01-Feb-2019 11:11
Dibenzofuran	U		0.000020	0.00010	mg/L	1	01-Feb-2019 11:11
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	01-Feb-2019 11:11
Fluoranthene	U		0.000010	0.00010	mg/L	1	01-Feb-2019 11:11
Fluorene	U		0.000030	0.00010	mg/L	1	01-Feb-2019 11:11
Naphthalene	U		0.000020	0.00010	mg/L	1	01-Feb-2019 11:11
Nitrobenzene	U		0.000024	0.00020	mg/L	1	01-Feb-2019 11:11
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	01-Feb-2019 11:11
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	01-Feb-2019 11:11
Phenanthrene	U		0.000021	0.00010	mg/L	1	01-Feb-2019 11:11
Phenol	U		0.000035	0.00020	mg/L	1	01-Feb-2019 11:11
Pyrene	U		0.000019	0.00010	mg/L	1	01-Feb-2019 11:11
<i>Surr: 2,4,6-Tribromophenol</i>	<i>62.4</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 11:11</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>47.7</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 11:11</i>
<i>Surr: 2-Fluorophenol</i>	<i>43.6</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 11:11</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>81.9</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 11:11</i>
<i>Surr: Nitrobenzene-d5</i>	<i>47.7</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 11:11</i>
<i>Surr: Phenol-d6</i>	<i>50.3</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 11:11</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	0.00118	J	0.000400	0.00200	mg/L	1	25-Jan-2019 16:25
Lead	U		0.000600	0.00200	mg/L	1	25-Jan-2019 16:25

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-MW36A-20190114
 Collection Date: 14-Jan-2019 14:55

ANALYTICAL REPORT

WorkOrder:HS19010754
 Lab ID:HS19010754-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	SQL	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	25-Jan-2019 16:19
Benzene	U		0.00020	0.0010	mg/L	1	25-Jan-2019 16:19
Chlorobenzene	U		0.00030	0.0010	mg/L	1	25-Jan-2019 16:19
Ethylbenzene	U		0.00030	0.0010	mg/L	1	25-Jan-2019 16:19
Methylene chloride	U		0.0010	0.0020	mg/L	1	25-Jan-2019 16:19
Toluene	U		0.00020	0.0010	mg/L	1	25-Jan-2019 16:19
Vinyl chloride	U		0.00020	0.0010	mg/L	1	25-Jan-2019 16:19
Xylenes, Total	U		0.00030	0.0010	mg/L	1	25-Jan-2019 16:19
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>92.2</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 16:19</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>99.4</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 16:19</i>
<i>Surr: Dibromofluoromethane</i>	<i>95.9</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 16:19</i>
<i>Surr: Toluene-d8</i>	<i>99.8</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 16:19</i>

Note: See 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-20190114
 Collection Date: 14-Jan-2019 14:55

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	01-Feb-2019 11:31
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	01-Feb-2019 11:31
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	01-Feb-2019 11:31
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	01-Feb-2019 11:31
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	01-Feb-2019 11:31
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	01-Feb-2019 11:31
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	01-Feb-2019 11:31
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	01-Feb-2019 11:31
Acenaphthene	U		0.000027	0.00010	mg/L	1	01-Feb-2019 11:31
Acenaphthylene	U		0.000015	0.00010	mg/L	1	01-Feb-2019 11:31
Anthracene	U		0.000014	0.00010	mg/L	1	01-Feb-2019 11:31
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	01-Feb-2019 11:31
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	01-Feb-2019 11:31
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	01-Feb-2019 11:31
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	01-Feb-2019 11:31
Chrysene	U		0.000021	0.00010	mg/L	1	01-Feb-2019 11:31
Dibenzofuran	U		0.000020	0.00010	mg/L	1	01-Feb-2019 11:31
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	01-Feb-2019 11:31
Fluoranthene	U		0.000010	0.00010	mg/L	1	01-Feb-2019 11:31
Fluorene	U		0.000030	0.00010	mg/L	1	01-Feb-2019 11:31
Naphthalene	0.000062	J	0.000020	0.00010	mg/L	1	01-Feb-2019 11:31
Nitrobenzene	U		0.000024	0.00020	mg/L	1	01-Feb-2019 11:31
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	01-Feb-2019 11:31
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	01-Feb-2019 11:31
Phenanthrene	U		0.000021	0.00010	mg/L	1	01-Feb-2019 11:31
Phenol	U		0.000035	0.00020	mg/L	1	01-Feb-2019 11:31
Pyrene	U		0.000019	0.00010	mg/L	1	01-Feb-2019 11:31
<i>Surr: 2,4,6-Tribromophenol</i>	<i>54.4</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 11:31</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>55.9</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 11:31</i>
<i>Surr: 2-Fluorophenol</i>	<i>42.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 11:31</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>73.0</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 11:31</i>
<i>Surr: Nitrobenzene-d5</i>	<i>44.9</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 11:31</i>
<i>Surr: Phenol-d6</i>	<i>47.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 11:31</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	0.00107	J	0.000400	0.00200	mg/L	1	25-Jan-2019 16:27
Lead	0.00108	J	0.000600	0.00200	mg/L	1	25-Jan-2019 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-MW28A-20190114
 Collection Date: 14-Jan-2019 15:50

ANALYTICAL REPORT

WorkOrder:HS19010754
 Lab ID:HS19010754-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	24-Jan-2019 08:55
Benzene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 08:55
Chlorobenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 08:55
Ethylbenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 08:55
Methylene chloride	U		0.0010	0.0020	mg/L	1	24-Jan-2019 08:55
Toluene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 08:55
Xylenes, Total	U		0.00030	0.0010	mg/L	1	24-Jan-2019 08:55
<i>Surr: 1,2-Dichloroethane-d4</i>		91.6		70-126	%REC	1	24-Jan-2019 08:55
<i>Surr: 4-Bromofluorobenzene</i>		96.5		81-113	%REC	1	24-Jan-2019 08:55
<i>Surr: Dibromofluoromethane</i>		98.8		77-123	%REC	1	24-Jan-2019 08:55
<i>Surr: Toluene-d8</i>		103		82-127	%REC	1	24-Jan-2019 08:55

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-20190114
 Collection Date: 14-Jan-2019 15:50

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	01-Feb-2019 11:51
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	01-Feb-2019 11:51
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	01-Feb-2019 11:51
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	01-Feb-2019 11:51
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	01-Feb-2019 11:51
2-Methylnaphthalene	0.000055	J	0.000019	0.00010	mg/L	1	01-Feb-2019 11:51
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	01-Feb-2019 11:51
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	01-Feb-2019 11:51
Acenaphthene	0.000092	J	0.000027	0.00010	mg/L	1	01-Feb-2019 11:51
Acenaphthylene	U		0.000015	0.00010	mg/L	1	01-Feb-2019 11:51
Anthracene	U		0.000014	0.00010	mg/L	1	01-Feb-2019 11:51
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	01-Feb-2019 11:51
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	01-Feb-2019 11:51
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	01-Feb-2019 11:51
Bis(2-ethylhexyl)phthalate	0.000061	J	0.000037	0.00020	mg/L	1	01-Feb-2019 11:51
Chrysene	U		0.000021	0.00010	mg/L	1	01-Feb-2019 11:51
Dibenzofuran	0.00011		0.000020	0.00010	mg/L	1	01-Feb-2019 11:51
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	01-Feb-2019 11:51
Fluoranthene	U		0.000010	0.00010	mg/L	1	01-Feb-2019 11:51
Fluorene	0.000056	J	0.000030	0.00010	mg/L	1	01-Feb-2019 11:51
Naphthalene	0.0024		0.000020	0.00010	mg/L	1	01-Feb-2019 11:51
Nitrobenzene	U		0.000024	0.00020	mg/L	1	01-Feb-2019 11:51
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	01-Feb-2019 11:51
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	01-Feb-2019 11:51
Phenanthrene	U		0.000021	0.00010	mg/L	1	01-Feb-2019 11:51
Phenol	U		0.000035	0.00020	mg/L	1	01-Feb-2019 11:51
Pyrene	0.000065	J	0.000019	0.00010	mg/L	1	01-Feb-2019 11:51
<i>Surr: 2,4,6-Tribromophenol</i>	63.8			34-129	%REC	1	01-Feb-2019 11:51
<i>Surr: 2-Fluorobiphenyl</i>	64.3			40-125	%REC	1	01-Feb-2019 11:51
<i>Surr: 2-Fluorophenol</i>	52.7			20-120	%REC	1	01-Feb-2019 11:51
<i>Surr: 4-Terphenyl-d14</i>	73.0			40-135	%REC	1	01-Feb-2019 11:51
<i>Surr: Nitrobenzene-d5</i>	59.4			41-120	%REC	1	01-Feb-2019 11:51
<i>Surr: Phenol-d6</i>	56.6			20-120	%REC	1	01-Feb-2019 11:51
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	0.0116		0.000400	0.00200	mg/L	1	25-Jan-2019 16:29
Lead	U		0.000600	0.00200	mg/L	1	25-Jan-2019 16:29

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-MW28C-20190114
 Collection Date: 14-Jan-2019 16:35

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	24-Jan-2019 00:51
Benzene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 00:51
Chlorobenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 00:51
Ethylbenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 00:51
Methylene chloride	U		0.0010	0.0020	mg/L	1	24-Jan-2019 00:51
Toluene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 00:51
Xylenes, Total	U		0.00030	0.0010	mg/L	1	24-Jan-2019 00:51
<i>Surr: 1,2-Dichloroethane-d4</i>		95.3		70-126	%REC	1	24-Jan-2019 00:51
<i>Surr: 4-Bromofluorobenzene</i>		95.7		81-113	%REC	1	24-Jan-2019 00:51
<i>Surr: Dibromofluoromethane</i>		102		77-123	%REC	1	24-Jan-2019 00:51
<i>Surr: Toluene-d8</i>		103		82-127	%REC	1	24-Jan-2019 00:51

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-MW28C-20190114
 Collection Date: 14-Jan-2019 16:35

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	01-Feb-2019 12:10
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	01-Feb-2019 12:10
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	01-Feb-2019 12:10
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	01-Feb-2019 12:10
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	01-Feb-2019 12:10
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	01-Feb-2019 12:10
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	01-Feb-2019 12:10
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	01-Feb-2019 12:10
Acenaphthene	U		0.000027	0.00010	mg/L	1	01-Feb-2019 12:10
Acenaphthylene	U		0.000015	0.00010	mg/L	1	01-Feb-2019 12:10
Anthracene	U		0.000014	0.00010	mg/L	1	01-Feb-2019 12:10
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	01-Feb-2019 12:10
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	01-Feb-2019 12:10
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	01-Feb-2019 12:10
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	01-Feb-2019 12:10
Chrysene	U		0.000021	0.00010	mg/L	1	01-Feb-2019 12:10
Dibenzofuran	U		0.000020	0.00010	mg/L	1	01-Feb-2019 12:10
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	01-Feb-2019 12:10
Fluoranthene	U		0.000010	0.00010	mg/L	1	01-Feb-2019 12:10
Fluorene	U		0.000030	0.00010	mg/L	1	01-Feb-2019 12:10
Naphthalene	U		0.000020	0.00010	mg/L	1	01-Feb-2019 12:10
Nitrobenzene	U		0.000024	0.00020	mg/L	1	01-Feb-2019 12:10
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	01-Feb-2019 12:10
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	01-Feb-2019 12:10
Phenanthrene	U		0.000021	0.00010	mg/L	1	01-Feb-2019 12:10
Phenol	U		0.000035	0.00020	mg/L	1	01-Feb-2019 12:10
Pyrene	U		0.000019	0.00010	mg/L	1	01-Feb-2019 12:10
<i>Surr: 2,4,6-Tribromophenol</i>	75.2			34-129	%REC	1	01-Feb-2019 12:10
<i>Surr: 2-Fluorobiphenyl</i>	63.0			40-125	%REC	1	01-Feb-2019 12:10
<i>Surr: 2-Fluorophenol</i>	47.4			20-120	%REC	1	01-Feb-2019 12:10
<i>Surr: 4-Terphenyl-d14</i>	75.8			40-135	%REC	1	01-Feb-2019 12:10
<i>Surr: Nitrobenzene-d5</i>	54.3			41-120	%REC	1	01-Feb-2019 12:10
<i>Surr: Phenol-d6</i>	58.1			20-120	%REC	1	01-Feb-2019 12:10
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	0.000447	J	0.000400	0.00200	mg/L	1	25-Jan-2019 16:32
Lead	U		0.000600	0.00200	mg/L	1	25-Jan-2019 16:32

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-MW63B-20190114
 Collection Date: 14-Jan-2019 17:40

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane		U	0.00020	0.0010	mg/L	1	24-Jan-2019 03:40
Benzene	0.35		0.0020	0.010	mg/L	10	25-Jan-2019 06:35
Chlorobenzene	0.00073	J	0.00030	0.0010	mg/L	1	24-Jan-2019 03:40
Ethylbenzene	0.48		0.0030	0.010	mg/L	10	25-Jan-2019 06:35
Methylene chloride		U	0.0010	0.0020	mg/L	1	24-Jan-2019 03:40
Toluene	0.0071		0.00020	0.0010	mg/L	1	24-Jan-2019 03:40
Xylenes, Total	0.11		0.00030	0.0010	mg/L	1	24-Jan-2019 03:40
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>92.5</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 03:40</i>
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>93.9</i>			<i>70-126</i>	<i>%REC</i>	<i>10</i>	<i>25-Jan-2019 06:35</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>100</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 03:40</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>101</i>			<i>81-113</i>	<i>%REC</i>	<i>10</i>	<i>25-Jan-2019 06:35</i>
<i>Surr: Dibromofluoromethane</i>	<i>103</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 03:40</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>77-123</i>	<i>%REC</i>	<i>10</i>	<i>25-Jan-2019 06:35</i>
<i>Surr: Toluene-d8</i>	<i>101</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 03:40</i>
<i>Surr: Toluene-d8</i>	<i>101</i>			<i>82-127</i>	<i>%REC</i>	<i>10</i>	<i>25-Jan-2019 06:35</i>

Note: See 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-20190114
 Collection Date: 14-Jan-2019 17:40

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	07-Feb-2019 12:16
2,4-Dimethylphenol	U		0.00040	0.0020	mg/L	10	07-Feb-2019 12:16
2,4-Dinitrotoluene	U		0.00059	0.0020	mg/L	10	07-Feb-2019 12:16
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	07-Feb-2019 12:16
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	07-Feb-2019 12:16
2-Methylnaphthalene	0.042		0.00019	0.0010	mg/L	10	07-Feb-2019 12:16
4,6-Dinitro-2-methylphenol	U		0.00020	0.0020	mg/L	10	07-Feb-2019 12:16
4-Nitrophenol	U		0.00047	0.010	mg/L	10	07-Feb-2019 12:16
Acenaphthene	U		0.00027	0.0010	mg/L	10	07-Feb-2019 12:16
Acenaphthylene	0.0029		0.00015	0.0010	mg/L	10	07-Feb-2019 12:16
Anthracene	0.00017	J	0.00014	0.0010	mg/L	10	07-Feb-2019 12:16
Benz(a)anthracene	U		0.00051	0.0010	mg/L	10	07-Feb-2019 12:16
Benzo(a)pyrene	U		0.00020	0.0010	mg/L	10	07-Feb-2019 12:16
Bis(2-chloroethoxy)methane	U		0.00030	0.0020	mg/L	10	07-Feb-2019 12:16
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	07-Feb-2019 12:16
Chrysene	U		0.00021	0.0010	mg/L	10	07-Feb-2019 12:16
Dibenzofuran	0.0087		0.00020	0.0010	mg/L	10	07-Feb-2019 12:16
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	07-Feb-2019 12:16
Fluoranthene	U		0.00010	0.0010	mg/L	10	07-Feb-2019 12:16
Fluorene	0.0029		0.00030	0.0010	mg/L	10	07-Feb-2019 12:16
Naphthalene	2.1		0.020	0.10	mg/L	1000	12-Feb-2019 19:12
Nitrobenzene	U		0.00024	0.0020	mg/L	10	07-Feb-2019 12:16
N-Nitrosodiphenylamine	U		0.00025	0.0020	mg/L	10	07-Feb-2019 12:16
Pentachlorophenol	U		0.00080	0.0020	mg/L	10	07-Feb-2019 12:16
Phenanthrene	0.00094	J	0.00021	0.0010	mg/L	10	07-Feb-2019 12:16
Phenol	U		0.00035	0.0020	mg/L	10	07-Feb-2019 12:16
Pyrene	U		0.00019	0.0010	mg/L	10	07-Feb-2019 12:16
Surr: 2,4,6-Tribromophenol	0	JS		34-129	%REC	1000	12-Feb-2019 19:12
Surr: 2,4,6-Tribromophenol	61.9			34-129	%REC	10	07-Feb-2019 12:16
Surr: 2-Fluorobiphenyl	51.1			40-125	%REC	10	07-Feb-2019 12:16
Surr: 2-Fluorobiphenyl	0	JS		40-125	%REC	1000	12-Feb-2019 19:12
Surr: 2-Fluorophenol	0	JS		20-120	%REC	1000	12-Feb-2019 19:12
Surr: 2-Fluorophenol	81.7			20-120	%REC	10	07-Feb-2019 12:16
Surr: 4-Terphenyl-d14	64.4			40-135	%REC	10	07-Feb-2019 12:16
Surr: 4-Terphenyl-d14	0	JS		40-135	%REC	1000	12-Feb-2019 19:12
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	1000	12-Feb-2019 19:12
Surr: Nitrobenzene-d5	44.8			41-120	%REC	10	07-Feb-2019 12:16
Surr: Phenol-d6	64.6			20-120	%REC	10	07-Feb-2019 12:16
Surr: Phenol-d6	0	JS		20-120	%REC	1000	12-Feb-2019 19:12

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-MW63B-20190114
 Collection Date: 14-Jan-2019 17:40

ANALYTICAL REPORT

WorkOrder:HS19010754
 Lab ID:HS19010754-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	0.00338		0.000400	0.00200	mg/L	1	25-Jan-2019 16:55
Lead		U	0.000600	0.00200	mg/L	1	25-Jan-2019 16:55

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-FB04-20190114
 Collection Date: 14-Jan-2019 18:00

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-08
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MLL	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	24-Jan-2019 18:26
Benzene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 18:26
Chlorobenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 18:26
Ethylbenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 18:26
Methylene chloride	U		0.0010	0.0020	mg/L	1	24-Jan-2019 18:26
Toluene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 18:26
Vinyl chloride	U		0.00020	0.0010	mg/L	1	24-Jan-2019 18:26
Xylenes, Total	U		0.00030	0.0010	mg/L	1	24-Jan-2019 18:26
<i>Surr: 1,2-Dichloroethane-d4</i>		93.5		70-126	%REC	1	24-Jan-2019 18:26
<i>Surr: 4-Bromofluorobenzene</i>		96.8		81-113	%REC	1	24-Jan-2019 18:26
<i>Surr: Dibromofluoromethane</i>		102		77-123	%REC	1	24-Jan-2019 18:26
<i>Surr: Toluene-d8</i>		101		82-127	%REC	1	24-Jan-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-FB04-20190114
 Collection Date: 14-Jan-2019 18:00

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-08
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	01-Feb-2019 17:50
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	01-Feb-2019 17:50
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	01-Feb-2019 17:50
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	01-Feb-2019 17:50
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	01-Feb-2019 17:50
2-Methylnaphthalene	0.00021		0.000019	0.00010	mg/L	1	01-Feb-2019 17:50
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	01-Feb-2019 17:50
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	01-Feb-2019 17:50
Acenaphthene	0.000045	J	0.000027	0.00010	mg/L	1	01-Feb-2019 17:50
Acenaphthylene	U		0.000015	0.00010	mg/L	1	01-Feb-2019 17:50
Anthracene	U		0.000014	0.00010	mg/L	1	01-Feb-2019 17:50
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	01-Feb-2019 17:50
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	01-Feb-2019 17:50
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	01-Feb-2019 17:50
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	01-Feb-2019 17:50
Chrysene	U		0.000021	0.00010	mg/L	1	01-Feb-2019 17:50
Dibenzofuran	0.000026	J	0.000020	0.00010	mg/L	1	01-Feb-2019 17:50
Di-n-butyl phthalate	0.000023	J	0.000020	0.00020	mg/L	1	01-Feb-2019 17:50
Fluoranthene	U		0.000010	0.00010	mg/L	1	01-Feb-2019 17:50
Fluorene	U		0.000030	0.00010	mg/L	1	01-Feb-2019 17:50
Naphthalene	0.0031		0.000020	0.00010	mg/L	1	01-Feb-2019 17:50
Nitrobenzene	U		0.000024	0.00020	mg/L	1	01-Feb-2019 17:50
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	01-Feb-2019 17:50
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	01-Feb-2019 17:50
Phenanthrene	U		0.000021	0.00010	mg/L	1	01-Feb-2019 17:50
Phenol	U		0.000035	0.00020	mg/L	1	01-Feb-2019 17:50
Pyrene	U		0.000019	0.00010	mg/L	1	01-Feb-2019 17:50
<i>Surr: 2,4,6-Tribromophenol</i>	<i>66.2</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 17:50</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>72.6</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 17:50</i>
<i>Surr: 2-Fluorophenol</i>	<i>64.2</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 17:50</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>83.1</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 17:50</i>
<i>Surr: Nitrobenzene-d5</i>	<i>65.6</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 17:50</i>
<i>Surr: Phenol-d6</i>	<i>67.3</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 17:50</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	U		0.000400	0.00200	mg/L	1	25-Jan-2019 16:57
Lead	U		0.000600	0.00200	mg/L	1	25-Jan-2019 16:57

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-MW26A-20190115
 Collection Date: 15-Jan-2019 07:40

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	SQL	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	24-Jan-2019 04:04
Benzene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 04:04
Chlorobenzene	0.00056	J	0.00030	0.0010	mg/L	1	24-Jan-2019 04:04
Ethylbenzene	U		0.00030	0.0010	mg/L	1	25-Jan-2019 01:38
Methylene chloride	U		0.0010	0.0020	mg/L	1	24-Jan-2019 04:04
Toluene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 04:04
Xylenes, Total	U		0.00030	0.0010	mg/L	1	24-Jan-2019 04:04
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>94.5</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 04:04</i>
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>92.4</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 01:38</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>100</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 04:04</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>97.3</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 01:38</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 04:04</i>
<i>Surr: Dibromofluoromethane</i>	<i>104</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 01:38</i>
<i>Surr: Toluene-d8</i>	<i>101</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 04:04</i>
<i>Surr: Toluene-d8</i>	<i>101</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 01:38</i>

Note: See 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-20190115
 Collection Date: 15-Jan-2019 07:40

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	01-Feb-2019 18:09
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	01-Feb-2019 18:09
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	01-Feb-2019 18:09
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	01-Feb-2019 18:09
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	01-Feb-2019 18:09
2-Methylnaphthalene	0.000090	J	0.000019	0.00010	mg/L	1	01-Feb-2019 18:09
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	01-Feb-2019 18:09
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	01-Feb-2019 18:09
Acenaphthene	0.042		0.00027	0.0010	mg/L	10	07-Feb-2019 13:15
Acenaphthylene	0.00027		0.000015	0.00010	mg/L	1	01-Feb-2019 18:09
Anthracene	0.00087		0.000014	0.00010	mg/L	1	01-Feb-2019 18:09
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	01-Feb-2019 18:09
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	01-Feb-2019 18:09
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	01-Feb-2019 18:09
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	01-Feb-2019 18:09
Chrysene	U		0.000021	0.00010	mg/L	1	01-Feb-2019 18:09
Dibenzofuran	0.00050		0.000020	0.00010	mg/L	1	01-Feb-2019 18:09
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	01-Feb-2019 18:09
Fluoranthene	0.0044		0.000010	0.00010	mg/L	1	01-Feb-2019 18:09
Fluorene	0.0039		0.000030	0.00010	mg/L	1	01-Feb-2019 18:09
Naphthalene	0.00049		0.000020	0.00010	mg/L	1	01-Feb-2019 18:09
Nitrobenzene	U		0.000024	0.00020	mg/L	1	01-Feb-2019 18:09
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	01-Feb-2019 18:09
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	01-Feb-2019 18:09
Phenanthrene	0.00012		0.000021	0.00010	mg/L	1	01-Feb-2019 18:09
Phenol	U		0.000035	0.00020	mg/L	1	01-Feb-2019 18:09
Pyrene	0.0025		0.000019	0.00010	mg/L	1	01-Feb-2019 18:09
<i>Surr: 2,4,6-Tribromophenol</i>	<i>79.4</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 18:09</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>61.4</i>			<i>34-129</i>	<i>%REC</i>	<i>10</i>	<i>07-Feb-2019 13:15</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>52.5</i>			<i>40-125</i>	<i>%REC</i>	<i>10</i>	<i>07-Feb-2019 13:15</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>59.8</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 18:09</i>
<i>Surr: 2-Fluorophenol</i>	<i>52.6</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 18:09</i>
<i>Surr: 2-Fluorophenol</i>	<i>46.4</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>07-Feb-2019 13:15</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>65.9</i>			<i>40-135</i>	<i>%REC</i>	<i>10</i>	<i>07-Feb-2019 13:15</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>73.8</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 18:09</i>
<i>Surr: Nitrobenzene-d5</i>	<i>56.0</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 18:09</i>
<i>Surr: Nitrobenzene-d5</i>	<i>47.7</i>			<i>41-120</i>	<i>%REC</i>	<i>10</i>	<i>07-Feb-2019 13:15</i>
<i>Surr: Phenol-d6</i>	<i>53.6</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>07-Feb-2019 13:15</i>
<i>Surr: Phenol-d6</i>	<i>58.2</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 18:09</i>

Note: See 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-20190115
 Collection Date: 15-Jan-2019 07:40

ANALYTICAL REPORT

WorkOrder:HS19010754
 Lab ID:HS19010754-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	0.166		0.000400	0.00200	mg/L	1	25-Jan-2019 17:00
Lead		U	0.000600	0.00200	mg/L	1	25-Jan-2019 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-MW68B-20190115
 Collection Date: 15-Jan-2019 08:55

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-10
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	24-Jan-2019 04:28
Benzene	2.0		0.010	0.050	mg/L	50	25-Jan-2019 07:01
Chlorobenzene	0.00056	J	0.00030	0.0010	mg/L	1	24-Jan-2019 04:28
Ethylbenzene	0.50		0.015	0.050	mg/L	50	25-Jan-2019 07:01
Methylene chloride	U		0.0010	0.0020	mg/L	1	24-Jan-2019 04:28
Toluene	0.086		0.00020	0.0010	mg/L	1	24-Jan-2019 04:28
Xylenes, Total	1.2		0.015	0.050	mg/L	50	25-Jan-2019 07:01
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>80.1</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 04:28</i>
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>92.7</i>			<i>70-126</i>	<i>%REC</i>	<i>50</i>	<i>25-Jan-2019 07:01</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>98.3</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 04:28</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>101</i>			<i>81-113</i>	<i>%REC</i>	<i>50</i>	<i>25-Jan-2019 07:01</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 04:28</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>77-123</i>	<i>%REC</i>	<i>50</i>	<i>25-Jan-2019 07:01</i>
<i>Surr: Toluene-d8</i>	<i>100.0</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 04:28</i>
<i>Surr: Toluene-d8</i>	<i>102</i>			<i>82-127</i>	<i>%REC</i>	<i>50</i>	<i>25-Jan-2019 07:01</i>

Note: See 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-20190115
 Collection Date: 15-Jan-2019 08:55

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-10
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	07-Feb-2019 13:35
2,4-Dimethylphenol	0.050		0.00040	0.0020	mg/L	10	07-Feb-2019 13:35
2,4-Dinitrotoluene	U		0.00058	0.0020	mg/L	10	07-Feb-2019 13:35
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	07-Feb-2019 13:35
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	07-Feb-2019 13:35
2-Methylnaphthalene	0.33		0.0019	0.010	mg/L	100	07-Feb-2019 13:55
4,6-Dinitro-2-methylphenol	U		0.00020	0.0020	mg/L	10	07-Feb-2019 13:35
4-Nitrophenol	U		0.00047	0.010	mg/L	10	07-Feb-2019 13:35
Acenaphthene	0.100		0.0027	0.010	mg/L	100	07-Feb-2019 13:55
Acenaphthylene	0.0012		0.00015	0.0010	mg/L	10	07-Feb-2019 13:35
Anthracene	0.0080		0.00014	0.0010	mg/L	10	07-Feb-2019 13:35
Benz(a)anthracene	U		0.00050	0.0010	mg/L	10	07-Feb-2019 13:35
Benzo(a)pyrene	U		0.00020	0.0010	mg/L	10	07-Feb-2019 13:35
Bis(2-chloroethoxy)methane	U		0.00030	0.0020	mg/L	10	07-Feb-2019 13:35
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	07-Feb-2019 13:35
Chrysene	U		0.00021	0.0010	mg/L	10	07-Feb-2019 13:35
Dibenzofuran	0.10		0.0020	0.010	mg/L	100	07-Feb-2019 13:55
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	07-Feb-2019 13:35
Fluoranthene	0.0031		0.00010	0.0010	mg/L	10	07-Feb-2019 13:35
Fluorene	0.057		0.00030	0.0010	mg/L	10	07-Feb-2019 13:35
Naphthalene	5.0		0.020	0.10	mg/L	1000	07-Feb-2019 17:31
Nitrobenzene	U		0.00024	0.0020	mg/L	10	07-Feb-2019 13:35
N-Nitrosodiphenylamine	U		0.00025	0.0020	mg/L	10	07-Feb-2019 13:35
Pentachlorophenol	U		0.00079	0.0020	mg/L	10	07-Feb-2019 13:35
Phenanthrene	0.065		0.00021	0.0010	mg/L	10	07-Feb-2019 13:35
Phenol	0.0019	J	0.00035	0.0020	mg/L	10	07-Feb-2019 13:35
Pyrene	0.0015		0.00019	0.0010	mg/L	10	07-Feb-2019 13:35
<i>Surr: 2,4,6-Tribromophenol</i>	<i>0</i>	<i>JS</i>		<i>34-129</i>	<i>%REC</i>	<i>1000</i>	<i>07-Feb-2019 17:31</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>71.6</i>			<i>34-129</i>	<i>%REC</i>	<i>10</i>	<i>07-Feb-2019 13:35</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>0</i>	<i>JS</i>		<i>34-129</i>	<i>%REC</i>	<i>100</i>	<i>07-Feb-2019 13:55</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>47.4</i>			<i>40-125</i>	<i>%REC</i>	<i>10</i>	<i>07-Feb-2019 13:35</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>0</i>	<i>JS</i>		<i>40-125</i>	<i>%REC</i>	<i>100</i>	<i>07-Feb-2019 13:55</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>0</i>	<i>JS</i>		<i>40-125</i>	<i>%REC</i>	<i>1000</i>	<i>07-Feb-2019 17:31</i>
<i>Surr: 2-Fluorophenol</i>	<i>0</i>	<i>JS</i>		<i>20-120</i>	<i>%REC</i>	<i>1000</i>	<i>07-Feb-2019 17:31</i>
<i>Surr: 2-Fluorophenol</i>	<i>80.2</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>07-Feb-2019 13:35</i>
<i>Surr: 2-Fluorophenol</i>	<i>0</i>	<i>JS</i>		<i>20-120</i>	<i>%REC</i>	<i>100</i>	<i>07-Feb-2019 13:55</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>64.2</i>			<i>40-135</i>	<i>%REC</i>	<i>10</i>	<i>07-Feb-2019 13:35</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>0</i>	<i>JS</i>		<i>40-135</i>	<i>%REC</i>	<i>100</i>	<i>07-Feb-2019 13:55</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>0</i>	<i>JS</i>		<i>40-135</i>	<i>%REC</i>	<i>1000</i>	<i>07-Feb-2019 17:31</i>

Note: See 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-20190115
 Collection Date: 15-Jan-2019 08:55

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-10
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	1000	07-Feb-2019 17:31
Surr: Nitrobenzene-d5	53.3			41-120	%REC	10	07-Feb-2019 13:35
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	100	07-Feb-2019 13:55
Surr: Phenol-d6	51.0			20-120	%REC	10	07-Feb-2019 13:35
Surr: Phenol-d6	0	JS		20-120	%REC	100	07-Feb-2019 13:55
Surr: Phenol-d6	0	JS		20-120	%REC	1000	07-Feb-2019 17:31
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	0.0123		0.000400	0.00200	mg/L	1	25-Jan-2019 17:02
Lead	U		0.000600	0.00200	mg/L	1	25-Jan-2019 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-FD03-20190115
 Collection Date: 15-Jan-2019 08:55

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-11
 Matrix:Groundwater

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	24-Jan-2019 04:52
Benzene	1.9		0.010	0.050	mg/L	50	25-Jan-2019 07:28
Chlorobenzene	0.00056	J	0.00030	0.0010	mg/L	1	24-Jan-2019 04:52
Ethylbenzene	0.49		0.015	0.050	mg/L	50	25-Jan-2019 07:28
Methylene chloride		U	0.0010	0.0020	mg/L	1	24-Jan-2019 04:52
Toluene	0.084		0.00020	0.0010	mg/L	1	24-Jan-2019 04:52
Xylenes, Total	1.2		0.015	0.050	mg/L	50	25-Jan-2019 07:28
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>80.8</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 04:52</i>
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>95.0</i>			<i>70-126</i>	<i>%REC</i>	<i>50</i>	<i>25-Jan-2019 07:28</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>98.5</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 04:52</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>100</i>			<i>81-113</i>	<i>%REC</i>	<i>50</i>	<i>25-Jan-2019 07:28</i>
<i>Surr: Dibromofluoromethane</i>	<i>98.9</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 04:52</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>77-123</i>	<i>%REC</i>	<i>50</i>	<i>25-Jan-2019 07:28</i>
<i>Surr: Toluene-d8</i>	<i>99.8</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 04:52</i>
<i>Surr: Toluene-d8</i>	<i>101</i>			<i>82-127</i>	<i>%REC</i>	<i>50</i>	<i>25-Jan-2019 07:28</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WG-1620-FD03-20190115
 Collection Date: 15-Jan-2019 08:55

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	07-Feb-2019 14:34
2,4-Dimethylphenol	0.058		0.00040	0.0020	mg/L	10	07-Feb-2019 14:34
2,4-Dinitrotoluene	0.0013	J	0.00058	0.0020	mg/L	10	07-Feb-2019 14:34
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	07-Feb-2019 14:34
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	07-Feb-2019 14:34
2-Methylnaphthalene	0.31		0.019	0.10	mg/L	1000	07-Feb-2019 17:51
4,6-Dinitro-2-methylphenol	0.0011	J	0.00020	0.0020	mg/L	10	07-Feb-2019 14:34
4-Nitrophenol	0.0074	J	0.00047	0.010	mg/L	10	07-Feb-2019 14:34
Acenaphthene	0.13		0.027	0.10	mg/L	1000	07-Feb-2019 17:51
Acenaphthylene	0.0014		0.00015	0.0010	mg/L	10	07-Feb-2019 14:34
Anthracene	0.0098		0.00014	0.0010	mg/L	10	07-Feb-2019 14:34
Benz(a)anthracene	U		0.00050	0.0010	mg/L	10	07-Feb-2019 14:34
Benzo(a)pyrene	U		0.00020	0.0010	mg/L	10	07-Feb-2019 14:34
Bis(2-chloroethoxy)methane	0.0036		0.00030	0.0020	mg/L	10	07-Feb-2019 14:34
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	07-Feb-2019 14:34
Chrysene	U		0.00021	0.0010	mg/L	10	07-Feb-2019 14:34
Dibenzofuran	0.12		0.020	0.10	mg/L	1000	07-Feb-2019 17:51
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	07-Feb-2019 14:34
Fluoranthene	0.0039		0.00010	0.0010	mg/L	10	07-Feb-2019 14:34
Fluorene	0.065		0.00030	0.0010	mg/L	10	07-Feb-2019 14:34
Naphthalene	3.8		0.020	0.10	mg/L	1000	07-Feb-2019 17:51
Nitrobenzene	U		0.00024	0.0020	mg/L	10	07-Feb-2019 14:34
N-Nitrosodiphenylamine	0.0051		0.00025	0.0020	mg/L	10	07-Feb-2019 14:34
Pentachlorophenol	U		0.00079	0.0020	mg/L	10	07-Feb-2019 14:34
Phenanthrene	0.073		0.00021	0.0010	mg/L	10	07-Feb-2019 14:34
Phenol	0.0015	J	0.00035	0.0020	mg/L	10	07-Feb-2019 14:34
Pyrene	0.0018		0.00019	0.0010	mg/L	10	07-Feb-2019 14:34
Surr: 2,4,6-Tribromophenol	63.0			34-129	%REC	10	07-Feb-2019 14:34
Surr: 2,4,6-Tribromophenol	0	JS		34-129	%REC	1000	07-Feb-2019 17:51
Surr: 2-Fluorobiphenyl	55.3			40-125	%REC	10	07-Feb-2019 14:34
Surr: 2-Fluorobiphenyl	0	JS		40-125	%REC	1000	07-Feb-2019 17:51
Surr: 2-Fluorophenol	0	JS		20-120	%REC	1000	07-Feb-2019 17:51
Surr: 2-Fluorophenol	80.1			20-120	%REC	10	07-Feb-2019 14:34
Surr: 4-Terphenyl-d14	59.4			40-135	%REC	10	07-Feb-2019 14:34
Surr: 4-Terphenyl-d14	0	JS		40-135	%REC	1000	07-Feb-2019 17:51
Surr: Nitrobenzene-d5	44.9			41-120	%REC	10	07-Feb-2019 14:34
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	1000	07-Feb-2019 17:51
Surr: Phenol-d6	59.1			20-120	%REC	10	07-Feb-2019 14:34
Surr: Phenol-d6	0	JS		20-120	%REC	1000	07-Feb-2019 17:51

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-FD03-20190115
 Collection Date: 15-Jan-2019 08:55

ANALYTICAL REPORT

WorkOrder:HS19010754
 Lab ID:HS19010754-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	0.0125		0.000400	0.00200	mg/L	1	25-Jan-2019 17:04
Lead		U	0.000600	0.00200	mg/L	1	25-Jan-2019 17:04

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-MW68C-20190115
 Collection Date: 15-Jan-2019 09:45

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	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	24-Jan-2019 05:16
Benzene	U		0.00020	0.0010	mg/L	1	25-Jan-2019 02:02
Chlorobenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 05:16
Ethylbenzene	U		0.00030	0.0010	mg/L	1	25-Jan-2019 02:02
Methylene chloride	U		0.0010	0.0020	mg/L	1	24-Jan-2019 05:16
Toluene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 05:16
Xylenes, Total	0.0011		0.00030	0.0010	mg/L	1	24-Jan-2019 05:16
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>94.0</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 05:16</i>
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>91.6</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 02:02</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>98.0</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 05:16</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>96.9</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 02:02</i>
<i>Surr: Dibromofluoromethane</i>	<i>100</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 05:16</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 02:02</i>
<i>Surr: Toluene-d8</i>	<i>102</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 05:16</i>
<i>Surr: Toluene-d8</i>	<i>103</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 02:02</i>

Note: See 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-20190115
 Collection Date: 15-Jan-2019 09:45

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	01-Feb-2019 19:09
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	01-Feb-2019 19:09
2,4-Dinitrotoluene	U		0.000059	0.00020	mg/L	1	01-Feb-2019 19:09
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	01-Feb-2019 19:09
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	01-Feb-2019 19:09
2-Methylnaphthalene	0.000077	J	0.000019	0.00010	mg/L	1	01-Feb-2019 19:09
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	01-Feb-2019 19:09
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	01-Feb-2019 19:09
Acenaphthene	U		0.000027	0.00010	mg/L	1	01-Feb-2019 19:09
Acenaphthylene	U		0.000015	0.00010	mg/L	1	01-Feb-2019 19:09
Anthracene	U		0.000014	0.00010	mg/L	1	01-Feb-2019 19:09
Benz(a)anthracene	U		0.000051	0.00010	mg/L	1	01-Feb-2019 19:09
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	01-Feb-2019 19:09
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	01-Feb-2019 19:09
Bis(2-ethylhexyl)phthalate	0.000044	J	0.000037	0.00020	mg/L	1	01-Feb-2019 19:09
Chrysene	U		0.000021	0.00010	mg/L	1	01-Feb-2019 19:09
Dibenzofuran	0.000066	J	0.000020	0.00010	mg/L	1	01-Feb-2019 19:09
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	01-Feb-2019 19:09
Fluoranthene	U		0.000010	0.00010	mg/L	1	01-Feb-2019 19:09
Fluorene	0.000057	J	0.000030	0.00010	mg/L	1	01-Feb-2019 19:09
Naphthalene	0.00079		0.000020	0.00010	mg/L	1	01-Feb-2019 19:09
Nitrobenzene	U		0.000024	0.00020	mg/L	1	01-Feb-2019 19:09
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	01-Feb-2019 19:09
Pentachlorophenol	U		0.000080	0.00020	mg/L	1	01-Feb-2019 19:09
Phenanthrene	0.000062	J	0.000021	0.00010	mg/L	1	01-Feb-2019 19:09
Phenol	U		0.000035	0.00020	mg/L	1	01-Feb-2019 19:09
Pyrene	U		0.000019	0.00010	mg/L	1	01-Feb-2019 19:09
<i>Surr: 2,4,6-Tribromophenol</i>	<i>56.9</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 19:09</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>55.4</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 19:09</i>
<i>Surr: 2-Fluorophenol</i>	<i>52.4</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 19:09</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>75.7</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 19:09</i>
<i>Surr: Nitrobenzene-d5</i>	<i>54.3</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 19:09</i>
<i>Surr: Phenol-d6</i>	<i>55.2</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 19:09</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	U		0.000400	0.00200	mg/L	1	25-Jan-2019 17:06
Lead	U		0.000600	0.00200	mg/L	1	25-Jan-2019 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-MW83B-20190115
 Collection Date: 15-Jan-2019 10:40

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-13
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	24-Jan-2019 05:40
Benzene	0.032		0.00020	0.0010	mg/L	1	24-Jan-2019 05:40
Chlorobenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 05:40
Ethylbenzene	0.091		0.00030	0.0010	mg/L	1	24-Jan-2019 05:40
Methylene chloride	U		0.0010	0.0020	mg/L	1	24-Jan-2019 05:40
Toluene	0.0082		0.00020	0.0010	mg/L	1	24-Jan-2019 05:40
Xylenes, Total	0.100		0.00030	0.0010	mg/L	1	24-Jan-2019 05:40
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>95.0</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 05:40</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>98.8</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 05:40</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 05:40</i>
<i>Surr: Toluene-d8</i>	<i>100</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 05:40</i>

Note: See 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-20190115
 Collection Date: 15-Jan-2019 10:40

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-13
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	01-Feb-2019 19:28
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	01-Feb-2019 19:28
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	01-Feb-2019 19:28
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	01-Feb-2019 19:28
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	01-Feb-2019 19:28
2-Methylnaphthalene	0.086		0.00019	0.0010	mg/L	10	07-Feb-2019 15:53
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	01-Feb-2019 19:28
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	01-Feb-2019 19:28
Acenaphthene	0.026		0.00027	0.0010	mg/L	10	07-Feb-2019 15:53
Acenaphthylene	0.00034		0.000015	0.00010	mg/L	1	01-Feb-2019 19:28
Anthracene	0.0012		0.000014	0.00010	mg/L	1	01-Feb-2019 19:28
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	01-Feb-2019 19:28
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	01-Feb-2019 19:28
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	01-Feb-2019 19:28
Bis(2-ethylhexyl)phthalate	0.000064	J	0.000037	0.00020	mg/L	1	01-Feb-2019 19:28
Chrysene	U		0.000021	0.00010	mg/L	1	01-Feb-2019 19:28
Dibenzofuran	0.020		0.00020	0.0010	mg/L	10	07-Feb-2019 15:53
Di-n-butyl phthalate	0.00015	J	0.000020	0.00020	mg/L	1	01-Feb-2019 19:28
Fluoranthene	0.00051		0.000010	0.00010	mg/L	1	01-Feb-2019 19:28
Fluorene	0.0099		0.00030	0.0010	mg/L	10	07-Feb-2019 15:53
Naphthalene	1.6		0.020	0.10	mg/L	1000	12-Feb-2019 19:32
Nitrobenzene	U		0.000024	0.00020	mg/L	1	01-Feb-2019 19:28
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	01-Feb-2019 19:28
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	01-Feb-2019 19:28
Phenanthrene	0.0074		0.000021	0.00010	mg/L	1	01-Feb-2019 19:28
Phenol	U		0.000035	0.00020	mg/L	1	01-Feb-2019 19:28
Pyrene	0.00030		0.000019	0.00010	mg/L	1	01-Feb-2019 19:28
Surr: 2,4,6-Tribromophenol	66.8			34-129	%REC	1	01-Feb-2019 19:28
Surr: 2,4,6-Tribromophenol	0	JS		34-129	%REC	1000	12-Feb-2019 19:32
Surr: 2,4,6-Tribromophenol	53.8			34-129	%REC	10	07-Feb-2019 15:53
Surr: 2-Fluorobiphenyl	50.3			40-125	%REC	10	07-Feb-2019 15:53
Surr: 2-Fluorobiphenyl	0	JS		40-125	%REC	1000	12-Feb-2019 19:32
Surr: 2-Fluorobiphenyl	56.4			40-125	%REC	1	01-Feb-2019 19:28
Surr: 2-Fluorophenol	56.1			20-120	%REC	1	01-Feb-2019 19:28
Surr: 2-Fluorophenol	0	JS		20-120	%REC	1000	12-Feb-2019 19:32
Surr: 2-Fluorophenol	56.2			20-120	%REC	10	07-Feb-2019 15:53
Surr: 4-Terphenyl-d14	48.3			40-135	%REC	10	07-Feb-2019 15:53
Surr: 4-Terphenyl-d14	0	JS		40-135	%REC	1000	12-Feb-2019 19:32
Surr: 4-Terphenyl-d14	68.7			40-135	%REC	1	01-Feb-2019 19:28

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-MW83B-20190115
 Collection Date: 15-Jan-2019 10:40

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-13
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
Surr: Nitrobenzene-d5	44.1			41-120	%REC	1	01-Feb-2019 19:28
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	1000	12-Feb-2019 19:32
Surr: Nitrobenzene-d5	45.2			41-120	%REC	10	07-Feb-2019 15:53
Surr: Phenol-d6	47.4			20-120	%REC	10	07-Feb-2019 15:53
Surr: Phenol-d6	0	JS		20-120	%REC	1000	12-Feb-2019 19:32
Surr: Phenol-d6	55.3			20-120	%REC	1	01-Feb-2019 19:28
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	0.0916		0.000400	0.00200	mg/L	1	25-Jan-2019 17:09
Lead		U	0.000600	0.00200	mg/L	1	25-Jan-2019 17:09

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-MW83C-20190115
 Collection Date: 15-Jan-2019 11:15

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-14
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	24-Jan-2019 06:04
Benzene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 06:04
Chlorobenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 06:04
Ethylbenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 06:04
Methylene chloride	U		0.0010	0.0020	mg/L	1	24-Jan-2019 06:04
Toluene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 06:04
Xylenes, Total	U		0.00030	0.0010	mg/L	1	24-Jan-2019 06:04
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>94.8</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 06:04</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>98.7</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 06:04</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 06:04</i>
<i>Surr: Toluene-d8</i>	<i>103</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 06:04</i>

Note: See 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-20190115
 Collection Date: 15-Jan-2019 11:15

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-14
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	0.000087	J	0.000021	0.00020	mg/L	1	13-Feb-2019 18:35
2,4-Dimethylphenol		U	0.000040	0.00020	mg/L	1	13-Feb-2019 18:35
2,4-Dinitrotoluene		U	0.000058	0.00020	mg/L	1	13-Feb-2019 18:35
2,6-Dinitrotoluene		U	0.000042	0.00020	mg/L	1	13-Feb-2019 18:35
2-Chloronaphthalene		U	0.000021	0.00020	mg/L	1	13-Feb-2019 18:35
2-Methylnaphthalene		U	0.000019	0.00010	mg/L	1	13-Feb-2019 18:35
4,6-Dinitro-2-methylphenol		U	0.000020	0.00020	mg/L	1	13-Feb-2019 18:35
4-Nitrophenol		U	0.000047	0.0010	mg/L	1	13-Feb-2019 18:35
Acenaphthene		U	0.000027	0.00010	mg/L	1	13-Feb-2019 18:35
Acenaphthylene		U	0.000015	0.00010	mg/L	1	13-Feb-2019 18:35
Anthracene		U	0.000014	0.00010	mg/L	1	13-Feb-2019 18:35
Benz(a)anthracene		U	0.000050	0.00010	mg/L	1	13-Feb-2019 18:35
Benzo(a)pyrene		U	0.000020	0.00010	mg/L	1	13-Feb-2019 18:35
Bis(2-chloroethoxy)methane		U	0.000030	0.00020	mg/L	1	13-Feb-2019 18:35
Bis(2-ethylhexyl)phthalate		U	0.000037	0.00020	mg/L	1	13-Feb-2019 18:35
Chrysene		U	0.000021	0.00010	mg/L	1	13-Feb-2019 18:35
Dibenzofuran		U	0.000020	0.00010	mg/L	1	13-Feb-2019 18:35
Di-n-butyl phthalate	0.000060	J	0.000020	0.00020	mg/L	1	13-Feb-2019 18:35
Fluoranthene		U	0.000010	0.00010	mg/L	1	13-Feb-2019 18:35
Fluorene		U	0.000030	0.00010	mg/L	1	13-Feb-2019 18:35
Naphthalene	0.00036		0.000020	0.00010	mg/L	1	13-Feb-2019 18:35
Nitrobenzene		U	0.000024	0.00020	mg/L	1	13-Feb-2019 18:35
N-Nitrosodiphenylamine		U	0.000025	0.00020	mg/L	1	13-Feb-2019 18:35
Pentachlorophenol		U	0.000079	0.00020	mg/L	1	13-Feb-2019 18:35
Phenanthrene		U	0.000021	0.00010	mg/L	1	13-Feb-2019 18:35
Phenol	0.000038	J	0.000035	0.00020	mg/L	1	13-Feb-2019 18:35
Pyrene		U	0.000019	0.00010	mg/L	1	13-Feb-2019 18:35
<i>Surr: 2,4,6-Tribromophenol</i>	<i>40.9</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:35</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>43.5</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:35</i>
<i>Surr: 2-Fluorophenol</i>	<i>39.4</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:35</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>64.3</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:35</i>
<i>Surr: Nitrobenzene-d5</i>	<i>45.3</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:35</i>
<i>Surr: Phenol-d6</i>	<i>45.6</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:35</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	0.00616		0.000400	0.00200	mg/L	1	25-Jan-2019 17:11
Lead		U	0.000600	0.00200	mg/L	1	25-Jan-2019 17:11

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-MW35A-20190115
 Collection Date: 15-Jan-2019 12:45

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-15
 Matrix:Groundwater

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	25-Jan-2019 15:31
Benzene	U		0.00020	0.0010	mg/L	1	25-Jan-2019 15:31
Chlorobenzene	U		0.00030	0.0010	mg/L	1	25-Jan-2019 15:31
Ethylbenzene	U		0.00030	0.0010	mg/L	1	25-Jan-2019 15:31
Methylene chloride	U		0.0010	0.0020	mg/L	1	25-Jan-2019 15:31
Toluene	U		0.00020	0.0010	mg/L	1	25-Jan-2019 15:31
Xylenes, Total	U		0.00030	0.0010	mg/L	1	25-Jan-2019 15:31
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>92.7</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 15:31</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>97.8</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 15:31</i>
<i>Surr: Dibromofluoromethane</i>	<i>95.1</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 15:31</i>
<i>Surr: Toluene-d8</i>	<i>100</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 15:31</i>

Note: See 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-20190115
 Collection Date: 15-Jan-2019 12:45

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-15
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	01-Feb-2019 20:08
2,4-Dimethylphenol	0.0021		0.000040	0.00020	mg/L	1	01-Feb-2019 20:08
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	01-Feb-2019 20:08
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	01-Feb-2019 20:08
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	01-Feb-2019 20:08
2-Methylnaphthalene	0.016		0.00019	0.0010	mg/L	10	13-Feb-2019 18:55
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	01-Feb-2019 20:08
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	01-Feb-2019 20:08
Acenaphthene	0.0039		0.000027	0.00010	mg/L	1	01-Feb-2019 20:08
Acenaphthylene	0.000068	J	0.000015	0.00010	mg/L	1	01-Feb-2019 20:08
Anthracene	0.00044		0.000014	0.00010	mg/L	1	01-Feb-2019 20:08
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	01-Feb-2019 20:08
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	01-Feb-2019 20:08
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	01-Feb-2019 20:08
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	01-Feb-2019 20:08
Chrysene	U		0.000021	0.00010	mg/L	1	01-Feb-2019 20:08
Dibenzofuran	0.0041		0.000020	0.00010	mg/L	1	01-Feb-2019 20:08
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	01-Feb-2019 20:08
Fluoranthene	0.00015		0.000010	0.00010	mg/L	1	01-Feb-2019 20:08
Fluorene	0.0022		0.000030	0.00010	mg/L	1	01-Feb-2019 20:08
Naphthalene	0.22		0.0020	0.010	mg/L	100	13-Feb-2019 19:15
Nitrobenzene	U		0.000024	0.00020	mg/L	1	01-Feb-2019 20:08
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	01-Feb-2019 20:08
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	01-Feb-2019 20:08
Phenanthrene	0.0025		0.000021	0.00010	mg/L	1	01-Feb-2019 20:08
Phenol	U		0.000035	0.00020	mg/L	1	01-Feb-2019 20:08
Pyrene	0.000070	J	0.000019	0.00010	mg/L	1	01-Feb-2019 20:08
Surr: 2,4,6-Tribromophenol	74.0			34-129	%REC	1	01-Feb-2019 20:08
Surr: 2,4,6-Tribromophenol	78.4			34-129	%REC	10	13-Feb-2019 18:55
Surr: 2,4,6-Tribromophenol	0	JS		34-129	%REC	100	13-Feb-2019 19:15
Surr: 2-Fluorobiphenyl	58.7			40-125	%REC	10	13-Feb-2019 18:55
Surr: 2-Fluorobiphenyl	0	JS		40-125	%REC	100	13-Feb-2019 19:15
Surr: 2-Fluorobiphenyl	51.3			40-125	%REC	1	01-Feb-2019 20:08
Surr: 2-Fluorophenol	45.1			20-120	%REC	1	01-Feb-2019 20:08
Surr: 2-Fluorophenol	53.7			20-120	%REC	10	13-Feb-2019 18:55
Surr: 2-Fluorophenol	0	JS		20-120	%REC	100	13-Feb-2019 19:15
Surr: 4-Terphenyl-d14	82.0			40-135	%REC	10	13-Feb-2019 18:55
Surr: 4-Terphenyl-d14	0	JS		40-135	%REC	100	13-Feb-2019 19:15
Surr: 4-Terphenyl-d14	74.2			40-135	%REC	1	01-Feb-2019 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-MW35A-20190115
 Collection Date: 15-Jan-2019 12:45

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-15
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
Surr: Nitrobenzene-d5	48.5			41-120	%REC	1	01-Feb-2019 20:08
Surr: Nitrobenzene-d5	63.8			41-120	%REC	10	13-Feb-2019 18:55
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	100	13-Feb-2019 19:15
Surr: Phenol-d6	63.3			20-120	%REC	10	13-Feb-2019 18:55
Surr: Phenol-d6	0	JS		20-120	%REC	100	13-Feb-2019 19:15
Surr: Phenol-d6	52.4			20-120	%REC	1	01-Feb-2019 20:08
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	0.0198		0.000400	0.00200	mg/L	1	25-Jan-2019 17:13
Lead	0.000654	J	0.000600	0.00200	mg/L	1	25-Jan-2019 17:13

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-MW35B-20190115
 Collection Date: 15-Jan-2019 13:25

ANALYTICAL REPORT

WorkOrder:HS19010754
 Lab ID:HS19010754-16
 Matrix:Groundwater

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	25-Jan-2019 15:55
Benzene	0.0033		0.00020	0.0010	mg/L	1	25-Jan-2019 15:55
Chlorobenzene	U		0.00030	0.0010	mg/L	1	25-Jan-2019 15:55
Ethylbenzene	0.0094		0.00030	0.0010	mg/L	1	25-Jan-2019 15:55
Methylene chloride	U		0.0010	0.0020	mg/L	1	25-Jan-2019 15:55
Toluene	U		0.00020	0.0010	mg/L	1	25-Jan-2019 15:55
Xylenes, Total	0.0040		0.00030	0.0010	mg/L	1	25-Jan-2019 15:55
<i>Surr: 1,2-Dichloroethane-d4</i>	92.6			70-126	%REC	1	25-Jan-2019 15:55
<i>Surr: 4-Bromofluorobenzene</i>	99.1			81-113	%REC	1	25-Jan-2019 15:55
<i>Surr: Dibromofluoromethane</i>	95.4			77-123	%REC	1	25-Jan-2019 15:55
<i>Surr: Toluene-d8</i>	98.8			82-127	%REC	1	25-Jan-2019 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-MW35B-20190115
 Collection Date: 15-Jan-2019 13:25

ANALYTICAL REPORT

WorkOrder:HS19010754
 Lab ID:HS19010754-16
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	12-Feb-2019 20:50
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	12-Feb-2019 20:50
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	12-Feb-2019 20:50
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	12-Feb-2019 20:50
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	12-Feb-2019 20:50
2-Methylnaphthalene	0.011		0.00019	0.0010	mg/L	10	12-Feb-2019 21:10
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	12-Feb-2019 20:50
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	12-Feb-2019 20:50
Acenaphthene	0.013		0.00027	0.0010	mg/L	10	12-Feb-2019 21:10
Acenaphthylene	0.00018		0.000015	0.00010	mg/L	1	12-Feb-2019 20:50
Anthracene	0.0011		0.000014	0.00010	mg/L	1	12-Feb-2019 20:50
Benz(a)anthracene	0.000077	J	0.000050	0.00010	mg/L	1	12-Feb-2019 20:50
Benzo(a)pyrene	0.000058	J	0.000020	0.00010	mg/L	1	12-Feb-2019 20:50
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	12-Feb-2019 20:50
Bis(2-ethylhexyl)phthalate	0.00014	J	0.000037	0.00020	mg/L	1	12-Feb-2019 20:50
Chrysene	0.000098	J	0.000021	0.00010	mg/L	1	12-Feb-2019 20:50
Dibenzofuran	0.015		0.00020	0.0010	mg/L	10	12-Feb-2019 21:10
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	12-Feb-2019 20:50
Fluoranthene	0.0013		0.000010	0.00010	mg/L	1	12-Feb-2019 20:50
Fluorene	0.0066		0.000030	0.00010	mg/L	1	12-Feb-2019 20:50
Naphthalene	0.079		0.00020	0.0010	mg/L	10	12-Feb-2019 21:10
Nitrobenzene	U		0.000024	0.00020	mg/L	1	12-Feb-2019 20:50
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	12-Feb-2019 20:50
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	12-Feb-2019 20:50
Phenanthrene	0.0086		0.000021	0.00010	mg/L	1	12-Feb-2019 20:50
Phenol	U		0.000035	0.00020	mg/L	1	12-Feb-2019 20:50
Pyrene	0.00075		0.000019	0.00010	mg/L	1	12-Feb-2019 20:50
<i>Surr: 2,4,6-Tribromophenol</i>	<i>40.8</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 20:50</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>50.1</i>			<i>34-129</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 21:10</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>41.4</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 20:50</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>41.1</i>			<i>40-125</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 21:10</i>
<i>Surr: 2-Fluorophenol</i>	<i>35.2</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 20:50</i>
<i>Surr: 2-Fluorophenol</i>	<i>29.2</i>	J		<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 21:10</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>70.7</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 20:50</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>74.1</i>			<i>40-135</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 21:10</i>
<i>Surr: Nitrobenzene-d5</i>	<i>43.7</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 20:50</i>
<i>Surr: Nitrobenzene-d5</i>	<i>50.5</i>			<i>41-120</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 21:10</i>
<i>Surr: Phenol-d6</i>	<i>41.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 20:50</i>
<i>Surr: Phenol-d6</i>	<i>29.1</i>	J		<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 21:10</i>

Note: See 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-20190115
 Collection Date: 15-Jan-2019 13:25

ANALYTICAL REPORT

WorkOrder:HS19010754
 Lab ID:HS19010754-16
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A	Method:SW6020					Prep:SW3010A / 23-Jan-2019	Analyst: JCJ
Arsenic	0.00862		0.000400	0.00200	mg/L	1	25-Jan-2019 17:37
Lead	0.00165	J	0.000600	0.00200	mg/L	1	25-Jan-2019 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-MW25A-20190115
 Collection Date: 15-Jan-2019 14:25

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-17
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	SQL	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	24-Jan-2019 06:28
Benzene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 06:28
Chlorobenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 06:28
Ethylbenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 06:28
Methylene chloride	U		0.0010	0.0020	mg/L	1	24-Jan-2019 06:28
Toluene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 06:28
Vinyl chloride	U		0.00020	0.0010	mg/L	1	24-Jan-2019 06:28
Xylenes, Total	U		0.00030	0.0010	mg/L	1	24-Jan-2019 06:28
<i>Surr: 1,2-Dichloroethane-d4</i>		<i>92.5</i>		<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 06:28</i>
<i>Surr: 4-Bromofluorobenzene</i>		<i>96.6</i>		<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 06:28</i>
<i>Surr: Dibromofluoromethane</i>		<i>101</i>		<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 06:28</i>
<i>Surr: Toluene-d8</i>		<i>103</i>		<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 06:28</i>

Note: See 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-20190115
 Collection Date: 15-Jan-2019 14:25

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-17
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	01-Feb-2019 20:47
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	01-Feb-2019 20:47
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	01-Feb-2019 20:47
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	01-Feb-2019 20:47
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	01-Feb-2019 20:47
2-Methylnaphthalene	0.000051	J	0.000019	0.00010	mg/L	1	01-Feb-2019 20:47
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	01-Feb-2019 20:47
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	01-Feb-2019 20:47
Acenaphthene	0.000036	J	0.000027	0.00010	mg/L	1	01-Feb-2019 20:47
Acenaphthylene	U		0.000015	0.00010	mg/L	1	01-Feb-2019 20:47
Anthracene	0.000015	J	0.000014	0.00010	mg/L	1	01-Feb-2019 20:47
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	01-Feb-2019 20:47
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	01-Feb-2019 20:47
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	01-Feb-2019 20:47
Bis(2-ethylhexyl)phthalate	0.000078	J	0.000037	0.00020	mg/L	1	01-Feb-2019 20:47
Chrysene	U		0.000021	0.00010	mg/L	1	01-Feb-2019 20:47
Dibenzofuran	U		0.000020	0.00010	mg/L	1	01-Feb-2019 20:47
Di-n-butyl phthalate	0.000020	J	0.000020	0.00020	mg/L	1	01-Feb-2019 20:47
Fluoranthene	0.000015	J	0.000010	0.00010	mg/L	1	01-Feb-2019 20:47
Fluorene	U		0.000030	0.00010	mg/L	1	01-Feb-2019 20:47
Naphthalene	0.00029		0.000020	0.00010	mg/L	1	01-Feb-2019 20:47
Nitrobenzene	U		0.000024	0.00020	mg/L	1	01-Feb-2019 20:47
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	01-Feb-2019 20:47
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	01-Feb-2019 20:47
Phenanthrene	0.000029	J	0.000021	0.00010	mg/L	1	01-Feb-2019 20:47
Phenol	U		0.000035	0.00020	mg/L	1	01-Feb-2019 20:47
Pyrene	0.000027	J	0.000019	0.00010	mg/L	1	01-Feb-2019 20:47
<i>Surr: 2,4,6-Tribromophenol</i>	<i>47.1</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 20:47</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>58.2</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 20:47</i>
<i>Surr: 2-Fluorophenol</i>	<i>46.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 20:47</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>71.7</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 20:47</i>
<i>Surr: Nitrobenzene-d5</i>	<i>57.9</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 20:47</i>
<i>Surr: Phenol-d6</i>	<i>54.4</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 20:47</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	0.00216		0.000400	0.00200	mg/L	1	25-Jan-2019 17:39
Lead	U		0.000600	0.00200	mg/L	1	25-Jan-2019 17:39

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-MW25C-20190115
 Collection Date: 15-Jan-2019 15:10

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-18
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	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	24-Jan-2019 06:52
Benzene	U		0.00020	0.0010	mg/L	1	24-Jan-2019 06:52
Chlorobenzene	U		0.00030	0.0010	mg/L	1	24-Jan-2019 06:52
Ethylbenzene	0.038		0.00030	0.0010	mg/L	1	24-Jan-2019 06:52
Methylene chloride	U		0.0010	0.0020	mg/L	1	24-Jan-2019 06:52
Toluene	0.013		0.00020	0.0010	mg/L	1	24-Jan-2019 06:52
Vinyl chloride	U		0.00020	0.0010	mg/L	1	24-Jan-2019 06:52
Xylenes, Total	0.27		0.00030	0.0010	mg/L	1	24-Jan-2019 06:52
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>95.4</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 06:52</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>101</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 06:52</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 06:52</i>
<i>Surr: Toluene-d8</i>	<i>101</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>24-Jan-2019 06:52</i>

Note: See 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-20190115
 Collection Date: 15-Jan-2019 15:10

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-18
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	01-Feb-2019 21:07
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	01-Feb-2019 21:07
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	01-Feb-2019 21:07
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	01-Feb-2019 21:07
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	01-Feb-2019 21:07
2-Methylnaphthalene	0.40		0.0019	0.010	mg/L	100	12-Feb-2019 22:09
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	01-Feb-2019 21:07
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	01-Feb-2019 21:07
Acenaphthene	0.13		0.0027	0.010	mg/L	100	12-Feb-2019 22:09
Acenaphthylene	0.0012		0.000015	0.00010	mg/L	1	01-Feb-2019 21:07
Anthracene	0.011		0.00014	0.0010	mg/L	10	12-Feb-2019 21:50
Benz(a)anthracene	0.00065		0.000050	0.00010	mg/L	1	01-Feb-2019 21:07
Benzo(a)pyrene	0.00021		0.000020	0.00010	mg/L	1	01-Feb-2019 21:07
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	01-Feb-2019 21:07
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	01-Feb-2019 21:07
Chrysene	0.00074		0.000021	0.00010	mg/L	1	01-Feb-2019 21:07
Dibenzofuran	0.14		0.0020	0.010	mg/L	100	12-Feb-2019 22:09
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	01-Feb-2019 21:07
Fluoranthene	0.0079		0.000010	0.00010	mg/L	1	01-Feb-2019 21:07
Fluorene	0.062		0.00030	0.0010	mg/L	10	12-Feb-2019 21:50
Naphthalene	3.5		0.020	0.10	mg/L	1000	12-Feb-2019 22:29
Nitrobenzene	U		0.000024	0.00020	mg/L	1	01-Feb-2019 21:07
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	01-Feb-2019 21:07
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	01-Feb-2019 21:07
Phenanthrene	0.077		0.00021	0.0010	mg/L	10	12-Feb-2019 21:50
Phenol	U		0.000035	0.00020	mg/L	1	01-Feb-2019 21:07
Pyrene	0.0052		0.000019	0.00010	mg/L	1	01-Feb-2019 21:07
<i>Surr: 2,4,6-Tribromophenol</i>	<i>67.9</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 21:07</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>84.4</i>			<i>34-129</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 21:50</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>0</i>	<i>JS</i>		<i>34-129</i>	<i>%REC</i>	<i>100</i>	<i>12-Feb-2019 22:09</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>0</i>	<i>JS</i>		<i>34-129</i>	<i>%REC</i>	<i>1000</i>	<i>12-Feb-2019 22:29</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>55.1</i>			<i>40-125</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 21:50</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>0</i>	<i>JS</i>		<i>40-125</i>	<i>%REC</i>	<i>100</i>	<i>12-Feb-2019 22:09</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>0</i>	<i>JS</i>		<i>40-125</i>	<i>%REC</i>	<i>1000</i>	<i>12-Feb-2019 22:29</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>43.0</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 21:07</i>
<i>Surr: 2-Fluorophenol</i>	<i>40.6</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 21:07</i>
<i>Surr: 2-Fluorophenol</i>	<i>50.2</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 21:50</i>
<i>Surr: 2-Fluorophenol</i>	<i>0</i>	<i>JS</i>		<i>20-120</i>	<i>%REC</i>	<i>100</i>	<i>12-Feb-2019 22:09</i>
<i>Surr: 2-Fluorophenol</i>	<i>0</i>	<i>JS</i>		<i>20-120</i>	<i>%REC</i>	<i>1000</i>	<i>12-Feb-2019 22:29</i>

Note: See 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-20190115
 Collection Date: 15-Jan-2019 15:10

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-18
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: ACN	
Surr: 4-Terphenyl-d14	83.3			40-135	%REC	10	12-Feb-2019 21:50
Surr: 4-Terphenyl-d14	0	JS		40-135	%REC	100	12-Feb-2019 22:09
Surr: 4-Terphenyl-d14	0	JS		40-135	%REC	1000	12-Feb-2019 22:29
Surr: 4-Terphenyl-d14	71.9			40-135	%REC	1	01-Feb-2019 21:07
Surr: Nitrobenzene-d5	48.3			41-120	%REC	1	01-Feb-2019 21:07
Surr: Nitrobenzene-d5	66.1			41-120	%REC	10	12-Feb-2019 21:50
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	100	12-Feb-2019 22:09
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	1000	12-Feb-2019 22:29
Surr: Phenol-d6	60.2			20-120	%REC	10	12-Feb-2019 21:50
Surr: Phenol-d6	0	JS		20-120	%REC	100	12-Feb-2019 22:09
Surr: Phenol-d6	0	JS		20-120	%REC	1000	12-Feb-2019 22:29
Surr: Phenol-d6	50.5			20-120	%REC	1	01-Feb-2019 21:07
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	0.00359		0.000400	0.00200	mg/L	1	25-Jan-2019 17:41
Lead		U	0.000600	0.00200	mg/L	1	25-Jan-2019 17:41

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-MW34CR-20190115
 Collection Date: 15-Jan-2019 15:55

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-19
 Matrix:Groundwater

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	25-Jan-2019 22:44
Benzene	U		0.00020	0.0010	mg/L	1	25-Jan-2019 22:44
Chlorobenzene	U		0.00030	0.0010	mg/L	1	25-Jan-2019 22:44
Ethylbenzene	U		0.00030	0.0010	mg/L	1	25-Jan-2019 22:44
Methylene chloride	U		0.0010	0.0020	mg/L	1	25-Jan-2019 22:44
Toluene	U		0.00020	0.0010	mg/L	1	25-Jan-2019 22:44
Xylenes, Total	U		0.00030	0.0010	mg/L	1	25-Jan-2019 22:44
<i>Surr: 1,2-Dichloroethane-d4</i>		93.8		70-126	%REC	1	25-Jan-2019 22:44
<i>Surr: 4-Bromofluorobenzene</i>		97.8		81-113	%REC	1	25-Jan-2019 22:44
<i>Surr: Dibromofluoromethane</i>		95.7		77-123	%REC	1	25-Jan-2019 22:44
<i>Surr: Toluene-d8</i>		102		82-127	%REC	1	25-Jan-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-MW34CR-20190115
 Collection Date: 15-Jan-2019 15:55

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-19
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	05-Feb-2019 21:45
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	05-Feb-2019 21:45
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	05-Feb-2019 21:45
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	05-Feb-2019 21:45
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	05-Feb-2019 21:45
2-Methylnaphthalene	0.000079	J	0.000019	0.00010	mg/L	1	05-Feb-2019 21:45
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	05-Feb-2019 21:45
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	05-Feb-2019 21:45
Acenaphthene	0.000029	J	0.000027	0.00010	mg/L	1	05-Feb-2019 21:45
Acenaphthylene	U		0.000015	0.00010	mg/L	1	05-Feb-2019 21:45
Anthracene	U		0.000014	0.00010	mg/L	1	05-Feb-2019 21:45
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	05-Feb-2019 21:45
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	05-Feb-2019 21:45
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	05-Feb-2019 21:45
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	05-Feb-2019 21:45
Chrysene	U		0.000021	0.00010	mg/L	1	05-Feb-2019 21:45
Dibenzofuran	0.000027	J	0.000020	0.00010	mg/L	1	05-Feb-2019 21:45
Di-n-butyl phthalate	0.000021	J	0.000020	0.00020	mg/L	1	05-Feb-2019 21:45
Fluoranthene	0.000014	J	0.000010	0.00010	mg/L	1	05-Feb-2019 21:45
Fluorene	U		0.000030	0.00010	mg/L	1	05-Feb-2019 21:45
Naphthalene	0.00069		0.000020	0.00010	mg/L	1	05-Feb-2019 21:45
Nitrobenzene	U		0.000024	0.00020	mg/L	1	05-Feb-2019 21:45
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	05-Feb-2019 21:45
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	05-Feb-2019 21:45
Phenanthrene	U		0.000021	0.00010	mg/L	1	05-Feb-2019 21:45
Phenol	U		0.000035	0.00020	mg/L	1	05-Feb-2019 21:45
Pyrene	U		0.000019	0.00010	mg/L	1	05-Feb-2019 21:45
<i>Surr: 2,4,6-Tribromophenol</i>	58.3			34-129	%REC	1	05-Feb-2019 21:45
<i>Surr: 2-Fluorobiphenyl</i>	46.8			40-125	%REC	1	05-Feb-2019 21:45
<i>Surr: 2-Fluorophenol</i>	42.7			20-120	%REC	1	05-Feb-2019 21:45
<i>Surr: 4-Terphenyl-d14</i>	69.4			40-135	%REC	1	05-Feb-2019 21:45
<i>Surr: Nitrobenzene-d5</i>	41.3			41-120	%REC	1	05-Feb-2019 21:45
<i>Surr: Phenol-d6</i>	43.5			20-120	%REC	1	05-Feb-2019 21:45
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	0.00132	J	0.000400	0.00200	mg/L	1	25-Jan-2019 17:44
Lead	U		0.000600	0.00200	mg/L	1	25-Jan-2019 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-MW71B-20190115
 Collection Date: 15-Jan-2019 16:50

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-20
 Matrix:Groundwater

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	25-Jan-2019 23:08
Benzene	0.0024		0.00020	0.0010	mg/L	1	25-Jan-2019 23:08
Chlorobenzene		U	0.00030	0.0010	mg/L	1	25-Jan-2019 23:08
Ethylbenzene	0.00093	J	0.00030	0.0010	mg/L	1	25-Jan-2019 23:08
Methylene chloride		U	0.0010	0.0020	mg/L	1	25-Jan-2019 23:08
Toluene		U	0.00020	0.0010	mg/L	1	25-Jan-2019 23:08
Xylenes, Total	0.00084	J	0.00030	0.0010	mg/L	1	25-Jan-2019 23:08
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>91.0</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 23:08</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>99.6</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 23:08</i>
<i>Surr: Dibromofluoromethane</i>	<i>95.8</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 23:08</i>
<i>Surr: Toluene-d8</i>	<i>99.7</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 23:08</i>

Note: See 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-20190115
 Collection Date: 15-Jan-2019 16:50

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-20
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	05-Feb-2019 22:05
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	05-Feb-2019 22:05
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	05-Feb-2019 22:05
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	05-Feb-2019 22:05
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	05-Feb-2019 22:05
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	05-Feb-2019 22:05
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	05-Feb-2019 22:05
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	05-Feb-2019 22:05
Acenaphthene	U		0.000027	0.00010	mg/L	1	05-Feb-2019 22:05
Acenaphthylene	U		0.000015	0.00010	mg/L	1	05-Feb-2019 22:05
Anthracene	U		0.000014	0.00010	mg/L	1	05-Feb-2019 22:05
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	05-Feb-2019 22:05
Benzo(a)pyrene	0.000021	J	0.000020	0.00010	mg/L	1	05-Feb-2019 22:05
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	05-Feb-2019 22:05
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	05-Feb-2019 22:05
Chrysene	U		0.000021	0.00010	mg/L	1	05-Feb-2019 22:05
Dibenzofuran	U		0.000020	0.00010	mg/L	1	05-Feb-2019 22:05
Di-n-butyl phthalate	0.000022	J	0.000020	0.00020	mg/L	1	05-Feb-2019 22:05
Fluoranthene	0.000039	J	0.000010	0.00010	mg/L	1	05-Feb-2019 22:05
Fluorene	U		0.000030	0.00010	mg/L	1	05-Feb-2019 22:05
Naphthalene	U		0.000020	0.00010	mg/L	1	05-Feb-2019 22:05
Nitrobenzene	U		0.000024	0.00020	mg/L	1	05-Feb-2019 22:05
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	05-Feb-2019 22:05
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	05-Feb-2019 22:05
Phenanthrene	U		0.000021	0.00010	mg/L	1	05-Feb-2019 22:05
Phenol	U		0.000035	0.00020	mg/L	1	05-Feb-2019 22:05
Pyrene	0.000037	J	0.000019	0.00010	mg/L	1	05-Feb-2019 22:05
<i>Surr: 2,4,6-Tribromophenol</i>	<i>57.1</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>05-Feb-2019 22:05</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>55.1</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>05-Feb-2019 22:05</i>
<i>Surr: 2-Fluorophenol</i>	<i>55.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>05-Feb-2019 22:05</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>67.0</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>05-Feb-2019 22:05</i>
<i>Surr: Nitrobenzene-d5</i>	<i>50.1</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>05-Feb-2019 22:05</i>
<i>Surr: Phenol-d6</i>	<i>54.3</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>05-Feb-2019 22:05</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	0.00158	J	0.000400	0.00200	mg/L	1	25-Jan-2019 17:46
Lead	0.000845	J	0.000600	0.00200	mg/L	1	25-Jan-2019 17:46

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-FB05-20190115
 Collection Date: 15-Jan-2019 17:15

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-21
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MLL	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	25-Jan-2019 21:56
Benzene	U		0.00020	0.0010	mg/L	1	25-Jan-2019 21:56
Chlorobenzene	U		0.00030	0.0010	mg/L	1	25-Jan-2019 21:56
Ethylbenzene	U		0.00030	0.0010	mg/L	1	25-Jan-2019 21:56
Methylene chloride	U		0.0010	0.0020	mg/L	1	25-Jan-2019 21:56
Toluene	U		0.00020	0.0010	mg/L	1	25-Jan-2019 21:56
Vinyl chloride	U		0.00020	0.0010	mg/L	1	25-Jan-2019 21:56
Xylenes, Total	U		0.00030	0.0010	mg/L	1	25-Jan-2019 21:56
<i>Surr: 1,2-Dichloroethane-d4</i>		90.6		70-126	%REC	1	25-Jan-2019 21:56
<i>Surr: 4-Bromofluorobenzene</i>		96.2		81-113	%REC	1	25-Jan-2019 21:56
<i>Surr: Dibromofluoromethane</i>		95.5		77-123	%REC	1	25-Jan-2019 21:56
<i>Surr: Toluene-d8</i>		102		82-127	%REC	1	25-Jan-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-FB05-20190115
 Collection Date: 15-Jan-2019 17:15

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-21
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 18-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	05-Feb-2019 22:25
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	05-Feb-2019 22:25
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	05-Feb-2019 22:25
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	05-Feb-2019 22:25
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	05-Feb-2019 22:25
2-Methylnaphthalene	0.000046	J	0.000019	0.00010	mg/L	1	05-Feb-2019 22:25
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	05-Feb-2019 22:25
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	05-Feb-2019 22:25
Acenaphthene	U		0.000027	0.00010	mg/L	1	05-Feb-2019 22:25
Acenaphthylene	U		0.000015	0.00010	mg/L	1	05-Feb-2019 22:25
Anthracene	U		0.000014	0.00010	mg/L	1	05-Feb-2019 22:25
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	05-Feb-2019 22:25
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	05-Feb-2019 22:25
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	05-Feb-2019 22:25
Bis(2-ethylhexyl)phthalate	0.000057	J	0.000037	0.00020	mg/L	1	05-Feb-2019 22:25
Chrysene	U		0.000021	0.00010	mg/L	1	05-Feb-2019 22:25
Dibenzofuran	U		0.000020	0.00010	mg/L	1	05-Feb-2019 22:25
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	05-Feb-2019 22:25
Fluoranthene	U		0.000010	0.00010	mg/L	1	05-Feb-2019 22:25
Fluorene	U		0.000030	0.00010	mg/L	1	05-Feb-2019 22:25
Naphthalene	0.00056		0.000020	0.00010	mg/L	1	05-Feb-2019 22:25
Nitrobenzene	U		0.000024	0.00020	mg/L	1	05-Feb-2019 22:25
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	05-Feb-2019 22:25
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	05-Feb-2019 22:25
Phenanthrene	U		0.000021	0.00010	mg/L	1	05-Feb-2019 22:25
Phenol	U		0.000035	0.00020	mg/L	1	05-Feb-2019 22:25
Pyrene	U		0.000019	0.00010	mg/L	1	05-Feb-2019 22:25
<i>Surr: 2,4,6-Tribromophenol</i>	<i>47.4</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>05-Feb-2019 22:25</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>52.2</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>05-Feb-2019 22:25</i>
<i>Surr: 2-Fluorophenol</i>	<i>44.4</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>05-Feb-2019 22:25</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>61.3</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>05-Feb-2019 22:25</i>
<i>Surr: Nitrobenzene-d5</i>	<i>47.0</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>05-Feb-2019 22:25</i>
<i>Surr: Phenol-d6</i>	<i>53.0</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>05-Feb-2019 22:25</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 23-Jan-2019		Analyst: JCJ	
Arsenic	U		0.000400	0.00200	mg/L	1	25-Jan-2019 17:48
Lead	U		0.000600	0.00200	mg/L	1	25-Jan-2019 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: WQ-1620-TB04-20190115
 Collection Date: 15-Jan-2019 00:00

ANALYTICAL REPORT
 WorkOrder:HS19010754
 Lab ID:HS19010754-22
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MLL	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	25-Jan-2019 22:20
Benzene	U		0.00020	0.0010	mg/L	1	25-Jan-2019 22:20
Chlorobenzene	U		0.00030	0.0010	mg/L	1	25-Jan-2019 22:20
Ethylbenzene	U		0.00030	0.0010	mg/L	1	25-Jan-2019 22:20
Methylene chloride	U		0.0010	0.0020	mg/L	1	25-Jan-2019 22:20
Toluene	U		0.00020	0.0010	mg/L	1	25-Jan-2019 22:20
Vinyl chloride	U		0.00020	0.0010	mg/L	1	25-Jan-2019 22:20
Xylenes, Total	U		0.00030	0.0010	mg/L	1	25-Jan-2019 22:20
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>92.9</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 22:20</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>98.7</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 22:20</i>
<i>Surr: Dibromofluoromethane</i>	<i>95.5</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 22:20</i>
<i>Surr: Toluene-d8</i>	<i>102</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>25-Jan-2019 22:20</i>

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: HS19010754

Batch ID: 136788 **Method:** LOW-LEVEL SEMIVOLATILES BY 8270D **Prep:** 3510_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19010754-01	1	1000	1 (mL)	0.001
HS19010754-02	1	1000	1 (mL)	0.001

Batch ID: 136815 **Method:** LOW-LEVEL SEMIVOLATILES BY 8270D **Prep:** 3510_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19010754-03	1	1000	1 (mL)	0.001
HS19010754-04	1	1000	1 (mL)	0.001
HS19010754-05	1	1000	1 (mL)	0.001
HS19010754-06	1	1000	1 (mL)	0.001
HS19010754-07	1	990	1 (mL)	0.00101
HS19010754-08	1	1000	1 (mL)	0.001
HS19010754-09	1	1000	1 (mL)	0.001
HS19010754-10	1	1000	1 (mL)	0.001
HS19010754-11	1	1000	1 (mL)	0.001
HS19010754-12	1	990	1 (mL)	0.00101
HS19010754-13	1	1000	1 (mL)	0.001
HS19010754-14	1	1000	1 (mL)	0.001
HS19010754-15	1	1000	1 (mL)	0.001
HS19010754-16	1	1000	1 (mL)	0.001
HS19010754-17	1	1000	1 (mL)	0.001
HS19010754-18	1	1000	1 (mL)	0.001
HS19010754-19	1	1000	1 (mL)	0.001
HS19010754-20	1	1000	1 (mL)	0.001
HS19010754-21	1	1000	1 (mL)	0.001

Batch ID: 136946 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19010754-01	1	10	10 (mL)	1

WEIGHT LOG

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

Batch ID: 136947 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampleID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19010754-02	1	10	10 (mL)	1
HS19010754-03	1	10	10 (mL)	1
HS19010754-04	1	10	10 (mL)	1
HS19010754-05	1	10	10 (mL)	1
HS19010754-06	1	10	10 (mL)	1
HS19010754-07	1	10	10 (mL)	1
HS19010754-08	1	10	10 (mL)	1
HS19010754-09	1	10	10 (mL)	1
HS19010754-10	1	10	10 (mL)	1
HS19010754-11	1	10	10 (mL)	1
HS19010754-12	1	10	10 (mL)	1
HS19010754-13	1	10	10 (mL)	1
HS19010754-14	1	10	10 (mL)	1
HS19010754-15	1	10	10 (mL)	1
HS19010754-16	1	10	10 (mL)	1
HS19010754-17	1	10	10 (mL)	1
HS19010754-18	1	10	10 (mL)	1
HS19010754-19	1	10	10 (mL)	1
HS19010754-20	1	10	10 (mL)	1
HS19010754-21	1	10	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 136788		Test Name : LOW-LEVEL SEMIVOLATILES BY 8270D			Matrix: Groundwater	
HS19010754-01	WG-1620-MW53C-20190114	14 Jan 2019 12:05		18 Jan 2019 10:59	01 Feb 2019 10:32	1
HS19010754-02	WG-1620-MW54C-20190114	14 Jan 2019 13:00		18 Jan 2019 10:59	01 Feb 2019 17:10	10
HS19010754-02	WG-1620-MW54C-20190114	14 Jan 2019 13:00		18 Jan 2019 10:59	01 Feb 2019 10:52	1
Batch ID 136815		Test Name : LOW-LEVEL SEMIVOLATILES BY 8270D			Matrix: Water	
HS19010754-08	WG-1620-FB04-20190114	14 Jan 2019 18:00		18 Jan 2019 17:15	01 Feb 2019 17:50	1
HS19010754-21	WG-1620-FB05-20190115	15 Jan 2019 17:15		18 Jan 2019 17:15	05 Feb 2019 22:25	1
Batch ID 136815		Test Name : LOW-LEVEL SEMIVOLATILES BY 8270D			Matrix: Groundwater	
HS19010754-03	WG-1620-MW36B-20190114	14 Jan 2019 14:05		18 Jan 2019 17:15	01 Feb 2019 11:11	1
HS19010754-04	WG-1620-MW36A-20190114	14 Jan 2019 14:55		18 Jan 2019 17:15	01 Feb 2019 11:31	1
HS19010754-05	WG-1620-MW28A-20190114	14 Jan 2019 15:50		18 Jan 2019 17:15	01 Feb 2019 11:51	1
HS19010754-06	WG-1620-MW28C-20190114	14 Jan 2019 16:35		18 Jan 2019 17:15	01 Feb 2019 12:10	1
HS19010754-07	WG-1620-MW63B-20190114	14 Jan 2019 17:40		18 Jan 2019 17:15	12 Feb 2019 19:12	1000
HS19010754-07	WG-1620-MW63B-20190114	14 Jan 2019 17:40		18 Jan 2019 17:15	07 Feb 2019 12:16	10
HS19010754-09	WG-1620-MW26A-20190115	15 Jan 2019 07:40		18 Jan 2019 17:15	07 Feb 2019 13:15	10
HS19010754-09	WG-1620-MW26A-20190115	15 Jan 2019 07:40		18 Jan 2019 17:15	01 Feb 2019 18:09	1
HS19010754-10	WG-1620-MW68B-20190115	15 Jan 2019 08:55		18 Jan 2019 17:15	07 Feb 2019 17:31	1000
HS19010754-10	WG-1620-MW68B-20190115	15 Jan 2019 08:55		18 Jan 2019 17:15	07 Feb 2019 13:55	100
HS19010754-10	WG-1620-MW68B-20190115	15 Jan 2019 08:55		18 Jan 2019 17:15	07 Feb 2019 13:35	10
HS19010754-11	WG-1620-FD03-20190115	15 Jan 2019 08:55		18 Jan 2019 17:15	07 Feb 2019 17:51	1000
HS19010754-11	WG-1620-FD03-20190115	15 Jan 2019 08:55		18 Jan 2019 17:15	07 Feb 2019 14:34	10
HS19010754-12	WG-1620-MW68C-20190115	15 Jan 2019 09:45		18 Jan 2019 17:15	01 Feb 2019 19:09	1
HS19010754-13	WG-1620-MW83B-20190115	15 Jan 2019 10:40		18 Jan 2019 17:15	12 Feb 2019 19:32	1000
HS19010754-13	WG-1620-MW83B-20190115	15 Jan 2019 10:40		18 Jan 2019 17:15	07 Feb 2019 15:53	10
HS19010754-13	WG-1620-MW83B-20190115	15 Jan 2019 10:40		18 Jan 2019 17:15	01 Feb 2019 19:28	1
HS19010754-14	WG-1620-MW83C-20190115	15 Jan 2019 11:15		18 Jan 2019 17:15	13 Feb 2019 18:35	1
HS19010754-15	WG-1620-MW35A-20190115	15 Jan 2019 12:45		18 Jan 2019 17:15	13 Feb 2019 19:15	100
HS19010754-15	WG-1620-MW35A-20190115	15 Jan 2019 12:45		18 Jan 2019 17:15	13 Feb 2019 18:55	10
HS19010754-15	WG-1620-MW35A-20190115	15 Jan 2019 12:45		18 Jan 2019 17:15	01 Feb 2019 20:08	1
HS19010754-16	WG-1620-MW35B-20190115	15 Jan 2019 13:25		18 Jan 2019 17:15	12 Feb 2019 21:10	10
HS19010754-16	WG-1620-MW35B-20190115	15 Jan 2019 13:25		18 Jan 2019 17:15	12 Feb 2019 20:50	1
HS19010754-17	WG-1620-MW25A-20190115	15 Jan 2019 14:25		18 Jan 2019 17:15	01 Feb 2019 20:47	1
HS19010754-18	WG-1620-MW25C-20190115	15 Jan 2019 15:10		18 Jan 2019 17:15	12 Feb 2019 22:09	100
HS19010754-18	WG-1620-MW25C-20190115	15 Jan 2019 15:10		18 Jan 2019 17:15	12 Feb 2019 22:29	1000
HS19010754-18	WG-1620-MW25C-20190115	15 Jan 2019 15:10		18 Jan 2019 17:15	12 Feb 2019 21:50	10
HS19010754-18	WG-1620-MW25C-20190115	15 Jan 2019 15:10		18 Jan 2019 17:15	01 Feb 2019 21:07	1
HS19010754-19	WG-1620-MW34CR-20190115	15 Jan 2019 15:55		18 Jan 2019 17:15	05 Feb 2019 21:45	1
HS19010754-20	WG-1620-MW71B-20190115	15 Jan 2019 16:50		18 Jan 2019 17:15	05 Feb 2019 22:05	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 136946		Test Name : ICP-MS METALS BY SW6020A		Matrix: Groundwater		
HS19010754-01	WG-1620-MW53C-20190114	14 Jan 2019 12:05		23 Jan 2019 10:00	24 Jan 2019 01:29	1
Batch ID 136947		Test Name : ICP-MS METALS BY SW6020A		Matrix: Water		
HS19010754-08	WG-1620-FB04-20190114	14 Jan 2019 18:00		23 Jan 2019 10:00	25 Jan 2019 16:57	1
HS19010754-21	WG-1620-FB05-20190115	15 Jan 2019 17:15		23 Jan 2019 10:00	25 Jan 2019 17:48	1
Batch ID 136947		Test Name : ICP-MS METALS BY SW6020A		Matrix: Groundwater		
HS19010754-02	WG-1620-MW54C-20190114	14 Jan 2019 13:00		23 Jan 2019 10:00	25 Jan 2019 16:23	1
HS19010754-03	WG-1620-MW36B-20190114	14 Jan 2019 14:05		23 Jan 2019 10:00	25 Jan 2019 16:25	1
HS19010754-04	WG-1620-MW36A-20190114	14 Jan 2019 14:55		23 Jan 2019 10:00	25 Jan 2019 16:27	1
HS19010754-05	WG-1620-MW28A-20190114	14 Jan 2019 15:50		23 Jan 2019 10:00	25 Jan 2019 16:29	1
HS19010754-06	WG-1620-MW28C-20190114	14 Jan 2019 16:35		23 Jan 2019 10:00	25 Jan 2019 16:32	1
HS19010754-07	WG-1620-MW63B-20190114	14 Jan 2019 17:40		23 Jan 2019 10:00	25 Jan 2019 16:55	1
HS19010754-09	WG-1620-MW26A-20190115	15 Jan 2019 07:40		23 Jan 2019 10:00	25 Jan 2019 17:00	1
HS19010754-10	WG-1620-MW68B-20190115	15 Jan 2019 08:55		23 Jan 2019 10:00	25 Jan 2019 17:02	1
HS19010754-11	WG-1620-FD03-20190115	15 Jan 2019 08:55		23 Jan 2019 10:00	25 Jan 2019 17:04	1
HS19010754-12	WG-1620-MW68C-20190115	15 Jan 2019 09:45		23 Jan 2019 10:00	25 Jan 2019 17:06	1
HS19010754-13	WG-1620-MW83B-20190115	15 Jan 2019 10:40		23 Jan 2019 10:00	25 Jan 2019 17:09	1
HS19010754-14	WG-1620-MW83C-20190115	15 Jan 2019 11:15		23 Jan 2019 10:00	25 Jan 2019 17:11	1
HS19010754-15	WG-1620-MW35A-20190115	15 Jan 2019 12:45		23 Jan 2019 10:00	25 Jan 2019 17:13	1
HS19010754-16	WG-1620-MW35B-20190115	15 Jan 2019 13:25		23 Jan 2019 10:00	25 Jan 2019 17:37	1
HS19010754-17	WG-1620-MW25A-20190115	15 Jan 2019 14:25		23 Jan 2019 10:00	25 Jan 2019 17:39	1
HS19010754-18	WG-1620-MW25C-20190115	15 Jan 2019 15:10		23 Jan 2019 10:00	25 Jan 2019 17:41	1
HS19010754-19	WG-1620-MW34CR-20190115	15 Jan 2019 15:55		23 Jan 2019 10:00	25 Jan 2019 17:44	1
HS19010754-20	WG-1620-MW71B-20190115	15 Jan 2019 16:50		23 Jan 2019 10:00	25 Jan 2019 17:46	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R331619 Test Name : LOW LEVEL VOLATILES BY SW8260C Matrix: Groundwater						
HS19010754-01	WG-1620-MW53C-20190114	14 Jan 2019 12:05			24 Jan 2019 02:27	1
HS19010754-02	WG-1620-MW54C-20190114	14 Jan 2019 13:00			24 Jan 2019 02:52	1
HS19010754-03	WG-1620-MW36B-20190114	14 Jan 2019 14:05			24 Jan 2019 03:16	1
HS19010754-05	WG-1620-MW28A-20190114	14 Jan 2019 15:50			24 Jan 2019 08:55	1
HS19010754-06	WG-1620-MW28C-20190114	14 Jan 2019 16:35			24 Jan 2019 00:51	1
HS19010754-07	WG-1620-MW63B-20190114	14 Jan 2019 17:40			24 Jan 2019 03:40	1
HS19010754-09	WG-1620-MW26A-20190115	15 Jan 2019 07:40			24 Jan 2019 04:04	1
HS19010754-10	WG-1620-MW68B-20190115	15 Jan 2019 08:55			24 Jan 2019 04:28	1
HS19010754-11	WG-1620-FD03-20190115	15 Jan 2019 08:55			24 Jan 2019 04:52	1
HS19010754-12	WG-1620-MW68C-20190115	15 Jan 2019 09:45			24 Jan 2019 05:16	1
HS19010754-13	WG-1620-MW83B-20190115	15 Jan 2019 10:40			24 Jan 2019 05:40	1
HS19010754-14	WG-1620-MW83C-20190115	15 Jan 2019 11:15			24 Jan 2019 06:04	1
HS19010754-17	WG-1620-MW25A-20190115	15 Jan 2019 14:25			24 Jan 2019 06:28	1
HS19010754-18	WG-1620-MW25C-20190115	15 Jan 2019 15:10			24 Jan 2019 06:52	1
Batch ID R331648 Test Name : LOW LEVEL VOLATILES BY SW8260C Matrix: Water						
HS19010754-08	WG-1620-FB04-20190114	14 Jan 2019 18:00			24 Jan 2019 18:26	1
Batch ID R331734 Test Name : LOW LEVEL VOLATILES BY SW8260C Matrix: Groundwater						
HS19010754-07	WG-1620-MW63B-20190114	14 Jan 2019 17:40			25 Jan 2019 06:35	10
HS19010754-09	WG-1620-MW26A-20190115	15 Jan 2019 07:40			25 Jan 2019 01:38	1
HS19010754-10	WG-1620-MW68B-20190115	15 Jan 2019 08:55			25 Jan 2019 07:01	50
HS19010754-11	WG-1620-FD03-20190115	15 Jan 2019 08:55			25 Jan 2019 07:28	50
HS19010754-12	WG-1620-MW68C-20190115	15 Jan 2019 09:45			25 Jan 2019 02:02	1
Batch ID R331781 Test Name : LOW LEVEL VOLATILES BY SW8260C Matrix: Water						
HS19010754-21	WG-1620-FB05-20190115	15 Jan 2019 17:15			25 Jan 2019 21:56	1
HS19010754-22	WQ-1620-TB04-20190115	15 Jan 2019 00:00			25 Jan 2019 22:20	1
Batch ID R331781 Test Name : LOW LEVEL VOLATILES BY SW8260C Matrix: Groundwater						
HS19010754-04	WG-1620-MW36A-20190114	14 Jan 2019 14:55			25 Jan 2019 16:19	1
HS19010754-15	WG-1620-MW35A-20190115	15 Jan 2019 12:45			25 Jan 2019 15:31	1
HS19010754-16	WG-1620-MW35B-20190115	15 Jan 2019 13:25			25 Jan 2019 15:55	1
HS19010754-19	WG-1620-MW34CR-20190115	15 Jan 2019 15:55			25 Jan 2019 22:44	1
HS19010754-20	WG-1620-MW71B-20190115	15 Jan 2019 16:50			25 Jan 2019 23:08	1

WorkOrder: HS19010754
 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	0.000460	0.000400	0.00200
A	Lead	7439-92-1	0.00100	0.00100	0.000600	0.00200

WorkOrder: HS19010754
 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	0.000340	0.000400	0.00200
A	Lead	7439-92-1	0.00100	0.000916	0.000600	0.00200

WorkOrder: HS19010754
 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	0.000070	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000041	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000052	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000052	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.000061	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000056	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000022	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00020	0.00019	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000066	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000072	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000074	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000074	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000066	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000069	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.000083	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000082	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000060	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.000080	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000074	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000073	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000065	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.000083	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.000068	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.00016	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000077	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000066	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000074	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: HS19010754
 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	0.00066	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00060	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00063	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	0.00051	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00065	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00054	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00056	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: HS19010754
 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	0.00072	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00062	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00062	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00061	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.0011	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	0.00059	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: HS19010754

QC BATCH REPORT

Batch ID: 136946	Instrument: ICPMS05	Method: SW6020
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MBLK	Sample ID: MBLK-136946	Units: mg/L	Analysis Date: 24-Jan-2019 01:01							
Client ID:	Run ID: ICPMS05_331608	SeqNo: 4922672	PrepDate: 23-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	U	0.00200								
Lead	U	0.00200								

LCS	Sample ID: LCS-136946	Units: mg/L	Analysis Date: 24-Jan-2019 01:04							
Client ID:	Run ID: ICPMS05_331608	SeqNo: 4922673	PrepDate: 23-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	0.0499	0.00200	0.05	0	99.8	80 - 120				
Lead	0.0543	0.00200	0.05	0	109	80 - 120				

MS	Sample ID: HS19010878-02MS	Units: mg/L	Analysis Date: 24-Jan-2019 01:10							
Client ID:	Run ID: ICPMS05_331608	SeqNo: 4922676	PrepDate: 23-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	0.05	0.00200	0.05	0.000564	98.9	80 - 120				
Lead	0.04998	0.00200	0.05	0.000015	99.9	80 - 120				

MSD	Sample ID: HS19010878-02MSD	Units: mg/L	Analysis Date: 24-Jan-2019 01:13							
Client ID:	Run ID: ICPMS05_331608	SeqNo: 4922677	PrepDate: 23-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	0.04906	0.00200	0.05	0.000564	97.0	80 - 120	0.05	1.9	20	
Lead	0.05394	0.00200	0.05	0.000015	108	80 - 120	0.04998	7.63	20	

PDS	Sample ID: HS19010878-02PDS	Units: mg/L	Analysis Date: 24-Jan-2019 01:15							
Client ID:	Run ID: ICPMS05_331608	SeqNo: 4922678	PrepDate: 23-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	0.0983	0.00200	0.1	0.000564	97.7	75 - 125				
Lead	0.1026	0.00200	0.1	0	103	75 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: 136946		Instrument: ICPMS05		Method: SW6020						
SD	Sample ID: HS19010878-02SD	Units: mg/L		Analysis Date: 24-Jan-2019 01:08						
Client ID:	Run ID: ICPMS05_331608	SeqNo: 4922675	PrepDate: 23-Jan-2019	DF: 5						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	Limit	Qual

Arsenic	U	0.0100					0.000564	0	10
Lead	U	0.0100					0.000015	0	10

The following samples were analyzed in this batch: HS19010754-01

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: 136947	Instrument: ICPMS04	Method: SW6020
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MBLK	Sample ID: MBLK-136947	Units: mg/L	Analysis Date: 25-Jan-2019 15:25							
Client ID:	Run ID: ICPMS04_331709	SeqNo: 4925482	PrepDate: 23-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	U	0.00200								
Lead	U	0.00200								

LCS	Sample ID: LCS-136947	Units: mg/L	Analysis Date: 25-Jan-2019 15:28							
Client ID:	Run ID: ICPMS04_331709	SeqNo: 4925483	PrepDate: 23-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	0.05406	0.00200	0.05	0	108	80 - 120				
Lead	0.05565	0.00200	0.05	0	111	80 - 120				

MS	Sample ID: HS19010754-06MS	Units: mg/L	Analysis Date: 25-Jan-2019 16:36							
Client ID: WG-1620-MW28C-20190114	Run ID: ICPMS04_331709	SeqNo: 4926026	PrepDate: 23-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	0.05541	0.00200	0.05	0.000447	110	80 - 120				
Lead	0.05412	0.00200	0.05	0.000416	107	80 - 120				

MSD	Sample ID: HS19010754-06MSD	Units: mg/L	Analysis Date: 25-Jan-2019 16:38							
Client ID: WG-1620-MW28C-20190114	Run ID: ICPMS04_331709	SeqNo: 4926027	PrepDate: 23-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	0.05782	0.00200	0.05	0.000447	115	80 - 120	0.05541	4.25	20	
Lead	0.05466	0.00200	0.05	0.000416	108	80 - 120	0.05412	0.998	20	

PDS	Sample ID: HS19010754-06PDS	Units: mg/L	Analysis Date: 25-Jan-2019 16:41							
Client ID: WG-1620-MW28C-20190114	Run ID: ICPMS04_331709	SeqNo: 4926028	PrepDate: 23-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	0.1044	0.00200	0.1	0.000447	104	75 - 125				
Lead	0.1058	0.00200	0.1	0.000416	105	75 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: 136947		Instrument: ICPMS04		Method: SW6020	
SD	Sample ID: HS19010754-06SD		Units: mg/L		Analysis Date: 25-Jan-2019 16:34
Client ID: WG-1620-MW28C-20190114	Run ID: ICPMS04_331709		SeqNo: 4926025		PrepDate: 23-Jan-2019 DF: 5
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC Control Limit RPD Ref Value %D Limit Qual

Arsenic	U	0.0100			0.000447 0 10
Lead	U	0.0100			0.000416 0 10

The following samples were analyzed in this batch:

HS19010754-02	HS19010754-03	HS19010754-04	HS19010754-05
HS19010754-06	HS19010754-07	HS19010754-08	HS19010754-09
HS19010754-10	HS19010754-11	HS19010754-12	HS19010754-13
HS19010754-14	HS19010754-15	HS19010754-16	HS19010754-17
HS19010754-18	HS19010754-19	HS19010754-20	HS19010754-21

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: 136788		Instrument: SV-7		Method: SW8270						
MBLK	Sample ID: MBLK-136788	Units: ug/L			Analysis Date: 21-Jan-2019 13:59					
Client ID:	Run ID: SV-7_331418	SeqNo: 4917420	PrepDate: 18-Jan-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								
<i>Surr: 2,4,6-Tribromophenol</i>	2.898	0.20	5	0	58.0	34 - 129				
<i>Surr: 2-Fluorobiphenyl</i>	3.603	0.20	5	0	72.1	40 - 125				
<i>Surr: 2-Fluorophenol</i>	3.68	0.20	5	0	73.6	20 - 120				
<i>Surr: 4-Terphenyl-d14</i>	3.745	0.20	5	0	74.9	40 - 135				
<i>Surr: Nitrobenzene-d5</i>	3.674	0.20	5	0	73.5	41 - 120				
<i>Surr: Phenol-d6</i>	3.986	0.20	5	0	79.7	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: 136788		Instrument: SV-7			Method: SW8270					
LCS	Sample ID: LCS-136788	Units: ug/L			Analysis Date: 21-Jan-2019 11:49					
Client ID:	Run ID: SV-7_331418	SeqNo: 4917414			PrepDate: 18-Jan-2019		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.422	0.20	5	0	68.4	39 - 127				
2,4-Dimethylphenol	2.686	0.20	5	0	53.7	35 - 120				
2,4-Dinitrotoluene	2.839	0.20	5	0	56.8	50 - 122				
2,6-Dinitrotoluene	2.657	0.20	5	0	53.1	50 - 120				
2-Chloronaphthalene	2.793	0.20	5	0	55.9	50 - 120				
2-Methylnaphthalene	2.701	0.10	5	0	54.0	50 - 120				
4,6-Dinitro-2-methylphenol	3.216	0.20	5	0	64.3	25 - 121				
4-Nitrophenol	2.876	1.0	5	0	57.5	30 - 130				
Acenaphthene	2.551	0.10	5	0	51.0	45 - 120				
Acenaphthylene	2.798	0.10	5	0	56.0	47 - 120				
Anthracene	2.879	0.10	5	0	57.6	45 - 120				
Benz(a)anthracene	3.118	0.10	5	0	62.4	40 - 120				
Benzo(a)pyrene	3.157	0.10	5	0	63.1	45 - 120				
Bis(2-chloroethoxy)methane	2.899	0.20	5	0	58.0	45 - 120				
Bis(2-ethylhexyl)phthalate	3.648	0.20	5	0	73.0	40 - 139				
Chrysene	3.084	0.10	5	0	61.7	43 - 120				
Dibenzofuran	2.76	0.10	5	0	55.2	50 - 120				
Di-n-butyl phthalate	3.227	0.20	5	0	64.5	45 - 123				
Fluoranthene	2.789	0.10	5	0	55.8	45 - 125				
Fluorene	2.693	0.10	5	0	53.9	49 - 120				
Naphthalene	2.829	0.10	5	0	56.6	45 - 120				
Nitrobenzene	3.005	0.20	5	0	60.1	44 - 120				
N-Nitrosodiphenylamine	2.991	0.20	5	0	59.8	40 - 125				
Pentachlorophenol	2.717	0.20	5	0	54.3	19 - 121				
Phenanthrene	2.842	0.10	5	0	56.8	45 - 121				
Phenol	2.879	0.20	5	0	57.6	20 - 124				
Pyrene	3.207	0.10	5	0	64.1	40 - 130				
<i>Surr: 2,4,6-Tribromophenol</i>	<i>2.456</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>49.1</i>	<i>34 - 129</i>				
<i>Surr: 2-Fluorobiphenyl</i>	<i>2.838</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>56.8</i>	<i>40 - 125</i>				
<i>Surr: 2-Fluorophenol</i>	<i>2.861</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>57.2</i>	<i>20 - 120</i>				
<i>Surr: 4-Terphenyl-d14</i>	<i>3.232</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>64.6</i>	<i>40 - 135</i>				
<i>Surr: Nitrobenzene-d5</i>	<i>2.985</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>59.7</i>	<i>41 - 120</i>				
<i>Surr: Phenol-d6</i>	<i>3.079</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>61.6</i>	<i>20 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: 136788		Instrument: SV-7		Method: SW8270						
LCSD		Sample ID: LCSD-136788		Units: ug/L		Analysis Date: 21-Jan-2019 12:41				
Client ID:		Run ID: SV-7_331418		SeqNo: 4917415		PrepDate: 18-Jan-2019		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.353	0.20	5	0	67.1	39 - 127	3.422	2.01	20	
2,4-Dimethylphenol	2.758	0.20	5	0	55.2	35 - 120	2.686	2.63	20	
2,4-Dinitrotoluene	2.779	0.20	5	0	55.6	50 - 122	2.839	2.15	20	
2,6-Dinitrotoluene	2.714	0.20	5	0	54.3	50 - 120	2.657	2.11	20	
2-Chloronaphthalene	2.886	0.20	5	0	57.7	50 - 120	2.793	3.26	20	
2-Methylnaphthalene	2.737	0.10	5	0	54.7	50 - 120	2.701	1.33	20	
4,6-Dinitro-2-methylphenol	3.149	0.20	5	0	63.0	25 - 121	3.216	2.11	30	
4-Nitrophenol	2.947	1.0	5	0	58.9	30 - 130	2.876	2.45	20	
Acenaphthene	2.725	0.10	5	0	54.5	45 - 120	2.551	6.59	20	
Acenaphthylene	2.872	0.10	5	0	57.4	47 - 120	2.798	2.61	20	
Anthracene	2.867	0.10	5	0	57.3	45 - 120	2.879	0.413	20	
Benz(a)anthracene	3.041	0.10	5	0	60.8	40 - 120	3.118	2.51	20	
Benzo(a)pyrene	3.1	0.10	5	0	62.0	45 - 120	3.157	1.81	20	
Bis(2-chloroethoxy)methane	2.974	0.20	5	0	59.5	45 - 120	2.899	2.56	20	
Bis(2-ethylhexyl)phthalate	3.5	0.20	5	0	70.0	40 - 139	3.648	4.15	20	
Chrysene	3.064	0.10	5	0	61.3	43 - 120	3.084	0.64	20	
Dibenzofuran	2.795	0.10	5	0	55.9	50 - 120	2.76	1.25	20	
Di-n-butyl phthalate	3.2	0.20	5	0	64.0	45 - 123	3.227	0.834	20	
Fluoranthene	2.846	0.10	5	0	56.9	45 - 125	2.789	2.04	20	
Fluorene	2.746	0.10	5	0	54.9	49 - 120	2.693	1.97	20	
Naphthalene	2.877	0.10	5	0	57.5	45 - 120	2.829	1.68	20	
Nitrobenzene	3.082	0.20	5	0	61.6	44 - 120	3.005	2.52	20	
N-Nitrosodiphenylamine	2.98	0.20	5	0	59.6	40 - 125	2.991	0.372	20	
Pentachlorophenol	2.655	0.20	5	0	53.1	19 - 121	2.717	2.32	20	
Phenanthrene	2.915	0.10	5	0	58.3	45 - 121	2.842	2.52	20	
Phenol	2.994	0.20	5	0	59.9	20 - 124	2.879	3.92	20	
Pyrene	3.256	0.10	5	0	65.1	40 - 130	3.207	1.52	20	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>2.462</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>49.2</i>	<i>34 - 129</i>	<i>2.456</i>	<i>0.244</i>	<i>20</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>2.963</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>59.3</i>	<i>40 - 125</i>	<i>2.838</i>	<i>4.3</i>	<i>20</i>	
<i>Surr: 2-Fluorophenol</i>	<i>2.957</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>59.1</i>	<i>20 - 120</i>	<i>2.861</i>	<i>3.29</i>	<i>20</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>3.116</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>62.3</i>	<i>40 - 135</i>	<i>3.232</i>	<i>3.66</i>	<i>20</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>3.007</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>60.1</i>	<i>41 - 120</i>	<i>2.985</i>	<i>0.741</i>	<i>20</i>	
<i>Surr: Phenol-d6</i>	<i>3.234</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>64.7</i>	<i>20 - 120</i>	<i>3.079</i>	<i>4.93</i>	<i>20</i>	

The following samples were analyzed in this batch: HS19010754-01 HS19010754-02

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: 136815		Instrument: SV-6		Method: SW8270						
MBLK	Sample ID: MBLK-136815	Units: ug/L			Analysis Date: 30-Jan-2019 11:05					
Client ID:	Run ID: SV-6_331994	SeqNo: 4931051	PrepDate: 18-Jan-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								
<i>Surr: 2,4,6-Tribromophenol</i>	3.22	0.20	5	0	64.4	34 - 129				
<i>Surr: 2-Fluorobiphenyl</i>	3.703	0.20	5	0	74.1	40 - 125				
<i>Surr: 2-Fluorophenol</i>	3.586	0.20	5	0	71.7	20 - 120				
<i>Surr: 4-Terphenyl-d14</i>	4.062	0.20	5	0	81.2	40 - 135				
<i>Surr: Nitrobenzene-d5</i>	3.583	0.20	5	0	71.7	41 - 120				
<i>Surr: Phenol-d6</i>	3.349	0.20	5	0	67.0	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: 136815		Instrument: SV-6		Method: SW8270						
LCS	Sample ID: LCS-136815	Units: ug/L			Analysis Date: 30-Jan-2019 11:24					
Client ID:	Run ID: SV-6_331994	SeqNo: 4931052		PrepDate: 18-Jan-2019		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.837	0.20	5	0	96.7	39 - 127				
2,4-Dimethylphenol	3.101	0.20	5	0	62.0	35 - 120				
2,4-Dinitrotoluene	3.397	0.20	5	0	67.9	50 - 122				
2,6-Dinitrotoluene	4.023	0.20	5	0	80.5	50 - 120				
2-Chloronaphthalene	3.701	0.20	5	0	74.0	50 - 120				
2-Methylnaphthalene	3.519	0.10	5	0	70.4	50 - 120				
4,6-Dinitro-2-methylphenol	3.778	0.20	5	0	75.6	25 - 121				
4-Nitrophenol	2.95	1.0	5	0	59.0	30 - 130				
Acenaphthene	3.491	0.10	5	0	69.8	45 - 120				
Acenaphthylene	3.708	0.10	5	0	74.2	47 - 120				
Anthracene	3.768	0.10	5	0	75.4	45 - 120				
Benz(a)anthracene	3.679	0.10	5	0	73.6	40 - 120				
Benzo(a)pyrene	3.778	0.10	5	0	75.6	45 - 120				
Bis(2-chloroethoxy)methane	3.388	0.20	5	0	67.8	45 - 120				
Bis(2-ethylhexyl)phthalate	4.069	0.20	5	0	81.4	40 - 139				
Chrysene	3.955	0.10	5	0	79.1	43 - 120				
Dibenzofuran	3.507	0.10	5	0	70.1	50 - 120				
Di-n-butyl phthalate	4.152	0.20	5	0	83.0	45 - 123				
Fluoranthene	3.807	0.10	5	0	76.1	45 - 125				
Fluorene	3.702	0.10	5	0	74.0	49 - 120				
Naphthalene	3.478	0.10	5	0	69.6	45 - 120				
Nitrobenzene	3.524	0.20	5	0	70.5	44 - 120				
N-Nitrosodiphenylamine	4.584	0.20	5	0	91.7	40 - 125				
Pentachlorophenol	2.858	0.20	5	0	57.2	19 - 121				
Phenanthrene	3.787	0.10	5	0	75.7	45 - 121				
Phenol	3.567	0.20	5	0	71.3	20 - 124				
Pyrene	3.651	0.10	5	0	73.0	40 - 130				
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3.846</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>76.9</i>	<i>34 - 129</i>				
<i>Surr: 2-Fluorobiphenyl</i>	<i>3.827</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>76.5</i>	<i>40 - 125</i>				
<i>Surr: 2-Fluorophenol</i>	<i>3.616</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>72.3</i>	<i>20 - 120</i>				
<i>Surr: 4-Terphenyl-d14</i>	<i>4.004</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>80.1</i>	<i>40 - 135</i>				
<i>Surr: Nitrobenzene-d5</i>	<i>3.595</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>71.9</i>	<i>41 - 120</i>				
<i>Surr: Phenol-d6</i>	<i>3.866</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>77.3</i>	<i>20 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: 136815		Instrument: SV-6			Method: SW8270					
LCSD		Sample ID: LCSD-136815			Units: ug/L		Analysis Date: 30-Jan-2019 14:22			
Client ID:		Run ID: SV-6_331994			SeqNo: 4931060		PrepDate: 18-Jan-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	4.285	0.20	5	0	85.7	39 - 127	4.837	12.1	20	
2,4-Dimethylphenol	2.952	0.20	5	0	59.0	35 - 120	3.101	4.93	20	
2,4-Dinitrotoluene	3.637	0.20	5	0	72.7	50 - 122	3.397	6.84	20	
2,6-Dinitrotoluene	4.215	0.20	5	0	84.3	50 - 120	4.023	4.65	20	
2-Chloronaphthalene	4.015	0.20	5	0	80.3	50 - 120	3.701	8.14	20	
2-Methylnaphthalene	3.784	0.10	5	0	75.7	50 - 120	3.519	7.26	20	
4,6-Dinitro-2-methylphenol	3.274	0.20	5	0	65.5	25 - 121	3.778	14.3	30	
4-Nitrophenol	3.045	1.0	5	0	60.9	30 - 130	2.95	3.19	20	
Acenaphthene	3.393	0.10	5	0	67.9	45 - 120	3.491	2.85	20	
Acenaphthylene	3.708	0.10	5	0	74.2	47 - 120	3.708	0.00804	20	
Anthracene	3.652	0.10	5	0	73.0	45 - 120	3.768	3.13	20	
Benz(a)anthracene	3.663	0.10	5	0	73.3	40 - 120	3.679	0.438	20	
Benzo(a)pyrene	3.898	0.10	5	0	78.0	45 - 120	3.778	3.12	20	
Bis(2-chloroethoxy)methane	3.616	0.20	5	0	72.3	45 - 120	3.388	6.51	20	
Bis(2-ethylhexyl)phthalate	3.661	0.20	5	0	73.2	40 - 139	4.069	10.6	20	
Chrysene	3.713	0.10	5	0	74.3	43 - 120	3.955	6.31	20	
Dibenzofuran	3.452	0.10	5	0	69.0	50 - 120	3.507	1.58	20	
Di-n-butyl phthalate	4.284	0.20	5	0	85.7	45 - 123	4.152	3.11	20	
Fluoranthene	3.693	0.10	5	0	73.9	45 - 125	3.807	3.04	20	
Fluorene	3.657	0.10	5	0	73.1	49 - 120	3.702	1.22	20	
Naphthalene	3.434	0.10	5	0	68.7	45 - 120	3.478	1.28	20	
Nitrobenzene	3.443	0.20	5	0	68.9	44 - 120	3.524	2.32	20	
N-Nitrosodiphenylamine	4.024	0.20	5	0	80.5	40 - 125	4.584	13	20	
Pentachlorophenol	2.961	0.20	5	0	59.2	19 - 121	2.858	3.54	20	
Phenanthrene	3.894	0.10	5	0	77.9	45 - 121	3.787	2.79	20	
Phenol	3.701	0.20	5	0	74.0	20 - 124	3.567	3.7	20	
Pyrene	3.005	0.10	5	0	60.1	40 - 130	3.651	19.4	20	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3.706</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>74.1</i>	<i>34 - 129</i>	<i>3.846</i>	<i>3.69</i>	<i>20</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>3.868</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>77.4</i>	<i>40 - 125</i>	<i>3.827</i>	<i>1.07</i>	<i>20</i>	
<i>Surr: 2-Fluorophenol</i>	<i>3.885</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>77.7</i>	<i>20 - 120</i>	<i>3.616</i>	<i>7.19</i>	<i>20</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>3.9</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>78.0</i>	<i>40 - 135</i>	<i>4.004</i>	<i>2.65</i>	<i>20</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>3.734</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>74.7</i>	<i>41 - 120</i>	<i>3.595</i>	<i>3.81</i>	<i>20</i>	
<i>Surr: Phenol-d6</i>	<i>3.742</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>74.8</i>	<i>20 - 120</i>	<i>3.866</i>	<i>3.26</i>	<i>20</i>	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: 136815		Instrument: SV-6		Method: SW8270					
MS		Sample ID: HS19010754-06MS		Units: ug/L		Analysis Date: 01-Feb-2019 12:30			
Client ID: WG-1620-MW28C-20190114		Run ID: SV-6_332191		SeqNo: 4938709		PrepDate: 18-Jan-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
1,2-Diphenylhydrazine	2.994	0.20	5.051	0	59.3	39 - 127			
2,4-Dimethylphenol	2.278	0.20	5.051	0	45.1	35 - 120			
2,4-Dinitrotoluene	3.249	0.20	5.051	0	64.3	50 - 122			
2,6-Dinitrotoluene	2.871	0.20	5.051	0	56.8	50 - 120			
2-Chloronaphthalene	2.634	0.20	5.051	0	52.1	50 - 120			
2-Methylnaphthalene	2.688	0.10	5.051	0	53.2	50 - 120			
4,6-Dinitro-2-methylphenol	3.52	0.20	5.051	0	69.7	25 - 121			
4-Nitrophenol	3.364	1.0	5.051	0	66.6	30 - 130			
Acenaphthene	2.372	0.10	5.051	0	47.0	45 - 120			
Acenaphthylene	2.412	0.10	5.051	0	47.8	47 - 120			
Anthracene	3.258	0.10	5.051	0	64.5	45 - 120			
Benz(a)anthracene	3.55	0.10	5.051	0	70.3	40 - 120			
Benzo(a)pyrene	3.494	0.10	5.051	0	69.2	45 - 120			
Bis(2-chloroethoxy)methane	2.382	0.20	5.051	0	47.2	45 - 120			
Bis(2-ethylhexyl)phthalate	3.943	0.20	5.051	0	78.1	40 - 139			
Chrysene	3.958	0.10	5.051	0	78.4	43 - 120			
Dibenzofuran	2.783	0.10	5.051	0	55.1	50 - 120			
Di-n-butyl phthalate	4.075	0.20	5.051	0	80.7	45 - 123			
Fluoranthene	3.869	0.10	5.051	0	76.6	45 - 125			
Fluorene	2.744	0.10	5.051	0	54.3	49 - 120			
Naphthalene	2.483	0.10	5.051	0	49.2	45 - 120			
Nitrobenzene	2.696	0.20	5.051	0	53.4	44 - 120			
N-Nitrosodiphenylamine	3.297	0.20	5.051	0	65.3	40 - 125			
Pentachlorophenol	3.211	0.20	5.051	0	63.6	19 - 121			
Phenanthrene	3.012	0.10	5.051	0	59.6	45 - 121			
Phenol	2.727	0.20	5.051	0	54.0	20 - 124			
Pyrene	4.055	0.10	5.051	0	80.3	40 - 130			
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3.898</i>	<i>0.20</i>	<i>5.051</i>	<i>0</i>	<i>77.2</i>	<i>34 - 129</i>			
<i>Surr: 2-Fluorobiphenyl</i>	<i>2.64</i>	<i>0.20</i>	<i>5.051</i>	<i>0</i>	<i>52.3</i>	<i>40 - 125</i>			
<i>Surr: 2-Fluorophenol</i>	<i>2.237</i>	<i>0.20</i>	<i>5.051</i>	<i>0</i>	<i>44.3</i>	<i>20 - 120</i>			
<i>Surr: 4-Terphenyl-d14</i>	<i>4.361</i>	<i>0.20</i>	<i>5.051</i>	<i>0</i>	<i>86.3</i>	<i>40 - 135</i>			
<i>Surr: Nitrobenzene-d5</i>	<i>2.762</i>	<i>0.20</i>	<i>5.051</i>	<i>0</i>	<i>54.7</i>	<i>41 - 120</i>			
<i>Surr: Phenol-d6</i>	<i>2.751</i>	<i>0.20</i>	<i>5.051</i>	<i>0</i>	<i>54.5</i>	<i>20 - 120</i>			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: 136815		Instrument: SV-6		Method: SW8270						
MSD	Sample ID: HS19010754-06MSD	Units: ug/L			Analysis Date: 05-Feb-2019 15:49					
Client ID: WG-1620-MW28C-20190114	Run ID: SV-6_332348	SeqNo: 4938706	PrepDate: 18-Jan-2019	DF: 1						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	2.841	0.20	5	0	56.8	39 - 127	2.994	5.25	20	
2,4-Dimethylphenol	2.186	0.20	5	0	43.7	35 - 120	2.278	4.11	20	
2,4-Dinitrotoluene	3.158	0.20	5	0	63.2	50 - 122	3.249	2.84	20	
2,6-Dinitrotoluene	2.858	0.20	5	0	57.2	50 - 120	2.871	0.46	20	
2-Chloronaphthalene	2.593	0.20	5	0	51.9	50 - 120	2.634	1.55	20	
2-Methylnaphthalene	2.636	0.10	5	0	52.7	50 - 120	2.688	1.93	20	
4,6-Dinitro-2-methylphenol	4.017	0.20	5	0	80.3	25 - 121	3.52	13.2	30	
4-Nitrophenol	3.524	1.0	5	0	70.5	30 - 130	3.364	4.65	20	
Acenaphthene	2.365	0.10	5	0	47.3	45 - 120	2.372	0.294	20	
Acenaphthylene	2.505	0.10	5	0	50.1	47 - 120	2.412	3.81	20	
Anthracene	3.275	0.10	5	0	65.5	45 - 120	3.258	0.54	20	
Benz(a)anthracene	3.62	0.10	5	0	72.4	40 - 120	3.55	1.95	20	
Benzo(a)pyrene	3.842	0.10	5	0	76.8	45 - 120	3.494	9.49	20	
Bis(2-chloroethoxy)methane	2.366	0.20	5	0	47.3	45 - 120	2.382	0.685	20	
Bis(2-ethylhexyl)phthalate	3.648	0.20	5	0	73.0	40 - 139	3.943	7.78	20	
Chrysene	3.884	0.10	5	0	77.7	43 - 120	3.958	1.88	20	
Dibenzofuran	2.683	0.10	5	0	53.7	50 - 120	2.783	3.66	20	
Di-n-butyl phthalate	3.639	0.20	5	0	72.8	45 - 123	4.075	11.3	20	
Fluoranthene	3.725	0.10	5	0	74.5	45 - 125	3.869	3.79	20	
Fluorene	2.786	0.10	5	0	55.7	49 - 120	2.744	1.52	20	
Naphthalene	2.466	0.10	5	0	49.3	45 - 120	2.483	0.718	20	
Nitrobenzene	2.369	0.20	5	0	47.4	44 - 120	2.696	12.9	20	
N-Nitrosodiphenylamine	3.226	0.20	5	0	64.5	40 - 125	3.297	2.17	20	
Pentachlorophenol	3.832	0.20	5	0	76.6	19 - 121	3.211	17.6	20	
Phenanthrene	3.289	0.10	5	0	65.8	45 - 121	3.012	8.78	20	
Phenol	2.657	0.20	5	0	53.1	20 - 124	2.727	2.59	20	
Pyrene	3.66	0.10	5	0	73.2	40 - 130	4.055	10.3	20	
Surr: 2,4,6-Tribromophenol	4.006	0.20	5	0	80.1	34 - 129	3.898	2.75	20	
Surr: 2-Fluorobiphenyl	2.613	0.20	5	0	52.3	40 - 125	2.64	1.01	20	
Surr: 2-Fluorophenol	2.056	0.20	5	0	41.1	20 - 120	2.237	8.44	20	
Surr: 4-Terphenyl-d14	3.907	0.20	5	0	78.1	40 - 135	4.361	11	20	
Surr: Nitrobenzene-d5	2.43	0.20	5	0	48.6	41 - 120	2.762	12.8	20	
Surr: Phenol-d6	2.639	0.20	5	0	52.8	20 - 120	2.751	4.14	20	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: 136815	Instrument: SV-6	Method: SW8270
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The following samples were analyzed in this batch:

HS19010754-03	HS19010754-04	HS19010754-05	HS19010754-06
HS19010754-07	HS19010754-08	HS19010754-09	HS19010754-10
HS19010754-11	HS19010754-12	HS19010754-13	HS19010754-14
HS19010754-15	HS19010754-16	HS19010754-17	HS19010754-18
HS19010754-19	HS19010754-20	HS19010754-21	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: R331619		Instrument: VOA2		Method: SW8260					
MBLK	Sample ID: VBLKW-190123	Units: ug/L			Analysis Date: 24-Jan-2019 00:03				
Client ID:	Run ID: VOA2_331619	SeqNo: 4922571		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							
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>47.14</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>94.3</i>	<i>70 - 123</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.13</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.3</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>51.98</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>104</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>51.26</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>103</i>	<i>81 - 120</i>			

LCS	Sample ID: VLCSW-190123	Units: ug/L			Analysis Date: 23-Jan-2019 23:15				
Client ID:	Run ID: VOA2_331619	SeqNo: 4922570		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	87.4	70 - 124			
Benzene	20.89	1.0	20	0	104	74 - 120			
Chlorobenzene	20.18	1.0	20	0	101	76 - 113			
Ethylbenzene	20.1	1.0	20	0	101	77 - 117			
Methylene chloride	20.15	2.0	20	0	101	70 - 127			
Toluene	20.02	1.0	20	0	100	77 - 118			
Vinyl chloride	20.51	1.0	20	0	103	70 - 130			
Xylenes, Total	62.08	1.0	60	0	103	75 - 122			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>50.98</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>102</i>	<i>70 - 130</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.05</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.1</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>50.34</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>49.59</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.2</i>	<i>81 - 120</i>			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: R331619 **Instrument:** VOA2 **Method:** SW8260

MS		Sample ID: HS19010754-06MS			Units: ug/L		Analysis Date: 24-Jan-2019 01:15			
Client ID: WG-1620-MW28C-20190114		Run ID: VOA2_331619			SeqNo: 4922574		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.02	1.0	20	0	80.1	70 - 127				
Benzene	19.74	1.0	20	0	98.7	70 - 127				
Chlorobenzene	18.76	1.0	20	0	93.8	70 - 114				
Ethylbenzene	19.43	1.0	20	0	97.2	70 - 124				
Methylene chloride	18.53	2.0	20	0	92.6	70 - 128				
Toluene	19.08	1.0	20	0	95.4	70 - 123				
Vinyl chloride	21.45	1.0	20	0	107	70 - 130				
Xylenes, Total	57.82	1.0	60	0	96.4	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>50.26</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.46</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.9</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>50.66</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>49.99</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100.0</i>	<i>82 - 127</i>				

MSD		Sample ID: HS19010754-06MSD			Units: ug/L		Analysis Date: 24-Jan-2019 01:39			
Client ID: WG-1620-MW28C-20190114		Run ID: VOA2_331619			SeqNo: 4922575		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	15.91	1.0	20	0	79.5	70 - 127	16.02	0.718	20	
Benzene	19.41	1.0	20	0	97.0	70 - 127	19.74	1.69	20	
Chlorobenzene	19.03	1.0	20	0	95.2	70 - 114	18.76	1.43	20	
Ethylbenzene	19.54	1.0	20	0	97.7	70 - 124	19.43	0.541	20	
Methylene chloride	17.63	2.0	20	0	88.1	70 - 128	18.53	4.98	20	
Toluene	19.17	1.0	20	0	95.9	70 - 123	19.08	0.457	20	
Vinyl chloride	21.64	1.0	20	0	108	70 - 130	21.45	0.849	20	
Xylenes, Total	58.8	1.0	60	0	98.0	70 - 130	57.82	1.67	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.5</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.0</i>	<i>70 - 126</i>	<i>50.26</i>	<i>3.57</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.5</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.0</i>	<i>81 - 113</i>	<i>49.46</i>	<i>0.0812</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>50.73</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>77 - 123</i>	<i>50.66</i>	<i>0.129</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>50.55</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>82 - 127</i>	<i>49.99</i>	<i>1.11</i>	<i>20</i>	

The following samples were analyzed in this batch:

HS19010754-01	HS19010754-02	HS19010754-03	HS19010754-05
HS19010754-06	HS19010754-07	HS19010754-09	HS19010754-10
HS19010754-11	HS19010754-12	HS19010754-13	HS19010754-14
HS19010754-17	HS19010754-18		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: R331648		Instrument: VOA2		Method: SW8260					
MBLK	Sample ID: VBLKW-190124	Units: ug/L			Analysis Date: 24-Jan-2019 11:58				
Client ID:	Run ID: VOA2_331648	SeqNo: 4923362		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							
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>46.85</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>93.7</i>	<i>70 - 123</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.41</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.8</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>50.64</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>51.17</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>102</i>	<i>81 - 120</i>			

LCS	Sample ID: VLCSW-190124	Units: ug/L			Analysis Date: 24-Jan-2019 11:10				
Client ID:	Run ID: VOA2_331648	SeqNo: 4923361		PrepDate:		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

1,2-Dichloroethane	15.83	1.0	20	0	79.2	70 - 124			
Benzene	19.38	1.0	20	0	96.9	74 - 120			
Chlorobenzene	18.86	1.0	20	0	94.3	76 - 113			
Ethylbenzene	18.9	1.0	20	0	94.5	77 - 117			
Methylene chloride	18.98	2.0	20	0	94.9	70 - 127			
Toluene	18.88	1.0	20	0	94.4	77 - 118			
Vinyl chloride	20.57	1.0	20	0	103	70 - 130			
Xylenes, Total	58.3	1.0	60	0	97.2	75 - 122			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>49.88</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.8</i>	<i>70 - 130</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.38</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.8</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>50.05</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>50.16</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>81 - 120</i>			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: R331648		Instrument: VOA2		Method: SW8260						
MS	Sample ID: HS19011106-02MS	Units: ug/L			Analysis Date: 24-Jan-2019 14:49					
Client ID:	Run ID: VOA2_331648	SeqNo: 4923703		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	13.36	1.0	20	0	66.8	70 - 127				S
Benzene	17.38	1.0	20	0	86.9	70 - 127				
Chlorobenzene	15.01	1.0	20	0	75.0	70 - 114				
Ethylbenzene	15.92	1.0	20	1.296	73.1	70 - 124				
Methylene chloride	13.61	2.0	20	0	68.1	70 - 128				S
Toluene	19.61	1.0	20	5.484	70.7	70 - 123				
Vinyl chloride	15.52	1.0	20	0	77.6	70 - 130				
Xylenes, Total	50.34	1.0	60	1.99	80.6	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>49.7</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.4</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.32</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.6</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>49.83</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.7</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>50.35</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>82 - 127</i>				

MSD	Sample ID: HS19011106-02MSD	Units: ug/L			Analysis Date: 24-Jan-2019 15:13					
Client ID:	Run ID: VOA2_331648	SeqNo: 4923704		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	81.1	70 - 127	13.36	19.3	20	
Benzene	21.85	1.0	20	0	109	70 - 127	17.38	22.8	20	R
Chlorobenzene	18.97	1.0	20	0	94.9	70 - 114	15.01	23.4	20	R
Ethylbenzene	20.8	1.0	20	1.296	97.5	70 - 124	15.92	26.6	20	R
Methylene chloride	18.01	2.0	20	0	90.0	70 - 128	13.61	27.8	20	R
Toluene	24.39	1.0	20	5.484	94.5	70 - 123	19.61	21.7	20	R
Vinyl chloride	20.56	1.0	20	0	103	70 - 130	15.52	27.9	20	R
Xylenes, Total	65.84	1.0	60	1.99	106	70 - 130	50.34	26.7	20	R
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>47.64</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>95.3</i>	<i>70 - 126</i>	<i>49.7</i>	<i>4.24</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>50.1</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>81 - 113</i>	<i>49.32</i>	<i>1.57</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>49.78</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.6</i>	<i>77 - 123</i>	<i>49.83</i>	<i>0.107</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>50.45</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>82 - 127</i>	<i>50.35</i>	<i>0.194</i>	<i>20</i>	

The following samples were analyzed in this batch: HS19010754-08

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: R331734	Instrument: VOA2	Method: SW8260
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MBLK		Sample ID: VBLKW-190124			Units: ug/L		Analysis Date: 24-Jan-2019 23:38			
Client ID:		Run ID: VOA2_331734			SeqNo: 4925366		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								
Xylenes, Total	U	1.0								
<i>Surr: 1,2-Dichloroethane-d4</i>	46.42	1.0	50	0	92.8	70 - 123				
<i>Surr: 4-Bromofluorobenzene</i>	48.86	1.0	50	0	97.7	82 - 115				
<i>Surr: Dibromofluoromethane</i>	50.18	1.0	50	0	100	73 - 126				
<i>Surr: Toluene-d8</i>	51.6	1.0	50	0	103	81 - 120				

LCS		Sample ID: VLCSW-190124			Units: ug/L		Analysis Date: 24-Jan-2019 22:50			
Client ID:		Run ID: VOA2_331734			SeqNo: 4925365		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	19.91	1.0	20	0	99.5	74 - 120				
Ethylbenzene	19.69	1.0	20	0	98.5	77 - 117				
Xylenes, Total	60.58	1.0	60	0	101	75 - 122				
<i>Surr: 1,2-Dichloroethane-d4</i>	50.4	1.0	50	0	101	70 - 130				
<i>Surr: 4-Bromofluorobenzene</i>	50.41	1.0	50	0	101	82 - 115				
<i>Surr: Dibromofluoromethane</i>	51.11	1.0	50	0	102	73 - 126				
<i>Surr: Toluene-d8</i>	50.39	1.0	50	0	101	81 - 120				

MS		Sample ID: HS19011017-01MS			Units: ug/L		Analysis Date: 25-Jan-2019 00:50			
Client ID:		Run ID: VOA2_331734			SeqNo: 4925369		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	18.79	1.0	20	0	94.0	70 - 127				
Ethylbenzene	23.67	1.0	20	6.039	88.2	70 - 124				
Xylenes, Total	55.74	1.0	60	0	92.9	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	47.2	1.0	50	0	94.4	70 - 126				
<i>Surr: 4-Bromofluorobenzene</i>	50.18	1.0	50	0	100	81 - 113				
<i>Surr: Dibromofluoromethane</i>	50.51	1.0	50	0	101	77 - 123				
<i>Surr: Toluene-d8</i>	50.61	1.0	50	0	101	82 - 127				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: R331734		Instrument: VOA2		Method: SW8260						
MSD	Sample ID: HS19011017-01MSD	Units: ug/L			Analysis Date: 25-Jan-2019 01:14					
Client ID:	Run ID: VOA2_331734	SeqNo: 4925370		PrepDate:		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	19.29	1.0	20	0	96.5	70 - 127	18.79	2.64	20	
Ethylbenzene	24.2	1.0	20	6.039	90.8	70 - 124	23.67	2.2	20	
Xylenes, Total	58.46	1.0	60	0	97.4	70 - 130	55.74	4.77	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>49.47</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.9</i>	<i>70 - 126</i>	<i>47.2</i>	<i>4.7</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.81</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.6</i>	<i>81 - 113</i>	<i>50.18</i>	<i>0.741</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>49.6</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.2</i>	<i>77 - 123</i>	<i>50.51</i>	<i>1.82</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>50.36</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>82 - 127</i>	<i>50.61</i>	<i>0.492</i>	<i>20</i>	

The following samples were analyzed in this batch:

HS19010754-07	HS19010754-09	HS19010754-10	HS19010754-11
HS19010754-12			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: R331781		Instrument: VOA6		Method: SW8260					
MBLK	Sample ID: VBLKW-190125	Units: ug/L			Analysis Date: 25-Jan-2019 14:19				
Client ID:	Run ID: VOA6_331781	SeqNo: 4926447		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							
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>46.76</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>93.5</i>	<i>70 - 123</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.76</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.5</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>47.9</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>95.8</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>50.03</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>81 - 120</i>			

LCS	Sample ID: VLCSW-190125	Units: ug/L			Analysis Date: 25-Jan-2019 13:31				
Client ID:	Run ID: VOA6_331781	SeqNo: 4926446		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	18.62	1.0	20	0	93.1	74 - 120			
Chlorobenzene	18.52	1.0	20	0	92.6	76 - 113			
Ethylbenzene	17.98	1.0	20	0	89.9	77 - 117			
Methylene chloride	18.65	2.0	20	0	93.2	70 - 127			
Toluene	18.15	1.0	20	0	90.8	77 - 118			
Vinyl chloride	16.31	1.0	20	0	81.5	70 - 130			
Xylenes, Total	53.3	1.0	60	0	88.8	75 - 122			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>45.68</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>91.4</i>	<i>70 - 130</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.09</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.2</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>48.06</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.1</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>49.92</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.8</i>	<i>81 - 120</i>			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

QC BATCH REPORT

Batch ID: R331781 **Instrument:** VOA6 **Method:** SW8260

MS		Sample ID: HS19010884-01MS			Units: ug/L		Analysis Date: 25-Jan-2019 17:07			
Client ID:		Run ID: VOA6_331781			SeqNo: 4926454		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 - 127				
Benzene	19.34	1.0	20	0	96.7	70 - 127				
Chlorobenzene	21.3	1.0	20	1.276	100	70 - 114				
Ethylbenzene	20.37	1.0	20	0	102	70 - 124				
Methylene chloride	18.53	2.0	20	0	92.6	70 - 128				
Toluene	20.08	1.0	20	0	100	70 - 123				
Vinyl chloride	16	1.0	20	0	80.0	70 - 130				
Xylenes, Total	60.74	1.0	60	0	101	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>46.29</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>92.6</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.58</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.2</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>48.7</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.4</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>50.64</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>82 - 127</i>				

MSD		Sample ID: HS19010884-01MSD			Units: ug/L		Analysis Date: 25-Jan-2019 17:31			
Client ID:		Run ID: VOA6_331781			SeqNo: 4926455		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.64	1.0	20	0	93.2	70 - 127	18.56	0.448	20	
Benzene	18.97	1.0	20	0	94.8	70 - 127	19.34	1.93	20	
Chlorobenzene	19.99	1.0	20	1.276	93.6	70 - 114	21.3	6.34	20	
Ethylbenzene	19.15	1.0	20	0	95.7	70 - 124	20.37	6.16	20	
Methylene chloride	18.04	2.0	20	0	90.2	70 - 128	18.53	2.69	20	
Toluene	18.73	1.0	20	0	93.6	70 - 123	20.08	7	20	
Vinyl chloride	15.27	1.0	20	0	76.4	70 - 130	16	4.62	20	
Xylenes, Total	57.68	1.0	60	0	96.1	70 - 130	60.74	5.17	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.31</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.6</i>	<i>70 - 126</i>	<i>46.29</i>	<i>4.28</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>50.24</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>81 - 113</i>	<i>49.58</i>	<i>1.32</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>49.15</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.3</i>	<i>77 - 123</i>	<i>48.7</i>	<i>0.934</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>48.79</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.6</i>	<i>82 - 127</i>	<i>50.64</i>	<i>3.71</i>	<i>20</i>	

The following samples were analyzed in this batch: HS19010754-04 HS19010754-15 HS19010754-16 HS19010754-19
 HS19010754-20 HS19010754-21 HS19010754-22

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19010754

**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 Quantitation 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	88-0356	27-Mar-2019
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193 2018-2019	30-Apr-2019
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043 - 2018	30-Apr-2019
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19010754

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS19010754-01	WG-1620-MW53C-20190114	Login	1/17/2019 8:47:30 AM	JRM	EXT138
HS19010754-01	WG-1620-MW53C-20190114	Login	1/17/2019 8:47:30 AM	JRM	MET057
HS19010754-01	WG-1620-MW53C-20190114	Login	1/17/2019 8:47:30 AM	JRM	VOA105

Sample Receipt Checklist

Client Name: PBW
Work Order: HS19010754

Date/Time Received: 17-Jan-2019 08:27
Received by: NDD

Checklist completed by: Jared R. Makan
eSignature
Date: 17-Jan-2019

Reviewed by: Dane J. Wacasey
eSignature
Date: 23-Jan-2019

Matrices: Water

Carrier name: Client

- Shipping container/cooler in good condition?
Custody seals intact on shipping container/cooler?
Custody seals intact on sample bottles?
VOA/TX1005/TX1006 Solids in hermetically sealed vials?
Chain of custody present?
Chain of custody signed when relinquished and received?
Samplers name present on COC?
Chain of custody agrees with sample labels?
Samples in proper container/bottle?
Sample containers intact?
Sufficient sample volume for indicated test?
All samples received within holding time?
Container/Temp Blank temperature in compliance?

- Yes/No checkboxes for each item, including 'Not Present' options.

3 Page(s)
COC IDs:194310, 194320, 194324

Temperature(s)/Thermometer(s): 1.1c/1.5c, 1.6c/2.0c, 1.3c/1.7c, 1.4c/1.8c, 1.0c/1.4, 0.9c/1.3 UC/C IR11

Cooler(s)/Kit(s): 4077, 42775, 43015, 42625, 24932, 44439

Date/Time sample(s) sent to storage: 01/17/2019 10:15

- Water - VOA vials have zero headspace?
Water - pH acceptable upon receipt?
pH adjusted?
pH adjusted by:

Login Notes: Sample collection time not listed on any vials for sample WG-1620-MW71B-20190115, logged in per COC.

Client Contacted: Date Contacted: Person Contacted:
Contacted By: Regarding:
Comments:
Corrective Action:



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Chain of Custody Form

Page 1 of 2

COC ID: 194310

HS19010754

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	1620-06-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-TB0-201801			Water	1	2											
2	WG-1620-MW53C-20190114	1-14-19	1205	W		6	X		X	X							
3	WG-1620-MW54C-20190114		1300	W		6	X		X	X							
4	WG-1620-MW36B-20190114		1405	W		6		X	X	X							
5	WG-1620-MW36A-20190114		1455	W		6		X	X	X							
6	WG-1620-MW28A-20190114		1550	W		6	X		X	X							
7	WG-1620-MW28C-20190114		1635	W		2	X		X	X	X						
8	WG-1620-MW63B-20190114		1740	W		6	X		X	X							
9	WG-1620-FB04-20190114		1800	W		6		X	X	X							
10	WG-1620-MW26A-20190115	1-15-19	0740	W		6	X		X	X							

Sampler(s) Please Print & Sign JOHN BRAYTON		Shipment Method HAND DELIVERED		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:	
Relinquished by: John	Date: 1-17-19	Time: 08:27	Received by:	Notes: UPRR Houston MWPW				
Relinquished by: John	Date: 01/17/19	Time: 08:27	Received by (Laboratory): Nelson	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	42775	1.6	<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRRP Checklist	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035				43015	1.3	<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV	
				42625	1.4	<input type="checkbox"/> Level IV SWM6/CLP	<input type="checkbox"/> Other	
				24932	1.0			
				41629	0.9			

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
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Page 2 of 3

COC ID: 194320

HS19010754

Golder Associates Inc.
Houston TX-Wood Preserving Works



ALS Project Manager:

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	1620-06-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-TB0-201001	1-15-19		Water	1	2											
2	WG-1620-MW68B-20190115	0855	0855	W		6	X		X	X							
3	WG-1620-PD03-20190115		0855	W		6	X		X	X							
4	WG-1620-MW68C-20190115		0945	W		6	X		X	X							
5	WG-1620-MW83B-20190115		1040	W		6	X		X	X							
6	WG-1620-MW83C-20190115		1115	W		6	X		X	X							
7	WG-1620-MW35A-20190115		1245	W		6	X		X	X							
8	WG-1620-MW35B-20190115		1325	W		6	X		X	X							
9	WG-1620-MW25A-20190115		1425	W		6		X	X	X							
10	WG-1620-MW25C-20190115		1510	W		6		X	X	X							

Sampler(s) Please Print & Sign <i>John Beaton</i>		Shipment Method HAND DELIVERED		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:	
Relinquished by: <i>John Beaton</i>	Date: 1-17-19	Time: 08:27	Received by:	Notes: UPRR Houston MWPW				
Relinquished by: <i>John Beaton</i>	Date: 01/17/19	Time: 08:27	Received by (Laboratory): Nelson	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	42775	1.6	<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRRP Checklist	
				43015	1.3	<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV	
				42625	1.4	<input type="checkbox"/> Level IV SW846/CLP		
				24932	1.0	<input type="checkbox"/> Other		
				44639	0.9			

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035

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Chain of Custody Form

Page 3 of 3

COC ID: 194324

HS19010754

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	1620-06-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 TBO - 201801			Water	1	2											
2	WG-1620-MW34CR-20190115	1-15-19	1555	W		6	X		X	X							
3	WG-1620-MW71B-20190115	↓	1650	W		6	X		X	X							
4	WG-1620-FB05-20190115	↓	1715	W		6		X	X	X							
5	WG-1620-TB04-20190115			W		2	X										
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>John Peterson</i>		Shipment Method HAND DELIVERED		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:			
Relinquished by: <i>John Peterson</i>	Date: 1-17-19	Time: 08:27	Received by:	Notes: UPRR Houston MWPW							
Relinquished by: <i>John Peterson</i>	Date: 01/17/19	Time: 08:27	Received by (Laboratory): <i>Nelson</i>	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)					
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):			<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRRP Checklist				
						<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV				
						<input type="checkbox"/> Level IV SW846/CLP					
						<input type="checkbox"/> Other					

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 7-Other 8-4°C 9-5035

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February 13, 2019

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS19011117**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 19 sample(s) on Jan 23, 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.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

**TRRP Laboratory Data
Package Cover Page**

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: HS19011117

**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: 02/13/2019					
Project Name: Houston TX-Wood Preserving Works		Laboratory Job Number: HS19011117					
Reviewer Name: Dane Wacasey		Prep Batch Number(s): 137036, 137135,137136,R331844,R331938,R331946,R332011					
# 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 effects 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: 02/13/2019			
Project Name: Houston TX-Wood Preserving Works				Laboratory Job Number: HS19011117			
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 137036, 137135,137136,R331844,R331938,R331946,R332011			
# 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			3
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: 02/13/2019
Project Name: Houston TX-Wood Preserving Works		Laboratory Job Number: HS19011117
Reviewer Name: Dane Wacasey		Prep Batch Number(s): 137036, 137135,137136,R331844,R331938,R331946,R332011
ER#⁵	Description	
1	Batch R331938, Volatile Organics Method SW8260, sample HS19011125-01, MS and MSD were performed on unrelated sample	
2	Batch 137036, Semivolatile Organics Method SW8270, sample WG-1620-MW82B-20190122, MS/MSD RPD recovered above the RPD limit for surrogate 2-Fluorophenol due to possible matrix effects.	
3	See Run Log and CCB Exceptions Report.	
<p>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.</p> <p>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).</p>		

FORM 13 - ANALYSIS RUN LOG

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 WorkOrder: HS19011117
 Start Date: 30-Jan-2019 End Date: 30-Jan-2019

Run ID:ICPMS05_331929
 Instrument:ICPMS05
 Method:SW6020

Sample No.	D/F	Time	FileID	Analyses
ICV	1	30-Jan-2019 12:01	016_ICV.d	AS PB
LLICV2	1	30-Jan-2019 12:03	017SMPL.d	AS PB
LLICV5	1	30-Jan-2019 12:05	018LICV.d	AS PB
ICB	1	30-Jan-2019 12:07	019_ICB.d	AS PB
ICSA	1	30-Jan-2019 12:10	020ICSA.d	AS PB
ICSAB	1	30-Jan-2019 12:12	021ICSB.d	AS PB
CCV 1	1	30-Jan-2019 12:44	033_CCV.d	AS PB
CCB 1	1	30-Jan-2019 12:46	034_CCB.d	AS PB
CCV 2	1	30-Jan-2019 13:10	043_CCV.d	AS PB
CCB 2	1	30-Jan-2019 13:12	044_CCB.d	AS PB
WG-1620-MW82B-20190122	1	30-Jan-2019 13:17	046SMPL.d	AS PB
WG-1620-MW82B-20190122SD	5	30-Jan-2019 13:20	047SMPL.d	AS PB
WG-1620-MW82B-20190122MS	1	30-Jan-2019 13:22	048SMPL.d	AS PB
WG-1620-MW82B-20190122MSD	1	30-Jan-2019 13:24	049SMPL.d	AS PB
WG-1620-MW82B-20190122PDS	1	30-Jan-2019 13:26	050SMPL.d	AS PB
WG-1620-MW44A-20190122	1	30-Jan-2019 13:29	051SMPL.d	AS PB
WG-1620-MW87C-20190122	1	30-Jan-2019 13:31	052SMPL.d	AS PB
WG-1620-MW33BR-20190122	1	30-Jan-2019 13:33	053SMPL.d	AS PB
WG-1620-MW33A-20190122	1	30-Jan-2019 13:35	054SMPL.d	AS PB
CCV 3	1	30-Jan-2019 13:40	056_CCV.d	AS PB
CCB 3	1	30-Jan-2019 13:42	057_CCB.d	AS PB
WG-1620-FD04-20190122	1	30-Jan-2019 13:45	058SMPL.d	AS PB
WG-1620-MW38B-20190122	1	30-Jan-2019 13:47	059SMPL.d	AS PB
WG-1620-MW22AR-20190122	1	30-Jan-2019 13:49	060SMPL.d	AS PB
WG-1620-MW22BR-20190122	1	30-Jan-2019 13:52	061SMPL.d	AS PB
WG-1620-MW38A-20190122	1	30-Jan-2019 13:54	062SMPL.d	AS PB
WG-1620-MW90B-20190122	1	30-Jan-2019 13:56	063SMPL.d	AS PB
WG-1620-MW89B-20190122	1	30-Jan-2019 13:58	064SMPL.d	AS PB
WG-1620-MW27C-20190122	1	30-Jan-2019 14:01	065SMPL.d	AS PB
WQ-1620-FB06-20190122	1	30-Jan-2019 14:03	066SMPL.d	AS PB
CCV 4	1	30-Jan-2019 14:07	068_CCV.d	AS PB
CCB 4	1	30-Jan-2019 14:10	069_CCB.d	AS PB
WG-1620-MW62B-20190123	1	30-Jan-2019 14:27	072SMPL.d	AS PB
WG-1620-MW64A-20190123	1	30-Jan-2019 14:30	073SMPL.d	AS PB
WG-1620-MW47C-20190123	1	30-Jan-2019 14:32	074SMPL.d	AS PB
CCV 5	1	30-Jan-2019 14:43	079_CCV.d	AS PB
CCB 5	1	30-Jan-2019 14:45	080_CCB.d	AS PB
ICCV 6	1	30-Jan-2019 15:35	097_ICV.d	AS PB
LLCCV2	1	30-Jan-2019 15:38	098SMPL.d	AS PB
LLCCV5	1	30-Jan-2019 15:40	099LICV.d	AS PB
ICCB 6	1	30-Jan-2019 15:42	100_ICB.d	AS PB
CCV 7	1	30-Jan-2019 16:14	110_CCV.d	AS PB
CCB 7	1	30-Jan-2019 16:16	111_CCB.d	AS PB
CCV 8	1	30-Jan-2019 16:45	122_CCV.d	AS PB
CCB 8	1	30-Jan-2019 16:55	124_CCB.d	AS PB
CCV 9	1	30-Jan-2019 17:56	135_CCV.d	AS PB
CCB 9	1	30-Jan-2019 17:59	136_CCB.d	AS PB
CCV 10	1	30-Jan-2019 18:24	147_CCV.d	AS PB
CCB 10	1	30-Jan-2019 18:26	148_CCB.d	AS PB
CCV 11	1	30-Jan-2019 18:51	159_CCV.d	AS PB
CCB 11	1	30-Jan-2019 18:53	160_CCB.d	AS PB

CCB EXCEPTIONS REPORT

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

Run ID:ICPMS05_331929
Instrument:ICPMS05
Method:SW6020

CCB 4	Date: 30-Jan-2019 14:10	Seq: 4930654	D/F: 1	Units: ug/L
Analyte		Result	MDL	Report Limit
Arsenic		0.414	0.4	2

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19011117

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19011117-01	WG-1620-MW44A-20190122	Groundwater		22-Jan-2019 07:25	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-02	WG-1620-MW87C-20190122	Groundwater		22-Jan-2019 08:15	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-03	WG-1620-MW33BR-20190122	Groundwater		22-Jan-2019 09:05	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-04	WG-1620-MW33A-20190122	Groundwater		22-Jan-2019 10:00	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-05	WG-1620-FD04-20190122	Groundwater		22-Jan-2019 10:00	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-06	WG-1620-MW38B-20190122	Groundwater		22-Jan-2019 11:00	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-07	WG-1620-MW22AR-20190122	Groundwater		22-Jan-2019 11:50	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-08	WG-1620-MW22BR-20190122	Groundwater		22-Jan-2019 12:35	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-09	WG-1620-MW38A-20190122	Groundwater		22-Jan-2019 13:40	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-10	WQ-1620-TB05-20190123	Water	ALS-121118-84	23-Jan-2019 00:00	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-11	WG-1620-MW82B-20190122	Groundwater		22-Jan-2019 14:55	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-12	WG-1620-MW90B-20190122	Groundwater		22-Jan-2019 16:00	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-13	WG-1620-MW89B-20190122	Groundwater		22-Jan-2019 16:50	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-14	WG-1620-MW27C-20190122	Groundwater		22-Jan-2019 17:45	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-15	WQ-1620-FB06-20190122	Water		22-Jan-2019 18:00	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-16	WG-1620-MW62B-20190123	Groundwater		23-Jan-2019 07:15	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-17	WG-1620-MW64A-20190123	Groundwater		23-Jan-2019 08:10	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-18	WG-1620-MW61A-20190123	Groundwater		23-Jan-2019 09:20	23-Jan-2019 17:40	<input type="checkbox"/>
HS19011117-19	WG-1620-MW47C-20190123	Groundwater		23-Jan-2019 10:15	23-Jan-2019 17:40	<input type="checkbox"/>

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WG-1620-MW44A-20190122
 Collection Date: 22-Jan-2019 07:25

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	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-2019 06:30
Benzene	U		0.00020	0.0010	mg/L	1	29-Jan-2019 06:30
Chlorobenzene	U		0.00030	0.0010	mg/L	1	29-Jan-2019 06:30
Ethylbenzene	U		0.00030	0.0010	mg/L	1	29-Jan-2019 06:30
Methylene chloride	U		0.0010	0.0020	mg/L	1	29-Jan-2019 06:30
Toluene	U		0.00020	0.0010	mg/L	1	29-Jan-2019 06:30
Vinyl chloride	U		0.00020	0.0010	mg/L	1	29-Jan-2019 06:30
Xylenes, Total	U		0.00030	0.0010	mg/L	1	29-Jan-2019 06:30
<i>Surr: 1,2-Dichloroethane-d4</i>		<i>94.7</i>		<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 06:30</i>
<i>Surr: 4-Bromofluorobenzene</i>		<i>98.1</i>		<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 06:30</i>
<i>Surr: Dibromofluoromethane</i>		<i>101</i>		<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 06:30</i>
<i>Surr: Toluene-d8</i>		<i>102</i>		<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 06:30</i>

Note: See 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-20190122
 Collection Date: 22-Jan-2019 07:25

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	11-Feb-2019 11:48
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	11-Feb-2019 11:48
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	11-Feb-2019 11:48
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	11-Feb-2019 11:48
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	11-Feb-2019 11:48
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 11:48
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	11-Feb-2019 11:48
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	11-Feb-2019 11:48
Acenaphthene	0.037		0.00027	0.0010	mg/L	10	12-Feb-2019 15:16
Acenaphthylene	0.00036		0.000015	0.00010	mg/L	1	11-Feb-2019 11:48
Anthracene	0.00044		0.000014	0.00010	mg/L	1	11-Feb-2019 11:48
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	11-Feb-2019 11:48
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 11:48
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	11-Feb-2019 11:48
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	11-Feb-2019 11:48
Chrysene	0.000026	J	0.000021	0.00010	mg/L	1	11-Feb-2019 11:48
Dibenzofuran	U		0.000020	0.00010	mg/L	1	11-Feb-2019 11:48
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	11-Feb-2019 11:48
Fluoranthene	0.0058		0.000010	0.00010	mg/L	1	11-Feb-2019 11:48
Fluorene	0.0097		0.000030	0.00010	mg/L	1	11-Feb-2019 11:48
Naphthalene	0.00011		0.000020	0.00010	mg/L	1	11-Feb-2019 11:48
Nitrobenzene	U		0.000024	0.00020	mg/L	1	11-Feb-2019 11:48
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	11-Feb-2019 11:48
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	11-Feb-2019 11:48
Phenanthrene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 11:48
Phenol	U		0.000035	0.00020	mg/L	1	11-Feb-2019 11:48
Pyrene	0.0033		0.000019	0.00010	mg/L	1	11-Feb-2019 11:48
<i>Surr: 2,4,6-Tribromophenol</i>	<i>78.2</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 11:48</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>74.2</i>			<i>34-129</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 15:16</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>57.0</i>			<i>40-125</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 15:16</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>59.9</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 11:48</i>
<i>Surr: 2-Fluorophenol</i>	<i>49.5</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 15:16</i>
<i>Surr: 2-Fluorophenol</i>	<i>52.8</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 11:48</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>65.6</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 11:48</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>64.6</i>			<i>40-135</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 15:16</i>
<i>Surr: Nitrobenzene-d5</i>	<i>54.9</i>			<i>41-120</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 15:16</i>
<i>Surr: Nitrobenzene-d5</i>	<i>54.7</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 11:48</i>
<i>Surr: Phenol-d6</i>	<i>55.6</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 11:48</i>
<i>Surr: Phenol-d6</i>	<i>54.3</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 15:16</i>

Note: See 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-20190122
 Collection Date: 22-Jan-2019 07:25

ANALYTICAL REPORT

WorkOrder:HS19011117
 Lab ID:HS19011117-01
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JHD	
Arsenic	0.0101		0.000400	0.00200	mg/L	1	30-Jan-2019 13:29
Lead	U		0.000600	0.00200	mg/L	1	30-Jan-2019 13:29

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-MW87C-20190122
 Collection Date: 22-Jan-2019 08:15

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	29-Jan-2019 06:54
Benzene	U		0.00020	0.0010	mg/L	1	29-Jan-2019 06:54
Chlorobenzene	U		0.00030	0.0010	mg/L	1	29-Jan-2019 06:54
Ethylbenzene	U		0.00030	0.0010	mg/L	1	29-Jan-2019 06:54
Methylene chloride	U		0.0010	0.0020	mg/L	1	29-Jan-2019 06:54
Toluene	U		0.00020	0.0010	mg/L	1	29-Jan-2019 06:54
Xylenes, Total	U		0.00030	0.0010	mg/L	1	29-Jan-2019 06:54
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>95.0</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 06:54</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>96.8</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 06:54</i>
<i>Surr: Dibromofluoromethane</i>	<i>103</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 06:54</i>
<i>Surr: Toluene-d8</i>	<i>103</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 06:54</i>

Note: See 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-20190122
 Collection Date: 22-Jan-2019 08:15

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	11-Feb-2019 12:08
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	11-Feb-2019 12:08
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	11-Feb-2019 12:08
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	11-Feb-2019 12:08
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	11-Feb-2019 12:08
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 12:08
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	11-Feb-2019 12:08
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	11-Feb-2019 12:08
Acenaphthene	U		0.000027	0.00010	mg/L	1	11-Feb-2019 12:08
Acenaphthylene	U		0.000015	0.00010	mg/L	1	11-Feb-2019 12:08
Anthracene	U		0.000014	0.00010	mg/L	1	11-Feb-2019 12:08
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	11-Feb-2019 12:08
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 12:08
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	11-Feb-2019 12:08
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	11-Feb-2019 12:08
Chrysene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 12:08
Dibenzofuran	U		0.000020	0.00010	mg/L	1	11-Feb-2019 12:08
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	11-Feb-2019 12:08
Fluoranthene	U		0.000010	0.00010	mg/L	1	11-Feb-2019 12:08
Fluorene	U		0.000030	0.00010	mg/L	1	11-Feb-2019 12:08
Naphthalene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 12:08
Nitrobenzene	U		0.000024	0.00020	mg/L	1	11-Feb-2019 12:08
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	11-Feb-2019 12:08
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	11-Feb-2019 12:08
Phenanthrene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 12:08
Phenol	U		0.000035	0.00020	mg/L	1	11-Feb-2019 12:08
Pyrene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 12:08
<i>Surr: 2,4,6-Tribromophenol</i>	<i>51.1</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 12:08</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>42.7</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 12:08</i>
<i>Surr: 2-Fluorophenol</i>	<i>43.9</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 12:08</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>65.6</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 12:08</i>
<i>Surr: Nitrobenzene-d5</i>	<i>41.1</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 12:08</i>
<i>Surr: Phenol-d6</i>	<i>49.4</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 12:08</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JHD	
Arsenic	0.000587	J	0.000400	0.00200	mg/L	1	30-Jan-2019 13:31
Lead	0.00124	J	0.000600	0.00200	mg/L	1	30-Jan-2019 13:31

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-20190122
 Collection Date: 22-Jan-2019 09:05

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	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-2019 07:18
Benzene	0.0025		0.00020	0.0010	mg/L	1	29-Jan-2019 07:18
Chlorobenzene		U	0.00030	0.0010	mg/L	1	29-Jan-2019 07:18
Ethylbenzene	0.013		0.00030	0.0010	mg/L	1	29-Jan-2019 07:18
Methylene chloride		U	0.0010	0.0020	mg/L	1	29-Jan-2019 07:18
Toluene		U	0.00020	0.0010	mg/L	1	29-Jan-2019 07:18
Vinyl chloride		U	0.00020	0.0010	mg/L	1	29-Jan-2019 07:18
Xylenes, Total		U	0.00030	0.0010	mg/L	1	29-Jan-2019 07:18
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>96.6</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 07:18</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>100</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 07:18</i>
<i>Surr: Dibromofluoromethane</i>	<i>103</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 07:18</i>
<i>Surr: Toluene-d8</i>	<i>101</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 07:18</i>

Note: See 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-20190122
 Collection Date: 22-Jan-2019 09:05

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	11-Feb-2019 12:28
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	11-Feb-2019 12:28
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	11-Feb-2019 12:28
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	11-Feb-2019 12:28
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	11-Feb-2019 12:28
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 12:28
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	11-Feb-2019 12:28
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	11-Feb-2019 12:28
Acenaphthene	0.0013		0.000027	0.00010	mg/L	1	11-Feb-2019 12:28
Acenaphthylene	U		0.000015	0.00010	mg/L	1	11-Feb-2019 12:28
Anthracene	U		0.000014	0.00010	mg/L	1	11-Feb-2019 12:28
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	11-Feb-2019 12:28
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 12:28
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	11-Feb-2019 12:28
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	11-Feb-2019 12:28
Chrysene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 12:28
Dibenzofuran	0.000079	J	0.000020	0.00010	mg/L	1	11-Feb-2019 12:28
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	11-Feb-2019 12:28
Fluoranthene	0.000053	J	0.000010	0.00010	mg/L	1	11-Feb-2019 12:28
Fluorene	U		0.000030	0.00010	mg/L	1	11-Feb-2019 12:28
Naphthalene	0.000040	J	0.000020	0.00010	mg/L	1	11-Feb-2019 12:28
Nitrobenzene	U		0.000024	0.00020	mg/L	1	11-Feb-2019 12:28
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	11-Feb-2019 12:28
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	11-Feb-2019 12:28
Phenanthrene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 12:28
Phenol	U		0.000035	0.00020	mg/L	1	11-Feb-2019 12:28
Pyrene	0.000030	J	0.000019	0.00010	mg/L	1	11-Feb-2019 12:28
<i>Surr: 2,4,6-Tribromophenol</i>	83.3			34-129	%REC	1	11-Feb-2019 12:28
<i>Surr: 2-Fluorobiphenyl</i>	62.8			40-125	%REC	1	11-Feb-2019 12:28
<i>Surr: 2-Fluorophenol</i>	58.7			20-120	%REC	1	11-Feb-2019 12:28
<i>Surr: 4-Terphenyl-d14</i>	77.1			40-135	%REC	1	11-Feb-2019 12:28
<i>Surr: Nitrobenzene-d5</i>	57.6			41-120	%REC	1	11-Feb-2019 12:28
<i>Surr: Phenol-d6</i>	64.8			20-120	%REC	1	11-Feb-2019 12:28
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JHD	
Arsenic	0.00143	J	0.000400	0.00200	mg/L	1	30-Jan-2019 13:33
Lead	0.000636	J	0.000600	0.00200	mg/L	1	30-Jan-2019 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-MW33A-20190122
 Collection Date: 22-Jan-2019 10:00

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	29-Jan-2019 07:42
Benzene	U		0.00020	0.0010	mg/L	1	29-Jan-2019 07:42
Chlorobenzene	U		0.00030	0.0010	mg/L	1	29-Jan-2019 07:42
Ethylbenzene	U		0.00030	0.0010	mg/L	1	29-Jan-2019 07:42
Methylene chloride	U		0.0010	0.0020	mg/L	1	29-Jan-2019 07:42
Toluene	U		0.00020	0.0010	mg/L	1	29-Jan-2019 07:42
Xylenes, Total	U		0.00030	0.0010	mg/L	1	29-Jan-2019 07:42
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>94.9</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 07:42</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>97.4</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 07:42</i>
<i>Surr: Dibromofluoromethane</i>	<i>103</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 07:42</i>
<i>Surr: Toluene-d8</i>	<i>103</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 07:42</i>

Note: See 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-20190122
 Collection Date: 22-Jan-2019 10:00

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	11-Feb-2019 12:48
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	11-Feb-2019 12:48
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	11-Feb-2019 12:48
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	11-Feb-2019 12:48
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	11-Feb-2019 12:48
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 12:48
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	11-Feb-2019 12:48
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	11-Feb-2019 12:48
Acenaphthene	U		0.000027	0.00010	mg/L	1	11-Feb-2019 12:48
Acenaphthylene	U		0.000015	0.00010	mg/L	1	11-Feb-2019 12:48
Anthracene	U		0.000014	0.00010	mg/L	1	11-Feb-2019 12:48
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	11-Feb-2019 12:48
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 12:48
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	11-Feb-2019 12:48
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	11-Feb-2019 12:48
Chrysene	0.000025	J	0.000021	0.00010	mg/L	1	11-Feb-2019 12:48
Dibenzofuran	U		0.000020	0.00010	mg/L	1	11-Feb-2019 12:48
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	11-Feb-2019 12:48
Fluoranthene	0.00033		0.000010	0.00010	mg/L	1	11-Feb-2019 12:48
Fluorene	U		0.000030	0.00010	mg/L	1	11-Feb-2019 12:48
Naphthalene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 12:48
Nitrobenzene	U		0.000024	0.00020	mg/L	1	11-Feb-2019 12:48
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	11-Feb-2019 12:48
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	11-Feb-2019 12:48
Phenanthrene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 12:48
Phenol	U		0.000035	0.00020	mg/L	1	11-Feb-2019 12:48
Pyrene	0.00015		0.000019	0.00010	mg/L	1	11-Feb-2019 12:48
<i>Surr: 2,4,6-Tribromophenol</i>	<i>80.1</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 12:48</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>64.8</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 12:48</i>
<i>Surr: 2-Fluorophenol</i>	<i>64.3</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 12:48</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>74.8</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 12:48</i>
<i>Surr: Nitrobenzene-d5</i>	<i>61.2</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 12:48</i>
<i>Surr: Phenol-d6</i>	<i>72.2</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 12:48</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JHD	
Arsenic	0.0100		0.000400	0.00200	mg/L	1	30-Jan-2019 13:35
Lead	U		0.000600	0.00200	mg/L	1	30-Jan-2019 13:35

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-FD04-20190122
 Collection Date: 22-Jan-2019 10:00

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	SQL	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-2019 08:06
Benzene	U		0.00020	0.0010	mg/L	1	29-Jan-2019 08:06
Chlorobenzene	U		0.00030	0.0010	mg/L	1	29-Jan-2019 08:06
Ethylbenzene	U		0.00030	0.0010	mg/L	1	29-Jan-2019 08:06
Methylene chloride	U		0.0010	0.0020	mg/L	1	29-Jan-2019 08:06
Toluene	U		0.00020	0.0010	mg/L	1	29-Jan-2019 08:06
Xylenes, Total	U		0.00030	0.0010	mg/L	1	29-Jan-2019 08:06
<i>Surr: 1,2-Dichloroethane-d4</i>		<i>94.0</i>		<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 08:06</i>
<i>Surr: 4-Bromofluorobenzene</i>		<i>96.0</i>		<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 08:06</i>
<i>Surr: Dibromofluoromethane</i>		<i>99.6</i>		<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 08:06</i>
<i>Surr: Toluene-d8</i>		<i>103</i>		<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 08:06</i>

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WG-1620-FD04-20190122
 Collection Date: 22-Jan-2019 10:00

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	11-Feb-2019 13:07
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	11-Feb-2019 13:07
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	11-Feb-2019 13:07
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	11-Feb-2019 13:07
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	11-Feb-2019 13:07
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 13:07
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	11-Feb-2019 13:07
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	11-Feb-2019 13:07
Acenaphthene	U		0.000027	0.00010	mg/L	1	11-Feb-2019 13:07
Acenaphthylene	U		0.000015	0.00010	mg/L	1	11-Feb-2019 13:07
Anthracene	U		0.000014	0.00010	mg/L	1	11-Feb-2019 13:07
Benz(a)anthracene	0.000062	J	0.000050	0.00010	mg/L	1	11-Feb-2019 13:07
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 13:07
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	11-Feb-2019 13:07
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	11-Feb-2019 13:07
Chrysene	0.000034	J	0.000021	0.00010	mg/L	1	11-Feb-2019 13:07
Dibenzofuran	U		0.000020	0.00010	mg/L	1	11-Feb-2019 13:07
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	11-Feb-2019 13:07
Fluoranthene	0.00044		0.000010	0.00010	mg/L	1	11-Feb-2019 13:07
Fluorene	U		0.000030	0.00010	mg/L	1	11-Feb-2019 13:07
Naphthalene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 13:07
Nitrobenzene	U		0.000024	0.00020	mg/L	1	11-Feb-2019 13:07
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	11-Feb-2019 13:07
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	11-Feb-2019 13:07
Phenanthrene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 13:07
Phenol	U		0.000035	0.00020	mg/L	1	11-Feb-2019 13:07
Pyrene	0.00034		0.000019	0.00010	mg/L	1	11-Feb-2019 13:07
<i>Surr: 2,4,6-Tribromophenol</i>	81.6			34-129	%REC	1	11-Feb-2019 13:07
<i>Surr: 2-Fluorobiphenyl</i>	66.5			40-125	%REC	1	11-Feb-2019 13:07
<i>Surr: 2-Fluorophenol</i>	61.1			20-120	%REC	1	11-Feb-2019 13:07
<i>Surr: 4-Terphenyl-d14</i>	76.6			40-135	%REC	1	11-Feb-2019 13:07
<i>Surr: Nitrobenzene-d5</i>	59.4			41-120	%REC	1	11-Feb-2019 13:07
<i>Surr: Phenol-d6</i>	66.8			20-120	%REC	1	11-Feb-2019 13:07
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JHD	
Arsenic	0.00995		0.000400	0.00200	mg/L	1	30-Jan-2019 13:45
Lead	U		0.000600	0.00200	mg/L	1	30-Jan-2019 13:45

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-MW38B-20190122
 Collection Date: 22-Jan-2019 11:00

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	29-Jan-2019 08:31
Benzene	U		0.00020	0.0010	mg/L	1	29-Jan-2019 08:31
Chlorobenzene	U		0.00030	0.0010	mg/L	1	29-Jan-2019 08:31
Ethylbenzene	U		0.00030	0.0010	mg/L	1	29-Jan-2019 08:31
Methylene chloride	U		0.0010	0.0020	mg/L	1	29-Jan-2019 08:31
Toluene	U		0.00020	0.0010	mg/L	1	29-Jan-2019 08:31
Xylenes, Total	U		0.00030	0.0010	mg/L	1	29-Jan-2019 08:31
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>94.7</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 08:31</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>96.3</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 08:31</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 08:31</i>
<i>Surr: Toluene-d8</i>	<i>101</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 08:31</i>

Note: See 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-20190122
 Collection Date: 22-Jan-2019 11:00

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	11-Feb-2019 13:27
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	11-Feb-2019 13:27
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	11-Feb-2019 13:27
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	11-Feb-2019 13:27
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	11-Feb-2019 13:27
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 13:27
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	11-Feb-2019 13:27
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	11-Feb-2019 13:27
Acenaphthene	U		0.000027	0.00010	mg/L	1	11-Feb-2019 13:27
Acenaphthylene	U		0.000015	0.00010	mg/L	1	11-Feb-2019 13:27
Anthracene	0.00010		0.000014	0.00010	mg/L	1	11-Feb-2019 13:27
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	11-Feb-2019 13:27
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 13:27
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	11-Feb-2019 13:27
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	11-Feb-2019 13:27
Chrysene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 13:27
Dibenzofuran	U		0.000020	0.00010	mg/L	1	11-Feb-2019 13:27
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	11-Feb-2019 13:27
Fluoranthene	U		0.000010	0.00010	mg/L	1	11-Feb-2019 13:27
Fluorene	U		0.000030	0.00010	mg/L	1	11-Feb-2019 13:27
Naphthalene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 13:27
Nitrobenzene	U		0.000024	0.00020	mg/L	1	11-Feb-2019 13:27
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	11-Feb-2019 13:27
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	11-Feb-2019 13:27
Phenanthrene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 13:27
Phenol	U		0.000035	0.00020	mg/L	1	11-Feb-2019 13:27
Pyrene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 13:27
<i>Surr: 2,4,6-Tribromophenol</i>	<i>72.8</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 13:27</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>46.9</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 13:27</i>
<i>Surr: 2-Fluorophenol</i>	<i>47.6</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 13:27</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>76.1</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 13:27</i>
<i>Surr: Nitrobenzene-d5</i>	<i>42.5</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 13:27</i>
<i>Surr: Phenol-d6</i>	<i>54.3</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 13:27</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	30-Jan-2019 13:47
Lead	U		0.000600	0.00200	mg/L	1	30-Jan-2019 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-MW22AR-20190122
 Collection Date: 22-Jan-2019 11:50

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	29-Jan-2019 21:20
Benzene	U		0.00020	0.0010	mg/L	1	29-Jan-2019 21:20
Chlorobenzene	U		0.00030	0.0010	mg/L	1	29-Jan-2019 21:20
Ethylbenzene	U		0.00030	0.0010	mg/L	1	29-Jan-2019 21:20
Methylene chloride	U		0.0010	0.0020	mg/L	1	29-Jan-2019 21:20
Toluene	U		0.00020	0.0010	mg/L	1	29-Jan-2019 21:20
Xylenes, Total	U		0.00030	0.0010	mg/L	1	29-Jan-2019 21:20
<i>Surr: 1,2-Dichloroethane-d4</i>		86.5		70-126	%REC	1	29-Jan-2019 21:20
<i>Surr: 4-Bromofluorobenzene</i>		95.4		81-113	%REC	1	29-Jan-2019 21:20
<i>Surr: Dibromofluoromethane</i>		98.8		77-123	%REC	1	29-Jan-2019 21:20
<i>Surr: Toluene-d8</i>		104		82-127	%REC	1	29-Jan-2019 21:20

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-MW22AR-20190122
 Collection Date: 22-Jan-2019 11:50

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	11-Feb-2019 13:47
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	11-Feb-2019 13:47
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	11-Feb-2019 13:47
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	11-Feb-2019 13:47
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	11-Feb-2019 13:47
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 13:47
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	11-Feb-2019 13:47
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	11-Feb-2019 13:47
Acenaphthene	0.00071		0.000027	0.00010	mg/L	1	11-Feb-2019 13:47
Acenaphthylene	U		0.000015	0.00010	mg/L	1	11-Feb-2019 13:47
Anthracene	0.000028	J	0.000014	0.00010	mg/L	1	11-Feb-2019 13:47
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	11-Feb-2019 13:47
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 13:47
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	11-Feb-2019 13:47
Bis(2-ethylhexyl)phthalate	0.000065	J	0.000037	0.00020	mg/L	1	11-Feb-2019 13:47
Chrysene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 13:47
Dibenzofuran	0.000029	J	0.000020	0.00010	mg/L	1	11-Feb-2019 13:47
Di-n-butyl phthalate	0.00051		0.000020	0.00020	mg/L	1	11-Feb-2019 13:47
Fluoranthene	0.000079	J	0.000010	0.00010	mg/L	1	11-Feb-2019 13:47
Fluorene	0.00014		0.000030	0.00010	mg/L	1	11-Feb-2019 13:47
Naphthalene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 13:47
Nitrobenzene	U		0.000024	0.00020	mg/L	1	11-Feb-2019 13:47
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	11-Feb-2019 13:47
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	11-Feb-2019 13:47
Phenanthrene	0.000068	J	0.000021	0.00010	mg/L	1	11-Feb-2019 13:47
Phenol	U		0.000035	0.00020	mg/L	1	11-Feb-2019 13:47
Pyrene	0.000084	J	0.000019	0.00010	mg/L	1	11-Feb-2019 13:47
<i>Surr: 2,4,6-Tribromophenol</i>	88.5			34-129	%REC	1	11-Feb-2019 13:47
<i>Surr: 2-Fluorobiphenyl</i>	58.3			40-125	%REC	1	11-Feb-2019 13:47
<i>Surr: 2-Fluorophenol</i>	48.6			20-120	%REC	1	11-Feb-2019 13:47
<i>Surr: 4-Terphenyl-d14</i>	79.0			40-135	%REC	1	11-Feb-2019 13:47
<i>Surr: Nitrobenzene-d5</i>	54.0			41-120	%REC	1	11-Feb-2019 13:47
<i>Surr: Phenol-d6</i>	56.7			20-120	%REC	1	11-Feb-2019 13:47
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JHD	
Arsenic	0.00488		0.000400	0.00200	mg/L	1	30-Jan-2019 13:49
Lead	0.00526		0.000600	0.00200	mg/L	1	30-Jan-2019 13:49

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-MW22BR-20190122
 Collection Date: 22-Jan-2019 12:35

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	30-Jan-2019 22:45
Benzene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 22:45
Chlorobenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 22:45
Ethylbenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 22:45
Methylene chloride	U		0.0010	0.0020	mg/L	1	30-Jan-2019 22:45
Toluene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 22:45
Xylenes, Total	U		0.00030	0.0010	mg/L	1	30-Jan-2019 22:45
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>87.3</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 22:45</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>98.3</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 22:45</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 22:45</i>
<i>Surr: Toluene-d8</i>	<i>101</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 22:45</i>

Note: See 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-20190122
 Collection Date: 22-Jan-2019 12:35

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	11-Feb-2019 14:07
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	11-Feb-2019 14:07
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	11-Feb-2019 14:07
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	11-Feb-2019 14:07
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	11-Feb-2019 14:07
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 14:07
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	11-Feb-2019 14:07
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	11-Feb-2019 14:07
Acenaphthene	0.022		0.00027	0.0010	mg/L	10	12-Feb-2019 15:36
Acenaphthylene	U		0.000015	0.00010	mg/L	1	11-Feb-2019 14:07
Anthracene	0.00048		0.000014	0.00010	mg/L	1	11-Feb-2019 14:07
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	11-Feb-2019 14:07
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 14:07
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	11-Feb-2019 14:07
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	11-Feb-2019 14:07
Chrysene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 14:07
Dibenzofuran	0.00029		0.000020	0.00010	mg/L	1	11-Feb-2019 14:07
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	11-Feb-2019 14:07
Fluoranthene	0.0011		0.000010	0.00010	mg/L	1	11-Feb-2019 14:07
Fluorene	0.0025		0.000030	0.00010	mg/L	1	11-Feb-2019 14:07
Naphthalene	0.00017		0.000020	0.00010	mg/L	1	11-Feb-2019 14:07
Nitrobenzene	U		0.000024	0.00020	mg/L	1	11-Feb-2019 14:07
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	11-Feb-2019 14:07
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	11-Feb-2019 14:07
Phenanthrene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 14:07
Phenol	U		0.000035	0.00020	mg/L	1	11-Feb-2019 14:07
Pyrene	0.00046		0.000019	0.00010	mg/L	1	11-Feb-2019 14:07
<i>Surr: 2,4,6-Tribromophenol</i>	76.5			34-129	%REC	1	11-Feb-2019 14:07
<i>Surr: 2,4,6-Tribromophenol</i>	80.6			34-129	%REC	10	12-Feb-2019 15:36
<i>Surr: 2-Fluorobiphenyl</i>	64.7			40-125	%REC	10	12-Feb-2019 15:36
<i>Surr: 2-Fluorobiphenyl</i>	63.5			40-125	%REC	1	11-Feb-2019 14:07
<i>Surr: 2-Fluorophenol</i>	61.4			20-120	%REC	1	11-Feb-2019 14:07
<i>Surr: 2-Fluorophenol</i>	50.2			20-120	%REC	10	12-Feb-2019 15:36
<i>Surr: 4-Terphenyl-d14</i>	68.7			40-135	%REC	10	12-Feb-2019 15:36
<i>Surr: 4-Terphenyl-d14</i>	70.7			40-135	%REC	1	11-Feb-2019 14:07
<i>Surr: Nitrobenzene-d5</i>	62.7			41-120	%REC	1	11-Feb-2019 14:07
<i>Surr: Nitrobenzene-d5</i>	56.2			41-120	%REC	10	12-Feb-2019 15:36
<i>Surr: Phenol-d6</i>	64.5			20-120	%REC	10	12-Feb-2019 15:36
<i>Surr: Phenol-d6</i>	67.3			20-120	%REC	1	11-Feb-2019 14:07

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-MW22BR-20190122
 Collection Date: 22-Jan-2019 12:35

ANALYTICAL REPORT

WorkOrder:HS19011117
 Lab ID:HS19011117-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JHD	
Arsenic	0.0535		0.000400	0.00200	mg/L	1	30-Jan-2019 13:52
Lead	U		0.000600	0.00200	mg/L	1	30-Jan-2019 13:52

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-MW38A-20190122
 Collection Date: 22-Jan-2019 13:40

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-09
 Matrix:Groundwater

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-2019 03:44
Benzene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 03:44
Chlorobenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 03:44
Ethylbenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 03:44
Methylene chloride	U		0.0010	0.0020	mg/L	1	30-Jan-2019 03:44
Toluene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 03:44
Xylenes, Total	U		0.00030	0.0010	mg/L	1	30-Jan-2019 03:44
<i>Surr: 1,2-Dichloroethane-d4</i>		<i>87.6</i>		<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 03:44</i>
<i>Surr: 4-Bromofluorobenzene</i>		<i>97.6</i>		<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 03:44</i>
<i>Surr: Dibromofluoromethane</i>		<i>98.6</i>		<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 03:44</i>
<i>Surr: Toluene-d8</i>		<i>102</i>		<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 03:44</i>

Note: See 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-20190122
 Collection Date: 22-Jan-2019 13:40

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	11-Feb-2019 14:27
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	11-Feb-2019 14:27
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	11-Feb-2019 14:27
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	11-Feb-2019 14:27
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	11-Feb-2019 14:27
2-Methylnaphthalene	0.000055	J	0.000019	0.00010	mg/L	1	11-Feb-2019 14:27
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	11-Feb-2019 14:27
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	11-Feb-2019 14:27
Acenaphthene	0.014		0.00027	0.0010	mg/L	10	12-Feb-2019 15:56
Acenaphthylene	0.00020		0.000015	0.00010	mg/L	1	11-Feb-2019 14:27
Anthracene	0.00017		0.000014	0.00010	mg/L	1	11-Feb-2019 14:27
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	11-Feb-2019 14:27
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 14:27
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	11-Feb-2019 14:27
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	11-Feb-2019 14:27
Chrysene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 14:27
Dibenzofuran	0.00014		0.000020	0.00010	mg/L	1	11-Feb-2019 14:27
Di-n-butyl phthalate	0.000068	J	0.000020	0.00020	mg/L	1	11-Feb-2019 14:27
Fluoranthene	0.0013		0.000010	0.00010	mg/L	1	11-Feb-2019 14:27
Fluorene	0.0024		0.000030	0.00010	mg/L	1	11-Feb-2019 14:27
Naphthalene	0.00015		0.000020	0.00010	mg/L	1	11-Feb-2019 14:27
Nitrobenzene	U		0.000024	0.00020	mg/L	1	11-Feb-2019 14:27
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	11-Feb-2019 14:27
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	11-Feb-2019 14:27
Phenanthrene	0.00058		0.000021	0.00010	mg/L	1	11-Feb-2019 14:27
Phenol	U		0.000035	0.00020	mg/L	1	11-Feb-2019 14:27
Pyrene	0.0011		0.000019	0.00010	mg/L	1	11-Feb-2019 14:27
<i>Surr: 2,4,6-Tribromophenol</i>	<i>81.0</i>			<i>34-129</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 15:56</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>76.2</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 14:27</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>54.9</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 14:27</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>58.2</i>			<i>40-125</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 15:56</i>
<i>Surr: 2-Fluorophenol</i>	<i>58.2</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 15:56</i>
<i>Surr: 2-Fluorophenol</i>	<i>52.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 14:27</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>75.5</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 14:27</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>72.7</i>			<i>40-135</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 15:56</i>
<i>Surr: Nitrobenzene-d5</i>	<i>56.7</i>			<i>41-120</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 15:56</i>
<i>Surr: Nitrobenzene-d5</i>	<i>51.8</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 14:27</i>
<i>Surr: Phenol-d6</i>	<i>56.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 14:27</i>
<i>Surr: Phenol-d6</i>	<i>60.0</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>12-Feb-2019 15:56</i>

Note: See 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-20190122
 Collection Date: 22-Jan-2019 13:40

ANALYTICAL REPORT

WorkOrder:HS19011117
 Lab ID:HS19011117-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JHD	
Arsenic	0.0186		0.000400	0.00200	mg/L	1	30-Jan-2019 13:54
Lead	U		0.000600	0.00200	mg/L	1	30-Jan-2019 13:54

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WQ-1620-TB05-20190123
 Collection Date: 23-Jan-2019 00:00

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-10
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MLL	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-2019 00:56
Benzene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 00:56
Chlorobenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 00:56
Ethylbenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 00:56
Methylene chloride	U		0.0010	0.0020	mg/L	1	30-Jan-2019 00:56
Toluene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 00:56
Vinyl chloride	U		0.00020	0.0010	mg/L	1	30-Jan-2019 00:56
Xylenes, Total	U		0.00030	0.0010	mg/L	1	30-Jan-2019 00:56
<i>Surr: 1,2-Dichloroethane-d4</i>		<i>87.2</i>		<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 00:56</i>
<i>Surr: 4-Bromofluorobenzene</i>		<i>95.9</i>		<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 00:56</i>
<i>Surr: Dibromofluoromethane</i>		<i>98.6</i>		<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 00:56</i>
<i>Surr: Toluene-d8</i>		<i>104</i>		<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 00:56</i>

Note: See 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-20190122
 Collection Date: 22-Jan-2019 14:55

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-11
 Matrix:Groundwater

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-2019 00:05
Benzene	U		0.00020	0.0010	mg/L	1	29-Jan-2019 00:05
Chlorobenzene	U		0.00030	0.0010	mg/L	1	29-Jan-2019 00:05
Ethylbenzene	U		0.00030	0.0010	mg/L	1	29-Jan-2019 00:05
Methylene chloride	U		0.0010	0.0020	mg/L	1	29-Jan-2019 00:05
Toluene	U		0.00020	0.0010	mg/L	1	29-Jan-2019 00:05
Xylenes, Total	U		0.00030	0.0010	mg/L	1	29-Jan-2019 00:05
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>91.1</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 00:05</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>96.1</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 00:05</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 00:05</i>
<i>Surr: Toluene-d8</i>	<i>104</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 00:05</i>

Note: See 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-20190122
 Collection Date: 22-Jan-2019 14:55

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-11
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	29-Jan-2019 16:28
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	29-Jan-2019 16:28
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	29-Jan-2019 16:28
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	29-Jan-2019 16:28
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	29-Jan-2019 16:28
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	29-Jan-2019 16:28
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	29-Jan-2019 16:28
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	29-Jan-2019 16:28
Acenaphthene	U		0.000027	0.00010	mg/L	1	29-Jan-2019 16:28
Acenaphthylene	U		0.000015	0.00010	mg/L	1	29-Jan-2019 16:28
Anthracene	0.000042	J	0.000014	0.00010	mg/L	1	29-Jan-2019 16:28
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	29-Jan-2019 16:28
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	29-Jan-2019 16:28
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	29-Jan-2019 16:28
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	29-Jan-2019 16:28
Chrysene	U		0.000021	0.00010	mg/L	1	29-Jan-2019 16:28
Dibenzofuran	U		0.000020	0.00010	mg/L	1	29-Jan-2019 16:28
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	29-Jan-2019 16:28
Fluoranthene	U		0.000010	0.00010	mg/L	1	29-Jan-2019 16:28
Fluorene	U		0.000030	0.00010	mg/L	1	29-Jan-2019 16:28
Naphthalene	U		0.000020	0.00010	mg/L	1	29-Jan-2019 16:28
Nitrobenzene	U		0.000024	0.00020	mg/L	1	29-Jan-2019 16:28
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	29-Jan-2019 16:28
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	29-Jan-2019 16:28
Phenanthrene	U		0.000021	0.00010	mg/L	1	29-Jan-2019 16:28
Phenol	U		0.000035	0.00020	mg/L	1	29-Jan-2019 16:28
Pyrene	U		0.000019	0.00010	mg/L	1	29-Jan-2019 16:28
<i>Surr: 2,4,6-Tribromophenol</i>	<i>72.0</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 16:28</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>57.8</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 16:28</i>
<i>Surr: 2-Fluorophenol</i>	<i>50.2</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 16:28</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>81.5</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 16:28</i>
<i>Surr: Nitrobenzene-d5</i>	<i>54.4</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 16:28</i>
<i>Surr: Phenol-d6</i>	<i>62.3</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>29-Jan-2019 16:28</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JHD	
Arsenic	0.00838		0.000400	0.00200	mg/L	1	30-Jan-2019 13:17
Lead	U		0.000600	0.00200	mg/L	1	30-Jan-2019 13:17

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-MW90B-20190122
 Collection Date: 22-Jan-2019 16:00

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	30-Jan-2019 04:09
Benzene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 04:09
Chlorobenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 04:09
Ethylbenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 04:09
Methylene chloride	U		0.0010	0.0020	mg/L	1	30-Jan-2019 04:09
Toluene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 04:09
Xylenes, Total	U		0.00030	0.0010	mg/L	1	30-Jan-2019 04:09
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>84.0</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 04:09</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>94.4</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 04:09</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 04:09</i>
<i>Surr: Toluene-d8</i>	<i>103</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 04:09</i>

Note: See 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-20190122
 Collection Date: 22-Jan-2019 16:00

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	11-Feb-2019 14:46
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	11-Feb-2019 14:46
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	11-Feb-2019 14:46
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	11-Feb-2019 14:46
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	11-Feb-2019 14:46
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 14:46
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	11-Feb-2019 14:46
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	11-Feb-2019 14:46
Acenaphthene	U		0.000027	0.00010	mg/L	1	11-Feb-2019 14:46
Acenaphthylene	U		0.000015	0.00010	mg/L	1	11-Feb-2019 14:46
Anthracene	U		0.000014	0.00010	mg/L	1	11-Feb-2019 14:46
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	11-Feb-2019 14:46
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 14:46
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	11-Feb-2019 14:46
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	11-Feb-2019 14:46
Chrysene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 14:46
Dibenzofuran	U		0.000020	0.00010	mg/L	1	11-Feb-2019 14:46
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	11-Feb-2019 14:46
Fluoranthene	U		0.000010	0.00010	mg/L	1	11-Feb-2019 14:46
Fluorene	U		0.000030	0.00010	mg/L	1	11-Feb-2019 14:46
Naphthalene	0.000045	J	0.000020	0.00010	mg/L	1	11-Feb-2019 14:46
Nitrobenzene	U		0.000024	0.00020	mg/L	1	11-Feb-2019 14:46
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	11-Feb-2019 14:46
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	11-Feb-2019 14:46
Phenanthrene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 14:46
Phenol	U		0.000035	0.00020	mg/L	1	11-Feb-2019 14:46
Pyrene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 14:46
<i>Surr: 2,4,6-Tribromophenol</i>	<i>84.3</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 14:46</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>68.1</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 14:46</i>
<i>Surr: 2-Fluorophenol</i>	<i>56.1</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 14:46</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>76.6</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 14:46</i>
<i>Surr: Nitrobenzene-d5</i>	<i>60.7</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 14:46</i>
<i>Surr: Phenol-d6</i>	<i>64.4</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 14:46</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JHD	
Arsenic	0.00346		0.000400	0.00200	mg/L	1	30-Jan-2019 13:56
Lead	U		0.000600	0.00200	mg/L	1	30-Jan-2019 13:56

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-MW89B-20190122
 Collection Date: 22-Jan-2019 16:50

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-13
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	30-Jan-2019 04:32
Benzene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 04:32
Chlorobenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 04:32
Ethylbenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 04:32
Methylene chloride	U		0.0010	0.0020	mg/L	1	30-Jan-2019 04:32
Toluene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 04:32
Xylenes, Total	U		0.00030	0.0010	mg/L	1	30-Jan-2019 04:32
<i>Surr: 1,2-Dichloroethane-d4</i>		<i>87.6</i>		<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 04:32</i>
<i>Surr: 4-Bromofluorobenzene</i>		<i>95.9</i>		<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 04:32</i>
<i>Surr: Dibromofluoromethane</i>		<i>99.0</i>		<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 04:32</i>
<i>Surr: Toluene-d8</i>		<i>103</i>		<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 04:32</i>

Note: See 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-20190122
 Collection Date: 22-Jan-2019 16:50

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-13
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	11-Feb-2019 15:06
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	11-Feb-2019 15:06
2,4-Dinitrotoluene	U		0.000059	0.00020	mg/L	1	11-Feb-2019 15:06
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	11-Feb-2019 15:06
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	11-Feb-2019 15:06
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 15:06
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	11-Feb-2019 15:06
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	11-Feb-2019 15:06
Acenaphthene	U		0.000027	0.00010	mg/L	1	11-Feb-2019 15:06
Acenaphthylene	U		0.000015	0.00010	mg/L	1	11-Feb-2019 15:06
Anthracene	U		0.000014	0.00010	mg/L	1	11-Feb-2019 15:06
Benz(a)anthracene	U		0.000051	0.00010	mg/L	1	11-Feb-2019 15:06
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 15:06
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	11-Feb-2019 15:06
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	11-Feb-2019 15:06
Chrysene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 15:06
Dibenzofuran	U		0.000020	0.00010	mg/L	1	11-Feb-2019 15:06
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	11-Feb-2019 15:06
Fluoranthene	U		0.000010	0.00010	mg/L	1	11-Feb-2019 15:06
Fluorene	U		0.000030	0.00010	mg/L	1	11-Feb-2019 15:06
Naphthalene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 15:06
Nitrobenzene	U		0.000024	0.00020	mg/L	1	11-Feb-2019 15:06
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	11-Feb-2019 15:06
Pentachlorophenol	U		0.000080	0.00020	mg/L	1	11-Feb-2019 15:06
Phenanthrene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 15:06
Phenol	U		0.000035	0.00020	mg/L	1	11-Feb-2019 15:06
Pyrene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 15:06
<i>Surr: 2,4,6-Tribromophenol</i>	<i>81.7</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 15:06</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>62.5</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 15:06</i>
<i>Surr: 2-Fluorophenol</i>	<i>60.6</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 15:06</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>78.7</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 15:06</i>
<i>Surr: Nitrobenzene-d5</i>	<i>56.0</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 15:06</i>
<i>Surr: Phenol-d6</i>	<i>64.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 15:06</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JHD	
Arsenic	0.000683	J	0.000400	0.00200	mg/L	1	30-Jan-2019 13:58
Lead	U		0.000600	0.00200	mg/L	1	30-Jan-2019 13:58

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-MW27C-20190122
 Collection Date: 22-Jan-2019 17:45

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-14
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	30-Jan-2019 04:57
Benzene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 04:57
Chlorobenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 04:57
Ethylbenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 04:57
Methylene chloride	U		0.0010	0.0020	mg/L	1	30-Jan-2019 04:57
Toluene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 04:57
Xylenes, Total	U		0.00030	0.0010	mg/L	1	30-Jan-2019 04:57
<i>Surr: 1,2-Dichloroethane-d4</i>		<i>87.7</i>		<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 04:57</i>
<i>Surr: 4-Bromofluorobenzene</i>		<i>95.8</i>		<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 04:57</i>
<i>Surr: Dibromofluoromethane</i>		<i>98.4</i>		<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 04:57</i>
<i>Surr: Toluene-d8</i>		<i>103</i>		<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 04:57</i>

Note: See 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-20190122
 Collection Date: 22-Jan-2019 17:45

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-14
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	11-Feb-2019 15:26
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	11-Feb-2019 15:26
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	11-Feb-2019 15:26
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	11-Feb-2019 15:26
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	11-Feb-2019 15:26
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 15:26
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	11-Feb-2019 15:26
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	11-Feb-2019 15:26
Acenaphthene	U		0.000027	0.00010	mg/L	1	11-Feb-2019 15:26
Acenaphthylene	U		0.000015	0.00010	mg/L	1	11-Feb-2019 15:26
Anthracene	U		0.000014	0.00010	mg/L	1	11-Feb-2019 15:26
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	11-Feb-2019 15:26
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 15:26
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	11-Feb-2019 15:26
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	11-Feb-2019 15:26
Chrysene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 15:26
Dibenzofuran	U		0.000020	0.00010	mg/L	1	11-Feb-2019 15:26
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	11-Feb-2019 15:26
Fluoranthene	U		0.000010	0.00010	mg/L	1	11-Feb-2019 15:26
Fluorene	U		0.000030	0.00010	mg/L	1	11-Feb-2019 15:26
Naphthalene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 15:26
Nitrobenzene	U		0.000024	0.00020	mg/L	1	11-Feb-2019 15:26
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	11-Feb-2019 15:26
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	11-Feb-2019 15:26
Phenanthrene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 15:26
Phenol	U		0.000035	0.00020	mg/L	1	11-Feb-2019 15:26
Pyrene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 15:26
<i>Surr: 2,4,6-Tribromophenol</i>	69.6			34-129	%REC	1	11-Feb-2019 15:26
<i>Surr: 2-Fluorobiphenyl</i>	62.6			40-125	%REC	1	11-Feb-2019 15:26
<i>Surr: 2-Fluorophenol</i>	49.5			20-120	%REC	1	11-Feb-2019 15:26
<i>Surr: 4-Terphenyl-d14</i>	76.5			40-135	%REC	1	11-Feb-2019 15:26
<i>Surr: Nitrobenzene-d5</i>	54.8			41-120	%REC	1	11-Feb-2019 15:26
<i>Surr: Phenol-d6</i>	56.9			20-120	%REC	1	11-Feb-2019 15:26
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JHD	
Arsenic	0.000786	J	0.000400	0.00200	mg/L	1	30-Jan-2019 14:01
Lead	0.000831	J	0.000600	0.00200	mg/L	1	30-Jan-2019 14:01

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WQ-1620-FB06-20190122
 Collection Date: 22-Jan-2019 18:00

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-15
 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	30-Jan-2019 01:20
Benzene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 01:20
Chlorobenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 01:20
Ethylbenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 01:20
Methylene chloride	U		0.0010	0.0020	mg/L	1	30-Jan-2019 01:20
Toluene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 01:20
Xylenes, Total	U		0.00030	0.0010	mg/L	1	30-Jan-2019 01:20
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>86.9</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 01:20</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>96.3</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 01:20</i>
<i>Surr: Dibromofluoromethane</i>	<i>98.0</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 01:20</i>
<i>Surr: Toluene-d8</i>	<i>103</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 01:20</i>

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-FB06-20190122
 Collection Date: 22-Jan-2019 18:00

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-15
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	11-Feb-2019 15:46
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	11-Feb-2019 15:46
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	11-Feb-2019 15:46
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	11-Feb-2019 15:46
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	11-Feb-2019 15:46
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 15:46
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	11-Feb-2019 15:46
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	11-Feb-2019 15:46
Acenaphthene	U		0.000027	0.00010	mg/L	1	11-Feb-2019 15:46
Acenaphthylene	U		0.000015	0.00010	mg/L	1	11-Feb-2019 15:46
Anthracene	U		0.000014	0.00010	mg/L	1	11-Feb-2019 15:46
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	11-Feb-2019 15:46
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 15:46
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	11-Feb-2019 15:46
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	11-Feb-2019 15:46
Chrysene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 15:46
Dibenzofuran	U		0.000020	0.00010	mg/L	1	11-Feb-2019 15:46
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	11-Feb-2019 15:46
Fluoranthene	U		0.000010	0.00010	mg/L	1	11-Feb-2019 15:46
Fluorene	U		0.000030	0.00010	mg/L	1	11-Feb-2019 15:46
Naphthalene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 15:46
Nitrobenzene	U		0.000024	0.00020	mg/L	1	11-Feb-2019 15:46
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	11-Feb-2019 15:46
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	11-Feb-2019 15:46
Phenanthrene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 15:46
Phenol	U		0.000035	0.00020	mg/L	1	11-Feb-2019 15:46
Pyrene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 15:46
<i>Surr: 2,4,6-Tribromophenol</i>		85.5		34-129	%REC	1	11-Feb-2019 15:46
<i>Surr: 2-Fluorobiphenyl</i>		69.5		40-125	%REC	1	11-Feb-2019 15:46
<i>Surr: 2-Fluorophenol</i>		62.7		20-120	%REC	1	11-Feb-2019 15:46
<i>Surr: 4-Terphenyl-d14</i>		80.9		40-135	%REC	1	11-Feb-2019 15:46
<i>Surr: Nitrobenzene-d5</i>		65.8		41-120	%REC	1	11-Feb-2019 15:46
<i>Surr: Phenol-d6</i>		73.3		20-120	%REC	1	11-Feb-2019 15:46
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	30-Jan-2019 14:03
Lead	U		0.000600	0.00200	mg/L	1	30-Jan-2019 14:03

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-MW62B-20190123
 Collection Date: 23-Jan-2019 07:15

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-16
 Matrix:Groundwater

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-2019 05:21
Benzene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 05:21
Chlorobenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 05:21
Ethylbenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 05:21
Methylene chloride	U		0.0010	0.0020	mg/L	1	30-Jan-2019 05:21
Toluene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 05:21
Xylenes, Total	U		0.00030	0.0010	mg/L	1	30-Jan-2019 05:21
<i>Surr: 1,2-Dichloroethane-d4</i>		85.6		70-126	%REC	1	30-Jan-2019 05:21
<i>Surr: 4-Bromofluorobenzene</i>		94.6		81-113	%REC	1	30-Jan-2019 05:21
<i>Surr: Dibromofluoromethane</i>		99.5		77-123	%REC	1	30-Jan-2019 05:21
<i>Surr: Toluene-d8</i>		102		82-127	%REC	1	30-Jan-2019 05:21

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-MW62B-20190123
 Collection Date: 23-Jan-2019 07:15

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-16
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	11-Feb-2019 16:05
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	11-Feb-2019 16:05
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	11-Feb-2019 16:05
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	11-Feb-2019 16:05
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	11-Feb-2019 16:05
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 16:05
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	11-Feb-2019 16:05
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	11-Feb-2019 16:05
Acenaphthene	U		0.000027	0.00010	mg/L	1	11-Feb-2019 16:05
Acenaphthylene	U		0.000015	0.00010	mg/L	1	11-Feb-2019 16:05
Anthracene	U		0.000014	0.00010	mg/L	1	11-Feb-2019 16:05
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	11-Feb-2019 16:05
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 16:05
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	11-Feb-2019 16:05
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	11-Feb-2019 16:05
Chrysene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 16:05
Dibenzofuran	U		0.000020	0.00010	mg/L	1	11-Feb-2019 16:05
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	11-Feb-2019 16:05
Fluoranthene	U		0.000010	0.00010	mg/L	1	11-Feb-2019 16:05
Fluorene	U		0.000030	0.00010	mg/L	1	11-Feb-2019 16:05
Naphthalene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 16:05
Nitrobenzene	U		0.000024	0.00020	mg/L	1	11-Feb-2019 16:05
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	11-Feb-2019 16:05
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	11-Feb-2019 16:05
Phenanthrene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 16:05
Phenol	U		0.000035	0.00020	mg/L	1	11-Feb-2019 16:05
Pyrene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 16:05
<i>Surr: 2,4,6-Tribromophenol</i>		60.7		34-129	%REC	1	11-Feb-2019 16:05
<i>Surr: 2-Fluorobiphenyl</i>		60.7		40-125	%REC	1	11-Feb-2019 16:05
<i>Surr: 2-Fluorophenol</i>		55.2		20-120	%REC	1	11-Feb-2019 16:05
<i>Surr: 4-Terphenyl-d14</i>		76.6		40-135	%REC	1	11-Feb-2019 16:05
<i>Surr: Nitrobenzene-d5</i>		54.9		41-120	%REC	1	11-Feb-2019 16:05
<i>Surr: Phenol-d6</i>		58.9		20-120	%REC	1	11-Feb-2019 16:05
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	30-Jan-2019 14:27
Lead	U		0.000600	0.00200	mg/L	1	30-Jan-2019 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-MW64A-20190123
 Collection Date: 23-Jan-2019 08:10

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-17
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	SQL	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-2019 05:45
Benzene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 05:45
Chlorobenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 05:45
Ethylbenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 05:45
Methylene chloride	U		0.0010	0.0020	mg/L	1	30-Jan-2019 05:45
Toluene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 05:45
Xylenes, Total	U		0.00030	0.0010	mg/L	1	30-Jan-2019 05:45
<i>Surr: 1,2-Dichloroethane-d4</i>		86.6		70-126	%REC	1	30-Jan-2019 05:45
<i>Surr: 4-Bromofluorobenzene</i>		96.6		81-113	%REC	1	30-Jan-2019 05:45
<i>Surr: Dibromofluoromethane</i>		98.5		77-123	%REC	1	30-Jan-2019 05:45
<i>Surr: Toluene-d8</i>		103		82-127	%REC	1	30-Jan-2019 05:45

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-MW64A-20190123
 Collection Date: 23-Jan-2019 08:10

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-17
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	11-Feb-2019 16:25
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	11-Feb-2019 16:25
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	11-Feb-2019 16:25
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	11-Feb-2019 16:25
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	11-Feb-2019 16:25
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 16:25
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	11-Feb-2019 16:25
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	11-Feb-2019 16:25
Acenaphthene	U		0.000027	0.00010	mg/L	1	11-Feb-2019 16:25
Acenaphthylene	U		0.000015	0.00010	mg/L	1	11-Feb-2019 16:25
Anthracene	U		0.000014	0.00010	mg/L	1	11-Feb-2019 16:25
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	11-Feb-2019 16:25
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 16:25
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	11-Feb-2019 16:25
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	11-Feb-2019 16:25
Chrysene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 16:25
Dibenzofuran	U		0.000020	0.00010	mg/L	1	11-Feb-2019 16:25
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	11-Feb-2019 16:25
Fluoranthene	U		0.000010	0.00010	mg/L	1	11-Feb-2019 16:25
Fluorene	U		0.000030	0.00010	mg/L	1	11-Feb-2019 16:25
Naphthalene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 16:25
Nitrobenzene	U		0.000024	0.00020	mg/L	1	11-Feb-2019 16:25
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	11-Feb-2019 16:25
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	11-Feb-2019 16:25
Phenanthrene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 16:25
Phenol	U		0.000035	0.00020	mg/L	1	11-Feb-2019 16:25
Pyrene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 16:25
<i>Surr: 2,4,6-Tribromophenol</i>		63.8		34-129	%REC	1	11-Feb-2019 16:25
<i>Surr: 2-Fluorobiphenyl</i>		54.1		40-125	%REC	1	11-Feb-2019 16:25
<i>Surr: 2-Fluorophenol</i>		49.6		20-120	%REC	1	11-Feb-2019 16:25
<i>Surr: 4-Terphenyl-d14</i>		76.8		40-135	%REC	1	11-Feb-2019 16:25
<i>Surr: Nitrobenzene-d5</i>		51.3		41-120	%REC	1	11-Feb-2019 16:25
<i>Surr: Phenol-d6</i>		54.5		20-120	%REC	1	11-Feb-2019 16:25
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	30-Jan-2019 14:30
Lead	U		0.000600	0.00200	mg/L	1	30-Jan-2019 14:30

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-MW61A-20190123
 Collection Date: 23-Jan-2019 09:20

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-18
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	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-2019 02:32
Benzene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 02:32
Chlorobenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 02:32
Ethylbenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 02:32
Methylene chloride	U		0.0010	0.0020	mg/L	1	30-Jan-2019 02:32
Toluene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 02:32
Vinyl chloride	U		0.00020	0.0010	mg/L	1	30-Jan-2019 02:32
Xylenes, Total	U		0.00030	0.0010	mg/L	1	30-Jan-2019 02:32
<i>Surr: 1,2-Dichloroethane-d4</i>		<i>85.8</i>		<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 02:32</i>
<i>Surr: 4-Bromofluorobenzene</i>		<i>96.3</i>		<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 02:32</i>
<i>Surr: Dibromofluoromethane</i>		<i>98.6</i>		<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 02:32</i>
<i>Surr: Toluene-d8</i>		<i>103</i>		<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 02:32</i>

Note: See 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-20190123
 Collection Date: 23-Jan-2019 09:20

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-18
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	11-Feb-2019 16:45
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	11-Feb-2019 16:45
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	11-Feb-2019 16:45
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	11-Feb-2019 16:45
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	11-Feb-2019 16:45
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 16:45
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	11-Feb-2019 16:45
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	11-Feb-2019 16:45
Acenaphthene	U		0.000027	0.00010	mg/L	1	11-Feb-2019 16:45
Acenaphthylene	U		0.000015	0.00010	mg/L	1	11-Feb-2019 16:45
Anthracene	U		0.000014	0.00010	mg/L	1	11-Feb-2019 16:45
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	11-Feb-2019 16:45
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 16:45
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	11-Feb-2019 16:45
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	11-Feb-2019 16:45
Chrysene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 16:45
Dibenzofuran	U		0.000020	0.00010	mg/L	1	11-Feb-2019 16:45
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	11-Feb-2019 16:45
Fluoranthene	U		0.000010	0.00010	mg/L	1	11-Feb-2019 16:45
Fluorene	U		0.000030	0.00010	mg/L	1	11-Feb-2019 16:45
Naphthalene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 16:45
Nitrobenzene	U		0.000024	0.00020	mg/L	1	11-Feb-2019 16:45
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	11-Feb-2019 16:45
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	11-Feb-2019 16:45
Phenanthrene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 16:45
Phenol	U		0.000035	0.00020	mg/L	1	11-Feb-2019 16:45
Pyrene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 16:45
<i>Surr: 2,4,6-Tribromophenol</i>	<i>65.9</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 16:45</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>52.8</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 16:45</i>
<i>Surr: 2-Fluorophenol</i>	<i>45.6</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 16:45</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>76.1</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 16:45</i>
<i>Surr: Nitrobenzene-d5</i>	<i>48.5</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 16:45</i>
<i>Surr: Phenol-d6</i>	<i>51.3</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 16:45</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JCJ	
Arsenic	0.000690	J	0.000400	0.00200	mg/L	1	30-Jan-2019 19:52
Lead	U		0.000600	0.00200	mg/L	1	30-Jan-2019 19:52

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-MW47C-20190123
 Collection Date: 23-Jan-2019 10:15

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-19
 Matrix:Groundwater

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-2019 06:09
Benzene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 06:09
Chlorobenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 06:09
Ethylbenzene	U		0.00030	0.0010	mg/L	1	30-Jan-2019 06:09
Methylene chloride	U		0.0010	0.0020	mg/L	1	30-Jan-2019 06:09
Toluene	U		0.00020	0.0010	mg/L	1	30-Jan-2019 06:09
Xylenes, Total	U		0.00030	0.0010	mg/L	1	30-Jan-2019 06:09
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>88.3</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 06:09</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>95.5</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 06:09</i>
<i>Surr: Dibromofluoromethane</i>	<i>100</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 06:09</i>
<i>Surr: Toluene-d8</i>	<i>103</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>30-Jan-2019 06:09</i>

Note: See 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-20190123
 Collection Date: 23-Jan-2019 10:15

ANALYTICAL REPORT
 WorkOrder:HS19011117
 Lab ID:HS19011117-19
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 25-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	11-Feb-2019 17:05
2,4-Dimethylphenol	0.000095	J	0.000040	0.00020	mg/L	1	11-Feb-2019 17:05
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	11-Feb-2019 17:05
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	11-Feb-2019 17:05
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	11-Feb-2019 17:05
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	11-Feb-2019 17:05
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	11-Feb-2019 17:05
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	11-Feb-2019 17:05
Acenaphthene	U		0.000027	0.00010	mg/L	1	11-Feb-2019 17:05
Acenaphthylene	U		0.000015	0.00010	mg/L	1	11-Feb-2019 17:05
Anthracene	U		0.000014	0.00010	mg/L	1	11-Feb-2019 17:05
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	11-Feb-2019 17:05
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	11-Feb-2019 17:05
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	11-Feb-2019 17:05
Bis(2-ethylhexyl)phthalate	0.000056	J	0.000037	0.00020	mg/L	1	11-Feb-2019 17:05
Chrysene	U		0.000021	0.00010	mg/L	1	11-Feb-2019 17:05
Dibenzofuran	0.000034	J	0.000020	0.00010	mg/L	1	11-Feb-2019 17:05
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	11-Feb-2019 17:05
Fluoranthene	0.000028	J	0.000010	0.00010	mg/L	1	11-Feb-2019 17:05
Fluorene	U		0.000030	0.00010	mg/L	1	11-Feb-2019 17:05
Naphthalene	0.00083		0.000020	0.00010	mg/L	1	11-Feb-2019 17:05
Nitrobenzene	U		0.000024	0.00020	mg/L	1	11-Feb-2019 17:05
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	11-Feb-2019 17:05
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	11-Feb-2019 17:05
Phenanthrene	0.000052	J	0.000021	0.00010	mg/L	1	11-Feb-2019 17:05
Phenol	U		0.000035	0.00020	mg/L	1	11-Feb-2019 17:05
Pyrene	0.000021	J	0.000019	0.00010	mg/L	1	11-Feb-2019 17:05
<i>Surr: 2,4,6-Tribromophenol</i>	<i>91.1</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 17:05</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>69.6</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 17:05</i>
<i>Surr: 2-Fluorophenol</i>	<i>65.6</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 17:05</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>74.8</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 17:05</i>
<i>Surr: Nitrobenzene-d5</i>	<i>67.4</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 17:05</i>
<i>Surr: Phenol-d6</i>	<i>76.3</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 17:05</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 29-Jan-2019		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	30-Jan-2019 14:32
Lead	0.000859	J	0.000600	0.00200	mg/L	1	30-Jan-2019 14:32

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: HS19011117

Batch ID: 137036 **Method:** LOW-LEVEL SEMIVOLATILES BY 8270D **Prep:** 3510_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19011117-01	1	1000	1 (mL)	0.001
HS19011117-02	1	1000	1 (mL)	0.001
HS19011117-03	1	1000	1 (mL)	0.001
HS19011117-04	1	1000	1 (mL)	0.001
HS19011117-05	1	1000	1 (mL)	0.001
HS19011117-06	1	1000	1 (mL)	0.001
HS19011117-07	1	1000	1 (mL)	0.001
HS19011117-08	1	1000	1 (mL)	0.001
HS19011117-09	1	1000	1 (mL)	0.001
HS19011117-11	1	1000	1 (mL)	0.001
HS19011117-12	1	1000	1 (mL)	0.001
HS19011117-13	1	990	1 (mL)	0.00101
HS19011117-14	1	1000	1 (mL)	0.001
HS19011117-15	1	1000	1 (mL)	0.001
HS19011117-16	1	1000	1 (mL)	0.001
HS19011117-17	1	1000	1 (mL)	0.001
HS19011117-18	1	1000	1 (mL)	0.001
HS19011117-19	1	1000	1 (mL)	0.001

Batch ID: 137135 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19011117-01	1	10	10 (mL)	1
HS19011117-02	1	10	10 (mL)	1
HS19011117-03	1	10	10 (mL)	1
HS19011117-04	1	10	10 (mL)	1
HS19011117-05	1	10	10 (mL)	1
HS19011117-06	1	10	10 (mL)	1
HS19011117-07	1	10	10 (mL)	1
HS19011117-08	1	10	10 (mL)	1
HS19011117-09	1	10	10 (mL)	1
HS19011117-11	1	10	10 (mL)	1
HS19011117-12	1	10	10 (mL)	1
HS19011117-13	1	10	10 (mL)	1
HS19011117-14	1	10	10 (mL)	1
HS19011117-15	1	10	10 (mL)	1
HS19011117-16	1	10	10 (mL)	1
HS19011117-17	1	10	10 (mL)	1
HS19011117-19	1	10	10 (mL)	1

Batch ID: 137136 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19011117-18	1	10	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 137036		Test Name : LOW-LEVEL SEMIVOLATILES BY 8270D		Matrix: Water		
HS19011117-15	WQ-1620-FB06-20190122	22 Jan 2019 18:00		25 Jan 2019 11:27	11 Feb 2019 15:46	1
Batch ID 137036		Test Name : LOW-LEVEL SEMIVOLATILES BY 8270D		Matrix: Groundwater		
HS19011117-01	WG-1620-MW44A-20190122	22 Jan 2019 07:25		25 Jan 2019 11:27	12 Feb 2019 15:16	10
HS19011117-01	WG-1620-MW44A-20190122	22 Jan 2019 07:25		25 Jan 2019 11:27	11 Feb 2019 11:48	1
HS19011117-02	WG-1620-MW87C-20190122	22 Jan 2019 08:15		25 Jan 2019 11:27	11 Feb 2019 12:08	1
HS19011117-03	WG-1620-MW33BR-20190122	22 Jan 2019 09:05		25 Jan 2019 11:27	11 Feb 2019 12:28	1
HS19011117-04	WG-1620-MW33A-20190122	22 Jan 2019 10:00		25 Jan 2019 11:27	11 Feb 2019 12:48	1
HS19011117-05	WG-1620-FD04-20190122	22 Jan 2019 10:00		25 Jan 2019 11:27	11 Feb 2019 13:07	1
HS19011117-06	WG-1620-MW38B-20190122	22 Jan 2019 11:00		25 Jan 2019 11:27	11 Feb 2019 13:27	1
HS19011117-07	WG-1620-MW22AR-20190122	22 Jan 2019 11:50		25 Jan 2019 11:27	11 Feb 2019 13:47	1
HS19011117-08	WG-1620-MW22BR-20190122	22 Jan 2019 12:35		25 Jan 2019 11:27	12 Feb 2019 15:36	10
HS19011117-08	WG-1620-MW22BR-20190122	22 Jan 2019 12:35		25 Jan 2019 11:27	11 Feb 2019 14:07	1
HS19011117-09	WG-1620-MW38A-20190122	22 Jan 2019 13:40		25 Jan 2019 11:27	12 Feb 2019 15:56	10
HS19011117-09	WG-1620-MW38A-20190122	22 Jan 2019 13:40		25 Jan 2019 11:27	11 Feb 2019 14:27	1
HS19011117-11	WG-1620-MW82B-20190122	22 Jan 2019 14:55		25 Jan 2019 11:27	29 Jan 2019 16:28	1
HS19011117-12	WG-1620-MW90B-20190122	22 Jan 2019 16:00		25 Jan 2019 11:27	11 Feb 2019 14:46	1
HS19011117-13	WG-1620-MW89B-20190122	22 Jan 2019 16:50		25 Jan 2019 11:27	11 Feb 2019 15:06	1
HS19011117-14	WG-1620-MW27C-20190122	22 Jan 2019 17:45		25 Jan 2019 11:27	11 Feb 2019 15:26	1
HS19011117-16	WG-1620-MW62B-20190123	23 Jan 2019 07:15		25 Jan 2019 11:27	11 Feb 2019 16:05	1
HS19011117-17	WG-1620-MW64A-20190123	23 Jan 2019 08:10		25 Jan 2019 11:27	11 Feb 2019 16:25	1
HS19011117-18	WG-1620-MW61A-20190123	23 Jan 2019 09:20		25 Jan 2019 11:27	11 Feb 2019 16:45	1
HS19011117-19	WG-1620-MW47C-20190123	23 Jan 2019 10:15		25 Jan 2019 11:27	11 Feb 2019 17:05	1
Batch ID 137135		Test Name : ICP-MS METALS BY SW6020A		Matrix: Water		
HS19011117-15	WQ-1620-FB06-20190122	22 Jan 2019 18:00		29 Jan 2019 10:30	30 Jan 2019 14:03	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 137135 Test Name : ICP-MS METALS BY SW6020A Matrix: Groundwater						
HS19011117-01	WG-1620-MW44A-20190122	22 Jan 2019 07:25		29 Jan 2019 10:30	30 Jan 2019 13:29	1
HS19011117-02	WG-1620-MW87C-20190122	22 Jan 2019 08:15		29 Jan 2019 10:30	30 Jan 2019 13:31	1
HS19011117-03	WG-1620-MW33BR-20190122	22 Jan 2019 09:05		29 Jan 2019 10:30	30 Jan 2019 13:33	1
HS19011117-04	WG-1620-MW33A-20190122	22 Jan 2019 10:00		29 Jan 2019 10:30	30 Jan 2019 13:35	1
HS19011117-05	WG-1620-FD04-20190122	22 Jan 2019 10:00		29 Jan 2019 10:30	30 Jan 2019 13:45	1
HS19011117-06	WG-1620-MW38B-20190122	22 Jan 2019 11:00		29 Jan 2019 10:30	30 Jan 2019 13:47	1
HS19011117-07	WG-1620-MW22AR-20190122	22 Jan 2019 11:50		29 Jan 2019 10:30	30 Jan 2019 13:49	1
HS19011117-08	WG-1620-MW22BR-20190122	22 Jan 2019 12:35		29 Jan 2019 10:30	30 Jan 2019 13:52	1
HS19011117-09	WG-1620-MW38A-20190122	22 Jan 2019 13:40		29 Jan 2019 10:30	30 Jan 2019 13:54	1
HS19011117-11	WG-1620-MW82B-20190122	22 Jan 2019 14:55		29 Jan 2019 10:30	30 Jan 2019 13:17	1
HS19011117-12	WG-1620-MW90B-20190122	22 Jan 2019 16:00		29 Jan 2019 10:30	30 Jan 2019 13:56	1
HS19011117-13	WG-1620-MW89B-20190122	22 Jan 2019 16:50		29 Jan 2019 10:30	30 Jan 2019 13:58	1
HS19011117-14	WG-1620-MW27C-20190122	22 Jan 2019 17:45		29 Jan 2019 10:30	30 Jan 2019 14:01	1
HS19011117-16	WG-1620-MW62B-20190123	23 Jan 2019 07:15		29 Jan 2019 10:30	30 Jan 2019 14:27	1
HS19011117-17	WG-1620-MW64A-20190123	23 Jan 2019 08:10		29 Jan 2019 10:30	30 Jan 2019 14:30	1
HS19011117-19	WG-1620-MW47C-20190123	23 Jan 2019 10:15		29 Jan 2019 10:30	30 Jan 2019 14:32	1
Batch ID 137136 Test Name : ICP-MS METALS BY SW6020A Matrix: Groundwater						
HS19011117-18	WG-1620-MW61A-20190123	23 Jan 2019 09:20		29 Jan 2019 10:30	30 Jan 2019 19:52	1
Batch ID R331844 Test Name : LOW LEVEL VOLATILES BY SW8260C Matrix: Groundwater						
HS19011117-01	WG-1620-MW44A-20190122	22 Jan 2019 07:25			29 Jan 2019 06:30	1
HS19011117-02	WG-1620-MW87C-20190122	22 Jan 2019 08:15			29 Jan 2019 06:54	1
HS19011117-03	WG-1620-MW33BR-20190122	22 Jan 2019 09:05			29 Jan 2019 07:18	1
HS19011117-04	WG-1620-MW33A-20190122	22 Jan 2019 10:00			29 Jan 2019 07:42	1
HS19011117-05	WG-1620-FD04-20190122	22 Jan 2019 10:00			29 Jan 2019 08:06	1
HS19011117-06	WG-1620-MW38B-20190122	22 Jan 2019 11:00			29 Jan 2019 08:31	1
HS19011117-11	WG-1620-MW82B-20190122	22 Jan 2019 14:55			29 Jan 2019 00:05	1
Batch ID R331938 Test Name : LOW LEVEL VOLATILES BY SW8260C Matrix: Groundwater						
HS19011117-07	WG-1620-MW22AR-20190122	22 Jan 2019 11:50			29 Jan 2019 21:20	1
Batch ID R331946 Test Name : LOW LEVEL VOLATILES BY SW8260C Matrix: Water						
HS19011117-10	WQ-1620-TB05-20190123	23 Jan 2019 00:00			30 Jan 2019 00:56	1
HS19011117-15	WQ-1620-FB06-20190122	22 Jan 2019 18:00			30 Jan 2019 01:20	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R331946	Test Name : LOW LEVEL VOLATILES BY SW8260C			Matrix: Groundwater		
HS19011117-09	WG-1620-MW38A-20190122	22 Jan 2019 13:40			30 Jan 2019 03:44	1
HS19011117-12	WG-1620-MW90B-20190122	22 Jan 2019 16:00			30 Jan 2019 04:09	1
HS19011117-13	WG-1620-MW89B-20190122	22 Jan 2019 16:50			30 Jan 2019 04:32	1
HS19011117-14	WG-1620-MW27C-20190122	22 Jan 2019 17:45			30 Jan 2019 04:57	1
HS19011117-16	WG-1620-MW62B-20190123	23 Jan 2019 07:15			30 Jan 2019 05:21	1
HS19011117-17	WG-1620-MW64A-20190123	23 Jan 2019 08:10			30 Jan 2019 05:45	1
HS19011117-18	WG-1620-MW61A-20190123	23 Jan 2019 09:20			30 Jan 2019 02:32	1
HS19011117-19	WG-1620-MW47C-20190123	23 Jan 2019 10:15			30 Jan 2019 06:09	1
Batch ID R332011	Test Name : LOW LEVEL VOLATILES BY SW8260C			Matrix: Groundwater		
HS19011117-08	WG-1620-MW22BR-20190122	22 Jan 2019 12:35			30 Jan 2019 22:45	1

WorkOrder: HS19011117
 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	0.000460	0.000400	0.00200
A	Lead	7439-92-1	0.00100	0.00100	0.000600	0.00200

WorkOrder: HS19011117
 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	0.000340	0.000400	0.00200
A	Lead	7439-92-1	0.00100	0.000916	0.000600	0.00200

WorkOrder: HS19011117
 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	0.000082	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000034	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000039	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000062	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.000072	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000058	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000024	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000024	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000067	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000062	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000069	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	0.000070	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000070	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.000063	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000085	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000058	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.000070	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000073	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000067	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000073	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.000088	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.000071	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000072	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000077	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000075	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000079	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: HS19011117
 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	0.000070	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000041	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000052	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000052	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.000061	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000056	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000022	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00020	0.00019	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000066	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000072	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000074	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000074	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000066	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000069	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.000083	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000082	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000060	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.000080	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000074	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000073	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000065	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.000083	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.000068	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.00016	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000077	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000066	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000074	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: HS19011117
 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	0.00066	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00060	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00063	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	0.00051	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00065	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00054	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00056	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: HS19011117

QC BATCH REPORT

Batch ID: 137135	Instrument: ICPMS05	Method: SW6020
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MBLK	Sample ID: MBLK-137135	Units: mg/L	Analysis Date: 29-Jan-2019 21:57							
Client ID:	Run ID: ICPMS05_331852	SeqNo: 4929419	PrepDate: 29-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Arsenic	U	0.00200								
Lead	U	0.00200								

LCS	Sample ID: LCS-137135	Units: mg/L	Analysis Date: 29-Jan-2019 21:59							
Client ID:	Run ID: ICPMS05_331852	SeqNo: 4929420	PrepDate: 29-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Arsenic	0.04988	0.00200	0.05	0	99.8	80 - 120				
Lead	0.04872	0.00200	0.05	0	97.4	80 - 120				

MS	Sample ID: HS19011117-11MS	Units: mg/L	Analysis Date: 30-Jan-2019 13:22							
Client ID: WG-1620-MW82B-20190122	Run ID: ICPMS05_331929	SeqNo: 4930633	PrepDate: 29-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Arsenic	0.05965	0.00200	0.05	0.00838	103	80 - 120				
Lead	0.04978	0.00200	0.05	0.000016	99.5	80 - 120				

MSD	Sample ID: HS19011117-11MSD	Units: mg/L	Analysis Date: 30-Jan-2019 13:24							
Client ID: WG-1620-MW82B-20190122	Run ID: ICPMS05_331929	SeqNo: 4930634	PrepDate: 29-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Arsenic	0.05924	0.00200	0.05	0.00838	102	80 - 120	0.05965	0.681	20	
Lead	0.05038	0.00200	0.05	0.000016	101	80 - 120	0.04978	1.19	20	

PDS	Sample ID: HS19011117-11PDS	Units: mg/L	Analysis Date: 30-Jan-2019 13:26							
Client ID: WG-1620-MW82B-20190122	Run ID: ICPMS05_331929	SeqNo: 4930635	PrepDate: 29-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Arsenic	0.1234	0.00200	0.1	0.00838	115	75 - 125				
Lead	0.1133	0.00200	0.1	0.000016	113	75 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: 137135	Instrument: ICPMS05	Method: SW6020
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SD	Sample ID: HS19011117-11SD		Units: mg/L	Analysis Date: 30-Jan-2019 13:20						
Client ID: WG-1620-MW82B-20190122	Run ID: ICPMS05_331929	SeqNo: 4930632	PrepDate: 29-Jan-2019	DF: 5						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	Limit	Qual
Arsenic	0.009162	0.0100					0.00838	0	10	J
Lead	U	0.0100					0.000016	0	10	

The following samples were analyzed in this batch:

HS19011117-01	HS19011117-02	HS19011117-03	HS19011117-04
HS19011117-05	HS19011117-06	HS19011117-07	HS19011117-08
HS19011117-09	HS19011117-11	HS19011117-12	HS19011117-13
HS19011117-14	HS19011117-15	HS19011117-16	HS19011117-17
HS19011117-19			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: 137136	Instrument: ICPMS04	Method: SW6020
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MBLK	Sample ID: MBLK-137136	Units: mg/L	Analysis Date: 30-Jan-2019 19:43							
Client ID:	Run ID: ICPMS04_331931	SeqNo: 4931362	PrepDate: 29-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	U	0.00200								
Lead	U	0.00200								

LCS	Sample ID: LCS-137136	Units: mg/L	Analysis Date: 30-Jan-2019 19:45							
Client ID:	Run ID: ICPMS04_331931	SeqNo: 4931363	PrepDate: 29-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	0.04983	0.00200	0.05	0	99.7	80 - 120				
Lead	0.04872	0.00200	0.05	0	97.4	80 - 120				

MS	Sample ID: HS19011117-18MS	Units: mg/L	Analysis Date: 30-Jan-2019 19:56							
Client ID: WG-1620-MW61A-20190123	Run ID: ICPMS04_331931	SeqNo: 4931368	PrepDate: 29-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	0.04787	0.00200	0.05	0.000637	94.5	80 - 120				
Lead	0.04626	0.00200	0.05	0.000333	91.8	80 - 120				

MSD	Sample ID: HS19011117-18MSD	Units: mg/L	Analysis Date: 30-Jan-2019 19:58							
Client ID: WG-1620-MW61A-20190123	Run ID: ICPMS04_331931	SeqNo: 4931369	PrepDate: 29-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	0.05016	0.00200	0.05	0.000637	99.1	80 - 120	0.04886	2.63	20	
Lead	0.04683	0.00200	0.05	0.000333	93.0	80 - 120	0.04625	1.23	20	

PDS	Sample ID: HS19011117-18PDS	Units: mg/L	Analysis Date: 30-Jan-2019 20:01							
Client ID: WG-1620-MW61A-20190123	Run ID: ICPMS04_331931	SeqNo: 4931370	PrepDate: 29-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	0.09624	0.00200	0.1	0.000637	95.6	75 - 125				
Lead	0.09092	0.00200	0.1	0.000333	90.6	75 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: 137136		Instrument: ICPMS04		Method: SW6020						
SD	Sample ID: HS19011117-18SD	Units: mg/L		Analysis Date: 30-Jan-2019 19:54						
Client ID: WG-1620-MW61A-20190123	Run ID: ICPMS04_331931	SeqNo: 4931367	PrepDate: 29-Jan-2019	DF: 5						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	Limit	Qual

Arsenic	U	0.0100					0.000637	0	10	
Lead	U	0.0100					0.000333	0	10	

The following samples were analyzed in this batch: HS19011117-18

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: 137036		Instrument: SV-6		Method: SW8270						
MBLK	Sample ID: MBLK-137036	Units: ug/L			Analysis Date: 29-Jan-2019 13:31					
Client ID:	Run ID: SV-6_331877	SeqNo: 4928544		PrepDate: 25-Jan-2019		DF: 1				
Analyte	Result	MLQ	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								
<i>Surr: 2,4,6-Tribromophenol</i>	2.566	0.20	5	0	51.3	34 - 129				
<i>Surr: 2-Fluorobiphenyl</i>	3.084	0.20	5	0	61.7	40 - 125				
<i>Surr: 2-Fluorophenol</i>	3.075	0.20	5	0	61.5	20 - 120				
<i>Surr: 4-Terphenyl-d14</i>	3.366	0.20	5	0	67.3	40 - 135				
<i>Surr: Nitrobenzene-d5</i>	2.806	0.20	5	0	56.1	41 - 120				
<i>Surr: Phenol-d6</i>	3.304	0.20	5	0	66.1	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: 137036		Instrument: SV-6		Method: SW8270						
LCS	Sample ID: LCS-137036	Units: ug/L			Analysis Date: 29-Jan-2019 13:51					
Client ID:	Run ID: SV-6_331877	SeqNo: 4928545		PrepDate: 25-Jan-2019		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.025	0.20	5	0	60.5	39 - 127				
2,4-Dimethylphenol	3.058	0.20	5	0	61.2	35 - 120				
2,4-Dinitrotoluene	2.802	0.20	5	0	56.0	50 - 122				
2,6-Dinitrotoluene	3.198	0.20	5	0	64.0	50 - 120				
2-Chloronaphthalene	3.134	0.20	5	0	62.7	50 - 120				
2-Methylnaphthalene	3.239	0.10	5	0	64.8	50 - 120				
4,6-Dinitro-2-methylphenol	2.587	0.20	5	0	51.7	25 - 121				
4-Nitrophenol	2.785	1.0	5	0	55.7	30 - 130				
Acenaphthene	2.887	0.10	5	0	57.7	45 - 120				
Acenaphthylene	2.896	0.10	5	0	57.9	47 - 120				
Anthracene	3.132	0.10	5	0	62.6	45 - 120				
Benz(a)anthracene	3.255	0.10	5	0	65.1	40 - 120				
Benzo(a)pyrene	3.467	0.10	5	0	69.3	45 - 120				
Bis(2-chloroethoxy)methane	2.977	0.20	5	0	59.5	45 - 120				
Bis(2-ethylhexyl)phthalate	3.273	0.20	5	0	65.5	40 - 139				
Chrysene	3.356	0.10	5	0	67.1	43 - 120				
Dibenzofuran	2.866	0.10	5	0	57.3	50 - 120				
Di-n-butyl phthalate	3.281	0.20	5	0	65.6	45 - 123				
Fluoranthene	3.315	0.10	5	0	66.3	45 - 125				
Fluorene	2.97	0.10	5	0	59.4	49 - 120				
Naphthalene	3.019	0.10	5	0	60.4	45 - 120				
Nitrobenzene	2.956	0.20	5	0	59.1	44 - 120				
N-Nitrosodiphenylamine	3.241	0.20	5	0	64.8	40 - 125				
Pentachlorophenol	2.696	0.20	5	0	53.9	19 - 121				
Phenanthrene	3.135	0.10	5	0	62.7	45 - 121				
Phenol	2.792	0.20	5	0	55.8	20 - 124				
Pyrene	3.312	0.10	5	0	66.2	40 - 130				
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3.334</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>66.7</i>	<i>34 - 129</i>				
<i>Surr: 2-Fluorobiphenyl</i>	<i>3.379</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>67.6</i>	<i>40 - 125</i>				
<i>Surr: 2-Fluorophenol</i>	<i>3.418</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>68.4</i>	<i>20 - 120</i>				
<i>Surr: 4-Terphenyl-d14</i>	<i>3.859</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>77.2</i>	<i>40 - 135</i>				
<i>Surr: Nitrobenzene-d5</i>	<i>3.215</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>64.3</i>	<i>41 - 120</i>				
<i>Surr: Phenol-d6</i>	<i>3.579</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>71.6</i>	<i>20 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: 137036		Instrument: SV-6		Method: SW8270						
MS		Sample ID: HS19011117-18MS		Units: ug/L		Analysis Date: 11-Feb-2019 17:24				
Client ID: WG-1620-MW61A-20190123		Run ID: SV-7_332624		SeqNo: 4945822		PrepDate: 25-Jan-2019		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	2.423	0.20	5	0	48.5	39 - 127				
2,4-Dimethylphenol	2.608	0.20	5	0	52.2	35 - 120				
2,4-Dinitrotoluene	3.083	0.20	5	0	61.7	50 - 122				
2,6-Dinitrotoluene	2.903	0.20	5	0	58.1	50 - 120				
2-Chloronaphthalene	2.904	0.20	5	0	58.1	50 - 120				
2-Methylnaphthalene	2.802	0.10	5	0	56.0	50 - 120				
4,6-Dinitro-2-methylphenol	3.635	0.20	5	0	72.7	25 - 121				
4-Nitrophenol	3.16	1.0	5	0	63.2	30 - 130				
Acenaphthene	2.443	0.10	5	0	48.9	45 - 120				
Acenaphthylene	2.633	0.10	5	0	52.7	47 - 120				
Anthracene	3.124	0.10	5	0	62.5	45 - 120				
Benz(a)anthracene	3.743	0.10	5	0	74.9	40 - 120				
Benzo(a)pyrene	3.604	0.10	5	0	72.1	45 - 120				
Bis(2-chloroethoxy)methane	2.432	0.20	5	0	48.6	45 - 120				
Bis(2-ethylhexyl)phthalate	3.271	0.20	5	0	65.4	40 - 139				
Chrysene	3.747	0.10	5	0	74.9	43 - 120				
Dibenzofuran	2.735	0.10	5	0	54.7	50 - 120				
Di-n-butyl phthalate	3.134	0.20	5	0	62.7	45 - 123				
Fluoranthene	3.418	0.10	5	0	68.4	45 - 125				
Fluorene	2.833	0.10	5	0	56.7	49 - 120				
Naphthalene	2.722	0.10	5	0	54.4	45 - 120				
Nitrobenzene	2.529	0.20	5	0	50.6	44 - 120				
N-Nitrosodiphenylamine	3.022	0.20	5	0	60.4	40 - 125				
Pentachlorophenol	3.933	0.20	5	0	78.7	19 - 121				
Phenanthrene	3.023	0.10	5	0	60.5	45 - 121				
Phenol	2.451	0.20	5	0	49.0	20 - 124				
Pyrene	3.657	0.10	5	0	73.1	40 - 130				
<i>Surr: 2,4,6-Tribromophenol</i>	<i>4.275</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>85.5</i>	<i>34 - 129</i>				
<i>Surr: 2-Fluorobiphenyl</i>	<i>2.906</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>58.1</i>	<i>40 - 125</i>				
<i>Surr: 2-Fluorophenol</i>	<i>2.421</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>48.4</i>	<i>20 - 120</i>				
<i>Surr: 4-Terphenyl-d14</i>	<i>4.132</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>82.6</i>	<i>40 - 135</i>				
<i>Surr: Nitrobenzene-d5</i>	<i>2.624</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>52.5</i>	<i>41 - 120</i>				
<i>Surr: Phenol-d6</i>	<i>2.817</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>56.3</i>	<i>20 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: 137036		Instrument: SV-6		Method: SW8270						
MS		Sample ID: HS19011117-11MS		Units: ug/L		Analysis Date: 29-Jan-2019 16:48				
Client ID: WG-1620-MW82B-20190122		Run ID: SV-6_331877		SeqNo: 4930593		PrepDate: 25-Jan-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	3.355	0.20	5	0	67.1	39 - 127				
2,4-Dimethylphenol	3.096	0.20	5	0	61.9	35 - 120				
2,4-Dinitrotoluene	3.243	0.20	5	0	64.9	50 - 122				
2,6-Dinitrotoluene	3.269	0.20	5	0	65.4	50 - 120				
2-Chloronaphthalene	3.161	0.20	5	0	63.2	50 - 120				
2-Methylnaphthalene	3.11	0.10	5	0	62.2	50 - 120				
4,6-Dinitro-2-methylphenol	3.299	0.20	5	0	66.0	25 - 121				
4-Nitrophenol	2.827	1.0	5	0	56.5	30 - 130				
Acenaphthene	2.902	0.10	5	0	58.0	45 - 120				
Acenaphthylene	3.039	0.10	5	0	60.8	47 - 120				
Anthracene	3.565	0.10	5	0.04179	70.5	45 - 120				
Benz(a)anthracene	3.756	0.10	5	0	75.1	40 - 120				
Benzo(a)pyrene	3.63	0.10	5	0	72.6	45 - 120				
Bis(2-chloroethoxy)methane	3.027	0.20	5	0	60.5	45 - 120				
Bis(2-ethylhexyl)phthalate	3.57	0.20	5	0	71.4	40 - 139				
Chrysene	3.767	0.10	5	0	75.3	43 - 120				
Dibenzofuran	3.004	0.10	5	0	60.1	50 - 120				
Di-n-butyl phthalate	3.787	0.20	5	0	75.7	45 - 123				
Fluoranthene	3.896	0.10	5	0	77.9	45 - 125				
Fluorene	3.24	0.10	5	0	64.8	49 - 120				
Naphthalene	2.922	0.10	5	0	58.4	45 - 120				
Nitrobenzene	2.874	0.20	5	0	57.5	44 - 120				
N-Nitrosodiphenylamine	3.63	0.20	5	0	72.6	40 - 125				
Pentachlorophenol	3.463	0.20	5	0	69.3	19 - 121				
Phenanthrene	3.492	0.10	5	0	69.8	45 - 121				
Phenol	2.755	0.20	5	0	55.1	20 - 124				
Pyrene	3.62	0.10	5	0	72.4	40 - 130				
Surr: 2,4,6-Tribromophenol	3.91	0.20	5	0	78.2	34 - 129				
Surr: 2-Fluorobiphenyl	3.186	0.20	5	0	63.7	40 - 125				
Surr: 2-Fluorophenol	3.276	0.20	5	0	65.5	20 - 120				
Surr: 4-Terphenyl-d14	4.085	0.20	5	0	81.7	40 - 135				
Surr: Nitrobenzene-d5	3.082	0.20	5	0	61.6	41 - 120				
Surr: Phenol-d6	3.253	0.20	5	0	65.1	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: 137036		Instrument: SV-6		Method: SW8270					
MSD		Sample ID: HS19011117-18MSD		Units: ug/L		Analysis Date: 11-Feb-2019 17:44			
Client ID: WG-1620-MW61A-20190123		Run ID: SV-7_332624		SeqNo: 4945823		PrepDate: 25-Jan-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual
1,2-Diphenylhydrazine	2.36	0.20	5	0	47.2	39 - 127	2.423	2.63	20
2,4-Dimethylphenol	2.419	0.20	5	0	48.4	35 - 120	2.608	7.5	20
2,4-Dinitrotoluene	2.741	0.20	5	0	54.8	50 - 122	3.083	11.7	20
2,6-Dinitrotoluene	2.704	0.20	5	0	54.1	50 - 120	2.903	7.11	20
2-Chloronaphthalene	2.861	0.20	5	0	57.2	50 - 120	2.904	1.49	20
2-Methylnaphthalene	2.658	0.10	5	0	53.2	50 - 120	2.802	5.29	20
4,6-Dinitro-2-methylphenol	3.279	0.20	5	0	65.6	25 - 121	3.635	10.3	30
4-Nitrophenol	3.306	1.0	5	0	66.1	30 - 130	3.16	4.52	20
Acenaphthene	2.469	0.10	5	0	49.4	45 - 120	2.443	1.06	20
Acenaphthylene	2.478	0.10	5	0	49.6	47 - 120	2.633	6.09	20
Anthracene	2.898	0.10	5	0	58.0	45 - 120	3.124	7.5	20
Benz(a)anthracene	3.703	0.10	5	0	74.1	40 - 120	3.743	1.08	20
Benzo(a)pyrene	3.625	0.10	5	0	72.5	45 - 120	3.604	0.583	20
Bis(2-chloroethoxy)methane	2.271	0.20	5	0	45.4	45 - 120	2.432	6.86	20
Bis(2-ethylhexyl)phthalate	3.228	0.20	5	0	64.6	40 - 139	3.271	1.32	20
Chrysene	3.634	0.10	5	0	72.7	43 - 120	3.747	3.06	20
Dibenzofuran	2.586	0.10	5	0	51.7	50 - 120	2.735	5.58	20
Di-n-butyl phthalate	3.137	0.20	5	0	62.7	45 - 123	3.134	0.113	20
Fluoranthene	3.488	0.10	5	0	69.8	45 - 125	3.418	2.02	20
Fluorene	2.612	0.10	5	0	52.2	49 - 120	2.833	8.12	20
Naphthalene	2.676	0.10	5	0	53.5	45 - 120	2.722	1.69	20
Nitrobenzene	2.487	0.20	5	0	49.7	44 - 120	2.529	1.68	20
N-Nitrosodiphenylamine	2.85	0.20	5	0	57.0	40 - 125	3.022	5.89	20
Pentachlorophenol	3.636	0.20	5	0	72.7	19 - 121	3.933	7.85	20
Phenanthrene	2.86	0.10	5	0	57.2	45 - 121	3.023	5.51	20
Phenol	2.423	0.20	5	0	48.5	20 - 124	2.451	1.15	20
Pyrene	3.646	0.10	5	0	72.9	40 - 130	3.657	0.292	20
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3.832</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>76.6</i>	<i>34 - 129</i>	<i>4.275</i>	<i>10.9</i>	<i>20</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>2.73</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>54.6</i>	<i>40 - 125</i>	<i>2.906</i>	<i>6.26</i>	<i>20</i>
<i>Surr: 2-Fluorophenol</i>	<i>2.409</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>48.2</i>	<i>20 - 120</i>	<i>2.421</i>	<i>0.515</i>	<i>20</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>4.017</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>80.3</i>	<i>40 - 135</i>	<i>4.132</i>	<i>2.82</i>	<i>20</i>
<i>Surr: Nitrobenzene-d5</i>	<i>2.443</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>48.9</i>	<i>41 - 120</i>	<i>2.624</i>	<i>7.14</i>	<i>20</i>
<i>Surr: Phenol-d6</i>	<i>2.739</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>54.8</i>	<i>20 - 120</i>	<i>2.817</i>	<i>2.79</i>	<i>20</i>

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: 137036		Instrument: SV-6		Method: SW8270						
MSD	Sample ID: HS19011117-11MSD	Units: ug/L			Analysis Date: 29-Jan-2019 17:08					
Client ID: WG-1620-MW82B-20190122	Run ID: SV-6_331877	SeqNo: 4930594	PrepDate: 25-Jan-2019	DF: 1						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	2.985	0.20	5	0	59.7	39 - 127	3.355	11.7	20	
2,4-Dimethylphenol	2.891	0.20	5	0	57.8	35 - 120	3.096	6.86	20	
2,4-Dinitrotoluene	2.904	0.20	5	0	58.1	50 - 122	3.243	11	20	
2,6-Dinitrotoluene	3.139	0.20	5	0	62.8	50 - 120	3.269	4.06	20	
2-Chloronaphthalene	3.074	0.20	5	0	61.5	50 - 120	3.161	2.79	20	
2-Methylnaphthalene	3.355	0.10	5	0	67.1	50 - 120	3.11	7.59	20	
4,6-Dinitro-2-methylphenol	2.776	0.20	5	0	55.5	25 - 121	3.299	17.2	30	
4-Nitrophenol	2.645	1.0	5	0	52.9	30 - 130	2.827	6.64	20	
Acenaphthene	2.807	0.10	5	0	56.1	45 - 120	2.902	3.34	20	
Acenaphthylene	2.867	0.10	5	0	57.3	47 - 120	3.039	5.85	20	
Anthracene	3.277	0.10	5	0.04179	64.7	45 - 120	3.565	8.41	20	
Benz(a)anthracene	3.593	0.10	5	0	71.9	40 - 120	3.756	4.42	20	
Benzo(a)pyrene	3.768	0.10	5	0	75.4	45 - 120	3.63	3.73	20	
Bis(2-chloroethoxy)methane	3.085	0.20	5	0	61.7	45 - 120	3.027	1.9	20	
Bis(2-ethylhexyl)phthalate	3.647	0.20	5	0	72.9	40 - 139	3.57	2.12	20	
Chrysene	3.695	0.10	5	0	73.9	43 - 120	3.767	1.92	20	
Dibenzofuran	2.842	0.10	5	0	56.8	50 - 120	3.004	5.54	20	
Di-n-butyl phthalate	3.683	0.20	5	0	73.7	45 - 123	3.787	2.78	20	
Fluoranthene	3.617	0.10	5	0	72.3	45 - 125	3.896	7.42	20	
Fluorene	2.948	0.10	5	0	59.0	49 - 120	3.24	9.46	20	
Naphthalene	3.017	0.10	5	0	60.3	45 - 120	2.922	3.19	20	
Nitrobenzene	2.921	0.20	5	0	58.4	44 - 120	2.874	1.62	20	
N-Nitrosodiphenylamine	3.303	0.20	5	0	66.1	40 - 125	3.63	9.41	20	
Pentachlorophenol	2.969	0.20	5	0	59.4	19 - 121	3.463	15.4	20	
Phenanthrene	3.292	0.10	5	0	65.8	45 - 121	3.492	5.91	20	
Phenol	2.812	0.20	5	0	56.2	20 - 124	2.755	2.06	20	
Pyrene	3.51	0.10	5	0	70.2	40 - 130	3.62	3.07	20	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3.267</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>65.3</i>	<i>34 - 129</i>	<i>3.91</i>	<i>17.9</i>	<i>20</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>2.918</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>58.4</i>	<i>40 - 125</i>	<i>3.186</i>	<i>8.78</i>	<i>20</i>	
<i>Surr: 2-Fluorophenol</i>	<i>2.579</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>51.6</i>	<i>20 - 120</i>	<i>3.276</i>	<i>23.8</i>	<i>20</i>	R
<i>Surr: 4-Terphenyl-d14</i>	<i>3.715</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>74.3</i>	<i>40 - 135</i>	<i>4.085</i>	<i>9.48</i>	<i>20</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>3.043</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>60.9</i>	<i>41 - 120</i>	<i>3.082</i>	<i>1.25</i>	<i>20</i>	
<i>Surr: Phenol-d6</i>	<i>2.962</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>59.2</i>	<i>20 - 120</i>	<i>3.253</i>	<i>9.35</i>	<i>20</i>	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: 137036	Instrument: SV-6	Method: SW8270
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The following samples were analyzed in this batch:

HS19011117-01	HS19011117-02	HS19011117-03	HS19011117-04
HS19011117-05	HS19011117-06	HS19011117-07	HS19011117-08
HS19011117-09	HS19011117-11	HS19011117-12	HS19011117-13
HS19011117-14	HS19011117-15	HS19011117-16	HS19011117-17
HS19011117-18	HS19011117-19		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: R331844		Instrument: VOA2		Method: SW8260					
MBLK	Sample ID: VBLKW-190128	Units: ug/L			Analysis Date: 28-Jan-2019 23:41				
Client ID:	Run ID: VOA2_331844	SeqNo: 4927949		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							
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>45.73</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>91.5</i>	<i>70 - 123</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>47.46</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>94.9</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>51.78</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>104</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>51.5</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>103</i>	<i>81 - 120</i>			

LCS	Sample ID: VLCSW-190128	Units: ug/L			Analysis Date: 28-Jan-2019 22:53				
Client ID:	Run ID: VOA2_331844	SeqNo: 4927948		PrepDate:		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

1,2-Dichloroethane	16.74	1.0	20	0	83.7	70 - 124			
Benzene	20.94	1.0	20	0	105	74 - 120			
Chlorobenzene	20.19	1.0	20	0	101	76 - 113			
Ethylbenzene	20.29	1.0	20	0	101	77 - 117			
Methylene chloride	20.8	2.0	20	0	104	70 - 127			
Toluene	20.05	1.0	20	0	100	77 - 118			
Vinyl chloride	20.82	1.0	20	0	104	70 - 130			
Xylenes, Total	62.37	1.0	60	0	104	75 - 122			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.17</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.3</i>	<i>70 - 130</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.35</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.7</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>50.48</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>49.88</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.8</i>	<i>81 - 120</i>			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: R331844 **Instrument:** VOA2 **Method:** SW8260

MS		Sample ID: HS19011117-11MS			Units: ug/L		Analysis Date: 29-Jan-2019 00:29			
Client ID: WG-1620-MW82B-20190122		Run ID: VOA2_331844			SeqNo: 4927951		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	15.32	1.0	20	0	76.6	70 - 127				
Benzene	19.32	1.0	20	0	96.6	70 - 127				
Chlorobenzene	18.51	1.0	20	0	92.5	70 - 114				
Ethylbenzene	19.18	1.0	20	0	95.9	70 - 124				
Methylene chloride	17.35	2.0	20	0	86.8	70 - 128				
Toluene	18.67	1.0	20	0	93.4	70 - 123				
Vinyl chloride	20.97	1.0	20	0	105	70 - 130				
Xylenes, Total	57.78	1.0	60	0	96.3	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.6</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.2</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.83</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.7</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>51.92</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>104</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>50.01</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>82 - 127</i>				

MSD		Sample ID: HS19011117-11MSD			Units: ug/L		Analysis Date: 29-Jan-2019 00:53			
Client ID: WG-1620-MW82B-20190122		Run ID: VOA2_331844			SeqNo: 4927952		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	15.68	1.0	20	0	78.4	70 - 127	15.32	2.36	20	
Benzene	19.19	1.0	20	0	95.9	70 - 127	19.32	0.679	20	
Chlorobenzene	18.72	1.0	20	0	93.6	70 - 114	18.51	1.15	20	
Ethylbenzene	19.22	1.0	20	0	96.1	70 - 124	19.18	0.194	20	
Methylene chloride	17.99	2.0	20	0	90.0	70 - 128	17.35	3.61	20	
Toluene	18.9	1.0	20	0	94.5	70 - 123	18.67	1.18	20	
Vinyl chloride	20.3	1.0	20	0	101	70 - 130	20.97	3.26	20	
Xylenes, Total	58.55	1.0	60	0	97.6	70 - 130	57.78	1.32	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.13</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.3</i>	<i>70 - 126</i>	<i>48.6</i>	<i>0.984</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.27</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.5</i>	<i>81 - 113</i>	<i>49.83</i>	<i>1.12</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>51.62</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>103</i>	<i>77 - 123</i>	<i>51.92</i>	<i>0.588</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>50.34</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>82 - 127</i>	<i>50.01</i>	<i>0.667</i>	<i>20</i>	

The following samples were analyzed in this batch: HS19011117-01 HS19011117-02 HS19011117-03 HS19011117-04
 HS19011117-05 HS19011117-06 HS19011117-11

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: R331938	Instrument: VOA2	Method: SW8260
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MBLK		Sample ID: VBLKW-190129			Units: ug/L		Analysis Date: 29-Jan-2019 12:55			
Client ID:		Run ID: VOA2_331938			SeqNo: 4929928		PrepDate:		DF: 1	
Analyte	Result	MLQ	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								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>43.61</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>87.2</i>	<i>70 - 123</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>47.13</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>94.3</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>49.99</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100.0</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>52.38</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>105</i>	<i>81 - 120</i>				

LCS		Sample ID: VLCSW-190129			Units: ug/L		Analysis Date: 29-Jan-2019 12:07			
Client ID:		Run ID: VOA2_331938			SeqNo: 4929927		PrepDate:		DF: 1	
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16.13	1.0	20	0	80.7	70 - 124				
Benzene	20.8	1.0	20	0	104	74 - 120				
Chlorobenzene	20.16	1.0	20	0	101	76 - 113				
Ethylbenzene	20.49	1.0	20	0	102	77 - 117				
Methylene chloride	17.64	2.0	20	0	88.2	70 - 127				
Toluene	19.97	1.0	20	0	99.9	77 - 118				
Xylenes, Total	63.15	1.0	60	0	105	75 - 122				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>46.96</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>93.9</i>	<i>70 - 130</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.73</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.5</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>49.01</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.0</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>50.26</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>81 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: R331938		Instrument: VOA2		Method: SW8260						
MS	Sample ID: HS19011125-01MS	Units: ug/L			Analysis Date: 29-Jan-2019 15:19					
Client ID:	Run ID: VOA2_331938	SeqNo: 4929934		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	13.85	1.0	20	0	69.3	70 - 127				S
Benzene	18.31	1.0	20	0	91.6	70 - 127				
Chlorobenzene	18.44	1.0	20	0	92.2	70 - 114				
Ethylbenzene	19.18	1.0	20	0	95.9	70 - 124				
Methylene chloride	16.63	2.0	20	0	83.2	70 - 128				
Toluene	18.75	1.0	20	0	93.7	70 - 123				
Xylenes, Total	57.09	1.0	60	0	95.2	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>44.46</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>88.9</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.2</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.4</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>49.45</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.9</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>50.88</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>102</i>	<i>82 - 127</i>				

MSD	Sample ID: HS19011125-01MSD	Units: ug/L			Analysis Date: 29-Jan-2019 15:43					
Client ID:	Run ID: VOA2_331938	SeqNo: 4929935		PrepDate:			DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	13.94	1.0	20	0	69.7	70 - 127	13.85	0.617	20	S
Benzene	18.01	1.0	20	0	90.1	70 - 127	18.31	1.65	20	
Chlorobenzene	17.68	1.0	20	0	88.4	70 - 114	18.44	4.22	20	
Ethylbenzene	18.42	1.0	20	0	92.1	70 - 124	19.18	4.06	20	
Methylene chloride	15.81	2.0	20	0	79.0	70 - 128	16.63	5.07	20	
Toluene	18.15	1.0	20	0	90.8	70 - 123	18.75	3.22	20	
Xylenes, Total	55.26	1.0	60	0	92.1	70 - 130	57.09	3.26	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>46.35</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>92.7</i>	<i>70 - 126</i>	<i>44.46</i>	<i>4.16</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.52</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.0</i>	<i>81 - 113</i>	<i>49.2</i>	<i>1.4</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>49.48</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.0</i>	<i>77 - 123</i>	<i>49.45</i>	<i>0.0607</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>50.1</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>82 - 127</i>	<i>50.88</i>	<i>1.55</i>	<i>20</i>	

The following samples were analyzed in this batch: HS19011117-07

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: R331946		Instrument: VOA2		Method: SW8260					
MBLK	Sample ID: VBLKW-190129	Units: ug/L			Analysis Date: 30-Jan-2019 00:32				
Client ID:	Run ID: VOA2_331946	SeqNo: 4930130		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							
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>43.24</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>86.5</i>	<i>70 - 123</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>47.99</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.0</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>48.96</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.9</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>51.47</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>103</i>	<i>81 - 120</i>			

LCS	Sample ID: VLCSW-190129	Units: ug/L			Analysis Date: 29-Jan-2019 23:44				
Client ID:	Run ID: VOA2_331946	SeqNo: 4930129		PrepDate:			DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

1,2-Dichloroethane	16.14	1.0	20	0	80.7	70 - 124			
Benzene	20.59	1.0	20	0	103	74 - 120			
Chlorobenzene	20.38	1.0	20	0	102	76 - 113			
Ethylbenzene	19.84	1.0	20	0	99.2	77 - 117			
Methylene chloride	19.54	2.0	20	0	97.7	70 - 127			
Toluene	19.73	1.0	20	0	98.6	77 - 118			
Vinyl chloride	20.42	1.0	20	0	102	70 - 130			
Xylenes, Total	61.49	1.0	60	0	102	75 - 122			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>45.12</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>90.2</i>	<i>70 - 130</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.26</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.5</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>49.49</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.0</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>50.07</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>81 - 120</i>			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: R331946 **Instrument:** VOA2 **Method:** SW8260

MS		Sample ID: HS19011117-18MS			Units: ug/L		Analysis Date: 30-Jan-2019 02:56			
Client ID: WG-1620-MW61A-20190123		Run ID: VOA2_331946			SeqNo: 4930196		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	15.23	1.0	20	0	76.2	70 - 127				
Benzene	19.02	1.0	20	0	95.1	70 - 127				
Chlorobenzene	18.75	1.0	20	0	93.7	70 - 114				
Ethylbenzene	19.01	1.0	20	0	95.1	70 - 124				
Methylene chloride	17.15	2.0	20	0	85.7	70 - 128				
Toluene	18.86	1.0	20	0	94.3	70 - 123				
Vinyl chloride	20.64	1.0	20	0	103	70 - 130				
Xylenes, Total	58.14	1.0	60	0	96.9	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>45.65</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>91.3</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>50.49</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>49.45</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.9</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>50.61</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>82 - 127</i>				

MSD		Sample ID: HS19011117-18MSD			Units: ug/L		Analysis Date: 30-Jan-2019 03:20			
Client ID: WG-1620-MW61A-20190123		Run ID: VOA2_331946			SeqNo: 4930197		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	14.84	1.0	20	0	74.2	70 - 127	15.23	2.59	20	
Benzene	18.86	1.0	20	0	94.3	70 - 127	19.02	0.849	20	
Chlorobenzene	18.88	1.0	20	0	94.4	70 - 114	18.75	0.725	20	
Ethylbenzene	19.23	1.0	20	0	96.2	70 - 124	19.01	1.15	20	
Methylene chloride	17.02	2.0	20	0	85.1	70 - 128	17.15	0.774	20	
Toluene	18.81	1.0	20	0	94.1	70 - 123	18.86	0.271	20	
Vinyl chloride	19.99	1.0	20	0	99.9	70 - 130	20.64	3.21	20	
Xylenes, Total	58.26	1.0	60	0	97.1	70 - 130	58.14	0.214	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>46.63</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>93.3</i>	<i>70 - 126</i>	<i>45.65</i>	<i>2.13</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.51</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.0</i>	<i>81 - 113</i>	<i>50.49</i>	<i>1.96</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>49.35</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.7</i>	<i>77 - 123</i>	<i>49.45</i>	<i>0.2</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>50.35</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>82 - 127</i>	<i>50.61</i>	<i>0.526</i>	<i>20</i>	

The following samples were analyzed in this batch:

HS19011117-09	HS19011117-10	HS19011117-12	HS19011117-13
HS19011117-14	HS19011117-15	HS19011117-16	HS19011117-17
HS19011117-18	HS19011117-19		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: R332011	Instrument: VOA2	Method: SW8260
--------------------------	-------------------------	-----------------------

MBLK		Sample ID: VBLKW-190130			Units: ug/L		Analysis Date: 30-Jan-2019 14:44			
Client ID:		Run ID: VOA2_332011			SeqNo: 4931480		PrepDate:		DF: 1	
Analyte	Result	MLQ	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								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>42.74</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>85.5</i>	<i>70 - 123</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>47.59</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>95.2</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>50.02</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>51.36</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>103</i>	<i>81 - 120</i>				

LCS		Sample ID: VLCSW-190130			Units: ug/L		Analysis Date: 30-Jan-2019 13:55			
Client ID:		Run ID: VOA2_332011			SeqNo: 4931479		PrepDate:		DF: 1	
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	16	1.0	20	0	80.0	70 - 124				
Benzene	19.83	1.0	20	0	99.2	74 - 120				
Chlorobenzene	19.8	1.0	20	0	99.0	76 - 113				
Ethylbenzene	19.48	1.0	20	0	97.4	77 - 117				
Methylene chloride	18.46	2.0	20	0	92.3	70 - 127				
Toluene	19.45	1.0	20	0	97.2	77 - 118				
Xylenes, Total	60.61	1.0	60	0	101	75 - 122				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>46.34</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>92.7</i>	<i>70 - 130</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.33</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.7</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>49.41</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.8</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>49.9</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.8</i>	<i>81 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

QC BATCH REPORT

Batch ID: R332011 **Instrument:** VOA2 **Method:** SW8260

MS		Sample ID: HS19011301-02MS			Units: ug/L		Analysis Date: 30-Jan-2019 16:44			
Client ID:		Run ID: VOA2_332011			SeqNo: 4931485		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	18.03	1.0	20	0	90.1	70 - 127				
Chlorobenzene	17.82	1.0	20	0	89.1	70 - 114				
Ethylbenzene	18.33	1.0	20	0	91.7	70 - 124				
Methylene chloride	17.28	2.0	20	0	86.4	70 - 128				
Toluene	17.82	1.0	20	0	89.1	70 - 123				
Xylenes, Total	54.85	1.0	60	0	91.4	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>46.31</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>92.6</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.72</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.4</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>49.87</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.7</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>50.09</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>82 - 127</i>				

MSD		Sample ID: HS19011301-02MSD			Units: ug/L		Analysis Date: 30-Jan-2019 17:08			
Client ID:		Run ID: VOA2_332011			SeqNo: 4931486		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	14.25	1.0	20	0	71.3	70 - 127	14.82	3.93	20	
Benzene	17.96	1.0	20	0	89.8	70 - 127	18.03	0.401	20	
Chlorobenzene	17.94	1.0	20	0	89.7	70 - 114	17.82	0.708	20	
Ethylbenzene	18.28	1.0	20	0	91.4	70 - 124	18.33	0.305	20	
Methylene chloride	16.93	2.0	20	0	84.6	70 - 128	17.28	2.06	20	
Toluene	17.86	1.0	20	0	89.3	70 - 123	17.82	0.251	20	
Xylenes, Total	55.2	1.0	60	0	92.0	70 - 130	54.85	0.634	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>45.39</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>90.8</i>	<i>70 - 126</i>	<i>46.31</i>	<i>2</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.79</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.6</i>	<i>81 - 113</i>	<i>49.72</i>	<i>0.139</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>49.56</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.1</i>	<i>77 - 123</i>	<i>49.87</i>	<i>0.634</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>49.98</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100.0</i>	<i>82 - 127</i>	<i>50.09</i>	<i>0.217</i>	<i>20</i>	

The following samples were analyzed in this batch: HS19011117-08

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011117

**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 Quantitation 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	88-0356	27-Mar-2019
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193 2018-2019	30-Apr-2019
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043 - 2018	30-Apr-2019
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019

Sample Receipt Checklist

Client Name: PBW
Work Order: HS19011117

Date/Time Received: 23-Jan-2019 17:40
Received by: PMG

Checklist completed by: Pablo Martinez
eSignature
Date: 23-Jan-2019

Reviewed by: Dane J. Wacasey
eSignature
Date: 28-Jan-2019

Matrices: WATER

Carrier name: Client

- Shipping container/cooler in good condition?
Custody seals intact on shipping container/cooler?
Custody seals intact on sample bottles?
VOA/TX1005/TX1006 Solids in hermetically sealed vials?
Chain of custody present?
Chain of custody signed when relinquished and received?
Samplers name present on COC?
Chain of custody agrees with sample labels?
Samples in proper container/bottle?
Sample containers intact?
Sufficient sample volume for indicated test?
All samples received within holding time?
Container/Temp Blank temperature in compliance?
Temperature(s)/Thermometer(s):

- Yes No Not Present
Yes No Not Present
Yes No Not Present
Yes No Not Present
Yes No
Yes No
Yes No
Yes No
Yes No
Yes No
Yes No
Yes No
Yes No
Yes No

2 Page(s)
COC IDs:194327, 194323

0.6C/0.9C, 1.2C/1.5C, 0.4C/0.7C, 0.9C/1.2C, 1.1C/1.4C UC/C IR # 25
24950, 43905, 43899, 43681, 44426
1/23/19 19:00

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage:

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:

[Empty text box]

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

[Empty text box]

Corrective Action:

[Empty text box]



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Chain of Custody Form

Page 1 of 2

COC ID: 194327

HS19011117

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	1620-06-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	Address	1400 Douglas Street	E	
	Suite 4004		Stop 0750	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-TD0-201801			Water	1	2												
2	WG-1620-MW44A-20190122	1-22-19	0725	W	●	6		X	X	X								
3	WG-1620-MW87C-20190122	↓	0815	W		6	X		X	X								
4	WG-1620-MW33BR-20190122		0905	W		6		X	X	X								
5	WG-1620-MW33A-20190122		1000	W		6	X		X	X								
6	WG-1620-FD04-20190122		1000	W		6	X		X	X								
7	WG-1620-MW38B-20190122		1100	W		6	X		X	X								
8	WG-1620-MW22AR-20190122		1150	W		6	X		X	X								
9	WG-1620-MW22BR-20190122		1235	W		6	X		X	X								
10	WG-1620-MW38A-20190122		1340	W		6	X		X	X								

Sampler(s) Please Print & Sign: John Brayton John Bey

Shipment Method: HAND DELIVERED

Required Turnaround Time: (Check Box) STD 10 Wk Days 5 Wk Days 2 Wk Days 24 Hour

Results Due Date: _____

Relinquished by: John Bey Date: 11/23/19 Time: 17:40

Relinquished by: _____ Date: _____ Time: _____

Received by (Laboratory): 11/23/19 17:40

Received by (Laboratory): _____

Checked by (Laboratory): _____

Notes: UPRR Houston MWPW

Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)	
34950	0-6	<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRRP Checklist
43905	1-2	<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV
43899	0-4	<input type="checkbox"/> Level IV SW846/CLP	
43031	0-7	<input type="checkbox"/> Other	
44426	1-1		

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 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.

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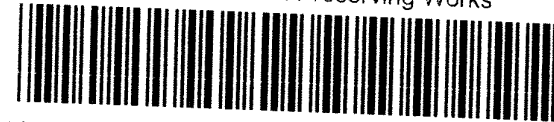
Chain of Custody Form

Page 2 of 2

COC ID: 194323

HS19011117

Golder Associates Inc.
Houston TX-Wood Preserving Works



ALS Project Manager:

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	1620-06-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-TBOS-20190123 WG-1620-TBOS-201804			Water	1	2											
2	WG-1620-MWB2B-20190122	1-22-19	1455	W		6	X		X	X	X						
3	WG-1620-MW90B-20190122	↓	1600	W		6	X		X	X							
4	WG-1620-MW89B-20190122		1650	W		6	X		X	X							
5	WG-1620-MW27C-20190122		1745	W		6	X		X	X							
6	WG-1620-FB06-20190122		1800	W		6	X		X	X							
7	WG-1620-MW62B-20190123	1-23-19	0715	W		6	X		X	X							
8	WG-1620-MW64A-20190123	↓	0810	W		6	X		X	X							
9	WG-1620-MW61A-20190123		0920	W		6		X	X	X	X						
10	WG-1620-MW47C-20190123		1015	W		6	X		X	X							

Sampler(s) Please Print & Sign <i>JOHN BRAYTON</i>		Shipment Method		Required Turnaround Time: (Check Box)			Results Due Date:		
Relinquished by: <i>John</i>		Date: 1-23-19	Time: 17:40	Received by:		Notes: UPRR Houston MWPW		QC Package: (Check One Box Below)	
Relinquished by:		Date:	Time:	Received by (Laboratory):		Cooler ID	Cooler Temp.	Level II Std QC <input type="checkbox"/>	
Logged by (Laboratory):		Date:	Time:	Checked by (Laboratory):		24950	0.6	Level III Std QC/Raw Date <input checked="" type="checkbox"/>	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035						43905	1-2	Level IV SWB46/CLP <input type="checkbox"/>	
						43899	0.4	Other: <input type="checkbox"/>	
						43681	0.1		
						44426	1.1		

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.

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February 15, 2019

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS19011199**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 20 sample(s) on Jan 25, 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.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

**TRRP Laboratory Data
Package Cover Page**

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: HS19011199

**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: 02/15/2019				
Project Name: Houston TX-Wood Preserving Works			Laboratory Job Number: HS19011199				
Reviewer Name: Dane Wacasey			Prep Batch Number(s): 137100, 137198, 137313, R332110, R332113, R332226				
# ¹	A ²	Description	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?		X			1
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		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			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: 02/15/2019				
Project Name: Houston TX-Wood Preserving Works				Laboratory Job Number: HS19011199				
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 137100, 137198, 137313, R332110, R332113, R332226				
# 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: 02/15/2019
Project Name: Houston TX-Wood Preserving Works	Laboratory Job Number: HS19011199
Reviewer Name: Dane Wacasey	Prep Batch Number(s): 137100, 137198, 137313, R332110, R332113, R332226

ER# ⁵	Description
1	Semivolatile Organics Method SW8270, samples WG-1620-MW74B-20190123, WG-1620-MW79A-20190123, WG-1620-MW72B-20190124, the surrogate recoveries could not be determined due to dilution below the calibration range.
2	Batch 137100, Semivolatile Organics Method SW8270, sample WG-1620-MW67B-20190124, MS and or MSD recovered outside the control limits for some compounds due to suspect matrix effect.
3	Batch 137100, Semivolatile Organics Method SW8260, samples WG-1620-MW74B-20190123, WG-1620-MW79A-20190123, WG-1620-MW72B-20190124, the GCMS semi-volatile extract of the samples were run at a dilution due to a high level of matrix interference. Batch R332113, Volatile Organics Method SW8260, samples WG-1620-MW74B-20190123, WG-1620-MW79A-20190123 and WG-1620-MW72B-20190124; lowest practical dilution 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: HS19011199

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19011199-01	WQ-1620-FB08-20190124	Water		24-Jan-2019 16:15	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-02	WG-1620-MW58A-20190123	Groundwater		23-Jan-2019 11:20	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-03	WG-1620-MW32AR-20190123	Groundwater		23-Jan-2019 12:15	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-04	WG-1620-MW76C-20190123	Groundwater		23-Jan-2019 13:20	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-05	WG-1620-MW74B-20190123	Groundwater		23-Jan-2019 14:15	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-06	WG-1620-MW79A-20190123	Groundwater		23-Jan-2019 15:05	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-07	WG-1620-MW49A-20190123	Groundwater		23-Jan-2019 15:50	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-08	WG-1620-MW59A-20190123	Groundwater		23-Jan-2019 16:40	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-09	WG-1620-MW59B-20190123	Groundwater		23-Jan-2019 17:30	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-10	WQ-1620-FB07-20190123	Water		23-Jan-2019 17:00	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-11	WQ-1620-TB06-20190124	Water	ALS-121118-56	24-Jan-2019 00:00	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-12	WG-1620-MW59D-20190124	Groundwater		24-Jan-2019 07:20	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-13	WG-1620-FD05-20190124	Groundwater		24-Jan-2019 07:20	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-14	WG-1620-MW36D-20190124	Groundwater		24-Jan-2019 08:25	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-15	WG-1620-MW65D-20190124	Groundwater		24-Jan-2019 09:25	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-16	WG-1620-MW66D-20190124	Groundwater		24-Jan-2019 10:30	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-17	WG-1620-MW84B-20190124	Groundwater		24-Jan-2019 11:40	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-18	WG-1620-MW67B-20190124	Groundwater		24-Jan-2019 12:50	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-19	WG-1620-MW19C-20190124	Groundwater		24-Jan-2019 13:50	25-Jan-2019 09:07	<input type="checkbox"/>
HS19011199-20	WG-1620-MW72B-20190124	Groundwater		24-Jan-2019 14:55	25-Jan-2019 09:07	<input type="checkbox"/>

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WQ-1620-FB08-20190124
 Collection Date: 24-Jan-2019 16:15

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-01
 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	01-Feb-2019 03:00
Benzene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 03:00
Chlorobenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 03:00
Ethylbenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 03:00
Methylene chloride	U		0.0010	0.0020	mg/L	1	01-Feb-2019 03:00
Toluene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 03:00
Xylenes, Total	U		0.00030	0.0010	mg/L	1	01-Feb-2019 03:00
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>87.5</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 03:00</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>93.4</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 03:00</i>
<i>Surr: Dibromofluoromethane</i>	<i>98.7</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 03:00</i>
<i>Surr: Toluene-d8</i>	<i>104</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 03:00</i>

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-FB08-20190124
 Collection Date: 24-Jan-2019 16:15

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-01
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	13-Feb-2019 13:36
2,4-Dimethylphenol	0.00057		0.000040	0.00020	mg/L	1	13-Feb-2019 13:36
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	13-Feb-2019 13:36
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	13-Feb-2019 13:36
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	13-Feb-2019 13:36
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 13:36
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	13-Feb-2019 13:36
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	13-Feb-2019 13:36
Acenaphthene	U		0.000027	0.00010	mg/L	1	13-Feb-2019 13:36
Acenaphthylene	U		0.000015	0.00010	mg/L	1	13-Feb-2019 13:36
Anthracene	U		0.000014	0.00010	mg/L	1	13-Feb-2019 13:36
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	13-Feb-2019 13:36
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 13:36
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	13-Feb-2019 13:36
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	13-Feb-2019 13:36
Chrysene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 13:36
Dibenzofuran	U		0.000020	0.00010	mg/L	1	13-Feb-2019 13:36
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	13-Feb-2019 13:36
Fluoranthene	U		0.000010	0.00010	mg/L	1	13-Feb-2019 13:36
Fluorene	U		0.000030	0.00010	mg/L	1	13-Feb-2019 13:36
Naphthalene	0.00075		0.000020	0.00010	mg/L	1	13-Feb-2019 13:36
Nitrobenzene	U		0.000024	0.00020	mg/L	1	13-Feb-2019 13:36
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	13-Feb-2019 13:36
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	13-Feb-2019 13:36
Phenanthrene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 13:36
Phenol	0.00041		0.000035	0.00020	mg/L	1	13-Feb-2019 13:36
Pyrene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 13:36
<i>Surr: 2,4,6-Tribromophenol</i>	<i>77.8</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 13:36</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>64.9</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 13:36</i>
<i>Surr: 2-Fluorophenol</i>	<i>59.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 13:36</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>73.9</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 13:36</i>
<i>Surr: Nitrobenzene-d5</i>	<i>64.6</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 13:36</i>
<i>Surr: Phenol-d6</i>	<i>64.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 13:36</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	06-Feb-2019 20:16
Lead	U		0.000600	0.00200	mg/L	1	06-Feb-2019 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-MW58A-20190123
 Collection Date: 23-Jan-2019 11:20

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	SQL	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	01-Feb-2019 05:00
Benzene	0.0011		0.00020	0.0010	mg/L	1	01-Feb-2019 05:00
Chlorobenzene	0.00046	J	0.00030	0.0010	mg/L	1	01-Feb-2019 05:00
Ethylbenzene	0.0032		0.00030	0.0010	mg/L	1	01-Feb-2019 05:00
Methylene chloride		U	0.0010	0.0020	mg/L	1	01-Feb-2019 05:00
Toluene	0.0014		0.00020	0.0010	mg/L	1	01-Feb-2019 05:00
Vinyl chloride		U	0.00020	0.0010	mg/L	1	01-Feb-2019 05:00
Xylenes, Total	0.0050		0.00030	0.0010	mg/L	1	01-Feb-2019 05:00
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>86.5</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:00</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>99.3</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:00</i>
<i>Surr: Dibromofluoromethane</i>	<i>101</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:00</i>
<i>Surr: Toluene-d8</i>	<i>101</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:00</i>

Note: See 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-20190123
 Collection Date: 23-Jan-2019 11:20

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine		U	0.000021	0.00020	mg/L	1	13-Feb-2019 13:56
2,4-Dimethylphenol	0.00010	J	0.000040	0.00020	mg/L	1	13-Feb-2019 13:56
2,4-Dinitrotoluene		U	0.000058	0.00020	mg/L	1	13-Feb-2019 13:56
2,6-Dinitrotoluene		U	0.000042	0.00020	mg/L	1	13-Feb-2019 13:56
2-Chloronaphthalene		U	0.000021	0.00020	mg/L	1	13-Feb-2019 13:56
2-Methylnaphthalene	0.000072	J	0.000019	0.00010	mg/L	1	13-Feb-2019 13:56
4,6-Dinitro-2-methylphenol		U	0.000020	0.00020	mg/L	1	13-Feb-2019 13:56
4-Nitrophenol		U	0.000047	0.0010	mg/L	1	13-Feb-2019 13:56
Acenaphthene	0.023		0.00027	0.0010	mg/L	10	14-Feb-2019 13:48
Acenaphthylene	0.00038		0.000015	0.00010	mg/L	1	13-Feb-2019 13:56
Anthracene	0.0020		0.000014	0.00010	mg/L	1	13-Feb-2019 13:56
Benz(a)anthracene		U	0.000050	0.00010	mg/L	1	13-Feb-2019 13:56
Benzo(a)pyrene		U	0.000020	0.00010	mg/L	1	13-Feb-2019 13:56
Bis(2-chloroethoxy)methane		U	0.000030	0.00020	mg/L	1	13-Feb-2019 13:56
Bis(2-ethylhexyl)phthalate	0.000070	J	0.000037	0.00020	mg/L	1	13-Feb-2019 13:56
Chrysene	0.000030	J	0.000021	0.00010	mg/L	1	13-Feb-2019 13:56
Dibenzofuran	0.013		0.00020	0.0010	mg/L	10	14-Feb-2019 13:48
Di-n-butyl phthalate	0.000032	J	0.000020	0.00020	mg/L	1	13-Feb-2019 13:56
Fluoranthene	0.0020		0.000010	0.00010	mg/L	1	13-Feb-2019 13:56
Fluorene	0.015		0.00030	0.0010	mg/L	10	14-Feb-2019 13:48
Naphthalene	0.00042		0.000020	0.00010	mg/L	1	13-Feb-2019 13:56
Nitrobenzene		U	0.000024	0.00020	mg/L	1	13-Feb-2019 13:56
N-Nitrosodiphenylamine		U	0.000025	0.00020	mg/L	1	13-Feb-2019 13:56
Pentachlorophenol		U	0.000079	0.00020	mg/L	1	13-Feb-2019 13:56
Phenanthrene	0.0038		0.000021	0.00010	mg/L	1	13-Feb-2019 13:56
Phenol	0.000074	J	0.000035	0.00020	mg/L	1	13-Feb-2019 13:56
Pyrene	0.00088		0.000019	0.00010	mg/L	1	13-Feb-2019 13:56
<i>Surr: 2,4,6-Tribromophenol</i>	<i>48.0</i>			<i>34-129</i>	<i>%REC</i>	<i>10</i>	<i>14-Feb-2019 13:48</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>83.8</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 13:56</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>54.8</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 13:56</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>44.6</i>			<i>40-125</i>	<i>%REC</i>	<i>10</i>	<i>14-Feb-2019 13:48</i>
<i>Surr: 2-Fluorophenol</i>	<i>30.5</i>	<i>J</i>		<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>14-Feb-2019 13:48</i>
<i>Surr: 2-Fluorophenol</i>	<i>50.7</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 13:56</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>73.2</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 13:56</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>43.7</i>			<i>40-135</i>	<i>%REC</i>	<i>10</i>	<i>14-Feb-2019 13:48</i>
<i>Surr: Nitrobenzene-d5</i>	<i>43.2</i>			<i>41-120</i>	<i>%REC</i>	<i>10</i>	<i>14-Feb-2019 13:48</i>
<i>Surr: Nitrobenzene-d5</i>	<i>52.7</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 13:56</i>
<i>Surr: Phenol-d6</i>	<i>58.2</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 13:56</i>
<i>Surr: Phenol-d6</i>	<i>33.0</i>	<i>J</i>		<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>14-Feb-2019 13:48</i>

Note: See 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-20190123
 Collection Date: 23-Jan-2019 11:20

ANALYTICAL REPORT

WorkOrder:HS19011199
 Lab ID:HS19011199-02
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic	0.00232		0.000400	0.00200	mg/L	1	06-Feb-2019 20:19
Lead		U	0.000600	0.00200	mg/L	1	06-Feb-2019 20:19

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-MW32AR-20190123
 Collection Date: 23-Jan-2019 12:15

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	01-Feb-2019 05:24
Benzene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 05:24
Chlorobenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 05:24
Ethylbenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 05:24
Methylene chloride	U		0.0010	0.0020	mg/L	1	01-Feb-2019 05:24
Toluene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 05:24
Xylenes, Total	U		0.00030	0.0010	mg/L	1	01-Feb-2019 05:24
<i>Surr: 1,2-Dichloroethane-d4</i>		<i>85.0</i>		<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:24</i>
<i>Surr: 4-Bromofluorobenzene</i>		<i>94.6</i>		<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:24</i>
<i>Surr: Dibromofluoromethane</i>		<i>100</i>		<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:24</i>
<i>Surr: Toluene-d8</i>		<i>100</i>		<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:24</i>

Note: See 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-20190123
 Collection Date: 23-Jan-2019 12:15

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-03
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	13-Feb-2019 14:15
2,4-Dimethylphenol	0.00013	J	0.000040	0.00020	mg/L	1	13-Feb-2019 14:15
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	13-Feb-2019 14:15
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	13-Feb-2019 14:15
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	13-Feb-2019 14:15
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 14:15
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	13-Feb-2019 14:15
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	13-Feb-2019 14:15
Acenaphthene	0.00010		0.000027	0.00010	mg/L	1	13-Feb-2019 14:15
Acenaphthylene	U		0.000015	0.00010	mg/L	1	13-Feb-2019 14:15
Anthracene	0.000020	J	0.000014	0.00010	mg/L	1	13-Feb-2019 14:15
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	13-Feb-2019 14:15
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 14:15
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	13-Feb-2019 14:15
Bis(2-ethylhexyl)phthalate	0.000044	J	0.000037	0.00020	mg/L	1	13-Feb-2019 14:15
Chrysene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 14:15
Dibenzofuran	U		0.000020	0.00010	mg/L	1	13-Feb-2019 14:15
Di-n-butyl phthalate	0.000020	J	0.000020	0.00020	mg/L	1	13-Feb-2019 14:15
Fluoranthene	0.000051	J	0.000010	0.00010	mg/L	1	13-Feb-2019 14:15
Fluorene	U		0.000030	0.00010	mg/L	1	13-Feb-2019 14:15
Naphthalene	0.000067	J	0.000020	0.00010	mg/L	1	13-Feb-2019 14:15
Nitrobenzene	U		0.000024	0.00020	mg/L	1	13-Feb-2019 14:15
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	13-Feb-2019 14:15
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	13-Feb-2019 14:15
Phenanthrene	0.000034	J	0.000021	0.00010	mg/L	1	13-Feb-2019 14:15
Phenol	U		0.000035	0.00020	mg/L	1	13-Feb-2019 14:15
Pyrene	0.000036	J	0.000019	0.00010	mg/L	1	13-Feb-2019 14:15
Surr: 2,4,6-Tribromophenol	77.3			34-129	%REC	1	13-Feb-2019 14:15
Surr: 2-Fluorobiphenyl	50.5			40-125	%REC	1	13-Feb-2019 14:15
Surr: 2-Fluorophenol	41.2			20-120	%REC	1	13-Feb-2019 14:15
Surr: 4-Terphenyl-d14	72.6			40-135	%REC	1	13-Feb-2019 14:15
Surr: Nitrobenzene-d5	41.6			41-120	%REC	1	13-Feb-2019 14:15
Surr: Phenol-d6	48.8			20-120	%REC	1	13-Feb-2019 14:15
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic	0.0316		0.000400	0.00200	mg/L	1	06-Feb-2019 20:32
Lead	0.000644	J	0.000600	0.00200	mg/L	1	06-Feb-2019 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-MW76C-20190123
 Collection Date: 23-Jan-2019 13:20

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	01-Feb-2019 05:48
Benzene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 05:48
Chlorobenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 05:48
Ethylbenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 05:48
Methylene chloride	U		0.0010	0.0020	mg/L	1	01-Feb-2019 05:48
Toluene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 05:48
Xylenes, Total	U		0.00030	0.0010	mg/L	1	01-Feb-2019 05:48
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>87.3</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:48</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>98.4</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:48</i>
<i>Surr: Dibromofluoromethane</i>	<i>100</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:48</i>
<i>Surr: Toluene-d8</i>	<i>102</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:48</i>

Note: See 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-20190123
 Collection Date: 23-Jan-2019 13:20

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-04
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	13-Feb-2019 14:35
2,4-Dimethylphenol	0.0041		0.000040	0.00020	mg/L	1	13-Feb-2019 14:35
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	13-Feb-2019 14:35
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	13-Feb-2019 14:35
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	13-Feb-2019 14:35
2-Methylnaphthalene	0.00031		0.000019	0.00010	mg/L	1	13-Feb-2019 14:35
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	13-Feb-2019 14:35
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	13-Feb-2019 14:35
Acenaphthene	0.00011		0.000027	0.00010	mg/L	1	13-Feb-2019 14:35
Acenaphthylene	U		0.000015	0.00010	mg/L	1	13-Feb-2019 14:35
Anthracene	0.000041	J	0.000014	0.00010	mg/L	1	13-Feb-2019 14:35
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	13-Feb-2019 14:35
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 14:35
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	13-Feb-2019 14:35
Bis(2-ethylhexyl)phthalate	0.000091	J	0.000037	0.00020	mg/L	1	13-Feb-2019 14:35
Chrysene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 14:35
Dibenzofuran	0.00011		0.000020	0.00010	mg/L	1	13-Feb-2019 14:35
Di-n-butyl phthalate	0.000027	J	0.000020	0.00020	mg/L	1	13-Feb-2019 14:35
Fluoranthene	U		0.000010	0.00010	mg/L	1	13-Feb-2019 14:35
Fluorene	0.000076	J	0.000030	0.00010	mg/L	1	13-Feb-2019 14:35
Naphthalene	0.0070		0.000020	0.00010	mg/L	1	13-Feb-2019 14:35
Nitrobenzene	U		0.000024	0.00020	mg/L	1	13-Feb-2019 14:35
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	13-Feb-2019 14:35
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	13-Feb-2019 14:35
Phenanthrene	0.000086	J	0.000021	0.00010	mg/L	1	13-Feb-2019 14:35
Phenol	0.0012		0.000035	0.00020	mg/L	1	13-Feb-2019 14:35
Pyrene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 14:35
<i>Surr: 2,4,6-Tribromophenol</i>	87.6			34-129	%REC	1	13-Feb-2019 14:35
<i>Surr: 2-Fluorobiphenyl</i>	63.1			40-125	%REC	1	13-Feb-2019 14:35
<i>Surr: 2-Fluorophenol</i>	57.3			20-120	%REC	1	13-Feb-2019 14:35
<i>Surr: 4-Terphenyl-d14</i>	76.5			40-135	%REC	1	13-Feb-2019 14:35
<i>Surr: Nitrobenzene-d5</i>	59.6			41-120	%REC	1	13-Feb-2019 14:35
<i>Surr: Phenol-d6</i>	66.6			20-120	%REC	1	13-Feb-2019 14:35
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic	0.000579	J	0.000400	0.00200	mg/L	1	06-Feb-2019 20:34
Lead	U		0.000600	0.00200	mg/L	1	06-Feb-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-MW74B-20190123
 Collection Date: 23-Jan-2019 14:15

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.0020	0.010	mg/L	10	01-Feb-2019 06:14
Benzene	0.83		0.0020	0.010	mg/L	10	01-Feb-2019 06:14
Chlorobenzene	U		0.0030	0.010	mg/L	10	01-Feb-2019 06:14
Ethylbenzene	0.22		0.0030	0.010	mg/L	10	01-Feb-2019 06:14
Methylene chloride	U		0.010	0.020	mg/L	10	01-Feb-2019 06:14
Toluene	0.69		0.0020	0.010	mg/L	10	01-Feb-2019 06:14
Xylenes, Total	0.63		0.0030	0.010	mg/L	10	01-Feb-2019 06:14
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>87.1</i>			<i>70-126</i>	<i>%REC</i>	<i>10</i>	<i>01-Feb-2019 06:14</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>101</i>			<i>81-113</i>	<i>%REC</i>	<i>10</i>	<i>01-Feb-2019 06:14</i>
<i>Surr: Dibromofluoromethane</i>	<i>102</i>			<i>77-123</i>	<i>%REC</i>	<i>10</i>	<i>01-Feb-2019 06:14</i>
<i>Surr: Toluene-d8</i>	<i>100</i>			<i>82-127</i>	<i>%REC</i>	<i>10</i>	<i>01-Feb-2019 06:14</i>

Note: See 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-20190123
 Collection Date: 23-Jan-2019 14:15

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	13-Feb-2019 14:54
2,4-Dimethylphenol	9.0		0.040	0.20	mg/L	1000	14-Feb-2019 15:45
2,4-Dinitrotoluene	U		0.00058	0.0020	mg/L	10	13-Feb-2019 14:54
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	13-Feb-2019 14:54
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	13-Feb-2019 14:54
2-Methylnaphthalene	0.22		0.0019	0.010	mg/L	100	14-Feb-2019 13:28
4,6-Dinitro-2-methylphenol	U		0.00020	0.0020	mg/L	10	13-Feb-2019 14:54
4-Nitrophenol	U		0.00047	0.010	mg/L	10	13-Feb-2019 14:54
Acenaphthene	0.098		0.00027	0.0010	mg/L	10	13-Feb-2019 14:54
Acenaphthylene	0.0032		0.00015	0.0010	mg/L	10	13-Feb-2019 14:54
Anthracene	0.0074		0.00014	0.0010	mg/L	10	13-Feb-2019 14:54
Benz(a)anthracene	U		0.00050	0.0010	mg/L	10	13-Feb-2019 14:54
Benzo(a)pyrene	U		0.00020	0.0010	mg/L	10	13-Feb-2019 14:54
Bis(2-chloroethoxy)methane	U		0.00030	0.0020	mg/L	10	13-Feb-2019 14:54
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	13-Feb-2019 14:54
Chrysene	U		0.00021	0.0010	mg/L	10	13-Feb-2019 14:54
Dibenzofuran	0.079		0.00020	0.0010	mg/L	10	13-Feb-2019 14:54
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	13-Feb-2019 14:54
Fluoranthene	0.0038		0.00010	0.0010	mg/L	10	13-Feb-2019 14:54
Fluorene	0.056		0.00030	0.0010	mg/L	10	13-Feb-2019 14:54
Naphthalene	4.0		0.020	0.10	mg/L	1000	14-Feb-2019 15:45
Nitrobenzene	U		0.0024	0.020	mg/L	100	14-Feb-2019 13:28
N-Nitrosodiphenylamine	U		0.00025	0.0020	mg/L	10	13-Feb-2019 14:54
Pentachlorophenol	U		0.00079	0.0020	mg/L	10	13-Feb-2019 14:54
Phenanthrene	0.046		0.00021	0.0010	mg/L	10	13-Feb-2019 14:54
Phenol	5.0		0.035	0.20	mg/L	1000	14-Feb-2019 15:45
Pyrene	0.0020		0.00019	0.0010	mg/L	10	13-Feb-2019 14:54
Surr: 2,4,6-Tribromophenol	0	JS		34-129	%REC	100	14-Feb-2019 13:28
Surr: 2,4,6-Tribromophenol	0	JS		34-129	%REC	1000	14-Feb-2019 15:45
Surr: 2,4,6-Tribromophenol	80.0			34-129	%REC	10	13-Feb-2019 14:54
Surr: 2-Fluorobiphenyl	63.9			40-125	%REC	10	13-Feb-2019 14:54
Surr: 2-Fluorobiphenyl	0	JS		40-125	%REC	1000	14-Feb-2019 15:45
Surr: 2-Fluorobiphenyl	0	JS		40-125	%REC	100	14-Feb-2019 13:28
Surr: 2-Fluorophenol	0	JS		20-120	%REC	100	14-Feb-2019 13:28
Surr: 2-Fluorophenol	0	JS		20-120	%REC	1000	14-Feb-2019 15:45
Surr: 2-Fluorophenol	59.7			20-120	%REC	10	13-Feb-2019 14:54
Surr: 4-Terphenyl-d14	70.9			40-135	%REC	10	13-Feb-2019 14:54
Surr: 4-Terphenyl-d14	0	JS		40-135	%REC	1000	14-Feb-2019 15:45
Surr: 4-Terphenyl-d14	0	JS		40-135	%REC	100	14-Feb-2019 13:28

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-MW74B-20190123
 Collection Date: 23-Jan-2019 14:15

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-05
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	100	14-Feb-2019 13:28
Surr: Nitrobenzene-d5	96.7			41-120	%REC	10	13-Feb-2019 14:54
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	1000	14-Feb-2019 15:45
Surr: Phenol-d6	0	JS		20-120	%REC	1000	14-Feb-2019 15:45
Surr: Phenol-d6	76.7			20-120	%REC	10	13-Feb-2019 14:54
Surr: Phenol-d6	0	JS		20-120	%REC	100	14-Feb-2019 13:28
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic	0.00140	J	0.000400	0.00200	mg/L	1	07-Feb-2019 13:22
Lead		U	0.000600	0.00200	mg/L	1	07-Feb-2019 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-MW79A-20190123
 Collection Date: 23-Jan-2019 15:05

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.0020	0.010	mg/L	10	01-Feb-2019 06:41
Benzene	0.45		0.0020	0.010	mg/L	10	01-Feb-2019 06:41
Chlorobenzene	U		0.0030	0.010	mg/L	10	01-Feb-2019 06:41
Ethylbenzene	0.19		0.0030	0.010	mg/L	10	01-Feb-2019 06:41
Methylene chloride	U		0.010	0.020	mg/L	10	01-Feb-2019 06:41
Toluene	0.55		0.0020	0.010	mg/L	10	01-Feb-2019 06:41
Xylenes, Total	0.54		0.0030	0.010	mg/L	10	01-Feb-2019 06:41
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>87.3</i>			<i>70-126</i>	<i>%REC</i>	<i>10</i>	<i>01-Feb-2019 06:41</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>101</i>			<i>81-113</i>	<i>%REC</i>	<i>10</i>	<i>01-Feb-2019 06:41</i>
<i>Surr: Dibromofluoromethane</i>	<i>98.6</i>			<i>77-123</i>	<i>%REC</i>	<i>10</i>	<i>01-Feb-2019 06:41</i>
<i>Surr: Toluene-d8</i>	<i>99.8</i>			<i>82-127</i>	<i>%REC</i>	<i>10</i>	<i>01-Feb-2019 06:41</i>

Note: See 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-20190123
 Collection Date: 23-Jan-2019 15:05

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	13-Feb-2019 15:14
2,4-Dimethylphenol	2.5		0.040	0.20	mg/L	1000	14-Feb-2019 17:43
2,4-Dinitrotoluene	U		0.00058	0.0020	mg/L	10	13-Feb-2019 15:14
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	13-Feb-2019 15:14
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	13-Feb-2019 15:14
2-Methylnaphthalene	0.10		0.0019	0.010	mg/L	100	14-Feb-2019 16:05
4,6-Dinitro-2-methylphenol	U		0.00020	0.0020	mg/L	10	13-Feb-2019 15:14
4-Nitrophenol	U		0.00047	0.010	mg/L	10	13-Feb-2019 15:14
Acenaphthene	0.039		0.00027	0.0010	mg/L	10	13-Feb-2019 15:14
Acenaphthylene	0.0015		0.00015	0.0010	mg/L	10	13-Feb-2019 15:14
Anthracene	0.0021		0.00014	0.0010	mg/L	10	13-Feb-2019 15:14
Benz(a)anthracene	U		0.00050	0.0010	mg/L	10	13-Feb-2019 15:14
Benzo(a)pyrene	U		0.00020	0.0010	mg/L	10	13-Feb-2019 15:14
Bis(2-chloroethoxy)methane	U		0.00030	0.0020	mg/L	10	13-Feb-2019 15:14
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	13-Feb-2019 15:14
Chrysene	U		0.00021	0.0010	mg/L	10	13-Feb-2019 15:14
Dibenzofuran	0.037		0.00020	0.0010	mg/L	10	13-Feb-2019 15:14
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	13-Feb-2019 15:14
Fluoranthene	0.0010		0.00010	0.0010	mg/L	10	13-Feb-2019 15:14
Fluorene	0.022		0.00030	0.0010	mg/L	10	13-Feb-2019 15:14
Naphthalene	1.9		0.020	0.10	mg/L	1000	14-Feb-2019 17:43
Nitrobenzene	U		0.00024	0.0020	mg/L	10	13-Feb-2019 15:14
N-Nitrosodiphenylamine	U		0.00025	0.0020	mg/L	10	13-Feb-2019 15:14
Pentachlorophenol	U		0.00079	0.0020	mg/L	10	13-Feb-2019 15:14
Phenanthrene	0.012		0.00021	0.0010	mg/L	10	13-Feb-2019 15:14
Phenol	0.51		0.0035	0.020	mg/L	100	14-Feb-2019 16:05
Pyrene	0.00063	J	0.00019	0.0010	mg/L	10	13-Feb-2019 15:14
<i>Surr: 2,4,6-Tribromophenol</i>	0	JS		34-129	%REC	100	14-Feb-2019 16:05
<i>Surr: 2,4,6-Tribromophenol</i>	0	JS		34-129	%REC	1000	14-Feb-2019 17:43
<i>Surr: 2,4,6-Tribromophenol</i>	62.8			34-129	%REC	10	13-Feb-2019 15:14
<i>Surr: 2-Fluorobiphenyl</i>	52.2			40-125	%REC	10	13-Feb-2019 15:14
<i>Surr: 2-Fluorobiphenyl</i>	0	JS		40-125	%REC	1000	14-Feb-2019 17:43
<i>Surr: 2-Fluorobiphenyl</i>	0	JS		40-125	%REC	100	14-Feb-2019 16:05
<i>Surr: 2-Fluorophenol</i>	0	JS		20-120	%REC	100	14-Feb-2019 16:05
<i>Surr: 2-Fluorophenol</i>	0	JS		20-120	%REC	1000	14-Feb-2019 17:43
<i>Surr: 2-Fluorophenol</i>	56.4			20-120	%REC	10	13-Feb-2019 15:14
<i>Surr: 4-Terphenyl-d14</i>	54.4			40-135	%REC	10	13-Feb-2019 15:14
<i>Surr: 4-Terphenyl-d14</i>	0	JS		40-135	%REC	1000	14-Feb-2019 17:43
<i>Surr: 4-Terphenyl-d14</i>	0	JS		40-135	%REC	100	14-Feb-2019 16:05

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-MW79A-20190123
 Collection Date: 23-Jan-2019 15:05

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-06
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	100	14-Feb-2019 16:05
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	1000	14-Feb-2019 17:43
Surr: Nitrobenzene-d5	51.7			41-120	%REC	10	13-Feb-2019 15:14
Surr: Phenol-d6	53.9			20-120	%REC	10	13-Feb-2019 15:14
Surr: Phenol-d6	0	JS		20-120	%REC	100	14-Feb-2019 16:05
Surr: Phenol-d6	0	JS		20-120	%REC	1000	14-Feb-2019 17:43
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic	0.0133		0.000400	0.00200	mg/L	1	07-Feb-2019 13:24
Lead	U		0.000600	0.00200	mg/L	1	07-Feb-2019 13:24

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-MW49A-20190123
 Collection Date: 23-Jan-2019 15:50

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	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	01-Feb-2019 05:14
Benzene	0.0040		0.00020	0.0010	mg/L	1	01-Feb-2019 05:14
Chlorobenzene		U	0.00030	0.0010	mg/L	1	01-Feb-2019 05:14
Ethylbenzene	0.0031		0.00030	0.0010	mg/L	1	01-Feb-2019 05:14
Methylene chloride		U	0.0010	0.0020	mg/L	1	01-Feb-2019 05:14
Toluene	0.0023		0.00020	0.0010	mg/L	1	01-Feb-2019 05:14
Vinyl chloride		U	0.00020	0.0010	mg/L	1	01-Feb-2019 05:14
Xylenes, Total	0.0087		0.00030	0.0010	mg/L	1	01-Feb-2019 05:14
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>99.6</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:14</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>98.5</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:14</i>
<i>Surr: Dibromofluoromethane</i>	<i>98.6</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:14</i>
<i>Surr: Toluene-d8</i>	<i>101</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:14</i>

Note: See 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-20190123
 Collection Date: 23-Jan-2019 15:50

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-07
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	13-Feb-2019 15:33
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	13-Feb-2019 15:33
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	13-Feb-2019 15:33
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	13-Feb-2019 15:33
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	13-Feb-2019 15:33
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 15:33
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	13-Feb-2019 15:33
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	13-Feb-2019 15:33
Acenaphthene	U		0.000027	0.00010	mg/L	1	13-Feb-2019 15:33
Acenaphthylene	U		0.000015	0.00010	mg/L	1	13-Feb-2019 15:33
Anthracene	U		0.000014	0.00010	mg/L	1	13-Feb-2019 15:33
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	13-Feb-2019 15:33
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 15:33
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	13-Feb-2019 15:33
Bis(2-ethylhexyl)phthalate	0.000055	J	0.000037	0.00020	mg/L	1	13-Feb-2019 15:33
Chrysene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 15:33
Dibenzofuran	U		0.000020	0.00010	mg/L	1	13-Feb-2019 15:33
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	13-Feb-2019 15:33
Fluoranthene	U		0.000010	0.00010	mg/L	1	13-Feb-2019 15:33
Fluorene	U		0.000030	0.00010	mg/L	1	13-Feb-2019 15:33
Naphthalene	0.000089	J	0.000020	0.00010	mg/L	1	13-Feb-2019 15:33
Nitrobenzene	U		0.000024	0.00020	mg/L	1	13-Feb-2019 15:33
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	13-Feb-2019 15:33
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	13-Feb-2019 15:33
Phenanthrene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 15:33
Phenol	U		0.000035	0.00020	mg/L	1	13-Feb-2019 15:33
Pyrene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 15:33
<i>Surr: 2,4,6-Tribromophenol</i>	<i>57.5</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 15:33</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>52.0</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 15:33</i>
<i>Surr: 2-Fluorophenol</i>	<i>40.9</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 15:33</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>75.1</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 15:33</i>
<i>Surr: Nitrobenzene-d5</i>	<i>48.0</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 15:33</i>
<i>Surr: Phenol-d6</i>	<i>48.2</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 15:33</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic	0.00120	J	0.000400	0.00200	mg/L	1	06-Feb-2019 20:41
Lead	0.00778		0.000600	0.00200	mg/L	1	06-Feb-2019 20:41

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-MW59A-20190123
 Collection Date: 23-Jan-2019 16:40

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	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	01-Feb-2019 05:38
Benzene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 05:38
Chlorobenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 05:38
Ethylbenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 05:38
Methylene chloride	U		0.0010	0.0020	mg/L	1	01-Feb-2019 05:38
Toluene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 05:38
Vinyl chloride	U		0.00020	0.0010	mg/L	1	01-Feb-2019 05:38
Xylenes, Total	U		0.00030	0.0010	mg/L	1	01-Feb-2019 05:38
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>97.7</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:38</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>96.3</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:38</i>
<i>Surr: Dibromofluoromethane</i>	<i>94.7</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:38</i>
<i>Surr: Toluene-d8</i>	<i>100</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 05:38</i>

Note: See 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-20190123
 Collection Date: 23-Jan-2019 16:40

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-08
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	13-Feb-2019 15:53
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	13-Feb-2019 15:53
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	13-Feb-2019 15:53
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	13-Feb-2019 15:53
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	13-Feb-2019 15:53
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 15:53
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	13-Feb-2019 15:53
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	13-Feb-2019 15:53
Acenaphthene	U		0.000027	0.00010	mg/L	1	13-Feb-2019 15:53
Acenaphthylene	U		0.000015	0.00010	mg/L	1	13-Feb-2019 15:53
Anthracene	U		0.000014	0.00010	mg/L	1	13-Feb-2019 15:53
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	13-Feb-2019 15:53
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 15:53
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	13-Feb-2019 15:53
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	13-Feb-2019 15:53
Chrysene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 15:53
Dibenzofuran	U		0.000020	0.00010	mg/L	1	13-Feb-2019 15:53
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	13-Feb-2019 15:53
Fluoranthene	U		0.000010	0.00010	mg/L	1	13-Feb-2019 15:53
Fluorene	U		0.000030	0.00010	mg/L	1	13-Feb-2019 15:53
Naphthalene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 15:53
Nitrobenzene	U		0.000024	0.00020	mg/L	1	13-Feb-2019 15:53
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	13-Feb-2019 15:53
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	13-Feb-2019 15:53
Phenanthrene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 15:53
Phenol	U		0.000035	0.00020	mg/L	1	13-Feb-2019 15:53
Pyrene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 15:53
<i>Surr: 2,4,6-Tribromophenol</i>		34.2		34-129	%REC	1	13-Feb-2019 15:53
<i>Surr: 2-Fluorobiphenyl</i>		44.8		40-125	%REC	1	13-Feb-2019 15:53
<i>Surr: 2-Fluorophenol</i>		29.6		20-120	%REC	1	13-Feb-2019 15:53
<i>Surr: 4-Terphenyl-d14</i>		62.2		40-135	%REC	1	13-Feb-2019 15:53
<i>Surr: Nitrobenzene-d5</i>		41.1		41-120	%REC	1	13-Feb-2019 15:53
<i>Surr: Phenol-d6</i>		37.0		20-120	%REC	1	13-Feb-2019 15:53
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic		0.00243	0.000400	0.00200	mg/L	1	06-Feb-2019 20:43
Lead	U		0.000600	0.00200	mg/L	1	06-Feb-2019 20:43

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-MW59B-20190123
 Collection Date: 23-Jan-2019 17:30

ANALYTICAL REPORT

WorkOrder:HS19011199
 Lab ID:HS19011199-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	SQL	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	01-Feb-2019 06:03
Benzene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 06:03
Chlorobenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 06:03
Ethylbenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 06:03
Methylene chloride	U		0.0010	0.0020	mg/L	1	01-Feb-2019 06:03
Toluene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 06:03
Vinyl chloride	U		0.00020	0.0010	mg/L	1	01-Feb-2019 06:03
Xylenes, Total	U		0.00030	0.0010	mg/L	1	01-Feb-2019 06:03
<i>Surr: 1,2-Dichloroethane-d4</i>		99.3		70-126	%REC	1	01-Feb-2019 06:03
<i>Surr: 4-Bromofluorobenzene</i>		101		81-113	%REC	1	01-Feb-2019 06:03
<i>Surr: Dibromofluoromethane</i>		97.3		77-123	%REC	1	01-Feb-2019 06:03
<i>Surr: Toluene-d8</i>		102		82-127	%REC	1	01-Feb-2019 06:03

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-MW59B-20190123
 Collection Date: 23-Jan-2019 17:30

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-09
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	13-Feb-2019 16:12
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	13-Feb-2019 16:12
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	13-Feb-2019 16:12
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	13-Feb-2019 16:12
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	13-Feb-2019 16:12
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 16:12
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	13-Feb-2019 16:12
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	13-Feb-2019 16:12
Acenaphthene	U		0.000027	0.00010	mg/L	1	13-Feb-2019 16:12
Acenaphthylene	U		0.000015	0.00010	mg/L	1	13-Feb-2019 16:12
Anthracene	U		0.000014	0.00010	mg/L	1	13-Feb-2019 16:12
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	13-Feb-2019 16:12
Benzo(a)pyrene	0.000033	J	0.000020	0.00010	mg/L	1	13-Feb-2019 16:12
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	13-Feb-2019 16:12
Bis(2-ethylhexyl)phthalate	0.000056	J	0.000037	0.00020	mg/L	1	13-Feb-2019 16:12
Chrysene	0.000036	J	0.000021	0.00010	mg/L	1	13-Feb-2019 16:12
Dibenzofuran	U		0.000020	0.00010	mg/L	1	13-Feb-2019 16:12
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	13-Feb-2019 16:12
Fluoranthene	0.000051	J	0.000010	0.00010	mg/L	1	13-Feb-2019 16:12
Fluorene	U		0.000030	0.00010	mg/L	1	13-Feb-2019 16:12
Naphthalene	0.000072	J	0.000020	0.00010	mg/L	1	13-Feb-2019 16:12
Nitrobenzene	U		0.000024	0.00020	mg/L	1	13-Feb-2019 16:12
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	13-Feb-2019 16:12
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	13-Feb-2019 16:12
Phenanthrene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 16:12
Phenol	U		0.000035	0.00020	mg/L	1	13-Feb-2019 16:12
Pyrene	0.000053	J	0.000019	0.00010	mg/L	1	13-Feb-2019 16:12
<i>Surr: 2,4,6-Tribromophenol</i>	<i>54.4</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:12</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>41.4</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:12</i>
<i>Surr: 2-Fluorophenol</i>	<i>36.7</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:12</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>65.0</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:12</i>
<i>Surr: Nitrobenzene-d5</i>	<i>42.1</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:12</i>
<i>Surr: Phenol-d6</i>	<i>41.4</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:12</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic	0.000983	J	0.000400	0.00200	mg/L	1	06-Feb-2019 20:46
Lead	0.00108	J	0.000600	0.00200	mg/L	1	06-Feb-2019 20:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WQ-1620-FB07-20190123
 Collection Date: 23-Jan-2019 17:00

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-10
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MLL	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	01-Feb-2019 06:27
Benzene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 06:27
Chlorobenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 06:27
Ethylbenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 06:27
Methylene chloride	U		0.0010	0.0020	mg/L	1	01-Feb-2019 06:27
Toluene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 06:27
Vinyl chloride	U		0.00020	0.0010	mg/L	1	01-Feb-2019 06:27
Xylenes, Total	U		0.00030	0.0010	mg/L	1	01-Feb-2019 06:27
<i>Surr: 1,2-Dichloroethane-d4</i>		97.6		70-126	%REC	1	01-Feb-2019 06:27
<i>Surr: 4-Bromofluorobenzene</i>		98.9		81-113	%REC	1	01-Feb-2019 06:27
<i>Surr: Dibromofluoromethane</i>		96.8		77-123	%REC	1	01-Feb-2019 06:27
<i>Surr: Toluene-d8</i>		99.1		82-127	%REC	1	01-Feb-2019 06:27

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WQ-1620-FB07-20190123
 Collection Date: 23-Jan-2019 17:00

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-10
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	13-Feb-2019 16:32
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	13-Feb-2019 16:32
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	13-Feb-2019 16:32
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	13-Feb-2019 16:32
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	13-Feb-2019 16:32
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 16:32
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	13-Feb-2019 16:32
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	13-Feb-2019 16:32
Acenaphthene	U		0.000027	0.00010	mg/L	1	13-Feb-2019 16:32
Acenaphthylene	U		0.000015	0.00010	mg/L	1	13-Feb-2019 16:32
Anthracene	U		0.000014	0.00010	mg/L	1	13-Feb-2019 16:32
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	13-Feb-2019 16:32
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 16:32
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	13-Feb-2019 16:32
Bis(2-ethylhexyl)phthalate	0.000053	J	0.000037	0.00020	mg/L	1	13-Feb-2019 16:32
Chrysene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 16:32
Dibenzofuran	U		0.000020	0.00010	mg/L	1	13-Feb-2019 16:32
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	13-Feb-2019 16:32
Fluoranthene	U		0.000010	0.00010	mg/L	1	13-Feb-2019 16:32
Fluorene	U		0.000030	0.00010	mg/L	1	13-Feb-2019 16:32
Naphthalene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 16:32
Nitrobenzene	U		0.000024	0.00020	mg/L	1	13-Feb-2019 16:32
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	13-Feb-2019 16:32
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	13-Feb-2019 16:32
Phenanthrene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 16:32
Phenol	U		0.000035	0.00020	mg/L	1	13-Feb-2019 16:32
Pyrene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 16:32
<i>Surr: 2,4,6-Tribromophenol</i>	<i>73.4</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:32</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>62.1</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:32</i>
<i>Surr: 2-Fluorophenol</i>	<i>53.7</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:32</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>67.2</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:32</i>
<i>Surr: Nitrobenzene-d5</i>	<i>57.3</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:32</i>
<i>Surr: Phenol-d6</i>	<i>59.0</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:32</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	06-Feb-2019 20:48
Lead	U		0.000600	0.00200	mg/L	1	06-Feb-2019 20:48

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WQ-1620-TB06-20190124
 Collection Date: 24-Jan-2019 00:00

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-11
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MLL	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	01-Feb-2019 03:36
Benzene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 03:36
Chlorobenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 03:36
Ethylbenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 03:36
Methylene chloride	U		0.0010	0.0020	mg/L	1	01-Feb-2019 03:36
Toluene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 03:36
Vinyl chloride	U		0.00020	0.0010	mg/L	1	01-Feb-2019 03:36
Xylenes, Total	U		0.00030	0.0010	mg/L	1	01-Feb-2019 03:36
<i>Surr: 1,2-Dichloroethane-d4</i>		<i>101</i>		<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 03:36</i>
<i>Surr: 4-Bromofluorobenzene</i>		<i>97.6</i>		<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 03:36</i>
<i>Surr: Dibromofluoromethane</i>		<i>97.2</i>		<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 03:36</i>
<i>Surr: Toluene-d8</i>		<i>100</i>		<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 03:36</i>

Note: See 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-20190124
 Collection Date: 24-Jan-2019 07:20

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	01-Feb-2019 06:52
Benzene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 06:52
Chlorobenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 06:52
Ethylbenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 06:52
Methylene chloride	U		0.0010	0.0020	mg/L	1	01-Feb-2019 06:52
Toluene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 06:52
Xylenes, Total	U		0.00030	0.0010	mg/L	1	01-Feb-2019 06:52
<i>Surr: 1,2-Dichloroethane-d4</i>		98.4		70-126	%REC	1	01-Feb-2019 06:52
<i>Surr: 4-Bromofluorobenzene</i>		97.0		81-113	%REC	1	01-Feb-2019 06:52
<i>Surr: Dibromofluoromethane</i>		95.5		77-123	%REC	1	01-Feb-2019 06:52
<i>Surr: Toluene-d8</i>		98.7		82-127	%REC	1	01-Feb-2019 06:52

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-20190124
 Collection Date: 24-Jan-2019 07:20

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-12
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	13-Feb-2019 16:52
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	13-Feb-2019 16:52
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	13-Feb-2019 16:52
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	13-Feb-2019 16:52
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	13-Feb-2019 16:52
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 16:52
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	13-Feb-2019 16:52
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	13-Feb-2019 16:52
Acenaphthene	U		0.000027	0.00010	mg/L	1	13-Feb-2019 16:52
Acenaphthylene	U		0.000015	0.00010	mg/L	1	13-Feb-2019 16:52
Anthracene	U		0.000014	0.00010	mg/L	1	13-Feb-2019 16:52
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	13-Feb-2019 16:52
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 16:52
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	13-Feb-2019 16:52
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	13-Feb-2019 16:52
Chrysene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 16:52
Dibenzofuran	U		0.000020	0.00010	mg/L	1	13-Feb-2019 16:52
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	13-Feb-2019 16:52
Fluoranthene	U		0.000010	0.00010	mg/L	1	13-Feb-2019 16:52
Fluorene	U		0.000030	0.00010	mg/L	1	13-Feb-2019 16:52
Naphthalene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 16:52
Nitrobenzene	U		0.000024	0.00020	mg/L	1	13-Feb-2019 16:52
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	13-Feb-2019 16:52
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	13-Feb-2019 16:52
Phenanthrene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 16:52
Phenol	U		0.000035	0.00020	mg/L	1	13-Feb-2019 16:52
Pyrene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 16:52
<i>Surr: 2,4,6-Tribromophenol</i>	<i>60.1</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:52</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>41.1</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:52</i>
<i>Surr: 2-Fluorophenol</i>	<i>36.8</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:52</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>67.6</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:52</i>
<i>Surr: Nitrobenzene-d5</i>	<i>43.7</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:52</i>
<i>Surr: Phenol-d6</i>	<i>41.4</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 16:52</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic	0.000765	J	0.000400	0.00200	mg/L	1	06-Feb-2019 20:57
Lead	0.000917	J	0.000600	0.00200	mg/L	1	06-Feb-2019 20:57

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-FD05-20190124
 Collection Date: 24-Jan-2019 07:20

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-13
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	01-Feb-2019 07:16
Benzene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 07:16
Chlorobenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 07:16
Ethylbenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 07:16
Methylene chloride	U		0.0010	0.0020	mg/L	1	01-Feb-2019 07:16
Toluene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 07:16
Xylenes, Total	U		0.00030	0.0010	mg/L	1	01-Feb-2019 07:16
<i>Surr: 1,2-Dichloroethane-d4</i>		99.4		70-126	%REC	1	01-Feb-2019 07:16
<i>Surr: 4-Bromofluorobenzene</i>		99.1		81-113	%REC	1	01-Feb-2019 07:16
<i>Surr: Dibromofluoromethane</i>		96.7		77-123	%REC	1	01-Feb-2019 07:16
<i>Surr: Toluene-d8</i>		98.6		82-127	%REC	1	01-Feb-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-FD05-20190124
 Collection Date: 24-Jan-2019 07:20

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-13
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	13-Feb-2019 17:11
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	13-Feb-2019 17:11
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	13-Feb-2019 17:11
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	13-Feb-2019 17:11
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	13-Feb-2019 17:11
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 17:11
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	13-Feb-2019 17:11
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	13-Feb-2019 17:11
Acenaphthene	U		0.000027	0.00010	mg/L	1	13-Feb-2019 17:11
Acenaphthylene	U		0.000015	0.00010	mg/L	1	13-Feb-2019 17:11
Anthracene	U		0.000014	0.00010	mg/L	1	13-Feb-2019 17:11
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	13-Feb-2019 17:11
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 17:11
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	13-Feb-2019 17:11
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	13-Feb-2019 17:11
Chrysene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 17:11
Dibenzofuran	U		0.000020	0.00010	mg/L	1	13-Feb-2019 17:11
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	13-Feb-2019 17:11
Fluoranthene	U		0.000010	0.00010	mg/L	1	13-Feb-2019 17:11
Fluorene	U		0.000030	0.00010	mg/L	1	13-Feb-2019 17:11
Naphthalene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 17:11
Nitrobenzene	U		0.000024	0.00020	mg/L	1	13-Feb-2019 17:11
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	13-Feb-2019 17:11
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	13-Feb-2019 17:11
Phenanthrene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 17:11
Phenol	U		0.000035	0.00020	mg/L	1	13-Feb-2019 17:11
Pyrene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 17:11
<i>Surr: 2,4,6-Tribromophenol</i>	<i>64.0</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 17:11</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>48.3</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 17:11</i>
<i>Surr: 2-Fluorophenol</i>	<i>43.3</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 17:11</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>74.6</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 17:11</i>
<i>Surr: Nitrobenzene-d5</i>	<i>44.1</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 17:11</i>
<i>Surr: Phenol-d6</i>	<i>49.4</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 17:11</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic	0.000637	J	0.000400	0.00200	mg/L	1	06-Feb-2019 20:59
Lead	0.000727	J	0.000600	0.00200	mg/L	1	06-Feb-2019 20:59

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-20190124
 Collection Date: 24-Jan-2019 08:25

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-14
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	01-Feb-2019 07:41
Benzene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 07:41
Chlorobenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 07:41
Ethylbenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 07:41
Methylene chloride	U		0.0010	0.0020	mg/L	1	01-Feb-2019 07:41
Toluene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 07:41
Xylenes, Total	U		0.00030	0.0010	mg/L	1	01-Feb-2019 07:41
<i>Surr: 1,2-Dichloroethane-d4</i>		96.4		70-126	%REC	1	01-Feb-2019 07:41
<i>Surr: 4-Bromofluorobenzene</i>		97.8		81-113	%REC	1	01-Feb-2019 07:41
<i>Surr: Dibromofluoromethane</i>		96.8		77-123	%REC	1	01-Feb-2019 07:41
<i>Surr: Toluene-d8</i>		101		82-127	%REC	1	01-Feb-2019 07:41

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-MW36D-20190124
 Collection Date: 24-Jan-2019 08:25

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-14
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	13-Feb-2019 17:31
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	13-Feb-2019 17:31
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	13-Feb-2019 17:31
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	13-Feb-2019 17:31
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	13-Feb-2019 17:31
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 17:31
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	13-Feb-2019 17:31
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	13-Feb-2019 17:31
Acenaphthene	U		0.000027	0.00010	mg/L	1	13-Feb-2019 17:31
Acenaphthylene	U		0.000015	0.00010	mg/L	1	13-Feb-2019 17:31
Anthracene	U		0.000014	0.00010	mg/L	1	13-Feb-2019 17:31
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	13-Feb-2019 17:31
Benzo(a)pyrene	0.000027	J	0.000020	0.00010	mg/L	1	13-Feb-2019 17:31
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	13-Feb-2019 17:31
Bis(2-ethylhexyl)phthalate	0.000055	J	0.000037	0.00020	mg/L	1	13-Feb-2019 17:31
Chrysene	0.000031	J	0.000021	0.00010	mg/L	1	13-Feb-2019 17:31
Dibenzofuran	U		0.000020	0.00010	mg/L	1	13-Feb-2019 17:31
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	13-Feb-2019 17:31
Fluoranthene	0.000048	J	0.000010	0.00010	mg/L	1	13-Feb-2019 17:31
Fluorene	U		0.000030	0.00010	mg/L	1	13-Feb-2019 17:31
Naphthalene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 17:31
Nitrobenzene	U		0.000024	0.00020	mg/L	1	13-Feb-2019 17:31
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	13-Feb-2019 17:31
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	13-Feb-2019 17:31
Phenanthrene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 17:31
Phenol	U		0.000035	0.00020	mg/L	1	13-Feb-2019 17:31
Pyrene	0.000042	J	0.000019	0.00010	mg/L	1	13-Feb-2019 17:31
<i>Surr: 2,4,6-Tribromophenol</i>	64.6			34-129	%REC	1	13-Feb-2019 17:31
<i>Surr: 2-Fluorobiphenyl</i>	52.8			40-125	%REC	1	13-Feb-2019 17:31
<i>Surr: 2-Fluorophenol</i>	45.1			20-120	%REC	1	13-Feb-2019 17:31
<i>Surr: 4-Terphenyl-d14</i>	65.9			40-135	%REC	1	13-Feb-2019 17:31
<i>Surr: Nitrobenzene-d5</i>	47.1			41-120	%REC	1	13-Feb-2019 17:31
<i>Surr: Phenol-d6</i>	50.4			20-120	%REC	1	13-Feb-2019 17:31
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic	0.000417	J	0.000400	0.00200	mg/L	1	06-Feb-2019 21:01
Lead	0.000910	J	0.000600	0.00200	mg/L	1	06-Feb-2019 21:01

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-MW65D-20190124
 Collection Date: 24-Jan-2019 09:25

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-15
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	U		0.00020	0.0010	mg/L	1	01-Feb-2019 03:48
Benzene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 03:48
Chlorobenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 03:48
Ethylbenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 03:48
Methylene chloride	U		0.0010	0.0020	mg/L	1	01-Feb-2019 03:48
Toluene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 03:48
Xylenes, Total	U		0.00030	0.0010	mg/L	1	01-Feb-2019 03:48
<i>Surr: 1,2-Dichloroethane-d4</i>		86.5		70-126	%REC	1	01-Feb-2019 03:48
<i>Surr: 4-Bromofluorobenzene</i>		95.1		81-113	%REC	1	01-Feb-2019 03:48
<i>Surr: Dibromofluoromethane</i>		99.2		77-123	%REC	1	01-Feb-2019 03:48
<i>Surr: Toluene-d8</i>		103		82-127	%REC	1	01-Feb-2019 03:48

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-MW65D-20190124
 Collection Date: 24-Jan-2019 09:25

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-15
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine		U	0.000021	0.00020	mg/L	1	12-Feb-2019 20:50
2,4-Dimethylphenol	0.000090	J	0.000040	0.00020	mg/L	1	12-Feb-2019 20:50
2,4-Dinitrotoluene		U	0.000058	0.00020	mg/L	1	12-Feb-2019 20:50
2,6-Dinitrotoluene		U	0.000042	0.00020	mg/L	1	12-Feb-2019 20:50
2-Chloronaphthalene		U	0.000021	0.00020	mg/L	1	12-Feb-2019 20:50
2-Methylnaphthalene	0.00016		0.000019	0.00010	mg/L	1	12-Feb-2019 20:50
4,6-Dinitro-2-methylphenol		U	0.000020	0.00020	mg/L	1	12-Feb-2019 20:50
4-Nitrophenol		U	0.000047	0.0010	mg/L	1	12-Feb-2019 20:50
Acenaphthene		U	0.000027	0.00010	mg/L	1	12-Feb-2019 20:50
Acenaphthylene		U	0.000015	0.00010	mg/L	1	12-Feb-2019 20:50
Anthracene		U	0.000014	0.00010	mg/L	1	12-Feb-2019 20:50
Benz(a)anthracene		U	0.000050	0.00010	mg/L	1	12-Feb-2019 20:50
Benzo(a)pyrene		U	0.000020	0.00010	mg/L	1	12-Feb-2019 20:50
Bis(2-chloroethoxy)methane		U	0.000030	0.00020	mg/L	1	12-Feb-2019 20:50
Bis(2-ethylhexyl)phthalate	0.000060	J	0.000037	0.00020	mg/L	1	12-Feb-2019 20:50
Chrysene		U	0.000021	0.00010	mg/L	1	12-Feb-2019 20:50
Dibenzofuran	0.000039	J	0.000020	0.00010	mg/L	1	12-Feb-2019 20:50
Di-n-butyl phthalate		U	0.000020	0.00020	mg/L	1	12-Feb-2019 20:50
Fluoranthene	0.000027	J	0.000010	0.00010	mg/L	1	12-Feb-2019 20:50
Fluorene		U	0.000030	0.00010	mg/L	1	12-Feb-2019 20:50
Naphthalene	0.0026		0.000020	0.00010	mg/L	1	12-Feb-2019 20:50
Nitrobenzene		U	0.000024	0.00020	mg/L	1	12-Feb-2019 20:50
N-Nitrosodiphenylamine		U	0.000025	0.00020	mg/L	1	12-Feb-2019 20:50
Pentachlorophenol		U	0.000079	0.00020	mg/L	1	12-Feb-2019 20:50
Phenanthrene		U	0.000021	0.00010	mg/L	1	12-Feb-2019 20:50
Phenol	0.00019	J	0.000035	0.00020	mg/L	1	12-Feb-2019 20:50
Pyrene		U	0.000019	0.00010	mg/L	1	12-Feb-2019 20:50
<i>Surr: 2,4,6-Tribromophenol</i>	<i>80.4</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 20:50</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>62.7</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 20:50</i>
<i>Surr: 2-Fluorophenol</i>	<i>53.7</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 20:50</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>74.5</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 20:50</i>
<i>Surr: Nitrobenzene-d5</i>	<i>57.6</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 20:50</i>
<i>Surr: Phenol-d6</i>	<i>59.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 20:50</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 30-Jan-2019		Analyst: JHD	
Arsenic	0.00202		0.000400	0.00200	mg/L	1	31-Jan-2019 18:59
Lead		U	0.000600	0.00200	mg/L	1	31-Jan-2019 18:59

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-MW66D-20190124
 Collection Date: 24-Jan-2019 10:30

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-16
 Matrix:Groundwater

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	01-Feb-2019 08:05
Benzene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 08:05
Chlorobenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 08:05
Ethylbenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 08:05
Methylene chloride	U		0.0010	0.0020	mg/L	1	01-Feb-2019 08:05
Toluene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 08:05
Xylenes, Total	U		0.00030	0.0010	mg/L	1	01-Feb-2019 08:05
<i>Surr: 1,2-Dichloroethane-d4</i>		96.7		70-126	%REC	1	01-Feb-2019 08:05
<i>Surr: 4-Bromofluorobenzene</i>		98.1		81-113	%REC	1	01-Feb-2019 08:05
<i>Surr: Dibromofluoromethane</i>		96.0		77-123	%REC	1	01-Feb-2019 08:05
<i>Surr: Toluene-d8</i>		100.0		82-127	%REC	1	01-Feb-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-MW66D-20190124
 Collection Date: 24-Jan-2019 10:30

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-16
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	13-Feb-2019 17:50
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	13-Feb-2019 17:50
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	13-Feb-2019 17:50
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	13-Feb-2019 17:50
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	13-Feb-2019 17:50
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 17:50
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	13-Feb-2019 17:50
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	13-Feb-2019 17:50
Acenaphthene	U		0.000027	0.00010	mg/L	1	13-Feb-2019 17:50
Acenaphthylene	U		0.000015	0.00010	mg/L	1	13-Feb-2019 17:50
Anthracene	U		0.000014	0.00010	mg/L	1	13-Feb-2019 17:50
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	13-Feb-2019 17:50
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 17:50
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	13-Feb-2019 17:50
Bis(2-ethylhexyl)phthalate	0.00017	J	0.000037	0.00020	mg/L	1	13-Feb-2019 17:50
Chrysene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 17:50
Dibenzofuran	U		0.000020	0.00010	mg/L	1	13-Feb-2019 17:50
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	13-Feb-2019 17:50
Fluoranthene	U		0.000010	0.00010	mg/L	1	13-Feb-2019 17:50
Fluorene	U		0.000030	0.00010	mg/L	1	13-Feb-2019 17:50
Naphthalene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 17:50
Nitrobenzene	U		0.000024	0.00020	mg/L	1	13-Feb-2019 17:50
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	13-Feb-2019 17:50
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	13-Feb-2019 17:50
Phenanthrene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 17:50
Phenol	U		0.000035	0.00020	mg/L	1	13-Feb-2019 17:50
Pyrene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 17:50
<i>Surr: 2,4,6-Tribromophenol</i>	<i>77.1</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 17:50</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>56.7</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 17:50</i>
<i>Surr: 2-Fluorophenol</i>	<i>50.2</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 17:50</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>67.0</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 17:50</i>
<i>Surr: Nitrobenzene-d5</i>	<i>56.1</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 17:50</i>
<i>Surr: Phenol-d6</i>	<i>58.7</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 17:50</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic	0.00204		0.000400	0.00200	mg/L	1	06-Feb-2019 21:04
Lead	U		0.000600	0.00200	mg/L	1	06-Feb-2019 21:04

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-MW84B-20190124
 Collection Date: 24-Jan-2019 11:40

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-17
 Matrix:Groundwater

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	01-Feb-2019 08:29
Benzene	0.0024		0.00020	0.0010	mg/L	1	01-Feb-2019 08:29
Chlorobenzene		U	0.00030	0.0010	mg/L	1	01-Feb-2019 08:29
Ethylbenzene	0.0051		0.00030	0.0010	mg/L	1	01-Feb-2019 08:29
Methylene chloride		U	0.0010	0.0020	mg/L	1	01-Feb-2019 08:29
Toluene	0.00056	J	0.00020	0.0010	mg/L	1	01-Feb-2019 08:29
Xylenes, Total	0.0033		0.00030	0.0010	mg/L	1	01-Feb-2019 08:29
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>99.1</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 08:29</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>100</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 08:29</i>
<i>Surr: Dibromofluoromethane</i>	<i>97.6</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 08:29</i>
<i>Surr: Toluene-d8</i>	<i>99.6</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 08:29</i>

Note: See 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-20190124
 Collection Date: 24-Jan-2019 11:40

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-17
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	13-Feb-2019 18:10
2,4-Dimethylphenol	0.00016	J	0.000040	0.00020	mg/L	1	13-Feb-2019 18:10
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	13-Feb-2019 18:10
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	13-Feb-2019 18:10
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	13-Feb-2019 18:10
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 18:10
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	13-Feb-2019 18:10
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	13-Feb-2019 18:10
Acenaphthene	0.000032	J	0.000027	0.00010	mg/L	1	13-Feb-2019 18:10
Acenaphthylene	0.000043	J	0.000015	0.00010	mg/L	1	13-Feb-2019 18:10
Anthracene	U		0.000014	0.00010	mg/L	1	13-Feb-2019 18:10
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	13-Feb-2019 18:10
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 18:10
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	13-Feb-2019 18:10
Bis(2-ethylhexyl)phthalate	U		0.000037	0.00020	mg/L	1	13-Feb-2019 18:10
Chrysene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 18:10
Dibenzofuran	U		0.000020	0.00010	mg/L	1	13-Feb-2019 18:10
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	13-Feb-2019 18:10
Fluoranthene	U		0.000010	0.00010	mg/L	1	13-Feb-2019 18:10
Fluorene	U		0.000030	0.00010	mg/L	1	13-Feb-2019 18:10
Naphthalene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 18:10
Nitrobenzene	U		0.000024	0.00020	mg/L	1	13-Feb-2019 18:10
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	13-Feb-2019 18:10
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	13-Feb-2019 18:10
Phenanthrene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 18:10
Phenol	U		0.000035	0.00020	mg/L	1	13-Feb-2019 18:10
Pyrene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 18:10
<i>Surr: 2,4,6-Tribromophenol</i>	<i>70.5</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:10</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>47.5</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:10</i>
<i>Surr: 2-Fluorophenol</i>	<i>42.1</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:10</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>65.9</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:10</i>
<i>Surr: Nitrobenzene-d5</i>	<i>43.5</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:10</i>
<i>Surr: Phenol-d6</i>	<i>46.7</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:10</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic	0.00219		0.000400	0.00200	mg/L	1	06-Feb-2019 21:06
Lead	U		0.000600	0.00200	mg/L	1	06-Feb-2019 21:06

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-MW67B-20190124
 Collection Date: 24-Jan-2019 12:50

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-18
 Matrix:Groundwater

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	01-Feb-2019 04:00
Benzene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 04:00
Chlorobenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 04:00
Ethylbenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 04:00
Methylene chloride	U		0.0010	0.0020	mg/L	1	01-Feb-2019 04:00
Toluene	U		0.00020	0.0010	mg/L	1	01-Feb-2019 04:00
Xylenes, Total	U		0.00030	0.0010	mg/L	1	01-Feb-2019 04:00
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>98.9</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 04:00</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>101</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 04:00</i>
<i>Surr: Dibromofluoromethane</i>	<i>96.4</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 04:00</i>
<i>Surr: Toluene-d8</i>	<i>102</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 04:00</i>

Note: See 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-20190124
 Collection Date: 24-Jan-2019 12:50

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-18
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	12-Feb-2019 21:49
2,4-Dimethylphenol	U		0.000040	0.00020	mg/L	1	12-Feb-2019 21:49
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	12-Feb-2019 21:49
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	12-Feb-2019 21:49
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	12-Feb-2019 21:49
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	12-Feb-2019 21:49
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	12-Feb-2019 21:49
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	12-Feb-2019 21:49
Acenaphthene	U		0.000027	0.00010	mg/L	1	12-Feb-2019 21:49
Acenaphthylene	U		0.000015	0.00010	mg/L	1	12-Feb-2019 21:49
Anthracene	U		0.000014	0.00010	mg/L	1	12-Feb-2019 21:49
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	12-Feb-2019 21:49
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	12-Feb-2019 21:49
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	12-Feb-2019 21:49
Bis(2-ethylhexyl)phthalate	0.000051	J	0.000037	0.00020	mg/L	1	12-Feb-2019 21:49
Chrysene	U		0.000021	0.00010	mg/L	1	12-Feb-2019 21:49
Dibenzofuran	U		0.000020	0.00010	mg/L	1	12-Feb-2019 21:49
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	12-Feb-2019 21:49
Fluoranthene	U		0.000010	0.00010	mg/L	1	12-Feb-2019 21:49
Fluorene	U		0.000030	0.00010	mg/L	1	12-Feb-2019 21:49
Naphthalene	U		0.000020	0.00010	mg/L	1	12-Feb-2019 21:49
Nitrobenzene	U		0.000024	0.00020	mg/L	1	12-Feb-2019 21:49
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	12-Feb-2019 21:49
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	12-Feb-2019 21:49
Phenanthrene	U		0.000021	0.00010	mg/L	1	12-Feb-2019 21:49
Phenol	U		0.000035	0.00020	mg/L	1	12-Feb-2019 21:49
Pyrene	U		0.000019	0.00010	mg/L	1	12-Feb-2019 21:49
<i>Surr: 2,4,6-Tribromophenol</i>	<i>62.6</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 21:49</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>48.7</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 21:49</i>
<i>Surr: 2-Fluorophenol</i>	<i>43.3</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 21:49</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>64.2</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 21:49</i>
<i>Surr: Nitrobenzene-d5</i>	<i>47.2</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 21:49</i>
<i>Surr: Phenol-d6</i>	<i>50.1</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>12-Feb-2019 21:49</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic	U		0.000400	0.00200	mg/L	1	06-Feb-2019 20:05
Lead	0.00331		0.000600	0.00200	mg/L	1	06-Feb-2019 20:05

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-MW19C-20190124
 Collection Date: 24-Jan-2019 13:50

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-19
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MLL	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	01-Feb-2019 08:54
Benzene	0.0044		0.00020	0.0010	mg/L	1	01-Feb-2019 08:54
Chlorobenzene	U		0.00030	0.0010	mg/L	1	01-Feb-2019 08:54
Ethylbenzene	0.0040		0.00030	0.0010	mg/L	1	01-Feb-2019 08:54
Methylene chloride	U		0.0010	0.0020	mg/L	1	01-Feb-2019 08:54
Toluene	0.0057		0.00020	0.0010	mg/L	1	01-Feb-2019 08:54
Vinyl chloride	U		0.00020	0.0010	mg/L	1	01-Feb-2019 08:54
Xylenes, Total	0.0037		0.00030	0.0010	mg/L	1	01-Feb-2019 08:54
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>98.0</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 08:54</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>99.0</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 08:54</i>
<i>Surr: Dibromofluoromethane</i>	<i>94.8</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 08:54</i>
<i>Surr: Toluene-d8</i>	<i>102</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>01-Feb-2019 08:54</i>

Note: See 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-20190124
 Collection Date: 24-Jan-2019 13:50

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-19
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	13-Feb-2019 18:29
2,4-Dimethylphenol	0.00032		0.000040	0.00020	mg/L	1	13-Feb-2019 18:29
2,4-Dinitrotoluene	U		0.000058	0.00020	mg/L	1	13-Feb-2019 18:29
2,6-Dinitrotoluene	U		0.000042	0.00020	mg/L	1	13-Feb-2019 18:29
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	13-Feb-2019 18:29
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 18:29
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	13-Feb-2019 18:29
4-Nitrophenol	U		0.000047	0.0010	mg/L	1	13-Feb-2019 18:29
Acenaphthene	0.00078		0.000027	0.00010	mg/L	1	13-Feb-2019 18:29
Acenaphthylene	U		0.000015	0.00010	mg/L	1	13-Feb-2019 18:29
Anthracene	0.000057	J	0.000014	0.00010	mg/L	1	13-Feb-2019 18:29
Benz(a)anthracene	U		0.000050	0.00010	mg/L	1	13-Feb-2019 18:29
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	13-Feb-2019 18:29
Bis(2-chloroethoxy)methane	U		0.000030	0.00020	mg/L	1	13-Feb-2019 18:29
Bis(2-ethylhexyl)phthalate	0.000096	J	0.000037	0.00020	mg/L	1	13-Feb-2019 18:29
Chrysene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 18:29
Dibenzofuran	U		0.000020	0.00010	mg/L	1	13-Feb-2019 18:29
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	13-Feb-2019 18:29
Fluoranthene	U		0.000010	0.00010	mg/L	1	13-Feb-2019 18:29
Fluorene	U		0.000030	0.00010	mg/L	1	13-Feb-2019 18:29
Naphthalene	0.00036		0.000020	0.00010	mg/L	1	13-Feb-2019 18:29
Nitrobenzene	U		0.000024	0.00020	mg/L	1	13-Feb-2019 18:29
N-Nitrosodiphenylamine	U		0.000025	0.00020	mg/L	1	13-Feb-2019 18:29
Pentachlorophenol	U		0.000079	0.00020	mg/L	1	13-Feb-2019 18:29
Phenanthrene	U		0.000021	0.00010	mg/L	1	13-Feb-2019 18:29
Phenol	0.00013	J	0.000035	0.00020	mg/L	1	13-Feb-2019 18:29
Pyrene	U		0.000019	0.00010	mg/L	1	13-Feb-2019 18:29
<i>Surr: 2,4,6-Tribromophenol</i>	<i>105</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:29</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>79.6</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:29</i>
<i>Surr: 2-Fluorophenol</i>	<i>73.3</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:29</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>100</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:29</i>
<i>Surr: Nitrobenzene-d5</i>	<i>76.7</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:29</i>
<i>Surr: Phenol-d6</i>	<i>80.0</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>13-Feb-2019 18:29</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic	0.00149	J	0.000400	0.00200	mg/L	1	06-Feb-2019 21:08
Lead	U		0.000600	0.00200	mg/L	1	06-Feb-2019 21:08

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-MW72B-20190124
 Collection Date: 24-Jan-2019 14:55

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-20
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C		Method:SW8260		Analyst: AKP			
1,2-Dichloroethane	0.011		0.0020	0.010	mg/L	10	01-Feb-2019 19:59
Benzene	0.63		0.0020	0.010	mg/L	10	01-Feb-2019 19:59
Chlorobenzene	U		0.0030	0.010	mg/L	10	01-Feb-2019 19:59
Ethylbenzene	0.20		0.0030	0.010	mg/L	10	01-Feb-2019 19:59
Methylene chloride	U		0.010	0.020	mg/L	10	01-Feb-2019 19:59
Toluene	0.58		0.0020	0.010	mg/L	10	01-Feb-2019 19:59
Xylenes, Total	0.63		0.0030	0.010	mg/L	10	01-Feb-2019 19:59
Surr: 1,2-Dichloroethane-d4	100			70-126	%REC	10	01-Feb-2019 19:59
Surr: 4-Bromofluorobenzene	102			81-113	%REC	10	01-Feb-2019 19:59
Surr: Dibromofluoromethane	97.4			77-123	%REC	10	01-Feb-2019 19:59
Surr: Toluene-d8	98.1			82-127	%REC	10	01-Feb-2019 19:59

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-MW72B-20190124
 Collection Date: 24-Jan-2019 14:55

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-20
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
1,2-Diphenylhydrazine	U		0.00021	0.0020	mg/L	10	13-Feb-2019 18:49
2,4-Dimethylphenol	2.0		0.040	0.20	mg/L	1000	14-Feb-2019 18:23
2,4-Dinitrotoluene	U		0.00058	0.0020	mg/L	10	13-Feb-2019 18:49
2,6-Dinitrotoluene	U		0.00042	0.0020	mg/L	10	13-Feb-2019 18:49
2-Chloronaphthalene	U		0.00021	0.0020	mg/L	10	13-Feb-2019 18:49
2-Methylnaphthalene	0.071		0.00019	0.0010	mg/L	10	13-Feb-2019 18:49
4,6-Dinitro-2-methylphenol	U		0.00020	0.0020	mg/L	10	13-Feb-2019 18:49
4-Nitrophenol	0.0073	J	0.00047	0.010	mg/L	10	13-Feb-2019 18:49
Acenaphthene	0.019		0.00027	0.0010	mg/L	10	13-Feb-2019 18:49
Acenaphthylene	0.00069	J	0.00015	0.0010	mg/L	10	13-Feb-2019 18:49
Anthracene	0.0015		0.00014	0.0010	mg/L	10	13-Feb-2019 18:49
Benz(a)anthracene	U		0.00050	0.0010	mg/L	10	13-Feb-2019 18:49
Benzo(a)pyrene	U		0.00020	0.0010	mg/L	10	13-Feb-2019 18:49
Bis(2-chloroethoxy)methane	U		0.00030	0.0020	mg/L	10	13-Feb-2019 18:49
Bis(2-ethylhexyl)phthalate	U		0.00037	0.0020	mg/L	10	13-Feb-2019 18:49
Chrysene	U		0.00021	0.0010	mg/L	10	13-Feb-2019 18:49
Dibenzofuran	0.017		0.00020	0.0010	mg/L	10	13-Feb-2019 18:49
Di-n-butyl phthalate	U		0.00020	0.0020	mg/L	10	13-Feb-2019 18:49
Fluoranthene	U		0.00010	0.0010	mg/L	10	13-Feb-2019 18:49
Fluorene	0.0091		0.00030	0.0010	mg/L	10	13-Feb-2019 18:49
Naphthalene	1.2		0.020	0.10	mg/L	1000	14-Feb-2019 18:23
Nitrobenzene	U		0.00024	0.0020	mg/L	10	13-Feb-2019 18:49
N-Nitrosodiphenylamine	U		0.00025	0.0020	mg/L	10	13-Feb-2019 18:49
Pentachlorophenol	U		0.00079	0.0020	mg/L	10	13-Feb-2019 18:49
Phenanthrene	0.0042		0.00021	0.0010	mg/L	10	13-Feb-2019 18:49
Phenol	0.58		0.0035	0.020	mg/L	100	14-Feb-2019 18:03
Pyrene	U		0.00019	0.0010	mg/L	10	13-Feb-2019 18:49
<i>Surr: 2,4,6-Tribromophenol</i>	<i>0</i>	<i>JS</i>		<i>34-129</i>	<i>%REC</i>	<i>100</i>	<i>14-Feb-2019 18:03</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>0</i>	<i>JS</i>		<i>34-129</i>	<i>%REC</i>	<i>1000</i>	<i>14-Feb-2019 18:23</i>
<i>Surr: 2,4,6-Tribromophenol</i>	<i>75.5</i>			<i>34-129</i>	<i>%REC</i>	<i>10</i>	<i>13-Feb-2019 18:49</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>54.0</i>			<i>40-125</i>	<i>%REC</i>	<i>10</i>	<i>13-Feb-2019 18:49</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>0</i>	<i>JS</i>		<i>40-125</i>	<i>%REC</i>	<i>100</i>	<i>14-Feb-2019 18:03</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>0</i>	<i>JS</i>		<i>40-125</i>	<i>%REC</i>	<i>1000</i>	<i>14-Feb-2019 18:23</i>
<i>Surr: 2-Fluorophenol</i>	<i>0</i>	<i>JS</i>		<i>20-120</i>	<i>%REC</i>	<i>100</i>	<i>14-Feb-2019 18:03</i>
<i>Surr: 2-Fluorophenol</i>	<i>0</i>	<i>JS</i>		<i>20-120</i>	<i>%REC</i>	<i>1000</i>	<i>14-Feb-2019 18:23</i>
<i>Surr: 2-Fluorophenol</i>	<i>57.9</i>			<i>20-120</i>	<i>%REC</i>	<i>10</i>	<i>13-Feb-2019 18:49</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>67.5</i>			<i>40-135</i>	<i>%REC</i>	<i>10</i>	<i>13-Feb-2019 18:49</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>0</i>	<i>JS</i>		<i>40-135</i>	<i>%REC</i>	<i>100</i>	<i>14-Feb-2019 18:03</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>0</i>	<i>JS</i>		<i>40-135</i>	<i>%REC</i>	<i>1000</i>	<i>14-Feb-2019 18:23</i>

Note: See 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-20190124
 Collection Date: 24-Jan-2019 14:55

ANALYTICAL REPORT
 WorkOrder:HS19011199
 Lab ID:HS19011199-20
 Matrix:Groundwater

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 28-Jan-2019		Analyst: GEY	
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	100	14-Feb-2019 18:03
Surr: Nitrobenzene-d5	0	JS		41-120	%REC	1000	14-Feb-2019 18:23
Surr: Nitrobenzene-d5	46.1			41-120	%REC	10	13-Feb-2019 18:49
Surr: Phenol-d6	56.1			20-120	%REC	10	13-Feb-2019 18:49
Surr: Phenol-d6	0	JS		20-120	%REC	100	14-Feb-2019 18:03
Surr: Phenol-d6	0	JS		20-120	%REC	1000	14-Feb-2019 18:23
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 01-Feb-2019		Analyst: JHD	
Arsenic	0.00106	J	0.000400	0.00200	mg/L	1	07-Feb-2019 13:26
Lead		U	0.000600	0.00200	mg/L	1	07-Feb-2019 13:26

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: HS19011199

Batch ID: 137100 **Method:** LOW-LEVEL SEMIVOLATILES BY 8270D **Prep:** 3510_B_LOW

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19011199-01	1	1000	1 (mL)	0.001
HS19011199-02	1	1000	1 (mL)	0.001
HS19011199-03	1	1000	1 (mL)	0.001
HS19011199-04	1	1000	1 (mL)	0.001
HS19011199-05	1	1000	1 (mL)	0.001
HS19011199-06	1	1000	1 (mL)	0.001
HS19011199-07	1	1000	1 (mL)	0.001
HS19011199-08	1	1000	1 (mL)	0.001
HS19011199-09	1	1000	1 (mL)	0.001
HS19011199-10	1	1000	1 (mL)	0.001
HS19011199-12	1	1000	1 (mL)	0.001
HS19011199-13	1	1000	1 (mL)	0.001
HS19011199-14	1	1000	1 (mL)	0.001
HS19011199-15	1	1000	1 (mL)	0.001
HS19011199-16	1	1000	1 (mL)	0.001
HS19011199-17	1	1000	1 (mL)	0.001
HS19011199-18	1	1000	1 (mL)	0.001
HS19011199-19	1	1000	1 (mL)	0.001
HS19011199-20	1	1000	1 (mL)	0.001

Batch ID: 137198 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19011199-15	1	10	10 (mL)	1

Batch ID: 137313 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SampID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19011199-01	1	10	10 (mL)	1
HS19011199-02	1	10	10 (mL)	1
HS19011199-03	1	10	10 (mL)	1
HS19011199-04	1	10	10 (mL)	1
HS19011199-05	1	10	10 (mL)	1
HS19011199-06	1	10	10 (mL)	1
HS19011199-07	1	10	10 (mL)	1
HS19011199-08	1	10	10 (mL)	1
HS19011199-09	1	10	10 (mL)	1
HS19011199-10	1	10	10 (mL)	1
HS19011199-12	1	10	10 (mL)	1
HS19011199-13	1	10	10 (mL)	1
HS19011199-14	1	10	10 (mL)	1
HS19011199-16	1	10	10 (mL)	1
HS19011199-17	1	10	10 (mL)	1
HS19011199-18	1	10	10 (mL)	1
HS19011199-19	1	10	10 (mL)	1
HS19011199-20	1	10	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 137100	Test Name : LOW-LEVEL SEMIVOLATILES BY 8270D			Matrix: Groundwater		
HS19011199-02	WG-1620-MW58A-20190123	23 Jan 2019 11:20		28 Jan 2019 13:30	14 Feb 2019 13:48	10
HS19011199-02	WG-1620-MW58A-20190123	23 Jan 2019 11:20		28 Jan 2019 13:30	13 Feb 2019 13:56	1
HS19011199-03	WG-1620-MW32AR-20190123	23 Jan 2019 12:15		28 Jan 2019 13:30	13 Feb 2019 14:15	1
HS19011199-04	WG-1620-MW76C-20190123	23 Jan 2019 13:20		28 Jan 2019 13:30	13 Feb 2019 14:35	1
HS19011199-05	WG-1620-MW74B-20190123	23 Jan 2019 14:15		28 Jan 2019 13:30	14 Feb 2019 15:45	1000
HS19011199-05	WG-1620-MW74B-20190123	23 Jan 2019 14:15		28 Jan 2019 13:30	14 Feb 2019 13:28	100
HS19011199-05	WG-1620-MW74B-20190123	23 Jan 2019 14:15		28 Jan 2019 13:30	13 Feb 2019 14:54	10
HS19011199-06	WG-1620-MW79A-20190123	23 Jan 2019 15:05		28 Jan 2019 13:30	14 Feb 2019 17:43	1000
HS19011199-06	WG-1620-MW79A-20190123	23 Jan 2019 15:05		28 Jan 2019 13:30	14 Feb 2019 16:05	100
HS19011199-06	WG-1620-MW79A-20190123	23 Jan 2019 15:05		28 Jan 2019 13:30	13 Feb 2019 15:14	10
HS19011199-07	WG-1620-MW49A-20190123	23 Jan 2019 15:50		28 Jan 2019 13:30	13 Feb 2019 15:33	1
HS19011199-08	WG-1620-MW59A-20190123	23 Jan 2019 16:40		28 Jan 2019 13:30	13 Feb 2019 15:53	1
HS19011199-09	WG-1620-MW59B-20190123	23 Jan 2019 17:30		28 Jan 2019 13:30	13 Feb 2019 16:12	1
HS19011199-12	WG-1620-MW59D-20190124	24 Jan 2019 07:20		28 Jan 2019 13:30	13 Feb 2019 16:52	1
HS19011199-13	WG-1620-FD05-20190124	24 Jan 2019 07:20		28 Jan 2019 13:30	13 Feb 2019 17:11	1
HS19011199-14	WG-1620-MW36D-20190124	24 Jan 2019 08:25		28 Jan 2019 13:30	13 Feb 2019 17:31	1
HS19011199-15	WG-1620-MW65D-20190124	24 Jan 2019 09:25		28 Jan 2019 13:30	12 Feb 2019 20:50	1
HS19011199-16	WG-1620-MW66D-20190124	24 Jan 2019 10:30		28 Jan 2019 13:30	13 Feb 2019 17:50	1
HS19011199-17	WG-1620-MW84B-20190124	24 Jan 2019 11:40		28 Jan 2019 13:30	13 Feb 2019 18:10	1
HS19011199-18	WG-1620-MW67B-20190124	24 Jan 2019 12:50		28 Jan 2019 13:30	12 Feb 2019 21:49	1
HS19011199-19	WG-1620-MW19C-20190124	24 Jan 2019 13:50		28 Jan 2019 13:30	13 Feb 2019 18:29	1
HS19011199-20	WG-1620-MW72B-20190124	24 Jan 2019 14:55		28 Jan 2019 13:30	14 Feb 2019 18:23	1000
HS19011199-20	WG-1620-MW72B-20190124	24 Jan 2019 14:55		28 Jan 2019 13:30	14 Feb 2019 18:03	100
HS19011199-20	WG-1620-MW72B-20190124	24 Jan 2019 14:55		28 Jan 2019 13:30	13 Feb 2019 18:49	10
Batch ID 137100	Test Name : LOW-LEVEL SEMIVOLATILES BY 8270D			Matrix: Water		
HS19011199-01	WQ-1620-FB08-20190124	24 Jan 2019 16:15		28 Jan 2019 13:30	13 Feb 2019 13:36	1
HS19011199-10	WQ-1620-FB07-20190123	23 Jan 2019 17:00		28 Jan 2019 13:30	13 Feb 2019 16:32	1
Batch ID 137198	Test Name : ICP-MS METALS BY SW6020A			Matrix: Groundwater		
HS19011199-15	WG-1620-MW65D-20190124	24 Jan 2019 09:25		30 Jan 2019 11:00	31 Jan 2019 18:59	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 137313	Test Name : ICP-MS METALS BY SW6020A		Matrix: Groundwater			
HS19011199-02	WG-1620-MW58A-20190123	23 Jan 2019 11:20		01 Feb 2019 11:00	06 Feb 2019 20:19	1
HS19011199-03	WG-1620-MW32AR-20190123	23 Jan 2019 12:15		01 Feb 2019 11:00	06 Feb 2019 20:32	1
HS19011199-04	WG-1620-MW76C-20190123	23 Jan 2019 13:20		01 Feb 2019 11:00	06 Feb 2019 20:34	1
HS19011199-05	WG-1620-MW74B-20190123	23 Jan 2019 14:15		01 Feb 2019 11:00	07 Feb 2019 13:22	1
HS19011199-06	WG-1620-MW79A-20190123	23 Jan 2019 15:05		01 Feb 2019 11:00	07 Feb 2019 13:24	1
HS19011199-07	WG-1620-MW49A-20190123	23 Jan 2019 15:50		01 Feb 2019 11:00	06 Feb 2019 20:41	1
HS19011199-08	WG-1620-MW59A-20190123	23 Jan 2019 16:40		01 Feb 2019 11:00	06 Feb 2019 20:43	1
HS19011199-09	WG-1620-MW59B-20190123	23 Jan 2019 17:30		01 Feb 2019 11:00	06 Feb 2019 20:46	1
HS19011199-12	WG-1620-MW59D-20190124	24 Jan 2019 07:20		01 Feb 2019 11:00	06 Feb 2019 20:57	1
HS19011199-13	WG-1620-FD05-20190124	24 Jan 2019 07:20		01 Feb 2019 11:00	06 Feb 2019 20:59	1
HS19011199-14	WG-1620-MW36D-20190124	24 Jan 2019 08:25		01 Feb 2019 11:00	06 Feb 2019 21:01	1
HS19011199-16	WG-1620-MW66D-20190124	24 Jan 2019 10:30		01 Feb 2019 11:00	06 Feb 2019 21:04	1
HS19011199-17	WG-1620-MW84B-20190124	24 Jan 2019 11:40		01 Feb 2019 11:00	06 Feb 2019 21:06	1
HS19011199-18	WG-1620-MW67B-20190124	24 Jan 2019 12:50		01 Feb 2019 11:00	06 Feb 2019 20:05	1
HS19011199-19	WG-1620-MW19C-20190124	24 Jan 2019 13:50		01 Feb 2019 11:00	06 Feb 2019 21:08	1
HS19011199-20	WG-1620-MW72B-20190124	24 Jan 2019 14:55		01 Feb 2019 11:00	07 Feb 2019 13:26	1
Batch ID 137313	Test Name : ICP-MS METALS BY SW6020A		Matrix: Water			
HS19011199-01	WQ-1620-FB08-20190124	24 Jan 2019 16:15		01 Feb 2019 11:00	06 Feb 2019 20:16	1
HS19011199-10	WQ-1620-FB07-20190123	23 Jan 2019 17:00		01 Feb 2019 11:00	06 Feb 2019 20:48	1
Batch ID R332110	Test Name : LOW LEVEL VOLATILES BY SW8260C		Matrix: Water			
HS19011199-10	WQ-1620-FB07-20190123	23 Jan 2019 17:00			01 Feb 2019 06:27	1
HS19011199-11	WQ-1620-TB06-20190124	24 Jan 2019 00:00			01 Feb 2019 03:36	1
Batch ID R332110	Test Name : LOW LEVEL VOLATILES BY SW8260C		Matrix: Groundwater			
HS19011199-07	WG-1620-MW49A-20190123	23 Jan 2019 15:50			01 Feb 2019 05:14	1
HS19011199-08	WG-1620-MW59A-20190123	23 Jan 2019 16:40			01 Feb 2019 05:38	1
HS19011199-09	WG-1620-MW59B-20190123	23 Jan 2019 17:30			01 Feb 2019 06:03	1
HS19011199-12	WG-1620-MW59D-20190124	24 Jan 2019 07:20			01 Feb 2019 06:52	1
HS19011199-13	WG-1620-FD05-20190124	24 Jan 2019 07:20			01 Feb 2019 07:16	1
HS19011199-14	WG-1620-MW36D-20190124	24 Jan 2019 08:25			01 Feb 2019 07:41	1
HS19011199-16	WG-1620-MW66D-20190124	24 Jan 2019 10:30			01 Feb 2019 08:05	1
HS19011199-17	WG-1620-MW84B-20190124	24 Jan 2019 11:40			01 Feb 2019 08:29	1
HS19011199-18	WG-1620-MW67B-20190124	24 Jan 2019 12:50			01 Feb 2019 04:00	1
HS19011199-19	WG-1620-MW19C-20190124	24 Jan 2019 13:50			01 Feb 2019 08:54	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R332113		Test Name : LOW LEVEL VOLATILES BY SW8260C			Matrix: Groundwater	
HS19011199-02	WG-1620-MW58A-20190123	23 Jan 2019 11:20			01 Feb 2019 05:00	1
HS19011199-03	WG-1620-MW32AR-20190123	23 Jan 2019 12:15			01 Feb 2019 05:24	1
HS19011199-04	WG-1620-MW76C-20190123	23 Jan 2019 13:20			01 Feb 2019 05:48	1
HS19011199-05	WG-1620-MW74B-20190123	23 Jan 2019 14:15			01 Feb 2019 06:14	10
HS19011199-06	WG-1620-MW79A-20190123	23 Jan 2019 15:05			01 Feb 2019 06:41	10
HS19011199-15	WG-1620-MW65D-20190124	24 Jan 2019 09:25			01 Feb 2019 03:48	1
Batch ID R332113		Test Name : LOW LEVEL VOLATILES BY SW8260C			Matrix: Water	
HS19011199-01	WQ-1620-FB08-20190124	24 Jan 2019 16:15			01 Feb 2019 03:00	1
Batch ID R332226		Test Name : LOW LEVEL VOLATILES BY SW8260C			Matrix: Groundwater	
HS19011199-20	WG-1620-MW72B-20190124	24 Jan 2019 14:55			01 Feb 2019 19:59	10

WorkOrder: HS19011199
 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	0.000460	0.000400	0.00200
A	Lead	7439-92-1	0.00100	0.00100	0.000600	0.00200

WorkOrder: HS19011199
 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	0.000082	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000034	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000039	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000062	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.000072	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000041	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000024	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00010	0.000024	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000036	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000056	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000051	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000067	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000076	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000070	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.000063	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000070	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000047	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.000070	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000061	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000052	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000045	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.000088	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.000071	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.000072	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000051	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000075	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000066	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: HS19011199
 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	0.00066	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00060	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00063	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	0.00051	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00065	0.00020	0.0010
A	Vinyl chloride	75-01-4	0.00050	0.00054	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00056	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: HS19011199
 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	0.00050	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00054	0.00030	0.0010
A	Ethylbenzene	100-41-4	0.00050	0.00046	0.00030	0.0010
A	Methylene chloride	75-09-2	0.0010	0.0017	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00057	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	0.00044	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: HS19011199

QC BATCH REPORT

Batch ID: 137198	Instrument: ICPMS05	Method: SW6020
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MBLK	Sample ID: MBLK-137198	Units: mg/L	Analysis Date: 31-Jan-2019 18:55							
Client ID:	Run ID: ICPMS05_332031	SeqNo: 4933298	PrepDate: 30-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	U	0.00200								
Lead	U	0.00200								

LCS	Sample ID: LCS-137198	Units: mg/L	Analysis Date: 31-Jan-2019 18:57							
Client ID:	Run ID: ICPMS05_332031	SeqNo: 4933299	PrepDate: 30-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	0.0523	0.00200	0.05	0	105	80 - 120				
Lead	0.05089	0.00200	0.05	0	102	80 - 120				

MS	Sample ID: HS19011199-15MS	Units: mg/L	Analysis Date: 31-Jan-2019 19:04							
Client ID: WG-1620-MW65D-20190124	Run ID: ICPMS05_332031	SeqNo: 4933302	PrepDate: 30-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	0.05265	0.00200	0.05	0.002025	101	80 - 120				
Lead	0.0502	0.00200	0.05	0.00059	99.2	80 - 120				

MSD	Sample ID: HS19011199-15MSD	Units: mg/L	Analysis Date: 31-Jan-2019 19:06							
Client ID: WG-1620-MW65D-20190124	Run ID: ICPMS05_332031	SeqNo: 4933303	PrepDate: 30-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	0.04915	0.00200	0.05	0.002025	94.3	80 - 120	0.05265	6.88	20	
Lead	0.05058	0.00200	0.05	0.00059	100.0	80 - 120	0.0502	0.752	20	

PDS	Sample ID: HS19011199-15PDS	Units: mg/L	Analysis Date: 31-Jan-2019 19:08							
Client ID: WG-1620-MW65D-20190124	Run ID: ICPMS05_332031	SeqNo: 4933304	PrepDate: 30-Jan-2019 DF: 1							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Arsenic	0.1061	0.00200	0.1	0.002025	104	75 - 125				
Lead	0.1009	0.00200	0.1	0.00059	100	75 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

QC BATCH REPORT

Batch ID: 137198 **Instrument:** ICPMS05 **Method:** SW6020

SD		Sample ID: HS19011199-15SD		Units: mg/L		Analysis Date: 31-Jan-2019 19:01			
Client ID: WG-1620-MW65D-20190124		Run ID: ICPMS05_332031		SeqNo: 4933301		PrepDate: 30-Jan-2019		DF: 5	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	Limit Qual
Arsenic	0.002692	0.0100					0.002025	0 10	J
Lead	U	0.0100					0.00059	0 10	

The following samples were analyzed in this batch:

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

QC BATCH REPORT

Batch ID: 137313 **Instrument:** ICPMS05 **Method:** SW6020

MBLK		Sample ID: MBLK-137313			Units: mg/L		Analysis Date: 06-Feb-2019 20:01			
Client ID:		Run ID: ICPMS05_332384			SeqNo: 4941148		PrepDate: 01-Feb-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								
Lead	U	0.00200								

LCS		Sample ID: LCS-137313			Units: mg/L		Analysis Date: 06-Feb-2019 20:03			
Client ID:		Run ID: ICPMS05_332384			SeqNo: 4941149		PrepDate: 01-Feb-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05434	0.00200	0.05	0	109	80 - 120				
Lead	0.0523	0.00200	0.05	0	105	80 - 120				

MS		Sample ID: HS19011199-18MS			Units: mg/L		Analysis Date: 06-Feb-2019 20:10			
Client ID: WG-1620-MW67B-20190124		Run ID: ICPMS05_332384			SeqNo: 4941152		PrepDate: 01-Feb-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05236	0.00200	0.05	0.000218	104	80 - 120				
Lead	0.05204	0.00200	0.05	0.003306	97.5	80 - 120				

MSD		Sample ID: HS19011199-18MSD			Units: mg/L		Analysis Date: 06-Feb-2019 20:12			
Client ID: WG-1620-MW67B-20190124		Run ID: ICPMS05_332384			SeqNo: 4941153		PrepDate: 01-Feb-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05146	0.00200	0.05	0.000218	102	80 - 120	0.05236	1.73	20	
Lead	0.05215	0.00200	0.05	0.003306	97.7	80 - 120	0.05204	0.2	20	

PDS		Sample ID: HS19011199-18PDS			Units: mg/L		Analysis Date: 06-Feb-2019 20:14			
Client ID: WG-1620-MW67B-20190124		Run ID: ICPMS05_332384			SeqNo: 4941154		PrepDate: 01-Feb-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1088	0.00200	0.1	0	109	75 - 125				
Lead	0.1061	0.00200	0.1	0.003306	103	75 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

QC BATCH REPORT

Batch ID: 137313	Instrument: ICPMS05	Method: SW6020
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SD	Sample ID: HS19011199-18SD	Units: mg/L	Analysis Date: 06-Feb-2019 20:08							
Client ID: WG-1620-MW67B-20190124	Run ID: ICPMS05_332384	SeqNo: 4941151	PrepDate: 01-Feb-2019 DF: 5							
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	Limit	Qual
Arsenic	U	0.0100					0.000218	0	10	
Lead	0.003298	0.0100					0.003306	0	10	J

The following samples were analyzed in this batch:

HS19011199-01	HS19011199-02	HS19011199-03	HS19011199-04
HS19011199-05	HS19011199-06	HS19011199-07	HS19011199-08
HS19011199-09	HS19011199-10	HS19011199-12	HS19011199-13
HS19011199-14	HS19011199-16	HS19011199-17	HS19011199-18
HS19011199-19	HS19011199-20		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

QC BATCH REPORT

Batch ID: 137100		Instrument: SV-7		Method: SW8270						
MBLK	Sample ID: MBLK-137100	Units: ug/L			Analysis Date: 12-Feb-2019 13:19					
Client ID:	Run ID: SV-7_332710	SeqNo: 4948031		PrepDate: 28-Jan-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								
<i>Surr: 2,4,6-Tribromophenol</i>	3.994	0.20	5	0	79.9	34 - 129				
<i>Surr: 2-Fluorobiphenyl</i>	3.584	0.20	5	0	71.7	40 - 125				
<i>Surr: 2-Fluorophenol</i>	3.517	0.20	5	0	70.3	20 - 120				
<i>Surr: 4-Terphenyl-d14</i>	3.832	0.20	5	0	76.6	40 - 135				
<i>Surr: Nitrobenzene-d5</i>	3.271	0.20	5	0	65.4	41 - 120				
<i>Surr: Phenol-d6</i>	3.794	0.20	5	0	75.9	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

QC BATCH REPORT

Batch ID: 137100		Instrument: SV-7		Method: SW8270						
LCS	Sample ID: LCS-137100	Units: ug/L			Analysis Date: 12-Feb-2019 13:38					
Client ID:	Run ID: SV-7_332710	SeqNo: 4948032		PrepDate: 28-Jan-2019		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	3.105	0.20	5	0	62.1	39 - 127				
2,4-Dimethylphenol	2.853	0.20	5	0	57.1	35 - 120				
2,4-Dinitrotoluene	3.773	0.20	5	0	75.5	50 - 122				
2,6-Dinitrotoluene	3.432	0.20	5	0	68.6	50 - 120				
2-Chloronaphthalene	3.616	0.20	5	0	72.3	50 - 120				
2-Methylnaphthalene	3.546	0.10	5	0	70.9	50 - 120				
4,6-Dinitro-2-methylphenol	4.243	0.20	5	0	84.9	25 - 121				
4-Nitrophenol	3.608	1.0	5	0	72.2	30 - 130				
Acenaphthene	3.084	0.10	5	0	61.7	45 - 120				
Acenaphthylene	3.382	0.10	5	0	67.6	47 - 120				
Anthracene	3.719	0.10	5	0	74.4	45 - 120				
Benz(a)anthracene	3.996	0.10	5	0	79.9	40 - 120				
Benzo(a)pyrene	3.976	0.10	5	0	79.5	45 - 120				
Bis(2-chloroethoxy)methane	3.059	0.20	5	0	61.2	45 - 120				
Bis(2-ethylhexyl)phthalate	3.289	0.20	5	0	65.8	40 - 139				
Chrysene	3.975	0.10	5	0	79.5	43 - 120				
Dibenzofuran	3.54	0.10	5	0	70.8	50 - 120				
Di-n-butyl phthalate	3.552	0.20	5	0	71.0	45 - 123				
Fluoranthene	4.151	0.10	5	0	83.0	45 - 125				
Fluorene	3.691	0.10	5	0	73.8	49 - 120				
Naphthalene	3.314	0.10	5	0	66.3	45 - 120				
Nitrobenzene	3.196	0.20	5	0	63.9	44 - 120				
N-Nitrosodiphenylamine	3.633	0.20	5	0	72.7	40 - 125				
Pentachlorophenol	4.089	0.20	5	0	81.8	19 - 121				
Phenanthrene	3.833	0.10	5	0	76.7	45 - 121				
Phenol	3.127	0.20	5	0	62.5	20 - 124				
Pyrene	3.72	0.10	5	0	74.4	40 - 130				
<i>Surr: 2,4,6-Tribromophenol</i>	<i>5.001</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>100</i>	<i>34 - 129</i>				
<i>Surr: 2-Fluorobiphenyl</i>	<i>3.542</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>70.8</i>	<i>40 - 125</i>				
<i>Surr: 2-Fluorophenol</i>	<i>3.125</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>62.5</i>	<i>20 - 120</i>				
<i>Surr: 4-Terphenyl-d14</i>	<i>4.074</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>81.5</i>	<i>40 - 135</i>				
<i>Surr: Nitrobenzene-d5</i>	<i>3.216</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>64.3</i>	<i>41 - 120</i>				
<i>Surr: Phenol-d6</i>	<i>3.531</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>70.6</i>	<i>20 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

QC BATCH REPORT

Batch ID: 137100		Instrument: SV-7		Method: SW8270						
MS		Sample ID: HS19011199-18MS		Units: ug/L		Analysis Date: 12-Feb-2019 22:08				
Client ID: WG-1620-MW67B-20190124		Run ID: SV-7_332710		SeqNo: 4948037		PrepDate: 28-Jan-2019		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
1,2-Diphenylhydrazine	1.699	0.20	5	0	34.0	39 - 127			S	
2,4-Dimethylphenol	1.764	0.20	5	0	35.3	35 - 120				
2,4-Dinitrotoluene	1.953	0.20	5	0	39.1	50 - 122			S	
2,6-Dinitrotoluene	1.975	0.20	5	0	39.5	50 - 120			S	
2-Chloronaphthalene	2.171	0.20	5	0	43.4	50 - 120			S	
2-Methylnaphthalene	2.221	0.10	5	0	44.4	50 - 120			S	
4,6-Dinitro-2-methylphenol	2.571	0.20	5	0	51.4	25 - 121				
4-Nitrophenol	2.514	1.0	5	0	50.3	30 - 130				
Acenaphthene	1.705	0.10	5	0	34.1	45 - 120			S	
Acenaphthylene	1.869	0.10	5	0	37.4	47 - 120			S	
Anthracene	2.253	0.10	5	0	45.1	45 - 120				
Benz(a)anthracene	3.528	0.10	5	0	70.6	40 - 120				
Benzo(a)pyrene	3.288	0.10	5	0	65.8	45 - 120				
Bis(2-chloroethoxy)methane	1.817	0.20	5	0	36.3	45 - 120			S	
Bis(2-ethylhexyl)phthalate	2.857	0.20	5	0.05071	56.1	40 - 139				
Chrysene	3.537	0.10	5	0	70.7	43 - 120				
Dibenzofuran	1.939	0.10	5	0	38.8	50 - 120			S	
Di-n-butyl phthalate	2.686	0.20	5	0	53.7	45 - 123				
Fluoranthene	3.252	0.10	5	0	65.0	45 - 125				
Fluorene	1.858	0.10	5	0	37.2	49 - 120			S	
Naphthalene	2.148	0.10	5	0	43.0	45 - 120			S	
Nitrobenzene	2.1	0.20	5	0	42.0	44 - 120			S	
N-Nitrosodiphenylamine	2.082	0.20	5	0	41.6	40 - 125				
Pentachlorophenol	3.096	0.20	5	0	61.9	19 - 121				
Phenanthrene	2.443	0.10	5	0	48.9	45 - 121				
Phenol	2.003	0.20	5	0	40.1	20 - 124				
Pyrene	3.084	0.10	5	0	61.7	40 - 130				
Surr: 2,4,6-Tribromophenol	2.667	0.20	5	0	53.3	34 - 129				
Surr: 2-Fluorobiphenyl	2.046	0.20	5	0	40.9	40 - 125				
Surr: 2-Fluorophenol	1.891	0.20	5	0	37.8	20 - 120				
Surr: 4-Terphenyl-d14	3.311	0.20	5	0	66.2	40 - 135				
Surr: Nitrobenzene-d5	2.183	0.20	5	0	43.7	41 - 120				
Surr: Phenol-d6	2.164	0.20	5	0	43.3	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

QC BATCH REPORT

Batch ID: 137100		Instrument: SV-7		Method: SW8270						
MS		Sample ID: HS19011199-15MS		Units: ug/L		Analysis Date: 12-Feb-2019 21:10				
Client ID: WG-1620-MW65D-20190124		Run ID: SV-7_332710		SeqNo: 4948034		PrepDate: 28-Jan-2019		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual	
1,2-Diphenylhydrazine	2.488	0.20	5	0	49.8	39 - 127				
2,4-Dimethylphenol	2.329	0.20	5	0.09028	44.8	35 - 120				
2,4-Dinitrotoluene	3.009	0.20	5	0	60.2	50 - 122				
2,6-Dinitrotoluene	2.807	0.20	5	0	56.1	50 - 120				
2-Chloronaphthalene	2.958	0.20	5	0	59.2	50 - 120				
2-Methylnaphthalene	3.255	0.10	5	0.1627	61.8	50 - 120				
4,6-Dinitro-2-methylphenol	3.674	0.20	5	0	73.5	25 - 121				
4-Nitrophenol	3.52	1.0	5	0	70.4	30 - 130				
Acenaphthene	2.583	0.10	5	0	51.7	45 - 120				
Acenaphthylene	2.76	0.10	5	0	55.2	47 - 120				
Anthracene	3.118	0.10	5	0	62.4	45 - 120				
Benz(a)anthracene	3.534	0.10	5	0	70.7	40 - 120				
Benzo(a)pyrene	3.292	0.10	5	0	65.8	45 - 120				
Bis(2-chloroethoxy)methane	2.604	0.20	5	0	52.1	45 - 120				
Bis(2-ethylhexyl)phthalate	2.992	0.20	5	0.05994	58.6	40 - 139				
Chrysene	3.63	0.10	5	0	72.6	43 - 120				
Dibenzofuran	2.964	0.10	5	0.03937	58.5	50 - 120				
Di-n-butyl phthalate	3.153	0.20	5	0	63.1	45 - 123				
Fluoranthene	3.663	0.10	5	0.0266	72.7	45 - 125				
Fluorene	3.004	0.10	5	0	60.1	49 - 120				
Naphthalene	5.042	0.10	5	2.596	48.9	45 - 120				
Nitrobenzene	2.776	0.20	5	0	55.5	44 - 120				
N-Nitrosodiphenylamine	2.868	0.20	5	0	57.4	40 - 125				
Pentachlorophenol	3.82	0.20	5	0	76.4	19 - 121				
Phenanthrene	3.371	0.10	5	0	67.4	45 - 121				
Phenol	2.796	0.20	5	0.1887	52.2	20 - 124				
Pyrene	3.277	0.10	5	0.01826	65.2	40 - 130				
<i>Surr: 2,4,6-Tribromophenol</i>	<i>4.459</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>89.2</i>	<i>34 - 129</i>				
<i>Surr: 2-Fluorobiphenyl</i>	<i>3.073</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>61.5</i>	<i>40 - 125</i>				
<i>Surr: 2-Fluorophenol</i>	<i>2.705</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>54.1</i>	<i>20 - 120</i>				
<i>Surr: 4-Terphenyl-d14</i>	<i>3.826</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>76.5</i>	<i>40 - 135</i>				
<i>Surr: Nitrobenzene-d5</i>	<i>2.864</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>57.3</i>	<i>41 - 120</i>				
<i>Surr: Phenol-d6</i>	<i>3.076</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>61.5</i>	<i>20 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

QC BATCH REPORT

Batch ID: 137100		Instrument: SV-7		Method: SW8270							
MSD		Sample ID: HS19011199-18MSD			Units: ug/L		Analysis Date: 12-Feb-2019 22:28				
Client ID: WG-1620-MW67B-20190124		Run ID: SV-7_332710			SeqNo: 4948038		PrepDate: 28-Jan-2019		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,2-Diphenylhydrazine	1.659	0.20	5	0	33.2	39 - 127	1.699	2.39	20	S	
2,4-Dimethylphenol	1.605	0.20	5	0	32.1	35 - 120	1.764	9.4	20	S	
2,4-Dinitrotoluene	1.964	0.20	5	0	39.3	50 - 122	1.953	0.551	20	S	
2,6-Dinitrotoluene	2.014	0.20	5	0	40.3	50 - 120	1.975	1.96	20	S	
2-Chloronaphthalene	2.115	0.20	5	0	42.3	50 - 120	2.171	2.6	20	S	
2-Methylnaphthalene	2.219	0.10	5	0	44.4	50 - 120	2.221	0.089	20	S	
4,6-Dinitro-2-methylphenol	2.609	0.20	5	0	52.2	25 - 121	2.571	1.48	30		
4-Nitrophenol	2.853	1.0	5	0	57.1	30 - 130	2.514	12.6	20		
Acenaphthene	1.706	0.10	5	0	34.1	45 - 120	1.705	0.0831	20	S	
Acenaphthylene	1.868	0.10	5	0	37.4	47 - 120	1.869	0.0763	20	S	
Anthracene	2.144	0.10	5	0	42.9	45 - 120	2.253	4.96	20	S	
Benz(a)anthracene	3.485	0.10	5	0	69.7	40 - 120	3.528	1.22	20		
Benzo(a)pyrene	3.374	0.10	5	0	67.5	45 - 120	3.288	2.58	20		
Bis(2-chloroethoxy)methane	1.834	0.20	5	0	36.7	45 - 120	1.817	0.922	20	S	
Bis(2-ethylhexyl)phthalate	2.905	0.20	5	0.05071	57.1	40 - 139	2.857	1.67	20		
Chrysene	3.488	0.10	5	0	69.8	43 - 120	3.537	1.41	20		
Dibenzofuran	1.952	0.10	5	0	39.0	50 - 120	1.939	0.66	20	S	
Di-n-butyl phthalate	2.844	0.20	5	0	56.9	45 - 123	2.686	5.69	20		
Fluoranthene	3.271	0.10	5	0	65.4	45 - 125	3.252	0.585	20		
Fluorene	1.889	0.10	5	0	37.8	49 - 120	1.858	1.66	20	S	
Naphthalene	2.178	0.10	5	0	43.6	45 - 120	2.148	1.39	20	S	
Nitrobenzene	2.044	0.20	5	0	40.9	44 - 120	2.1	2.72	20	S	
N-Nitrosodiphenylamine	2.04	0.20	5	0	40.8	40 - 125	2.082	2.02	20		
Pentachlorophenol	3.153	0.20	5	0	63.1	19 - 121	3.096	1.8	20		
Phenanthrene	2.35	0.10	5	0	47.0	45 - 121	2.443	3.89	20		
Phenol	2	0.20	5	0	40.0	20 - 124	2.003	0.125	20		
Pyrene	3.045	0.10	5	0	60.9	40 - 130	3.084	1.26	20		
Surr: 2,4,6-Tribromophenol	2.76	0.20	5	0	55.2	34 - 129	2.667	3.45	20		
Surr: 2-Fluorobiphenyl	2.122	0.20	5	0	42.4	40 - 125	2.046	3.65	20		
Surr: 2-Fluorophenol	2.043	0.20	5	0	40.9	20 - 120	1.891	7.76	20		
Surr: 4-Terphenyl-d14	3.607	0.20	5	0	72.1	40 - 135	3.311	8.56	20		
Surr: Nitrobenzene-d5	2.092	0.20	5	0	41.8	41 - 120	2.183	4.24	20		
Surr: Phenol-d6	2.345	0.20	5	0	46.9	20 - 120	2.164	8.02	20		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

QC BATCH REPORT

Batch ID: 137100		Instrument: SV-7		Method: SW8270						
MSD	Sample ID: HS19011199-15MSD	Units: ug/L			Analysis Date: 12-Feb-2019 21:29					
Client ID: WG-1620-MW65D-20190124	Run ID: SV-7_332710	SeqNo: 4948035	PrepDate: 28-Jan-2019	DF: 1						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	2.64	0.20	5	0	52.8	39 - 127	2.488	5.93	20	
2,4-Dimethylphenol	2.262	0.20	5	0.09028	43.4	35 - 120	2.329	2.92	20	
2,4-Dinitrotoluene	3.071	0.20	5	0	61.4	50 - 122	3.009	2.02	20	
2,6-Dinitrotoluene	2.985	0.20	5	0	59.7	50 - 120	2.807	6.14	20	
2-Chloronaphthalene	3.308	0.20	5	0	66.2	50 - 120	2.958	11.2	20	
2-Methylnaphthalene	3.503	0.10	5	0.1627	66.8	50 - 120	3.255	7.32	20	
4,6-Dinitro-2-methylphenol	3.437	0.20	5	0	68.7	25 - 121	3.674	6.65	30	
4-Nitrophenol	3.088	1.0	5	0	61.8	30 - 130	3.52	13.1	20	
Acenaphthene	2.872	0.10	5	0	57.4	45 - 120	2.583	10.6	20	
Acenaphthylene	2.988	0.10	5	0	59.8	47 - 120	2.76	7.93	20	
Anthracene	3.134	0.10	5	0	62.7	45 - 120	3.118	0.496	20	
Benz(a)anthracene	3.334	0.10	5	0	66.7	40 - 120	3.534	5.82	20	
Benzo(a)pyrene	3.359	0.10	5	0	67.2	45 - 120	3.292	2.01	20	
Bis(2-chloroethoxy)methane	2.923	0.20	5	0	58.5	45 - 120	2.604	11.6	20	
Bis(2-ethylhexyl)phthalate	2.849	0.20	5	0.05994	55.8	40 - 139	2.992	4.87	20	
Chrysene	3.397	0.10	5	0	67.9	43 - 120	3.63	6.64	20	
Dibenzofuran	3.202	0.10	5	0.03937	63.3	50 - 120	2.964	7.72	20	
Di-n-butyl phthalate	3.011	0.20	5	0	60.2	45 - 123	3.153	4.6	20	
Fluoranthene	3.407	0.10	5	0.0266	67.6	45 - 125	3.663	7.23	20	
Fluorene	3.198	0.10	5	0	64.0	49 - 120	3.004	6.25	20	
Naphthalene	5.52	0.10	5	2.596	58.5	45 - 120	5.042	9.04	20	
Nitrobenzene	3.031	0.20	5	0	60.6	44 - 120	2.776	8.78	20	
N-Nitrosodiphenylamine	3.06	0.20	5	0	61.2	40 - 125	2.868	6.48	20	
Pentachlorophenol	3.674	0.20	5	0	73.5	19 - 121	3.82	3.91	20	
Phenanthrene	3.325	0.10	5	0	66.5	45 - 121	3.371	1.37	20	
Phenol	3.072	0.20	5	0.1887	57.7	20 - 124	2.796	9.4	20	
Pyrene	3.224	0.10	5	0.01826	64.1	40 - 130	3.277	1.64	20	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>4.333</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>86.7</i>	<i>34 - 129</i>	<i>4.459</i>	<i>2.86</i>	<i>20</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>3.404</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>68.1</i>	<i>40 - 125</i>	<i>3.073</i>	<i>10.2</i>	<i>20</i>	
<i>Surr: 2-Fluorophenol</i>	<i>2.92</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>58.4</i>	<i>20 - 120</i>	<i>2.705</i>	<i>7.65</i>	<i>20</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>3.451</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>69.0</i>	<i>40 - 135</i>	<i>3.826</i>	<i>10.3</i>	<i>20</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>3.051</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>61.0</i>	<i>41 - 120</i>	<i>2.864</i>	<i>6.33</i>	<i>20</i>	
<i>Surr: Phenol-d6</i>	<i>3.329</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>66.6</i>	<i>20 - 120</i>	<i>3.076</i>	<i>7.92</i>	<i>20</i>	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

QC BATCH REPORT

Batch ID: 137100 **Instrument:** SV-7 **Method:** SW8270

The following samples were analyzed in this batch:

HS19011199-01	HS19011199-02	HS19011199-03	HS19011199-04
HS19011199-05	HS19011199-06	HS19011199-07	HS19011199-08
HS19011199-09	HS19011199-10	HS19011199-12	HS19011199-13
HS19011199-14	HS19011199-15	HS19011199-16	HS19011199-17
HS19011199-18	HS19011199-19	HS19011199-20	

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

QC BATCH REPORT

Batch ID: R332110		Instrument: VOA4		Method: SW8260					
MBLK	Sample ID: VBLKW-190131	Units: ug/L			Analysis Date: 01-Feb-2019 03:11				
Client ID:	Run ID: VOA4_332110	SeqNo: 4933749		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							
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>49.75</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.5</i>	<i>70 - 123</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.38</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.8</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>49.77</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.5</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>49.64</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.3</i>	<i>81 - 120</i>			

LCS	Sample ID: VLCSW-190131	Units: ug/L			Analysis Date: 01-Feb-2019 02:22				
Client ID:	Run ID: VOA4_332110	SeqNo: 4933748		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 - 124			
Benzene	18.93	1.0	20	0	94.6	74 - 120			
Chlorobenzene	18.75	1.0	20	0	93.8	76 - 113			
Ethylbenzene	19.22	1.0	20	0	96.1	77 - 117			
Methylene chloride	19.97	2.0	20	0	99.9	70 - 127			
Toluene	18.66	1.0	20	0	93.3	77 - 118			
Vinyl chloride	19.46	1.0	20	0	97.3	70 - 130			
Xylenes, Total	58.87	1.0	60	0	98.1	75 - 122			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>49.47</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.9</i>	<i>70 - 130</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.63</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.3</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>50.85</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>102</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>50.12</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>81 - 120</i>			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

QC BATCH REPORT

Batch ID: R332110 **Instrument:** VOA4 **Method:** SW8260

MS		Sample ID: HS19011199-18MS			Units: ug/L		Analysis Date: 01-Feb-2019 04:25			
Client ID: WG-1620-MW67B-20190124		Run ID: VOA4_332110			SeqNo: 4933752		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	18.24	1.0	20	0	91.2	70 - 127				
Benzene	17.42	1.0	20	0	87.1	70 - 127				
Chlorobenzene	17.15	1.0	20	0	85.8	70 - 114				
Ethylbenzene	19.25	1.0	20	0	96.2	70 - 124				
Methylene chloride	17.37	2.0	20	0	86.9	70 - 128				
Toluene	17.34	1.0	20	0	86.7	70 - 123				
Vinyl chloride	16.95	1.0	20	0	84.7	70 - 130				
Xylenes, Total	55.55	1.0	60	0	92.6	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>49.42</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.8</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>50.54</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>50.19</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>50.29</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>82 - 127</i>				

MSD		Sample ID: HS19011199-18MSD			Units: ug/L		Analysis Date: 01-Feb-2019 04:49			
Client ID: WG-1620-MW67B-20190124		Run ID: VOA4_332110			SeqNo: 4933753		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 - 127	18.24	1.24	20	
Benzene	17.17	1.0	20	0	85.9	70 - 127	17.42	1.45	20	
Chlorobenzene	16.66	1.0	20	0	83.3	70 - 114	17.15	2.95	20	
Ethylbenzene	17.54	1.0	20	0	87.7	70 - 124	19.25	9.28	20	
Methylene chloride	17.92	2.0	20	0	89.6	70 - 128	17.37	3.08	20	
Toluene	17.01	1.0	20	0	85.0	70 - 123	17.34	1.95	20	
Vinyl chloride	16.31	1.0	20	0	81.6	70 - 130	16.95	3.83	20	
Xylenes, Total	54.77	1.0	60	0	91.3	70 - 130	55.55	1.42	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>49.35</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.7</i>	<i>70 - 126</i>	<i>49.42</i>	<i>0.141</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>50.21</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>81 - 113</i>	<i>50.54</i>	<i>0.655</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>49.88</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.8</i>	<i>77 - 123</i>	<i>50.19</i>	<i>0.608</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>50.99</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>102</i>	<i>82 - 127</i>	<i>50.29</i>	<i>1.39</i>	<i>20</i>	

The following samples were analyzed in this batch:

HS19011199-07	HS19011199-08	HS19011199-09	HS19011199-10
HS19011199-11	HS19011199-12	HS19011199-13	HS19011199-14
HS19011199-16	HS19011199-17	HS19011199-18	HS19011199-19

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

QC BATCH REPORT

Batch ID: R332113		Instrument: VOA2		Method: SW8260					
MBLK	Sample ID: VBLKW-190131	Units: ug/L			Analysis Date: 01-Feb-2019 02:11				
Client ID:	Run ID: VOA2_332113	SeqNo: 4933801		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							
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>44.42</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>88.8</i>	<i>70 - 123</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>47.1</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>94.2</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>50.1</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>51.94</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>104</i>	<i>81 - 120</i>			

LCS	Sample ID: VLCSW-190131	Units: ug/L			Analysis Date: 01-Feb-2019 01:23				
Client ID:	Run ID: VOA2_332113	SeqNo: 4933800		PrepDate:		DF: 1			
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit Qual

1,2-Dichloroethane	16.41	1.0	20	0	82.0	70 - 124			
Benzene	19.95	1.0	20	0	99.7	74 - 120			
Chlorobenzene	19.65	1.0	20	0	98.2	76 - 113			
Ethylbenzene	19.88	1.0	20	0	99.4	77 - 117			
Methylene chloride	18.88	2.0	20	0	94.4	70 - 127			
Toluene	19.7	1.0	20	0	98.5	77 - 118			
Vinyl chloride	18.72	1.0	20	0	93.6	70 - 130			
Xylenes, Total	60.87	1.0	60	0	101	75 - 122			
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>46.16</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>92.3</i>	<i>70 - 130</i>			
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.67</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.3</i>	<i>82 - 115</i>			
<i>Surr: Dibromofluoromethane</i>	<i>49.89</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.8</i>	<i>73 - 126</i>			
<i>Surr: Toluene-d8</i>	<i>50.03</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>81 - 120</i>			

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

QC BATCH REPORT

Batch ID: R332113 **Instrument:** VOA2 **Method:** SW8260

MS		Sample ID: HS19011199-15MS			Units: ug/L		Analysis Date: 01-Feb-2019 04:12			
Client ID: WG-1620-MW65D-20190124		Run ID: VOA2_332113			SeqNo: 4933806		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	14.81	1.0	20	0	74.0	70 - 127				
Benzene	18.79	1.0	20	0	93.9	70 - 127				
Chlorobenzene	18.92	1.0	20	0	94.6	70 - 114				
Ethylbenzene	19.44	1.0	20	0	97.2	70 - 124				
Methylene chloride	18.1	2.0	20	0	90.5	70 - 128				
Toluene	19.19	1.0	20	0	95.9	70 - 123				
Vinyl chloride	20.51	1.0	20	0	103	70 - 130				
Xylenes, Total	57.72	1.0	60	0	96.2	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>44.42</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>88.8</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>50.18</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>49.64</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.3</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>50.38</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>82 - 127</i>				

MSD		Sample ID: HS19011199-15MSD			Units: ug/L		Analysis Date: 01-Feb-2019 04:36			
Client ID: WG-1620-MW65D-20190124		Run ID: VOA2_332113			SeqNo: 4933807		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	15.59	1.0	20	0	77.9	70 - 127	14.81	5.13	20	
Benzene	18.81	1.0	20	0	94.0	70 - 127	18.79	0.115	20	
Chlorobenzene	18.69	1.0	20	0	93.4	70 - 114	18.92	1.23	20	
Ethylbenzene	19.21	1.0	20	0	96.0	70 - 124	19.44	1.18	20	
Methylene chloride	17.79	2.0	20	0	89.0	70 - 128	18.1	1.7	20	
Toluene	18.64	1.0	20	0	93.2	70 - 123	19.19	2.9	20	
Vinyl chloride	19.91	1.0	20	0	99.6	70 - 130	20.51	2.95	20	
Xylenes, Total	57.81	1.0	60	0	96.3	70 - 130	57.72	0.149	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>47.21</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>94.4</i>	<i>70 - 126</i>	<i>44.42</i>	<i>6.09</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.79</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.6</i>	<i>81 - 113</i>	<i>50.18</i>	<i>2.81</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>49.38</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.8</i>	<i>77 - 123</i>	<i>49.64</i>	<i>0.528</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>50.07</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>82 - 127</i>	<i>50.38</i>	<i>0.615</i>	<i>20</i>	

The following samples were analyzed in this batch: HS19011199-01 HS19011199-02 HS19011199-03 HS19011199-04
 HS19011199-05 HS19011199-06 HS19011199-15

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

QC BATCH REPORT

Batch ID: R332226	Instrument: VOA4	Method: SW8260
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MBLK		Sample ID: VBLKW-190201			Units: ug/L		Analysis Date: 01-Feb-2019 15:25			
Client ID:		Run ID: VOA4_332226			SeqNo: 4936393		PrepDate:		DF: 1	
Analyte	Result	MLQ	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								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.66</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.3</i>	<i>70 - 123</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.38</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.8</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>46.91</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>93.8</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>50.23</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>100</i>	<i>81 - 120</i>				

LCS		Sample ID: VLCSW-190201			Units: ug/L		Analysis Date: 01-Feb-2019 14:36			
Client ID:		Run ID: VOA4_332226			SeqNo: 4936392		PrepDate:		DF: 1	
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	20.77	1.0	20	0	104	70 - 124				
Benzene	18.48	1.0	20	0	92.4	74 - 120				
Chlorobenzene	18.92	1.0	20	0	94.6	76 - 113				
Ethylbenzene	19.02	1.0	20	0	95.1	77 - 117				
Methylene chloride	18.44	2.0	20	0	92.2	70 - 127				
Toluene	18.4	1.0	20	0	92.0	77 - 118				
Xylenes, Total	59.46	1.0	60	0	99.1	75 - 122				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>49.73</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.5</i>	<i>70 - 130</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.34</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.7</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>49.73</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.5</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>49.87</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.7</i>	<i>81 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

QC BATCH REPORT

Batch ID: R332226 **Instrument:** VOA4 **Method:** SW8260

MS		Sample ID: HS19011333-01MS			Units: ug/L		Analysis Date: 01-Feb-2019 17:30			
Client ID:		Run ID: VOA4_332226			SeqNo: 4936396		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	19.96	1.0	20	0	99.8	70 - 127				
Benzene	18.43	1.0	20	0	92.1	70 - 127				
Chlorobenzene	17.94	1.0	20	0	89.7	70 - 114				
Ethylbenzene	19.12	1.0	20	0	95.6	70 - 124				
Methylene chloride	17.05	2.0	20	0	85.2	70 - 128				
Toluene	17.69	1.0	20	0	88.4	70 - 123				
Xylenes, Total	61.45	1.0	60	0	102	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>49.61</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.2</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.62</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.2</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>48.22</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.4</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>48.87</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.7</i>	<i>82 - 127</i>				

MSD		Sample ID: HS19011333-01MSD			Units: ug/L		Analysis Date: 01-Feb-2019 17:54			
Client ID:		Run ID: VOA4_332226			SeqNo: 4936397		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	20.03	1.0	20	0	100	70 - 127	19.96	0.336	20	
Benzene	17.45	1.0	20	0	87.3	70 - 127	18.43	5.44	20	
Chlorobenzene	17.75	1.0	20	0	88.7	70 - 114	17.94	1.11	20	
Ethylbenzene	18.24	1.0	20	0	91.2	70 - 124	19.12	4.71	20	
Methylene chloride	16.29	2.0	20	0	81.4	70 - 128	17.05	4.57	20	
Toluene	17.47	1.0	20	0	87.4	70 - 123	17.69	1.21	20	
Xylenes, Total	59.67	1.0	60	0	99.4	70 - 130	61.45	2.95	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>49.48</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.0</i>	<i>70 - 126</i>	<i>49.61</i>	<i>0.261</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>49.86</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>99.7</i>	<i>81 - 113</i>	<i>49.62</i>	<i>0.484</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>48.45</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.9</i>	<i>77 - 123</i>	<i>48.22</i>	<i>0.491</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>49.21</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.4</i>	<i>82 - 127</i>	<i>48.87</i>	<i>0.691</i>	<i>20</i>	

The following samples were analyzed in this batch: HS19011199-20

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19011199

**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 Quantitation 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	88-0356	27-Mar-2019
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193 2018-2019	30-Apr-2019
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043 - 2018	30-Apr-2019
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019
North Carolina	624-2019	31-Dec-2019
California	2919, 2018-2019	30-Apr-2019
Maryland	343, 2018-2019	30-Jun-2019

Sample Receipt Checklist

Client Name: PBW
Work Order: HS19011199

Date/Time Received: 25-Jan-2019 09:07
Received by: PMG

Checklist completed by: Pablo Martinez 25-Jan-2019
Reviewed by:
eSignature Date eSignature Date

Matrices: WATER Carrier name: Client

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [] No [] Not Present [checked]
Custody seals intact on sample bottles? Yes [] No [] Not Present [checked]
VOA/TX1005/TX1006 Solids in hermetically sealed vials? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Samplers name present on COC? Yes [] No [checked]
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Container/Temp Blank temperature in compliance? Yes [checked] No []

2 Page(s)
COC IDs:194326, 194312

Temperature(s)/Thermometer(s): 0.2C/0.5C, 0.1C/0.4C, 0.8C/1.1C, 0.6C/0.9C, 0.1C/0.4C UC/C IR # 25

Cooler(s)/Kit(s): 43020, 43161, 44439, 25768, 42702

Date/Time sample(s) sent to storage: 1/25/19 12:30

- Water - VOA vials have zero headspace? Yes [checked] No [] No VOA vials submitted []
Water - pH acceptable upon receipt? Yes [checked] No [] N/A []
pH adjusted? Yes [] No [checked] N/A []

pH adjusted by:

Login Notes: All Sample Labels missing Collection Date/Time, logged per CoC

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:



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Fort Collins, CO
+1 970 490 1511

Holland, MI
+1 616 399 6070

Chain of Custody Form

Page 1 of 2

COC ID: 194326

HS19011199

wv

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	1620-06-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	Address	1400 Douglas Street	E	
	Suite 4004		Stop 0750	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-FB08-20190124 WG-1620-FB01-20190124	1-24-19	1615	W	*	6												
2	WG-1620-MWS8A-20190123	1-25-19	1120	W		6		X	X	X								
3	WG-1620-MWS2AR-20190123	↓	1215	W		6	X		X	X								
4	WG-1620-MW76C-20190123		1320	W		6	X		X	X								
5	WG-1620-MW74B-20190123		1415	W		6	X		X	X								
6	WG-1620-MW79A-20190123		1505	W		6	X		X	X								
7	WG-1620-MW49A-20190123		1550	W		6		X	X	X								
8	WG-1620-MWS9A-20190123		1640	W		6		X	X	X								
9	WG-1620-MWS9B-20190123		1730	W		6		X	X	X								
10	WG-1620-FB07-20190123		1700	W		6		X	X	X								

Sampler(s) Please Print & Sign JOHN BEAYTON		Shipment Method HAND DELIVERED		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:	
Relinquished by: John Matzner	Date: 1-25-19	Time: 09:51	Received by:	Notes: UPRR Houston MWPW					
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)			
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	43020	0.2C	<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRRP Checklist		
				43161	0.1C	<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV		
				44439	0.8C	<input type="checkbox"/> Level IV SWB46/CLP	<input type="checkbox"/> Other		

Preservative Key: 1-HCl 2-HNO₃ 3-H₂SO₄ 4-NaOH 5-Na₂S₂O₃ 6-NaHSO₄ 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.

25760 0.6C
 42702 0.1C 1R7C 1FL17

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Chain of Custody Form

Page 2 of 2

COC ID: 194312

HS19011199

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
Work Order		Project Number	1620-06-Rev0 SR 92688	B
Company Name	Golder Associates	Bill To Company	Union Pacific Railroad- A/P	C
Send Report To	Eric Matzner	Invoice Attn	Accounts Payable	D
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-TB06-20190124	1-24-19		Water	1	2											
2	WG-1620-MW59D-20190124	1-24-19	0720	W		6											
3	WG-1620-FD05-20190124		0720	W		6											
4	WG-1620-MW36D-20190124		0825	W		6											
5	WG-1620-MW65D-20190124		0925	W		6					X						
6	WG-1620-MW66D-20190124		1030	W		6											
7	WG-1620-MW84B-20190124		1140	W		6											
8	WG-1620-MW67B-20190124		1250	W		6					X						
9	WG-1620-MW19C-20190124		1350	W		6											
10	WG-1620-MW72B-20190124		1455	W		6											

Sampler(s) Please Print & Sign <i>John Beaton</i>		Shipment Method HAND DELIVERED		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour				Results Due Date:			
Relinquished by: <i>John Beaton</i>	Date: 1-25-19	Time: 09:07	Received by:	Notes: UPRR Houston MWPW							
Relinquished by:	Date:	Time:	Received by (Laboratory): <i>1123119 09:07</i>	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)					
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):			<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRRP Checklist				
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035						<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV				
						<input type="checkbox"/> Level IV SWB46/CLP					

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
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Chain of Custody Form

Page 2 of 2

COC ID: 194326

HS19011199

Golder Associates Inc.
Houston TX-Wood Preserving Works



ALS Project Manager:

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	1620-06-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	

REVISED

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WG-1620-FB07-20190123	1-24-19	1615	W	*	6	X		X	X							
2	WG-1620-MWS8A-20190123	1-25-19	1120	W		6		X	X	X							
3	WG-1620-MWS2AR-20190123		1215	W		6	X		X	X							
4	WG-1620-MW76C-20190123		1320	W		6	X		X	X							
5	WG-1620-MW74B-20190123		1415	W		6	X		X	X							
6	WG-1620-MW79A-20190123		1505	W		6	X		X	X							
7	WG-1620-MW49A-20190123		1550	W		6		X	X	X							
8	WG-1620-MWS9A-20190123		1640	W		6		X	X	X							
9	WG-1620-MWS9B-20190123		1730	W		6		X	X	X							
10	WG-1620-FB07-20190123		1700	W		6		X	X	X							

Sampler(s) Please Print & Sign JOHN BRAYTON		Shipment Method HAND DELIVERED		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:	
Relinquished by: John Brayton	Date: 1-25-19	Time: 09:01	Received by:	Notes: UPRR Houston MWPW				
Relinquished by:	Date:	Time:	Received by (Laboratory): 1/25/19 09:01	Cooler ID: 43020	Cooler Temp.: 0.2C	QC Package: (Check One Box Below)		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	43161	0.1C	<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRRP Checklist	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035				44439	0.8C	<input type="checkbox"/> Level III Std QC/R ₁₀ Date	<input type="checkbox"/> TRRP Level IV	
						<input type="checkbox"/> Level IV SW846/CLP	<input type="checkbox"/> Other	

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25766 0.6C
 42702 0.1C 1R25 CF+0.5



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Chain of Custody Form

Page 2 of 2

COC ID: 194312

HS19011199

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	1620-06-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 REVISED
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-TBO-20190124 WG-1620-TBO-20190124	1-24-19		Water	1	2	X										
2	WG-1620-MW59D-20190124	1-24-19	0720	W		6	X		X	X							
3	WG-1620-FDOS-20190124		0720	W		6	X		X	X							
4	WG-1620-MW36D-20190124		0825	W		6	X		X	X							
5	WG-1620-MW65D-20190124		0925	W		6	X		X	X	X						
6	WG-1620-MW66D-20190124		1030	W		6	X		X	X							
7	WG-1620-MW84B-20190124		1140	W		6	X		X	X							
8	WG-1620-MW67B-20190124		1250	W		6	X		X	X	X						
9	WG-1620-MW19C-20190124		1350	W		6		X	X	X							
10	WG-1620-MW72B-20190124		1455	W		6	X		X	X							

Sampler(s) Please Print & Sign JOHN BEATON		Shipment Method HAND DELIVERED		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:	
Relinquished by: John Beaton	Date: 1-25-19	Time: 09:07	Received by:	Notes: UPRR Houston MWPW				
Relinquished by:	Date:	Time:	Received by (Laboratory): 1/23/19 09:07	Cooler ID:	Cooler Temp.:	QC Package: (Check One Box Below)		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	<input type="checkbox"/> Level II Silt OC	<input checked="" type="checkbox"/> TRRP Checklist	<input type="checkbox"/> Level III Silt OC/RAW Date	<input type="checkbox"/> TRRP Level IV	<input type="checkbox"/> Level IV SW/46/CLP
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035								

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February 15, 2019

Eric Matzner
Golder Associates Inc.
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

Work Order: **HS19020155**

Laboratory Results for: **Houston TX-Wood Preserving Works**

Dear Eric,

ALS Environmental received 3 sample(s) on Feb 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: JUMOKE.LAWAL
Dane J. Wacasey

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19020155

**TRRP Laboratory Data
Package Cover Page**

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: HS19020155

**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: 02/15/2019			
Project Name: Houston TX-Wood Preserving Works				Laboratory Job Number: HS19020155			
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 137448,137737,R332708			
# 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			1
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 effects 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: 02/15/2019			
Project Name: Houston TX-Wood Preserving Works				Laboratory Job Number: HS19020155			
Reviewer Name: Dane Wacasey				Prep Batch Number(s): 137448,137737,R332708			
# 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: 02/15/2019
Project Name: Houston TX-Wood Preserving Works		Laboratory Job Number: HS19020155
Reviewer Name: Dane Wacasey		Prep Batch Number(s): 137448,137737,R332708
ER# ⁵	Description	
1	Batch 137448, Semivolatile Organics Method SW8270, LCS/LCSD RPD was above the RPD limit for select compounds. The individual recoveries were in control.	
2	Batch 137448, Semivolatile Organics Method SW8270, LCS/LCSD were analyzed and reported in lieu of an MS/MSD for this batch	
<p>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.</p> <p>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).</p>		

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
Work Order: HS19020155

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS19020155-01	WG-1620-MW77A-201290201	Water		01-Feb-2019 13:05	02-Feb-2019 09:22	<input type="checkbox"/>
HS19020155-02	WG-1620-MW85C-201290201	Water		01-Feb-2019 14:00	02-Feb-2019 09:22	<input type="checkbox"/>
HS19020155-03	WG-1620-TB07-20190201	Water	ALS- 121118-65	01-Feb-2019 00:00	02-Feb-2019 09:22	<input type="checkbox"/>

Client: Golder Associates Inc.
 Project: Houston TX-Wood Preserving Works
 Sample ID: WG-1620-MW77A-201290201
 Collection Date: 01-Feb-2019 13:05

ANALYTICAL REPORT
 WorkOrder:HS19020155
 Lab ID:HS19020155-01
 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	11-Feb-2019 17:11
Benzene	U		0.00020	0.0010	mg/L	1	11-Feb-2019 17:11
Chlorobenzene	U		0.00030	0.0010	mg/L	1	11-Feb-2019 17:11
Ethylbenzene	U		0.00030	0.0010	mg/L	1	11-Feb-2019 17:11
Methylene chloride	U		0.0010	0.0020	mg/L	1	11-Feb-2019 17:11
Toluene	U		0.00020	0.0010	mg/L	1	11-Feb-2019 17:11
Xylenes, Total	U		0.00030	0.0010	mg/L	1	11-Feb-2019 17:11
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>94.2</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 17:11</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>94.3</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 17:11</i>
<i>Surr: Dibromofluoromethane</i>	<i>107</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 17:11</i>
<i>Surr: Toluene-d8</i>	<i>99.1</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 17:11</i>

Note: See 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-201290201
 Collection Date: 01-Feb-2019 13:05

ANALYTICAL REPORT
 WorkOrder:HS19020155
 Lab ID:HS19020155-01
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 06-Feb-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000022	0.00021	mg/L	1	14-Feb-2019 01:48
2,4-Dimethylphenol	U		0.000042	0.00021	mg/L	1	14-Feb-2019 01:48
2,4-Dinitrotoluene	U		0.000060	0.00021	mg/L	1	14-Feb-2019 01:48
2,6-Dinitrotoluene	U		0.000044	0.00021	mg/L	1	14-Feb-2019 01:48
2-Chloronaphthalene	U		0.000022	0.00021	mg/L	1	14-Feb-2019 01:48
2-Methylnaphthalene	U		0.000020	0.00010	mg/L	1	14-Feb-2019 01:48
4,6-Dinitro-2-methylphenol	U		0.000021	0.00021	mg/L	1	14-Feb-2019 01:48
4-Nitrophenol	U		0.000049	0.0010	mg/L	1	14-Feb-2019 01:48
Acenaphthene	U		0.000028	0.00010	mg/L	1	14-Feb-2019 01:48
Acenaphthylene	U		0.000016	0.00010	mg/L	1	14-Feb-2019 01:48
Anthracene	U		0.000015	0.00010	mg/L	1	14-Feb-2019 01:48
Benz(a)anthracene	U		0.000052	0.00010	mg/L	1	14-Feb-2019 01:48
Benzo(a)pyrene	U		0.000021	0.00010	mg/L	1	14-Feb-2019 01:48
Bis(2-chloroethoxy)methane	U		0.000031	0.00021	mg/L	1	14-Feb-2019 01:48
Bis(2-ethylhexyl)phthalate	0.00010	J	0.000039	0.00021	mg/L	1	14-Feb-2019 01:48
Chrysene	U		0.000022	0.00010	mg/L	1	14-Feb-2019 01:48
Dibenzofuran	U		0.000021	0.00010	mg/L	1	14-Feb-2019 01:48
Di-n-butyl phthalate	0.000081	J	0.000021	0.00021	mg/L	1	14-Feb-2019 01:48
Fluoranthene	U		0.000010	0.00010	mg/L	1	14-Feb-2019 01:48
Fluorene	U		0.000031	0.00010	mg/L	1	14-Feb-2019 01:48
Naphthalene	U		0.000021	0.00010	mg/L	1	14-Feb-2019 01:48
Nitrobenzene	U		0.000025	0.00021	mg/L	1	14-Feb-2019 01:48
N-Nitrosodiphenylamine	U		0.000026	0.00021	mg/L	1	14-Feb-2019 01:48
Pentachlorophenol	U		0.000082	0.00021	mg/L	1	14-Feb-2019 01:48
Phenanthrene	U		0.000022	0.00010	mg/L	1	14-Feb-2019 01:48
Phenol	U		0.000036	0.00021	mg/L	1	14-Feb-2019 01:48
Pyrene	U		0.000020	0.00010	mg/L	1	14-Feb-2019 01:48
<i>Surr: 2,4,6-Tribromophenol</i>	40.2			34-129	%REC	1	14-Feb-2019 01:48
<i>Surr: 2-Fluorobiphenyl</i>	40.9			40-125	%REC	1	14-Feb-2019 01:48
<i>Surr: 2-Fluorophenol</i>	26.6			20-120	%REC	1	14-Feb-2019 01:48
<i>Surr: 4-Terphenyl-d14</i>	55.7			40-135	%REC	1	14-Feb-2019 01:48
<i>Surr: Nitrobenzene-d5</i>	43.6			41-120	%REC	1	14-Feb-2019 01:48
<i>Surr: Phenol-d6</i>	36.6			20-120	%REC	1	14-Feb-2019 01:48
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Feb-2019		Analyst: JHD	
Arsenic	0.00207		0.000400	0.00200	mg/L	1	14-Feb-2019 18:33
Lead	U		0.000600	0.00200	mg/L	1	14-Feb-2019 18:33

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-MW85C-201290201
 Collection Date: 01-Feb-2019 14:00

ANALYTICAL REPORT
 WorkOrder:HS19020155
 Lab ID:HS19020155-02
 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	11-Feb-2019 17:35
Benzene	U		0.00020	0.0010	mg/L	1	11-Feb-2019 17:35
Chlorobenzene	U		0.00030	0.0010	mg/L	1	11-Feb-2019 17:35
Ethylbenzene	U		0.00030	0.0010	mg/L	1	11-Feb-2019 17:35
Methylene chloride	U		0.0010	0.0020	mg/L	1	11-Feb-2019 17:35
Toluene	U		0.00020	0.0010	mg/L	1	11-Feb-2019 17:35
Xylenes, Total	U		0.00030	0.0010	mg/L	1	11-Feb-2019 17:35
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>93.4</i>			<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 17:35</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>94.4</i>			<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 17:35</i>
<i>Surr: Dibromofluoromethane</i>	<i>106</i>			<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 17:35</i>
<i>Surr: Toluene-d8</i>	<i>100</i>			<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 17:35</i>

Note: See 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-201290201
 Collection Date: 01-Feb-2019 14:00

ANALYTICAL REPORT
 WorkOrder:HS19020155
 Lab ID:HS19020155-02
 Matrix:Water

ANALYSES	RESULT	QUAL	SDL	MQL	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW-LEVEL SEMIVOLATILES BY 8270D		Method:SW8270		Prep:SW3510 / 06-Feb-2019		Analyst: ACN	
1,2-Diphenylhydrazine	U		0.000021	0.00020	mg/L	1	14-Feb-2019 02:08
2,4-Dimethylphenol	U		0.000041	0.00020	mg/L	1	14-Feb-2019 02:08
2,4-Dinitrotoluene	U		0.000059	0.00020	mg/L	1	14-Feb-2019 02:08
2,6-Dinitrotoluene	U		0.000043	0.00020	mg/L	1	14-Feb-2019 02:08
2-Chloronaphthalene	U		0.000021	0.00020	mg/L	1	14-Feb-2019 02:08
2-Methylnaphthalene	U		0.000019	0.00010	mg/L	1	14-Feb-2019 02:08
4,6-Dinitro-2-methylphenol	U		0.000020	0.00020	mg/L	1	14-Feb-2019 02:08
4-Nitrophenol	U		0.000048	0.0010	mg/L	1	14-Feb-2019 02:08
Acenaphthene	U		0.000028	0.00010	mg/L	1	14-Feb-2019 02:08
Acenaphthylene	U		0.000015	0.00010	mg/L	1	14-Feb-2019 02:08
Anthracene	U		0.000014	0.00010	mg/L	1	14-Feb-2019 02:08
Benz(a)anthracene	U		0.000051	0.00010	mg/L	1	14-Feb-2019 02:08
Benzo(a)pyrene	U		0.000020	0.00010	mg/L	1	14-Feb-2019 02:08
Bis(2-chloroethoxy)methane	U		0.000031	0.00020	mg/L	1	14-Feb-2019 02:08
Bis(2-ethylhexyl)phthalate	U		0.000038	0.00020	mg/L	1	14-Feb-2019 02:08
Chrysene	U		0.000021	0.00010	mg/L	1	14-Feb-2019 02:08
Dibenzofuran	U		0.000020	0.00010	mg/L	1	14-Feb-2019 02:08
Di-n-butyl phthalate	U		0.000020	0.00020	mg/L	1	14-Feb-2019 02:08
Fluoranthene	U		0.000010	0.00010	mg/L	1	14-Feb-2019 02:08
Fluorene	U		0.000031	0.00010	mg/L	1	14-Feb-2019 02:08
Naphthalene	U		0.000020	0.00010	mg/L	1	14-Feb-2019 02:08
Nitrobenzene	U		0.000024	0.00020	mg/L	1	14-Feb-2019 02:08
N-Nitrosodiphenylamine	U		0.000026	0.00020	mg/L	1	14-Feb-2019 02:08
Pentachlorophenol	U		0.000081	0.00020	mg/L	1	14-Feb-2019 02:08
Phenanthrene	U		0.000021	0.00010	mg/L	1	14-Feb-2019 02:08
Phenol	U		0.000036	0.00020	mg/L	1	14-Feb-2019 02:08
Pyrene	U		0.000019	0.00010	mg/L	1	14-Feb-2019 02:08
<i>Surr: 2,4,6-Tribromophenol</i>	<i>34.1</i>			<i>34-129</i>	<i>%REC</i>	<i>1</i>	<i>14-Feb-2019 02:08</i>
<i>Surr: 2-Fluorobiphenyl</i>	<i>40.6</i>			<i>40-125</i>	<i>%REC</i>	<i>1</i>	<i>14-Feb-2019 02:08</i>
<i>Surr: 2-Fluorophenol</i>	<i>24.6</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>14-Feb-2019 02:08</i>
<i>Surr: 4-Terphenyl-d14</i>	<i>58.0</i>			<i>40-135</i>	<i>%REC</i>	<i>1</i>	<i>14-Feb-2019 02:08</i>
<i>Surr: Nitrobenzene-d5</i>	<i>43.4</i>			<i>41-120</i>	<i>%REC</i>	<i>1</i>	<i>14-Feb-2019 02:08</i>
<i>Surr: Phenol-d6</i>	<i>31.5</i>			<i>20-120</i>	<i>%REC</i>	<i>1</i>	<i>14-Feb-2019 02:08</i>
ICP-MS METALS BY SW6020A		Method:SW6020		Prep:SW3010A / 14-Feb-2019		Analyst: JHD	
Arsenic	0.00136	J	0.000400	0.00200	mg/L	1	14-Feb-2019 18:35
Lead	U		0.000600	0.00200	mg/L	1	14-Feb-2019 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-TB07-20190201
 Collection Date: 01-Feb-2019 00:00

ANALYTICAL REPORT
 WorkOrder:HS19020155
 Lab ID:HS19020155-03
 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	11-Feb-2019 16:23
Benzene	U		0.00020	0.0010	mg/L	1	11-Feb-2019 16:23
Chlorobenzene	U		0.00030	0.0010	mg/L	1	11-Feb-2019 16:23
Ethylbenzene	U		0.00030	0.0010	mg/L	1	11-Feb-2019 16:23
Methylene chloride	U		0.0010	0.0020	mg/L	1	11-Feb-2019 16:23
Toluene	U		0.00020	0.0010	mg/L	1	11-Feb-2019 16:23
Xylenes, Total	U		0.00030	0.0010	mg/L	1	11-Feb-2019 16:23
<i>Surr: 1,2-Dichloroethane-d4</i>		<i>94.3</i>		<i>70-126</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 16:23</i>
<i>Surr: 4-Bromofluorobenzene</i>		<i>93.1</i>		<i>81-113</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 16:23</i>
<i>Surr: Dibromofluoromethane</i>		<i>107</i>		<i>77-123</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 16:23</i>
<i>Surr: Toluene-d8</i>		<i>100</i>		<i>82-127</i>	<i>%REC</i>	<i>1</i>	<i>11-Feb-2019 16:23</i>

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: HS19020155

Batch ID: 137448 **Method:** LOW-LEVEL SEMIVOLATILES BY 8270D **Prep:** 3510_B_LOW

SamplID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19020155-01	1	960	1 (mL)	0.001042
HS19020155-02	1	980	1 (mL)	0.00102

Batch ID: 137737 **Method:** ICP-MS METALS BY SW6020A **Prep:** 3010A

SamplID	Container	Sample Wt/Vol	Final Volume	Prep Factor
HS19020155-01	1	10	10 (mL)	1
HS19020155-02	1	10	10 (mL)	1

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19020155

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID 137448		Test Name : LOW-LEVEL SEMIVOLATILES BY 8270D		Matrix: Water		
HS19020155-01	WG-1620-MW77A-201290201	01 Feb 2019 13:05		06 Feb 2019 09:27	14 Feb 2019 01:48	1
HS19020155-02	WG-1620-MW85C-201290201	01 Feb 2019 14:00		06 Feb 2019 09:27	14 Feb 2019 02:08	1
Batch ID 137737		Test Name : ICP-MS METALS BY SW6020A		Matrix: Water		
HS19020155-01	WG-1620-MW77A-201290201	01 Feb 2019 13:05		14 Feb 2019 10:00	14 Feb 2019 18:33	1
HS19020155-02	WG-1620-MW85C-201290201	01 Feb 2019 14:00		14 Feb 2019 10:00	14 Feb 2019 18:35	1
Batch ID R332708		Test Name : LOW LEVEL VOLATILES BY SW8260C		Matrix: Water		
HS19020155-01	WG-1620-MW77A-201290201	01 Feb 2019 13:05			11 Feb 2019 17:11	1
HS19020155-02	WG-1620-MW85C-201290201	01 Feb 2019 14:00			11 Feb 2019 17:35	1
HS19020155-03	WG-1620-TB07-20190201	01 Feb 2019 00:00			11 Feb 2019 16:23	1

WorkOrder: HS19020155
 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	0.000460	0.000400	0.00200
A	Lead	7439-92-1	0.00100	0.00100	0.000600	0.00200

WorkOrder: HS19020155
 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	0.000070	0.000021	0.00020
A	2,4-Dimethylphenol	105-67-9	0.00010	0.000041	0.000040	0.00020
A	2,4-Dinitrotoluene	121-14-2	0.00010	0.000052	0.000058	0.00020
A	2,6-Dinitrotoluene	606-20-2	0.00010	0.000052	0.000042	0.00020
A	2-Chloronaphthalene	91-58-7	0.00010	0.000061	0.000021	0.00020
A	2-Methylnaphthalene	91-57-6	0.000050	0.000056	0.000019	0.00010
A	4,6-Dinitro-2-methylphenol	534-52-1	0.00010	0.000022	0.000020	0.00020
A	4-Nitrophenol	100-02-7	0.00020	0.00019	0.000047	0.0010
A	Acenaphthene	83-32-9	0.000050	0.000066	0.000027	0.00010
A	Acenaphthylene	208-96-8	0.000050	0.000072	0.000015	0.00010
A	Anthracene	120-12-7	0.000050	0.000074	0.000014	0.00010
A	Benz(a)anthracene	56-55-3	0.000050	0.000074	0.000050	0.00010
A	Benzo(a)pyrene	50-32-8	0.000050	0.000066	0.000020	0.00010
A	Bis(2-chloroethoxy)methane	111-91-1	0.00010	0.000069	0.000030	0.00020
A	Bis(2-ethylhexyl)phthalate	117-81-7	0.00010	0.000083	0.000037	0.00020
A	Chrysene	218-01-9	0.000050	0.000082	0.000021	0.00010
A	Dibenzofuran	132-64-9	0.000050	0.000060	0.000020	0.00010
A	Di-n-butyl phthalate	84-74-2	0.00010	0.000080	0.000020	0.00020
A	Fluoranthene	206-44-0	0.000050	0.000074	0.000010	0.00010
A	Fluorene	86-73-7	0.000050	0.000073	0.000030	0.00010
A	Naphthalene	91-20-3	0.000050	0.000065	0.000020	0.00010
A	Nitrobenzene	98-95-3	0.00010	0.000083	0.000024	0.00020
A	N-Nitrosodiphenylamine	86-30-6	0.00010	0.000068	0.000025	0.00020
A	Pentachlorophenol	87-86-5	0.00010	0.00016	0.000079	0.00020
A	Phenanthrene	85-01-8	0.000050	0.000077	0.000021	0.00010
A	Phenol	108-95-2	0.00010	0.000066	0.000035	0.00020
A	Pyrene	129-00-0	0.000050	0.000074	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: HS19020155
 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	0.00066	0.00020	0.0010
A	Benzene	71-43-2	0.00050	0.00060	0.00020	0.0010
A	Chlorobenzene	108-90-7	0.00050	0.00063	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	0.00051	0.0010	0.0020
A	Toluene	108-88-3	0.00050	0.00065	0.00020	0.0010
A	Xylenes, Total	1330-20-7	0.00050	0.00056	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: HS19020155

QC BATCH REPORT

Batch ID: 137737 **Instrument:** ICPMS05 **Method:** SW6020

MBLK		Sample ID: MBLK-137737			Units: mg/L		Analysis Date: 14-Feb-2019 18:06			
Client ID:		Run ID: ICPMS05_332852			SeqNo: 4950662		PrepDate: 14-Feb-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								
Lead	U	0.00200								

LCS		Sample ID: LCS-137737			Units: mg/L		Analysis Date: 14-Feb-2019 18:08			
Client ID:		Run ID: ICPMS05_332852			SeqNo: 4950663		PrepDate: 14-Feb-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0547	0.00200	0.05	0	109	80 - 120				
Lead	0.05513	0.00200	0.05	0	110	80 - 120				

MS		Sample ID: HS19020360-06MS			Units: mg/L		Analysis Date: 14-Feb-2019 18:15			
Client ID:		Run ID: ICPMS05_332852			SeqNo: 4950666		PrepDate: 14-Feb-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05653	0.00200	0.05	0.001329	110	80 - 120				
Lead	0.05239	0.00200	0.05	0	105	80 - 120				

MSD		Sample ID: HS19020360-06MSD			Units: mg/L		Analysis Date: 14-Feb-2019 18:17			
Client ID:		Run ID: ICPMS05_332852			SeqNo: 4950667		PrepDate: 14-Feb-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.05641	0.00200	0.05	0.001329	110	80 - 120	0.05653	0.212	20	
Lead	0.05378	0.00200	0.05	0	108	80 - 120	0.05239	2.63	20	

PDS		Sample ID: HS19020360-06PDS			Units: mg/L		Analysis Date: 14-Feb-2019 18:19			
Client ID:		Run ID: ICPMS05_332852			SeqNo: 4950668		PrepDate: 14-Feb-2019		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1054	0.00200	0.1	0.001329	104	75 - 125				
Lead	0.1015	0.00200	0.1	0.000121	101	75 - 125				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19020155

QC BATCH REPORT

Batch ID: 137737		Instrument: ICPMS05		Method: SW6020						
SD	Sample ID: HS19020360-06SD	Units: mg/L		Analysis Date: 14-Feb-2019 18:12						
Client ID:	Run ID: ICPMS05_332852	SeqNo: 4950665	PrepDate: 14-Feb-2019	DF: 5						
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%D	Limit	Qual

Arsenic	U	0.0100					0.001329	0	10
Lead	U	0.0100					0.000121	0	10

The following samples were analyzed in this batch: HS19020155-01 HS19020155-02

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19020155

QC BATCH REPORT

Batch ID: 137448		Instrument: SV-6		Method: SW8270						
MBLK	Sample ID: MBLK-137448	Units: ug/L			Analysis Date: 08-Feb-2019 11:26					
Client ID:	Run ID: SV-6_332610	SeqNo: 4944276	PrepDate: 06-Feb-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								
<i>Surr: 2,4,6-Tribromophenol</i>	2.907	0.20	5	0	58.1	34 - 129				
<i>Surr: 2-Fluorobiphenyl</i>	2.789	0.20	5	0	55.8	40 - 125				
<i>Surr: 2-Fluorophenol</i>	2.854	0.20	5	0	57.1	20 - 120				
<i>Surr: 4-Terphenyl-d14</i>	3.062	0.20	5	0	61.2	40 - 135				
<i>Surr: Nitrobenzene-d5</i>	2.578	0.20	5	0	51.6	41 - 120				
<i>Surr: Phenol-d6</i>	3.103	0.20	5	0	62.1	20 - 120				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19020155

QC BATCH REPORT

Batch ID: 137448		Instrument: SV-6		Method: SW8270						
LCS	Sample ID: LCS-137448	Units: ug/L			Analysis Date: 08-Feb-2019 18:13					
Client ID:	Run ID: SV-6_332612	SeqNo: 4944310		PrepDate: 06-Feb-2019		DF: 1				
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	2.611	0.20	5	0	52.2	39 - 127				
2,4-Dimethylphenol	2.518	0.20	5	0	50.4	35 - 120				
2,4-Dinitrotoluene	2.659	0.20	5	0	53.2	50 - 122				
2,6-Dinitrotoluene	2.949	0.20	5	0	59.0	50 - 120				
2-Chloronaphthalene	2.976	0.20	5	0	59.5	50 - 120				
2-Methylnaphthalene	2.817	0.10	5	0	56.3	50 - 120				
4,6-Dinitro-2-methylphenol	2.638	0.20	5	0	52.8	25 - 121				
4-Nitrophenol	1.883	1.0	5	0	37.7	30 - 130				
Acenaphthene	2.641	0.10	5	0	52.8	45 - 120				
Acenaphthylene	2.731	0.10	5	0	54.6	47 - 120				
Anthracene	2.843	0.10	5	0	56.9	45 - 120				
Benz(a)anthracene	2.826	0.10	5	0	56.5	40 - 120				
Benzo(a)pyrene	3.019	0.10	5	0	60.4	45 - 120				
Bis(2-chloroethoxy)methane	2.696	0.20	5	0	53.9	45 - 120				
Bis(2-ethylhexyl)phthalate	2.851	0.20	5	0	57.0	40 - 139				
Chrysene	2.815	0.10	5	0	56.3	43 - 120				
Dibenzofuran	2.757	0.10	5	0	55.1	50 - 120				
Di-n-butyl phthalate	2.838	0.20	5	0	56.8	45 - 123				
Fluoranthene	2.883	0.10	5	0	57.7	45 - 125				
Fluorene	2.833	0.10	5	0	56.7	49 - 120				
Naphthalene	2.664	0.10	5	0	53.3	45 - 120				
Nitrobenzene	2.517	0.20	5	0	50.3	44 - 120				
N-Nitrosodiphenylamine	3.039	0.20	5	0	60.8	40 - 125				
Pentachlorophenol	2.403	0.20	5	0	48.1	19 - 121				
Phenanthrene	2.782	0.10	5	0	55.6	45 - 121				
Phenol	3.217	0.20	5	0	64.3	20 - 124				
Pyrene	2.85	0.10	5	0	57.0	40 - 130				
<i>Surr: 2,4,6-Tribromophenol</i>	<i>3.392</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>67.8</i>	<i>34 - 129</i>				
<i>Surr: 2-Fluorobiphenyl</i>	<i>2.97</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>59.4</i>	<i>40 - 125</i>				
<i>Surr: 2-Fluorophenol</i>	<i>2.727</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>54.5</i>	<i>20 - 120</i>				
<i>Surr: 4-Terphenyl-d14</i>	<i>3.222</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>64.4</i>	<i>40 - 135</i>				
<i>Surr: Nitrobenzene-d5</i>	<i>2.623</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>52.5</i>	<i>41 - 120</i>				
<i>Surr: Phenol-d6</i>	<i>3.09</i>	<i>0.20</i>	<i>5</i>	<i>0</i>	<i>61.8</i>	<i>20 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19020155

QC BATCH REPORT

Batch ID: 137448		Instrument: SV-6		Method: SW8270						
LCSD		Sample ID: LCSD-137448		Units: ug/L		Analysis Date: 08-Feb-2019 10:47				
Client ID:		Run ID: SV-6_332610		SeqNo: 4944275		PrepDate: 06-Feb-2019		DF: 1		
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Diphenylhydrazine	2.89	0.20	5	0	57.8	39 - 127	2.611	10.2	20	
2,4-Dimethylphenol	3.153	0.20	5	0	63.1	35 - 120	2.518	22.4	20	R
2,4-Dinitrotoluene	3.088	0.20	5	0	61.8	50 - 122	2.659	14.9	20	
2,6-Dinitrotoluene	3.151	0.20	5	0	63.0	50 - 120	2.949	6.61	20	
2-Chloronaphthalene	3.338	0.20	5	0	66.8	50 - 120	2.976	11.5	20	
2-Methylnaphthalene	3.264	0.10	5	0	65.3	50 - 120	2.817	14.7	20	
4,6-Dinitro-2-methylphenol	4.105	0.20	5	0	82.1	25 - 121	2.638	43.5	30	R
4-Nitrophenol	3.228	1.0	5	0	64.6	30 - 130	1.883	52.6	20	R
Acenaphthene	2.907	0.10	5	0	58.1	45 - 120	2.641	9.56	20	
Acenaphthylene	3.114	0.10	5	0	62.3	47 - 120	2.731	13.1	20	
Anthracene	3.188	0.10	5	0	63.8	45 - 120	2.843	11.4	20	
Benz(a)anthracene	3.115	0.10	5	0	62.3	40 - 120	2.826	9.71	20	
Benzo(a)pyrene	3.388	0.10	5	0	67.8	45 - 120	3.019	11.5	20	
Bis(2-chloroethoxy)methane	3.015	0.20	5	0	60.3	45 - 120	2.696	11.2	20	
Bis(2-ethylhexyl)phthalate	3.041	0.20	5	0	60.8	40 - 139	2.851	6.45	20	
Chrysene	3.358	0.10	5	0	67.2	43 - 120	2.815	17.6	20	
Dibenzofuran	3.08	0.10	5	0	61.6	50 - 120	2.757	11.1	20	
Di-n-butyl phthalate	3.255	0.20	5	0	65.1	45 - 123	2.838	13.7	20	
Fluoranthene	3.271	0.10	5	0	65.4	45 - 125	2.883	12.6	20	
Fluorene	3.155	0.10	5	0	63.1	49 - 120	2.833	10.8	20	
Naphthalene	3.073	0.10	5	0	61.5	45 - 120	2.664	14.3	20	
Nitrobenzene	2.676	0.20	5	0	53.5	44 - 120	2.517	6.12	20	
N-Nitrosodiphenylamine	3.3	0.20	5	0	66.0	40 - 125	3.039	8.23	20	
Pentachlorophenol	3.405	0.20	5	0	68.1	19 - 121	2.403	34.5	20	R
Phenanthrene	3.143	0.10	5	0	62.9	45 - 121	2.782	12.2	20	
Phenol	3.33	0.20	5	0	66.6	20 - 124	3.217	3.43	20	
Pyrene	3.275	0.10	5	0	65.5	40 - 130	2.85	13.9	20	
Surr: 2,4,6-Tribromophenol	3.758	0.20	5	0	75.2	34 - 129	3.392	10.2	20	
Surr: 2-Fluorobiphenyl	3.216	0.20	5	0	64.3	40 - 125	2.97	7.93	20	
Surr: 2-Fluorophenol	3.227	0.20	5	0	64.5	20 - 120	2.727	16.8	20	
Surr: 4-Terphenyl-d14	3.491	0.20	5	0	69.8	40 - 135	3.222	8.03	20	
Surr: Nitrobenzene-d5	2.813	0.20	5	0	56.3	41 - 120	2.623	7.01	20	
Surr: Phenol-d6	3.491	0.20	5	0	69.8	20 - 120	3.09	12.2	20	

The following samples were analyzed in this batch: HS19020155-01 HS19020155-02

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19020155

QC BATCH REPORT

Batch ID: R332708 **Instrument:** VOA2 **Method:** SW8260

MBLK		Sample ID: VBLKW-190211			Units: ug/L		Analysis Date: 11-Feb-2019 11:56			
Client ID:		Run ID: VOA2_332708			SeqNo: 4946341		PrepDate:		DF: 1	
Analyte	Result	MLQ	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								
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>45.67</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>91.3</i>	<i>70 - 123</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>45.83</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>91.7</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>52.39</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>105</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>50.71</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>101</i>	<i>81 - 120</i>				

LCS		Sample ID: VLCSW-190211			Units: ug/L		Analysis Date: 11-Feb-2019 10:44			
Client ID:		Run ID: VOA2_332708			SeqNo: 4946340		PrepDate:		DF: 1	
Analyte	Result	MLQ	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.52	1.0	20	0	87.6	70 - 124				
Benzene	18.99	1.0	20	0	94.9	74 - 120				
Chlorobenzene	20.07	1.0	20	0	100	76 - 113				
Ethylbenzene	20.86	1.0	20	0	104	77 - 117				
Methylene chloride	19.08	2.0	20	0	95.4	70 - 127				
Toluene	19.54	1.0	20	0	97.7	77 - 118				
Xylenes, Total	59.46	1.0	60	0	99.1	75 - 122				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.08</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.2</i>	<i>70 - 130</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>47.66</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>95.3</i>	<i>82 - 115</i>				
<i>Surr: Dibromofluoromethane</i>	<i>48.95</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.9</i>	<i>73 - 126</i>				
<i>Surr: Toluene-d8</i>	<i>49.03</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>98.1</i>	<i>81 - 120</i>				

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19020155

QC BATCH REPORT

Batch ID: R332708 **Instrument:** VOA2 **Method:** SW8260

MS		Sample ID: HS19020162-01MS			Units: ug/L		Analysis Date: 11-Feb-2019 15:11			
Client ID:		Run ID: VOA2_332708			SeqNo: 4946349		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	84.6	70 - 127				
Benzene	18.5	1.0	20	0	92.5	70 - 127				
Chlorobenzene	18.97	1.0	20	0	94.9	70 - 114				
Ethylbenzene	20.21	1.0	20	0	101	70 - 124				
Methylene chloride	18.41	2.0	20	0	92.1	70 - 128				
Toluene	18.96	1.0	20	0	94.8	70 - 123				
Xylenes, Total	56.98	1.0	60	0	95.0	70 - 130				
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.8</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.6</i>	<i>70 - 126</i>				
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.71</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.4</i>	<i>81 - 113</i>				
<i>Surr: Dibromofluoromethane</i>	<i>48.74</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.5</i>	<i>77 - 123</i>				
<i>Surr: Toluene-d8</i>	<i>48.91</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.8</i>	<i>82 - 127</i>				

MSD		Sample ID: HS19020162-01MSD			Units: ug/L		Analysis Date: 11-Feb-2019 15:35			
Client ID:		Run ID: VOA2_332708			SeqNo: 4946350		PrepDate:		DF: 1	
Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,2-Dichloroethane	17.19	1.0	20	0	85.9	70 - 127	16.91	1.61	20	
Benzene	18.89	1.0	20	0	94.4	70 - 127	18.5	2.07	20	
Chlorobenzene	19.19	1.0	20	0	95.9	70 - 114	18.97	1.12	20	
Ethylbenzene	20.55	1.0	20	0	103	70 - 124	20.21	1.67	20	
Methylene chloride	19	2.0	20	0	95.0	70 - 128	18.41	3.14	20	
Toluene	19.05	1.0	20	0	95.3	70 - 123	18.96	0.466	20	
Xylenes, Total	57.51	1.0	60	0	95.8	70 - 130	56.98	0.927	20	
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>48.56</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.1</i>	<i>70 - 126</i>	<i>48.8</i>	<i>0.487</i>	<i>20</i>	
<i>Surr: 4-Bromofluorobenzene</i>	<i>48.03</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>96.1</i>	<i>81 - 113</i>	<i>48.71</i>	<i>1.4</i>	<i>20</i>	
<i>Surr: Dibromofluoromethane</i>	<i>48.7</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.4</i>	<i>77 - 123</i>	<i>48.74</i>	<i>0.0752</i>	<i>20</i>	
<i>Surr: Toluene-d8</i>	<i>48.71</i>	<i>1.0</i>	<i>50</i>	<i>0</i>	<i>97.4</i>	<i>82 - 127</i>	<i>48.91</i>	<i>0.415</i>	<i>20</i>	

The following samples were analyzed in this batch: HS19020155-01 HS19020155-02 HS19020155-03

Client: Golder Associates Inc.
Project: Houston TX-Wood Preserving Works
WorkOrder: HS19020155

**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 Quantitation 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	88-0356	27-Mar-2019
Texas	T10470231-18-21	30-Apr-2019
North Dakota	R193 2018-2019	30-Apr-2019
Illinois	004438	29-Jun-2019
Louisiana	03087	30-Jun-2019
Dept of Defense	ANAB L2231	20-Dec-2021
Kentucky	123043 - 2018	30-Apr-2019
Kansas	E-10352 2018-2019	31-Jul-2019
Oklahoma	2018-156	31-Aug-2019
North Carolina	624-2019	31-Dec-2019
California	2919, 2018-2019	30-Apr-2019
Maryland	343, 2018-2019	30-Jun-2019

Sample Receipt Checklist

Client Name: PBW
Work Order: HS19020155

Date/Time Received: 02-Feb-2019 09:22
Received by: PMG

Checklist completed by: Nilesh D. Ranchod
eSignature
Date: 5-Feb-2019

Reviewed by: Dane J. Wacasey
eSignature
Date: 13-Feb-2019

Matrices: Water

Carrier name: Client

- Shipping container/cooler in good condition? Yes [checked] No [] Not Present []
Custody seals intact on shipping container/cooler? Yes [] No [] Not Present [checked]
Custody seals intact on sample bottles? Yes [] No [] Not Present [checked]
VOA/TX1005/TX1006 Solids in hermetically sealed vials? Yes [] No [] Not Present [checked]
Chain of custody present? Yes [checked] No []
Chain of custody signed when relinquished and received? Yes [checked] No []
Samplers name present on COC? Yes [] No [checked]
Chain of custody agrees with sample labels? Yes [checked] No []
Samples in proper container/bottle? Yes [checked] No []
Sample containers intact? Yes [checked] No []
Sufficient sample volume for indicated test? Yes [checked] No []
All samples received within holding time? Yes [checked] No []
Container/Temp Blank temperature in compliance? Yes [checked] No []

1 Page(s)
COC IDs:194314

Temperature(s)/Thermometer(s): 0.9C / 1.2C UC/C IR # 25
Cooler(s)/Kit(s): 44538
Date/Time sample(s) sent to storage: 02/02/2019 13:00
Water - VOA vials have zero headspace? Yes [checked] No [] No VOA vials submitted []
Water - pH acceptable upon receipt? Yes [checked] No [] N/A []
pH adjusted? Yes [] No [] N/A [checked]
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 1

COC ID: 194314

HS19020155

Golder Associates Inc.
Houston TX-Wood Preserving Works

in, WV
8

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ALS Project Manager:



Customer Information		Project Information	
Purchase Order	UPRR/Kevin Peterburs	Project Name	Houston TX-Wood Preserving Works
Work Order		Project Number	1620-06-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	

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		X	X							
2	WG-1620-MW77A-20190201	2-1-19	1305	W		6	X		X	X							
3	WG-1620-MW85C-20190201	2-1-19	1400	W		6	X		X	X							
4	WG-1620-TB07-20190201	2-1-19	-	W		2	X										
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign <i>John Beaton</i>		Shipment Method HAND DELIVERED		Required Turnaround Time: (Check Box) <input checked="" type="checkbox"/> STD 10 Wk Days <input type="checkbox"/> 5 Wk Days <input type="checkbox"/> 2 Wk Days <input type="checkbox"/> 24 Hour			Results Due Date:	
Relinquished by: <i>John</i>	Date: 2-2-19	Time: 09:22	Received by: <i>[Signature]</i>	Notes: UPRR Houston MWPW				
Relinquished by:	Date:	Time:	Received by (Laboratory): 2/2/19 09:22	Cooler ID 44538	Cooler Temp. 09	QC Package: (Check One Box Below)		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	3718	RETURN	<input type="checkbox"/> Level II Std QC	<input checked="" type="checkbox"/> TRRP Checklist	
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035						<input type="checkbox"/> Level III Std QC/Raw Data	<input type="checkbox"/> TRRP Level IV	
						<input type="checkbox"/> Level IV SWB46/CLP		
						<input type="checkbox"/> Other		

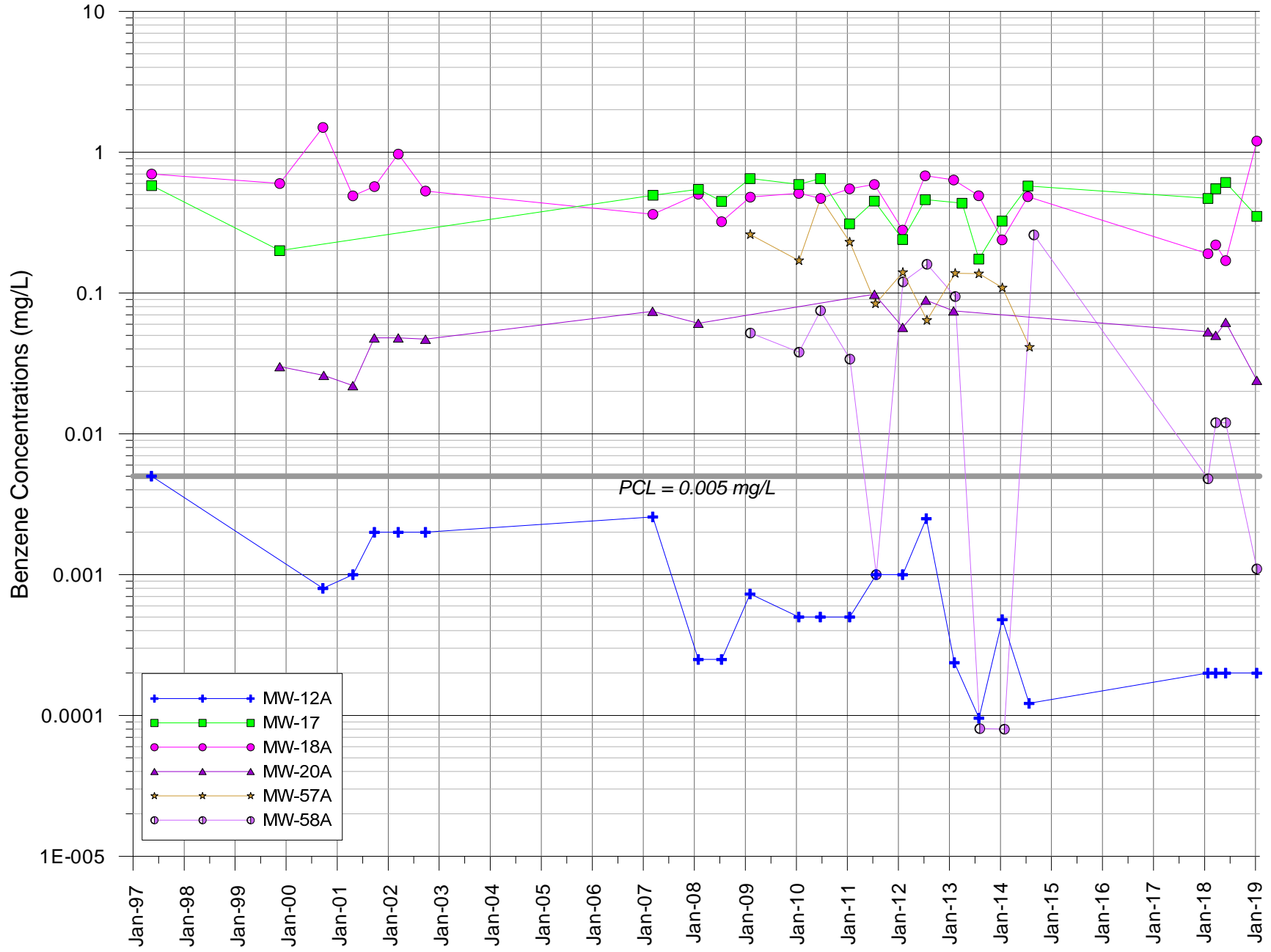
Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

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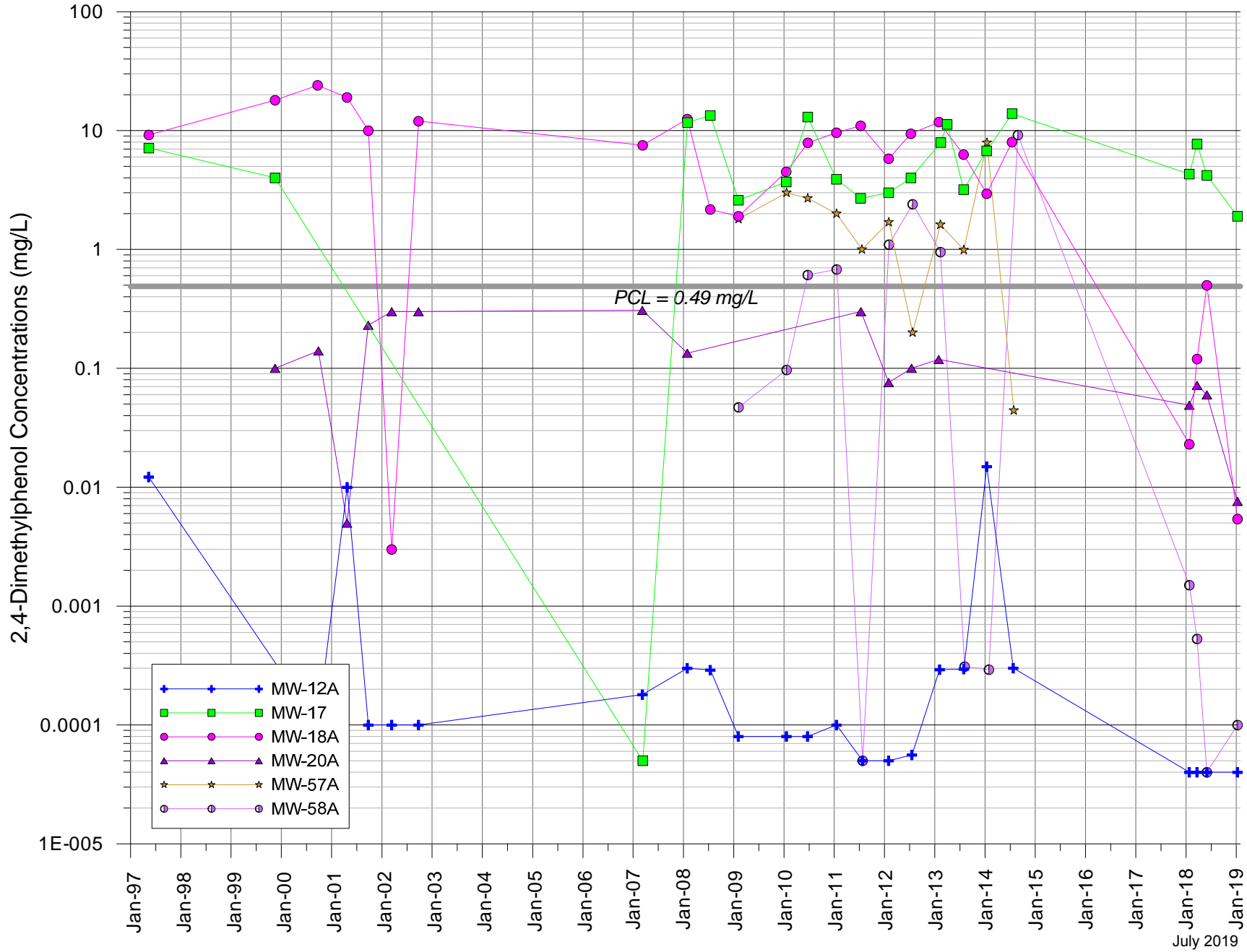
ATTACHMENT B

COC Concentration Graphs

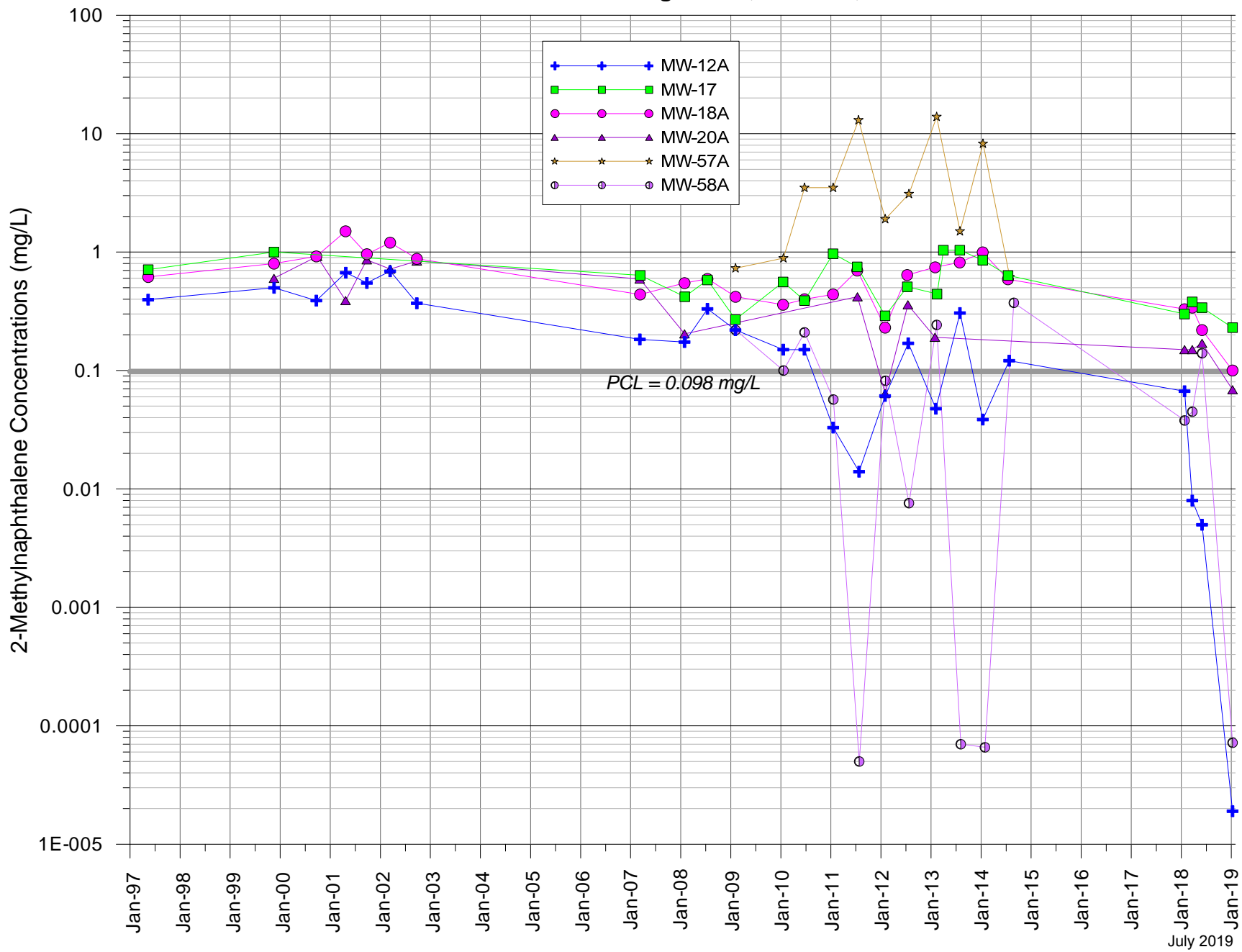
ATTACHMENT 1B-1
Benzene Concentrations at Source Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



ATTACHMENT 1B-2
2,4-Dimethylphenol Concentrations at Source Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas

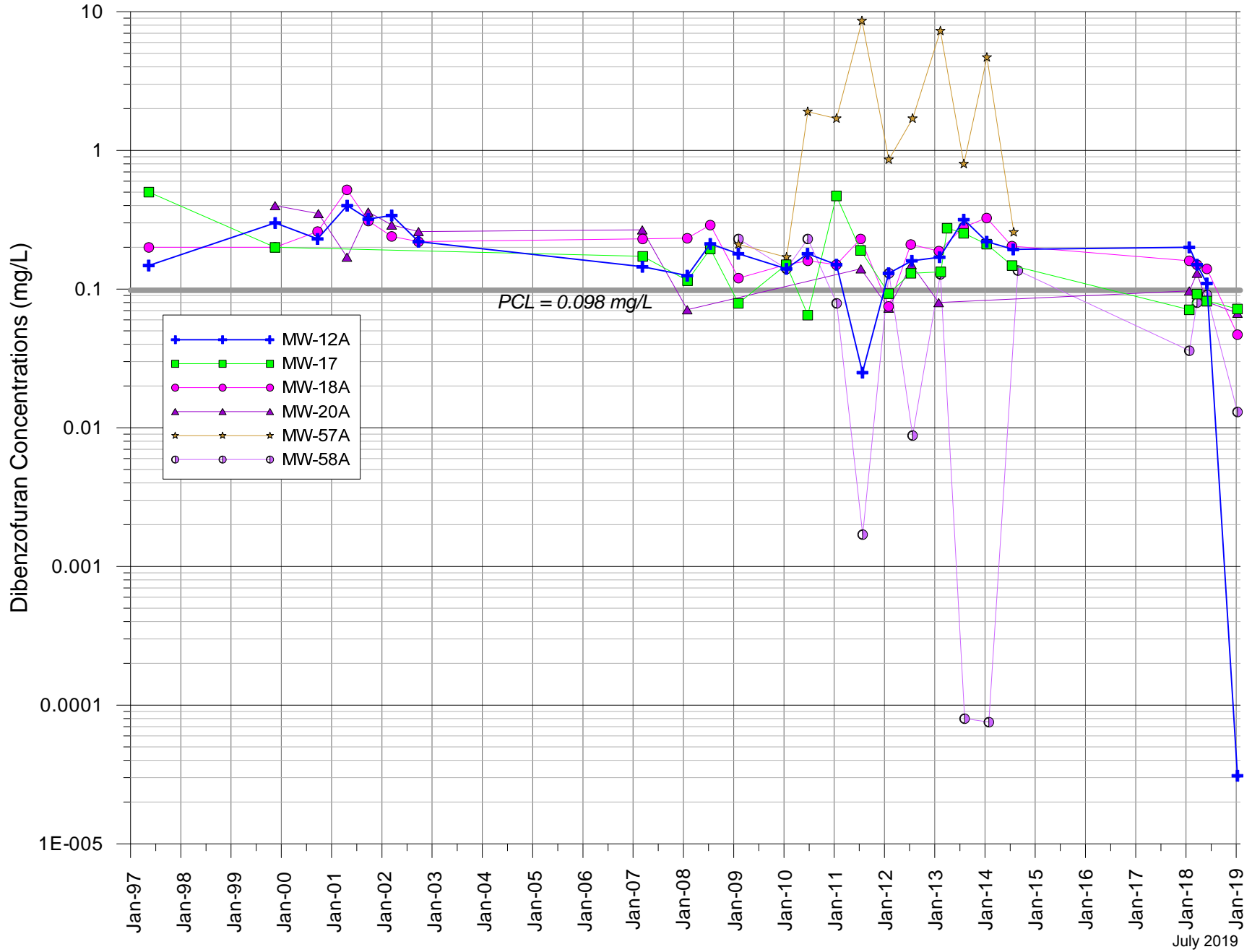


ATTACHMENT 1B-3
2-Methylnaphthalene Concentrations at Source Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas

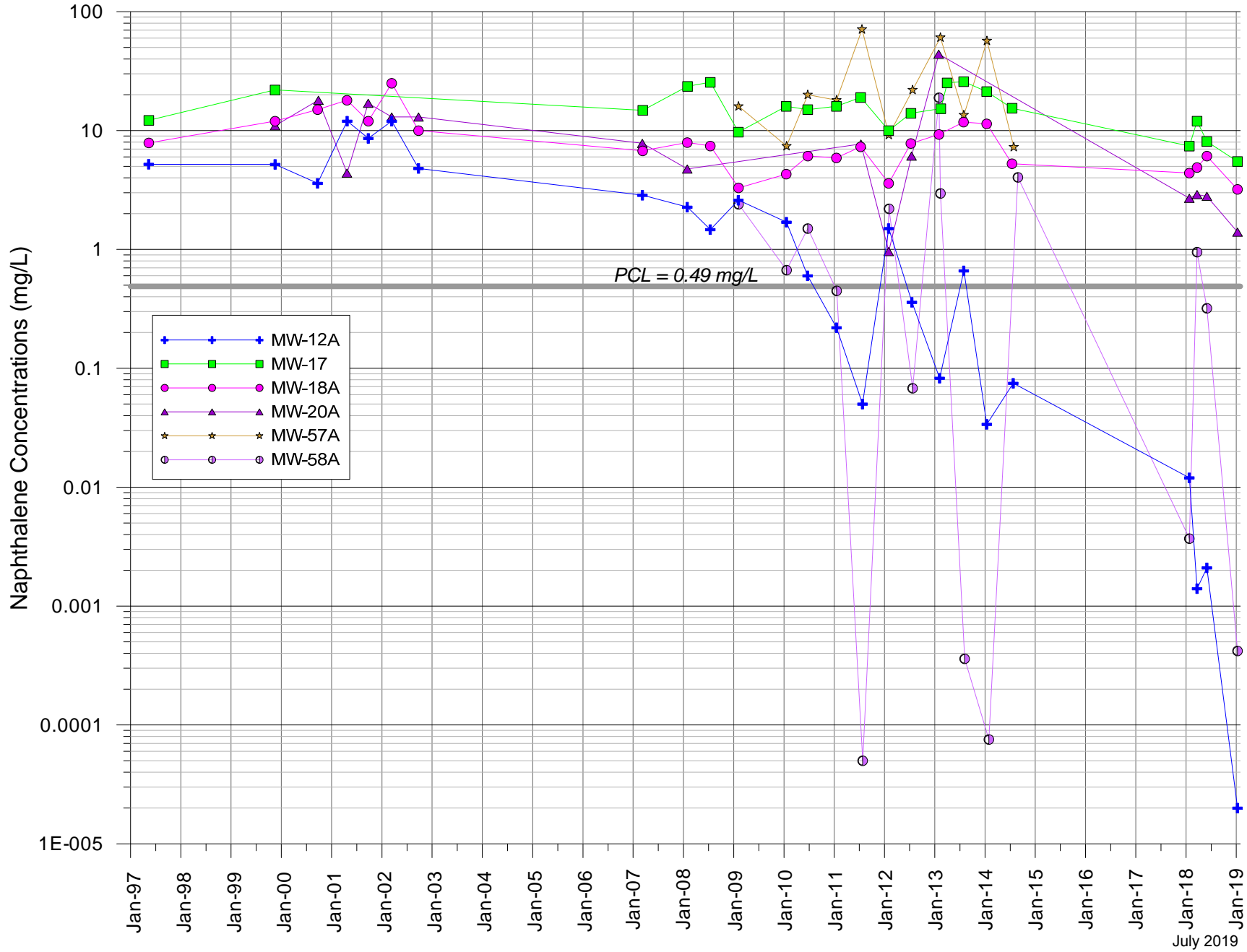


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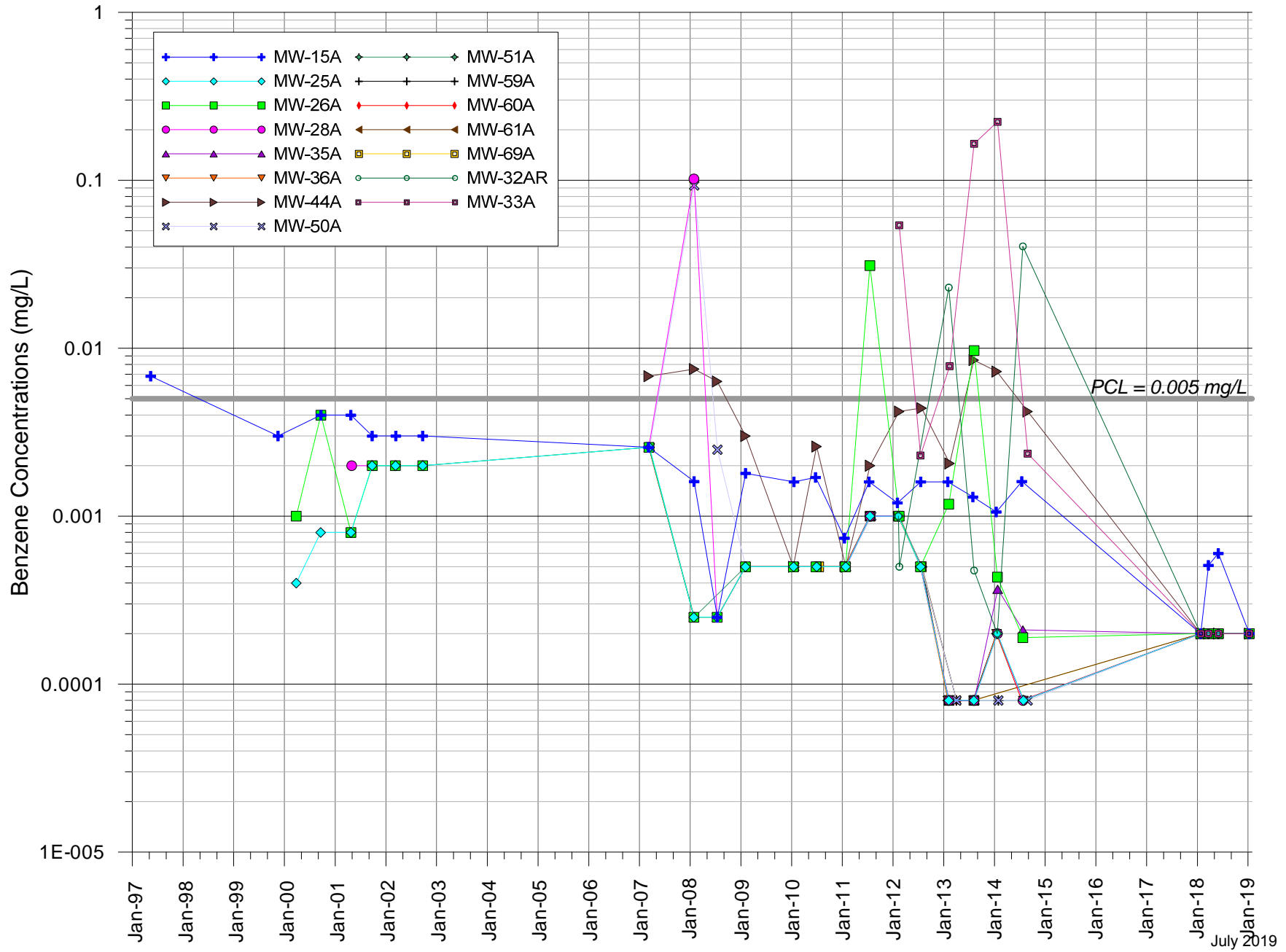
ATTACHMENT 1B-4
Dibenzofuran Concentrations at Source Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



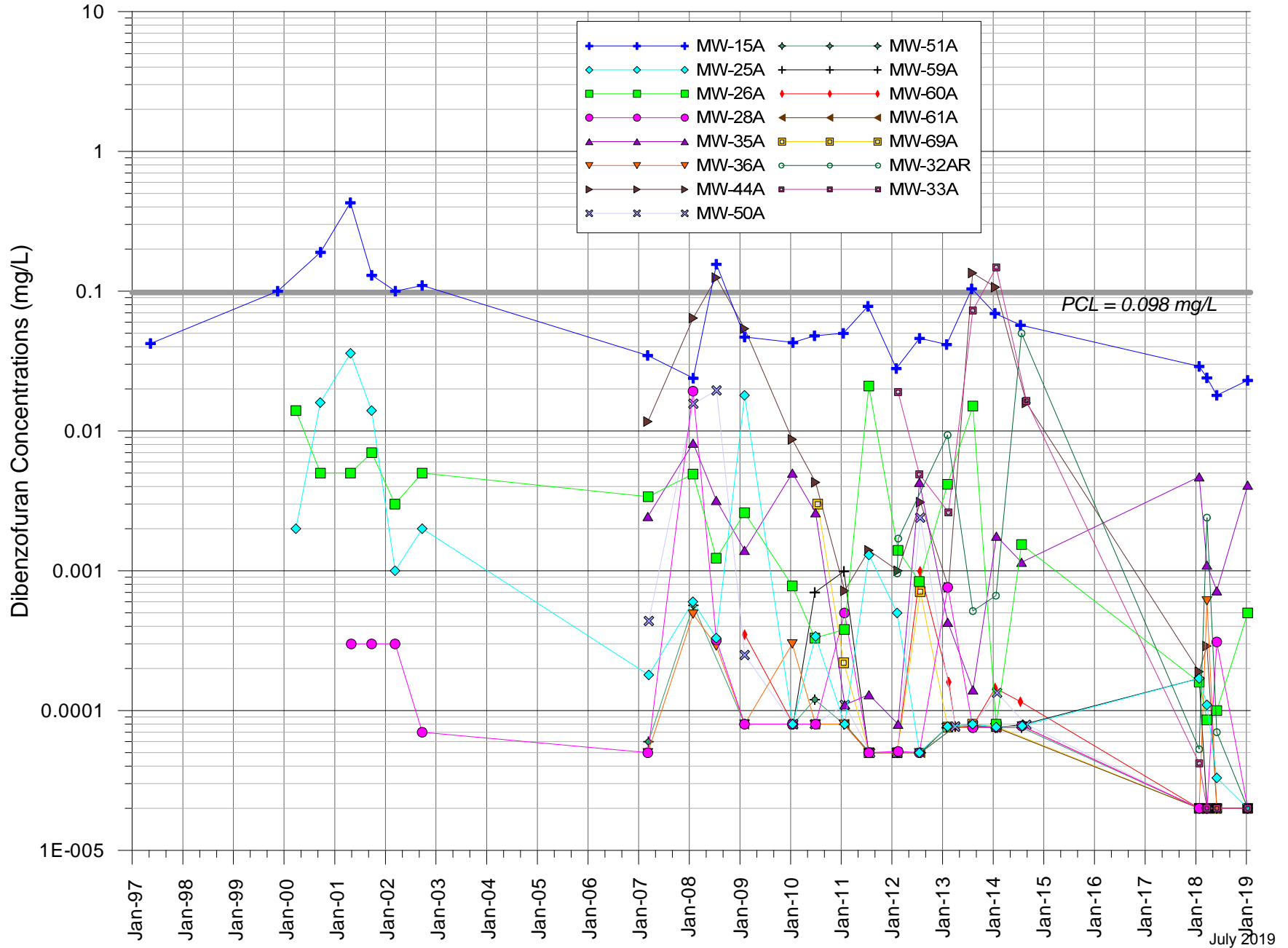
ATTACHMENT 1B-5
Naphthalene Concentrations at Source Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



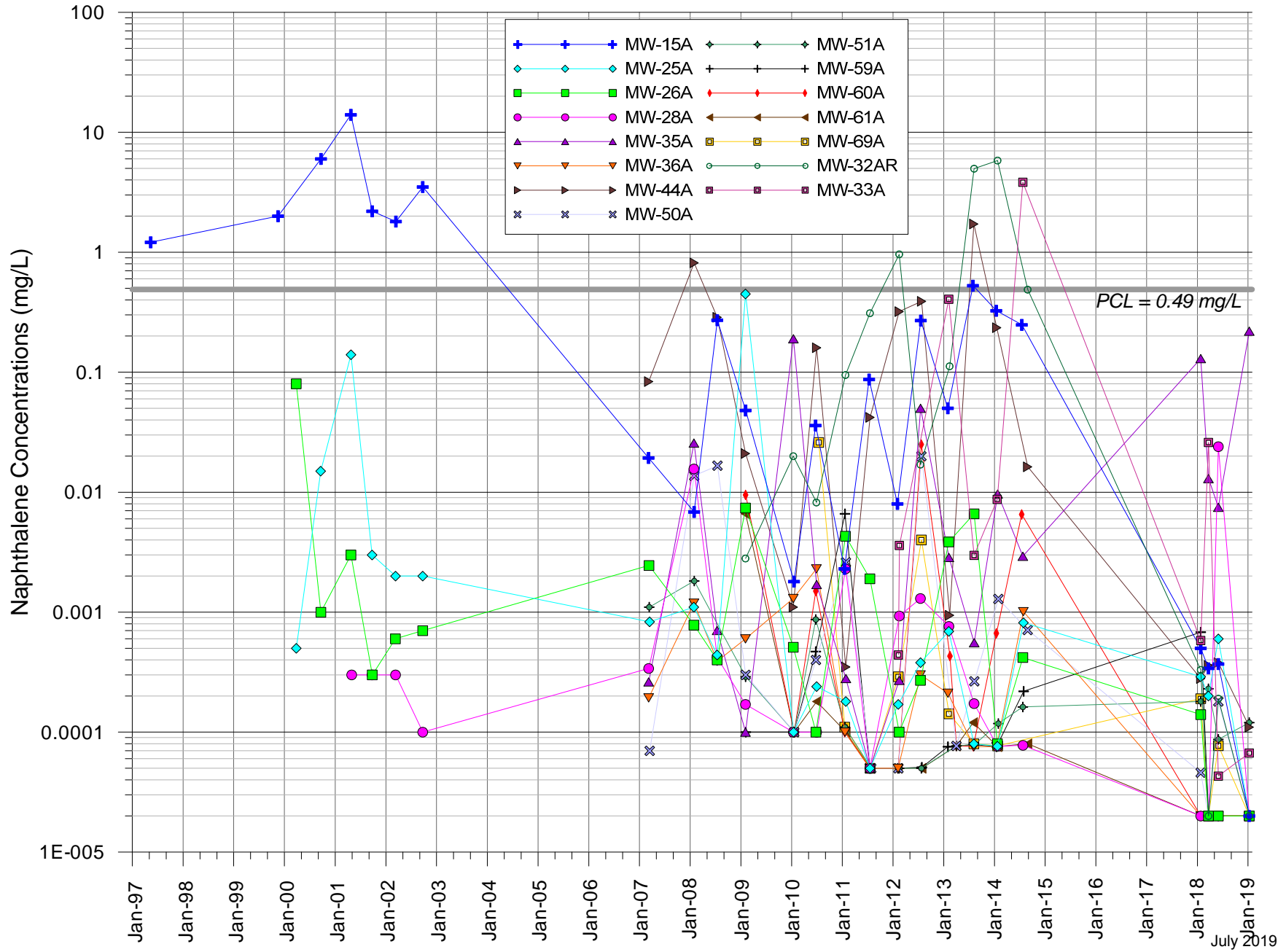
ATTACHMENT 1B-6
Benzene Concentrations at Perimeter Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



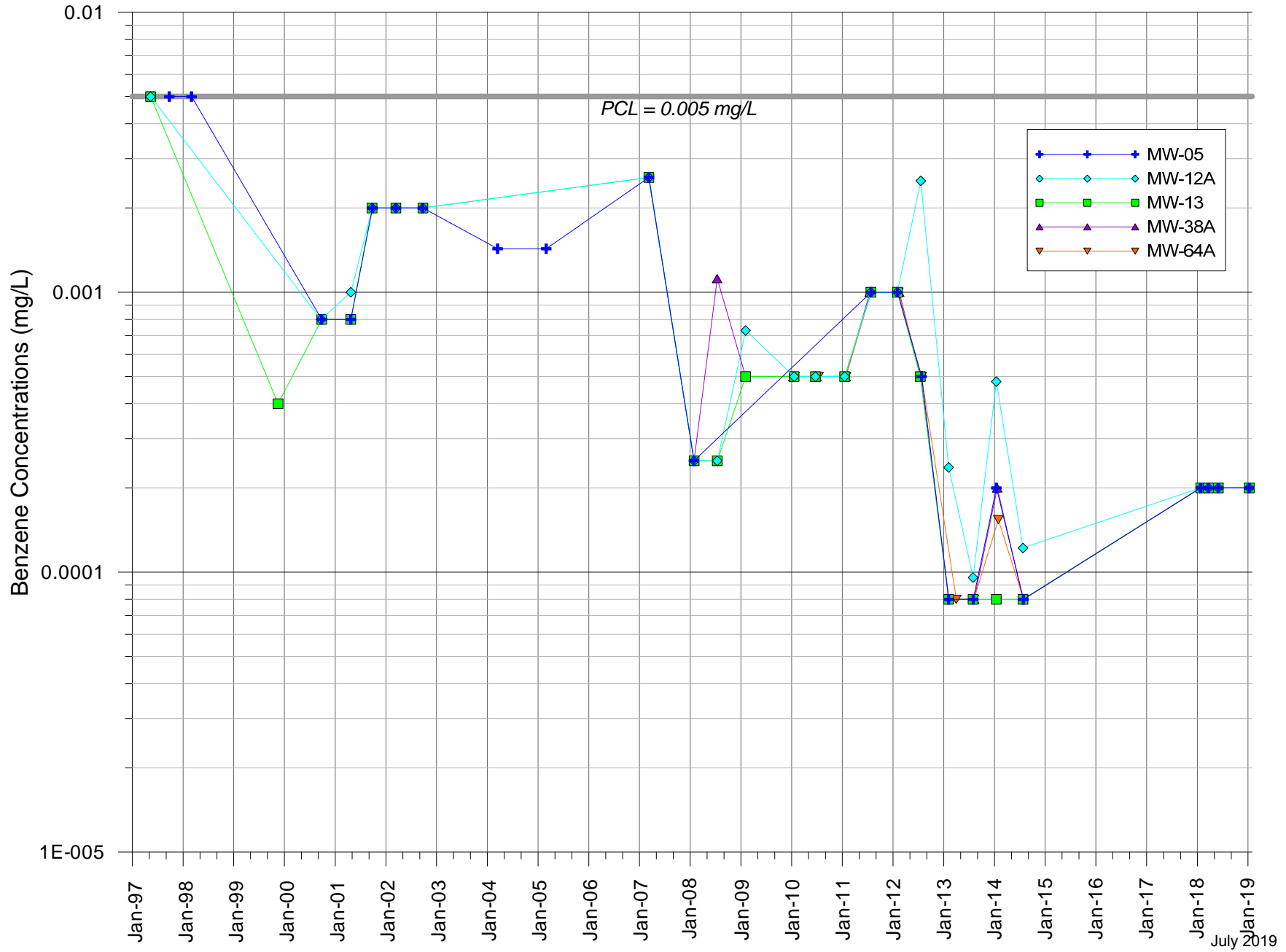
ATTACHMENT 1B-9
Dibenzofuran Concentrations at Perimeter Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



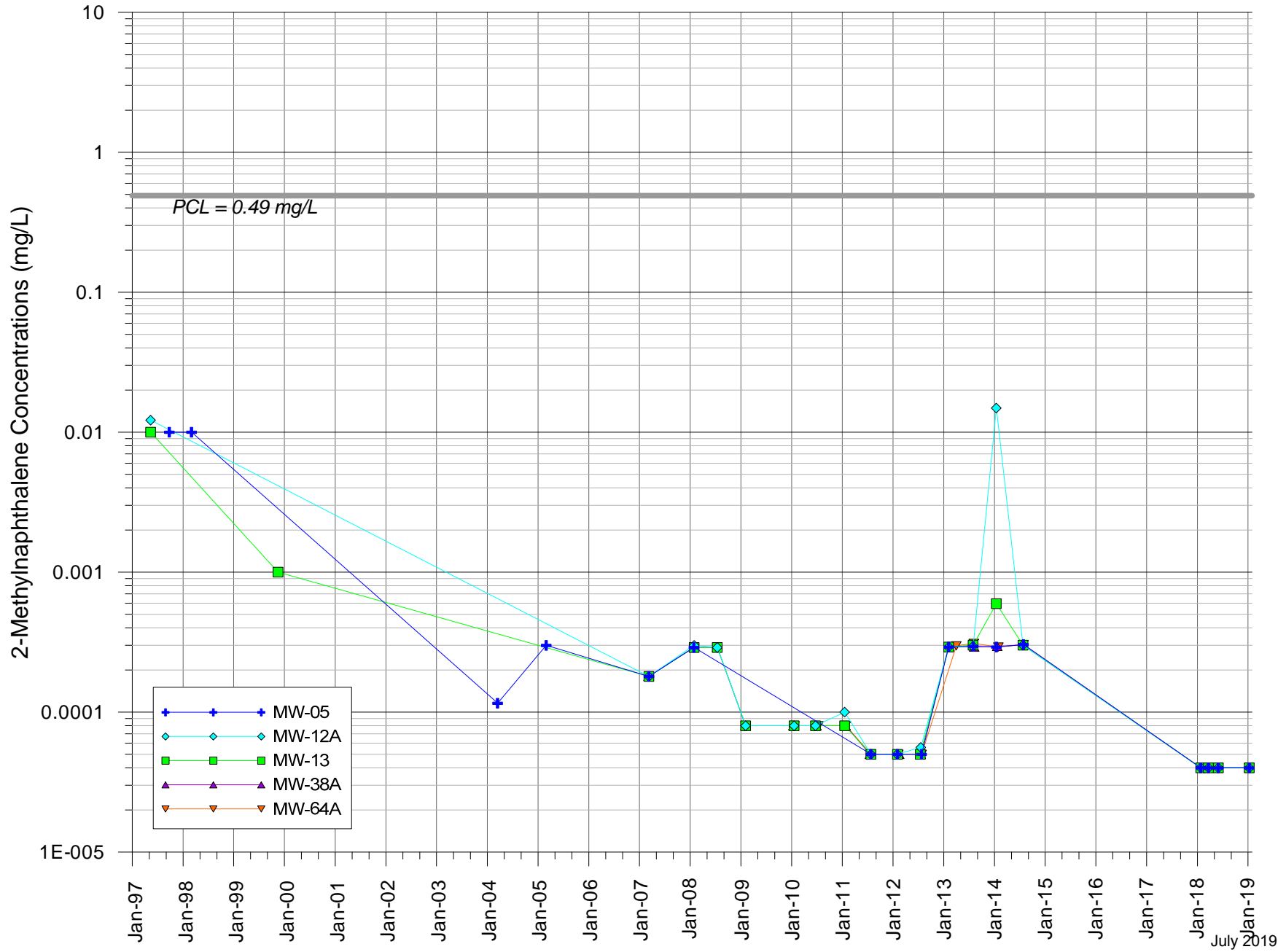
ATTACHMENT 1B-10
Naphthalene Concentrations at Perimeter Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



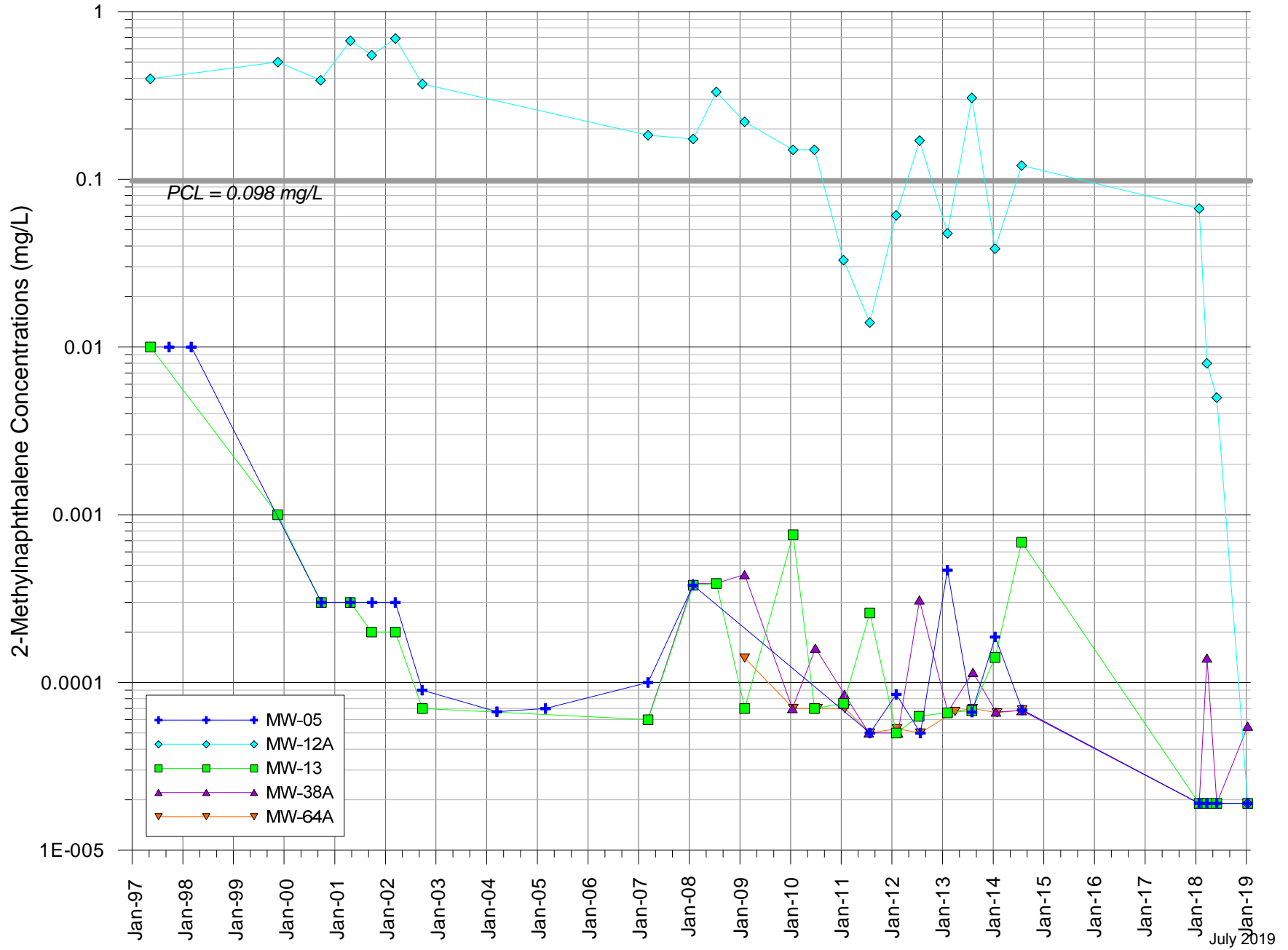
ATTACHMENT 1B-11
Benzene Concentrations at West End Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



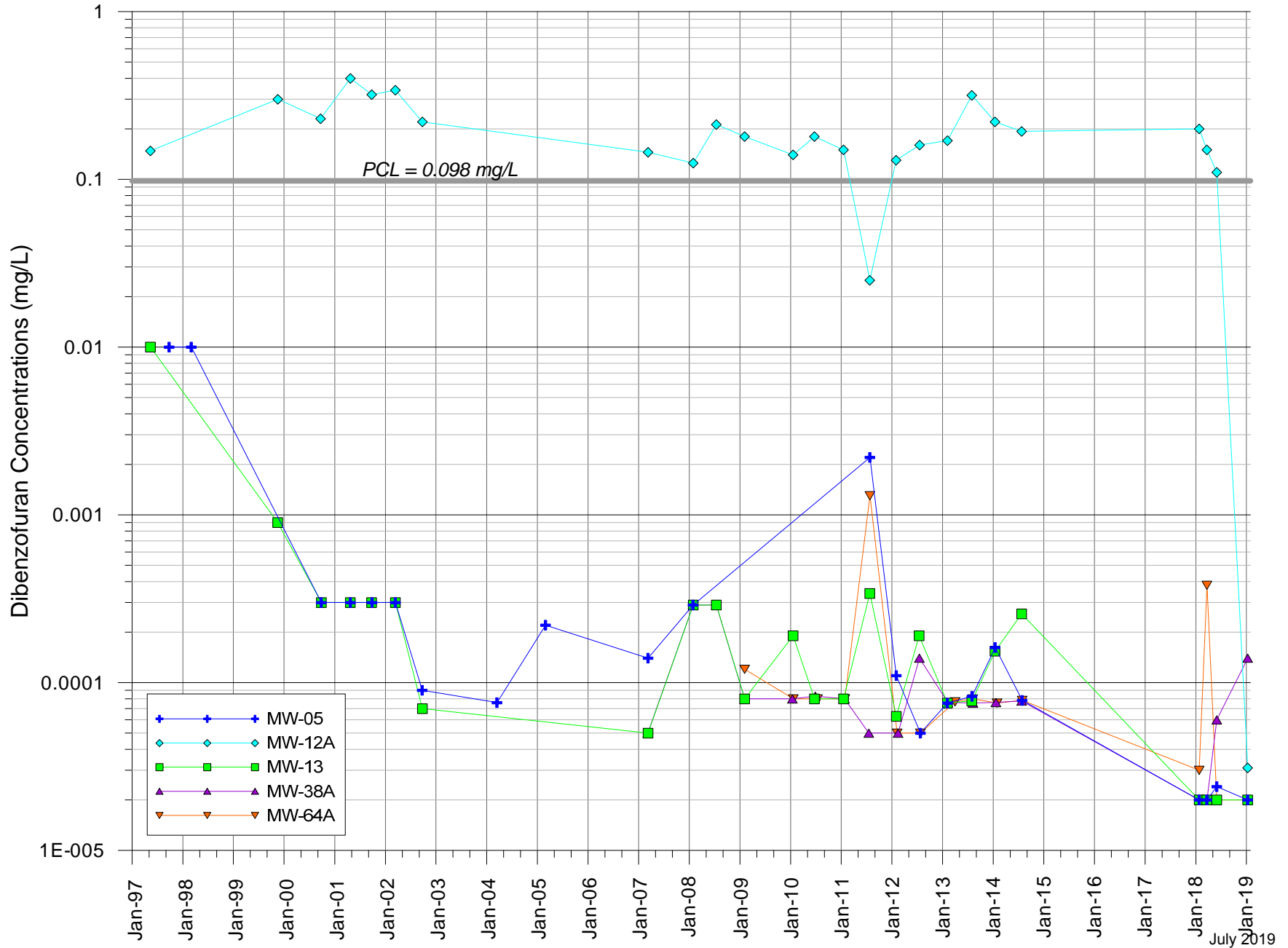
ATTACHMENT 1B-12
2,4-Dimethylphenol Concentrations at West End Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



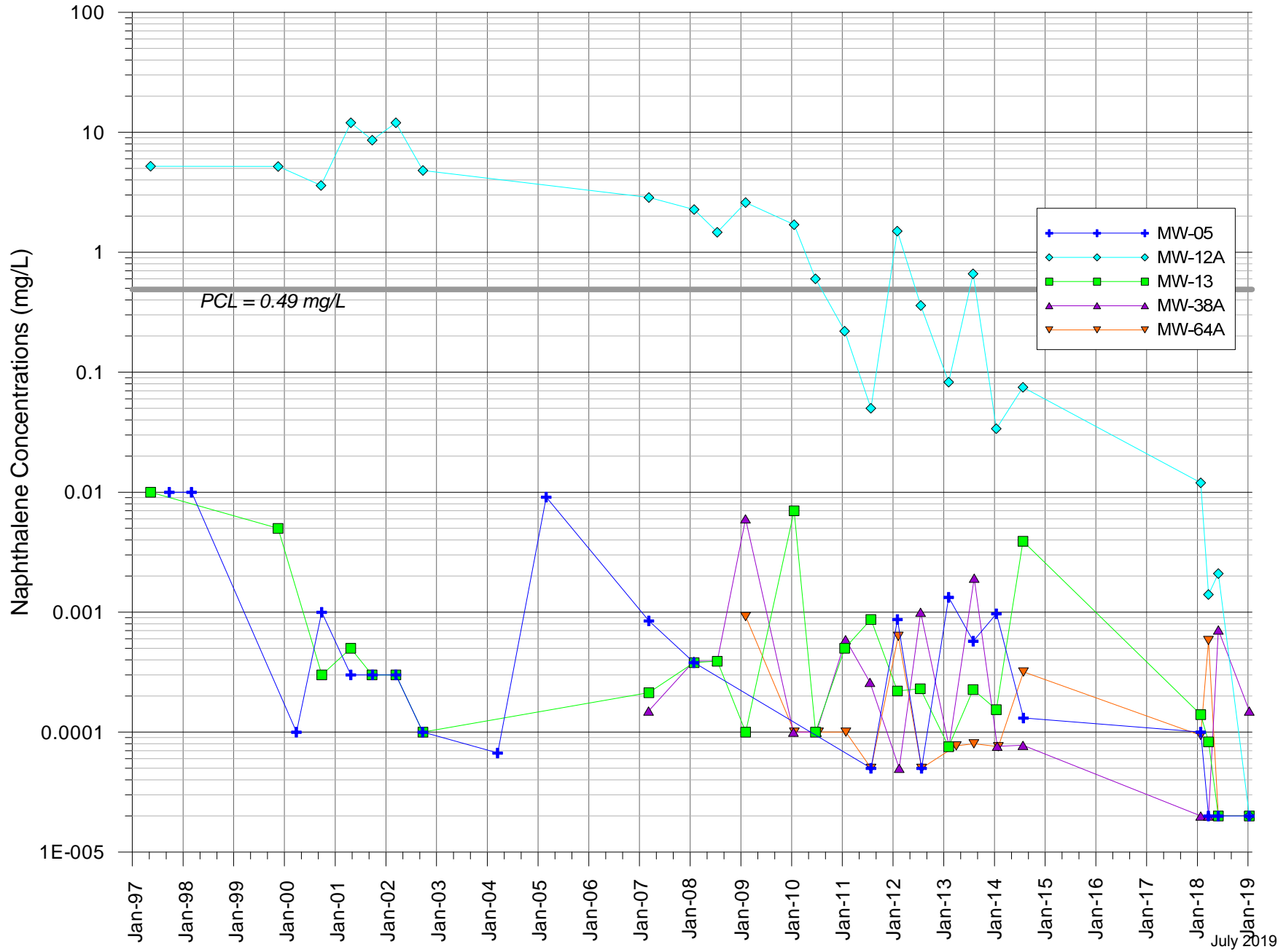
ATTACHMENT 1B-13
2-Methylnaphthalene Concentrations at West End Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



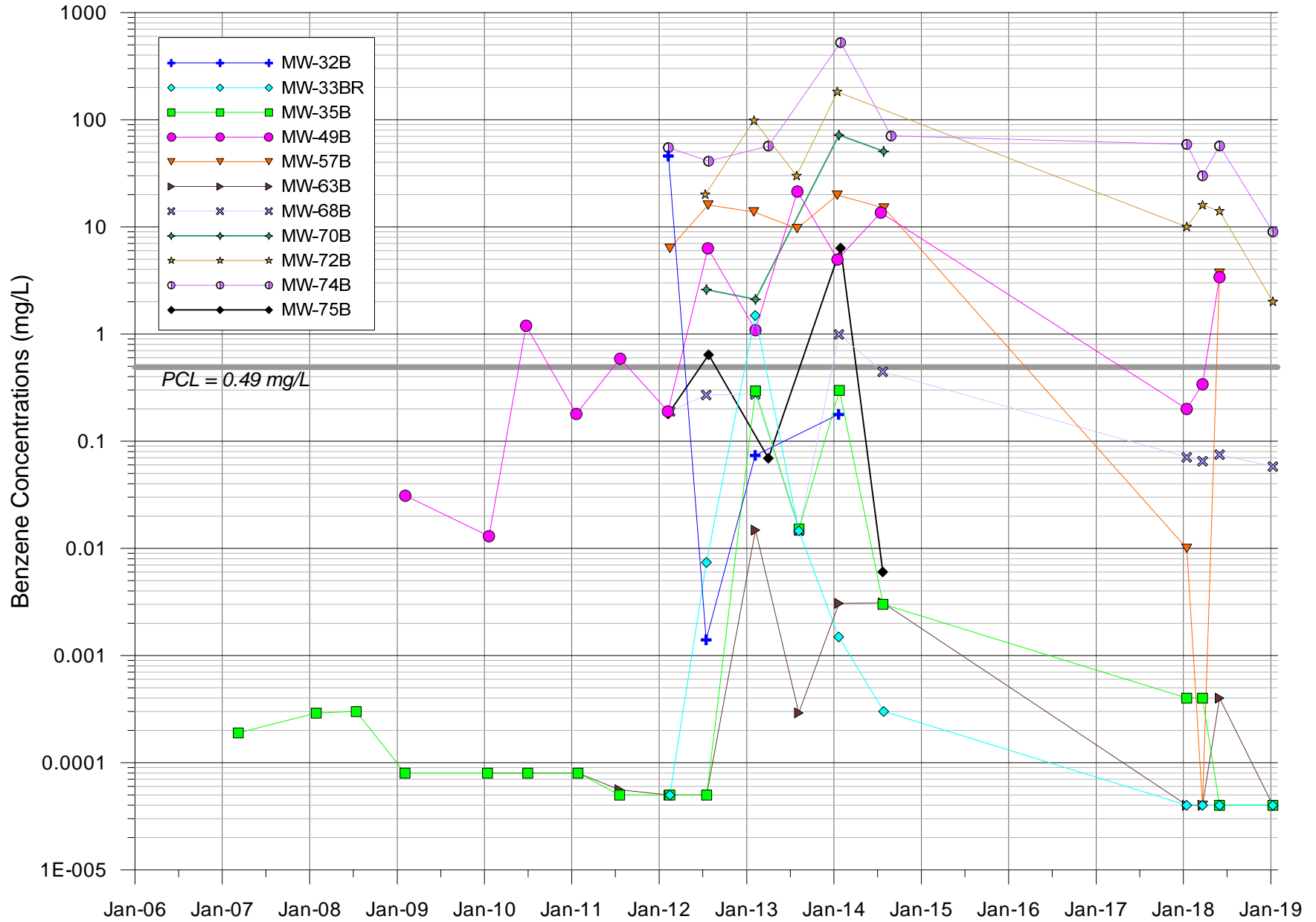
ATTACHMENT 1B-14
Dibenzofuran Concentrations at West End Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



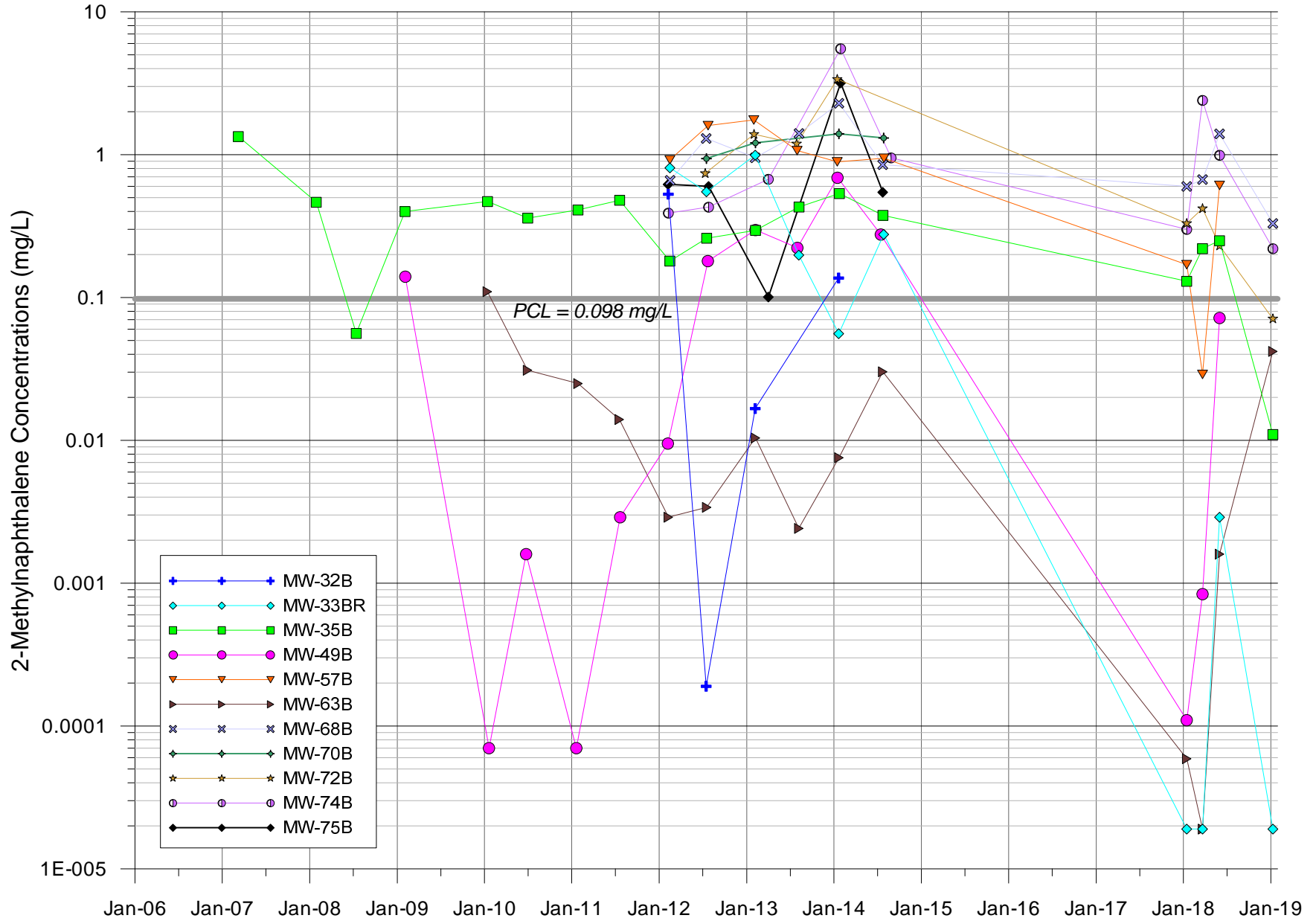
ATTACHMENT 1B-15
Naphthalene Concentrations at West End Area Wells - A-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



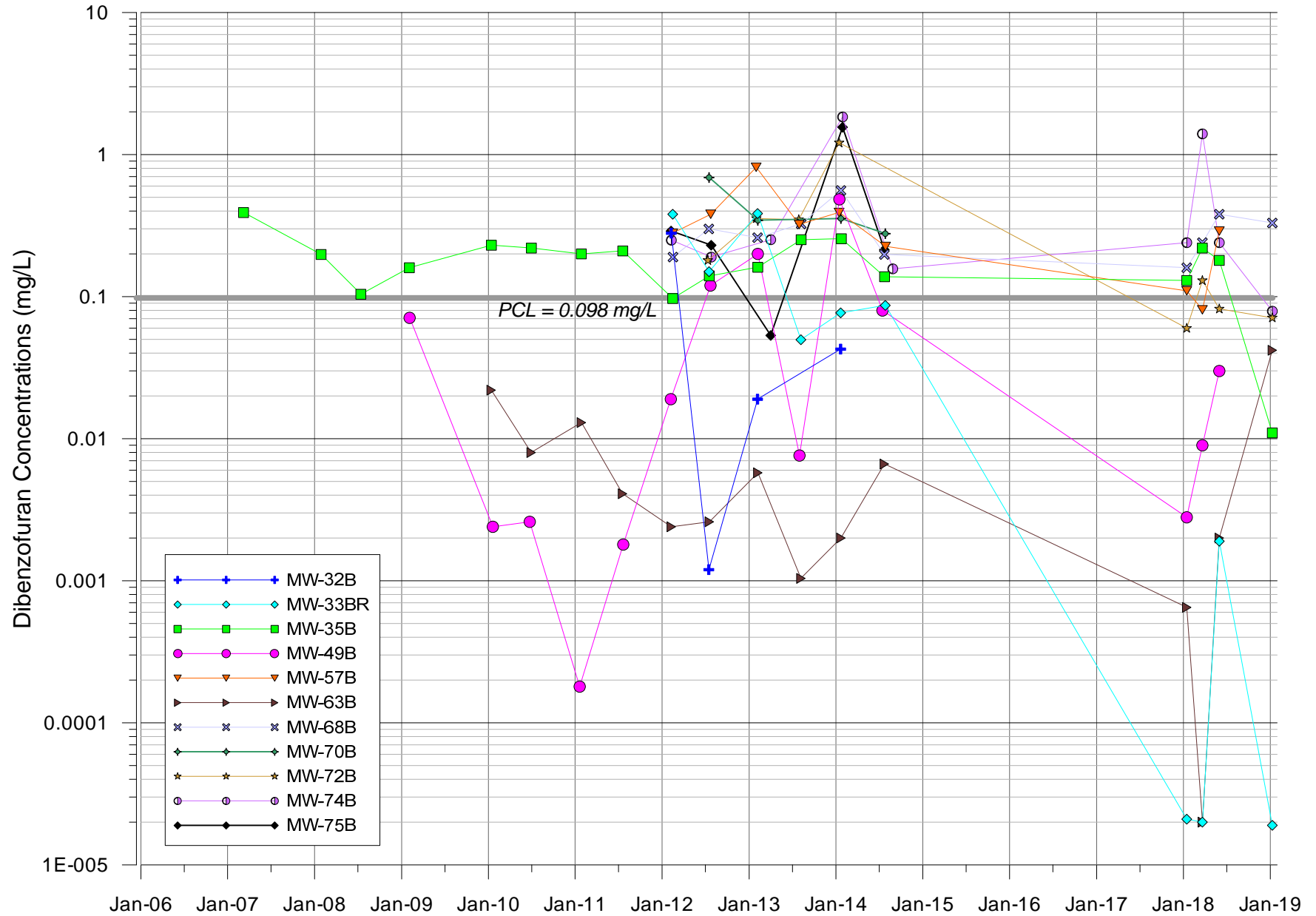
ATTACHMENT 1B-17
2,4-Dimethylphenol Concentrations at Source Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



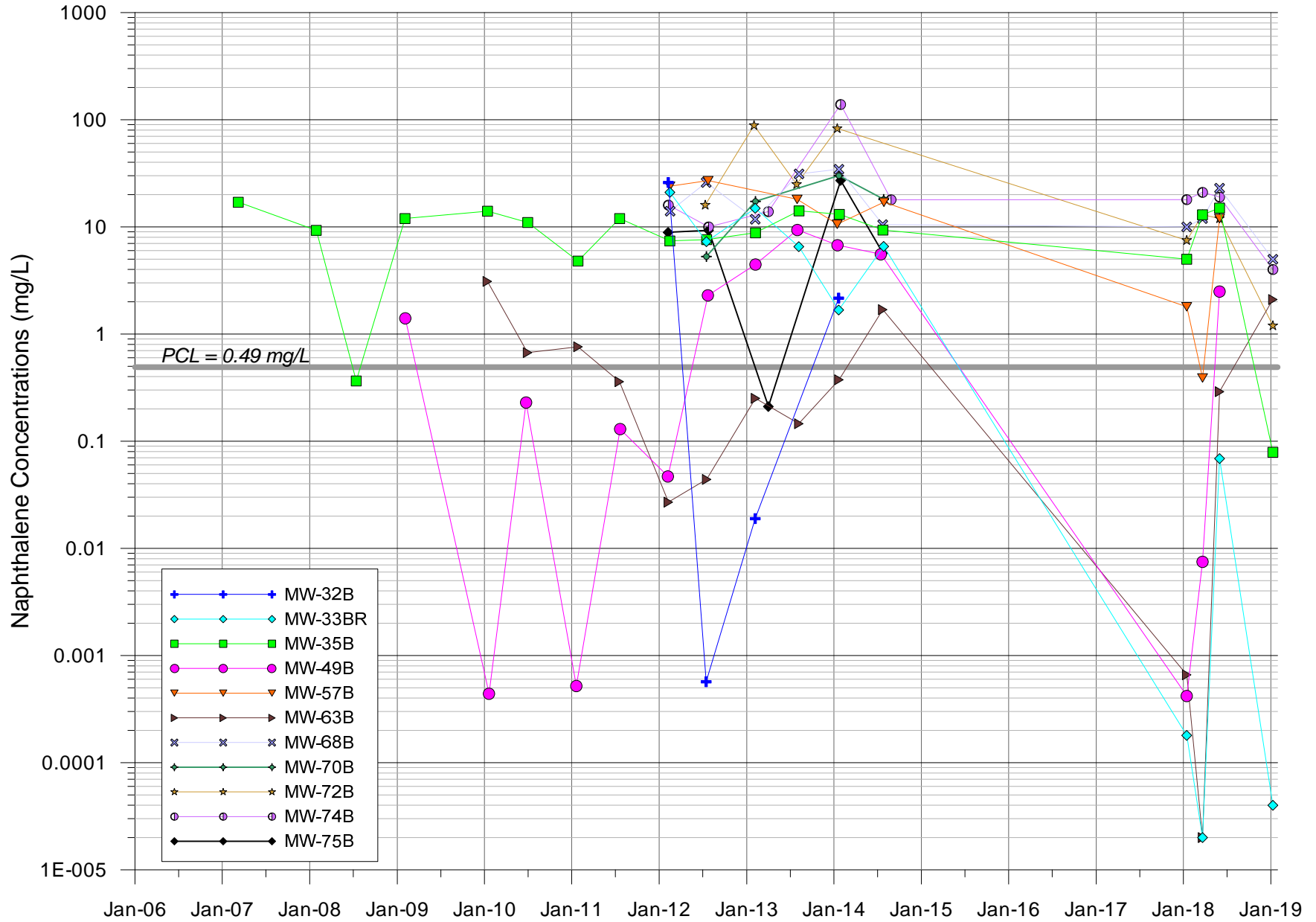
ATTACHMENT 1B-18
2-Methylnaphthalene Concentrations at Source Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



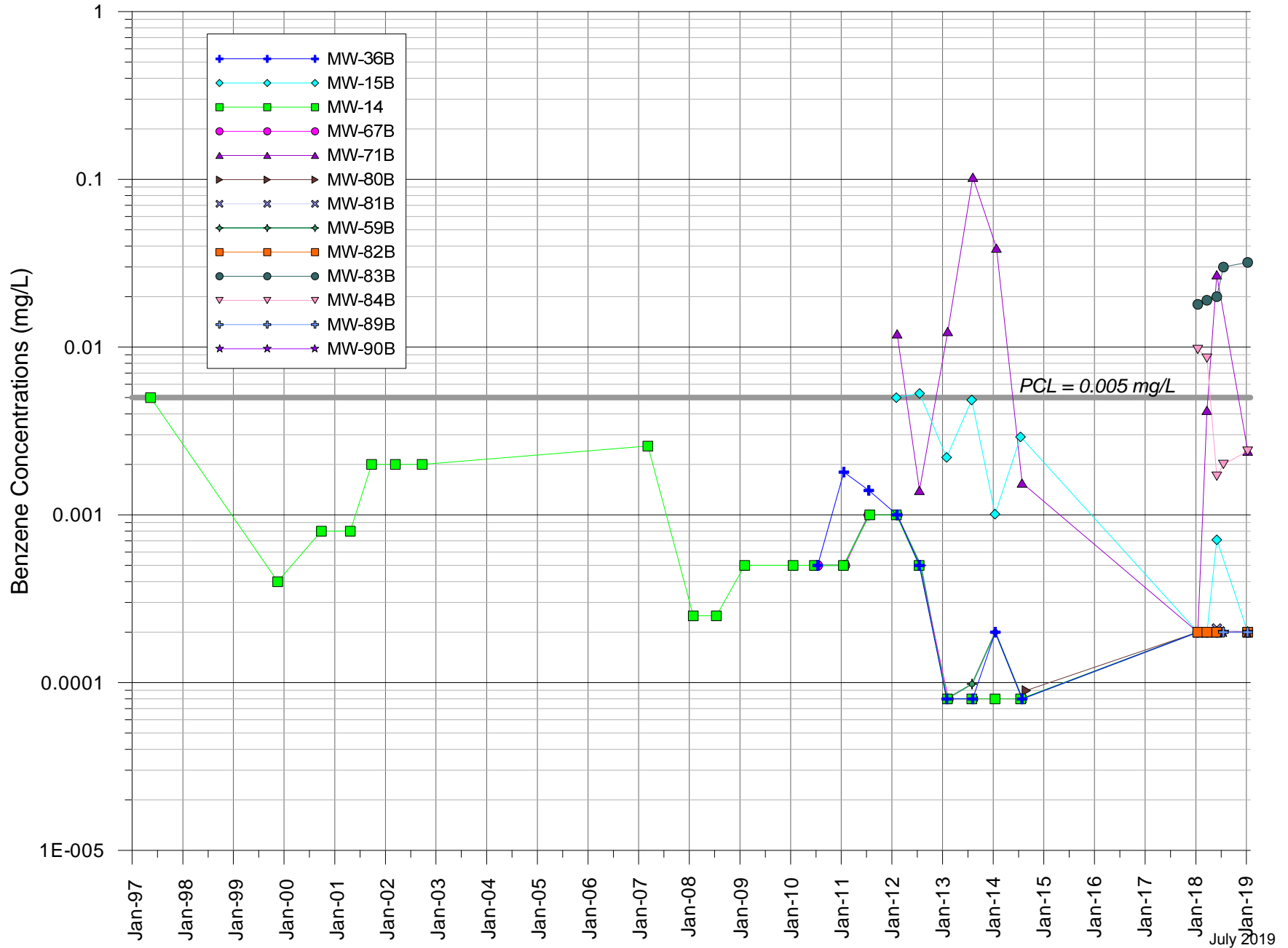
ATTACHMENT 1B-19
Dibenzofuran Concentrations at Source Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



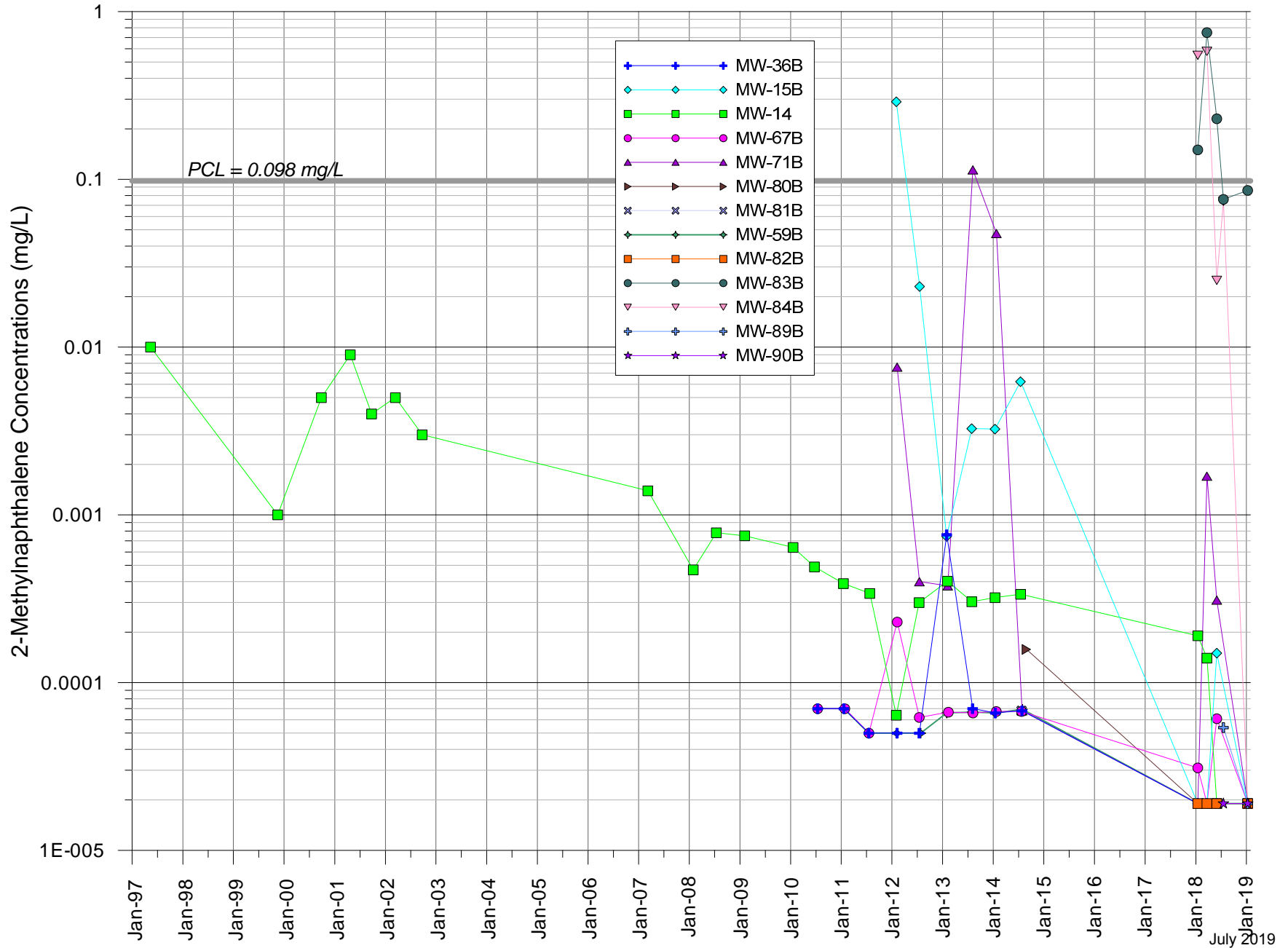
ATTACHMENT 1B-20
Naphthalene Concentrations at Source Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



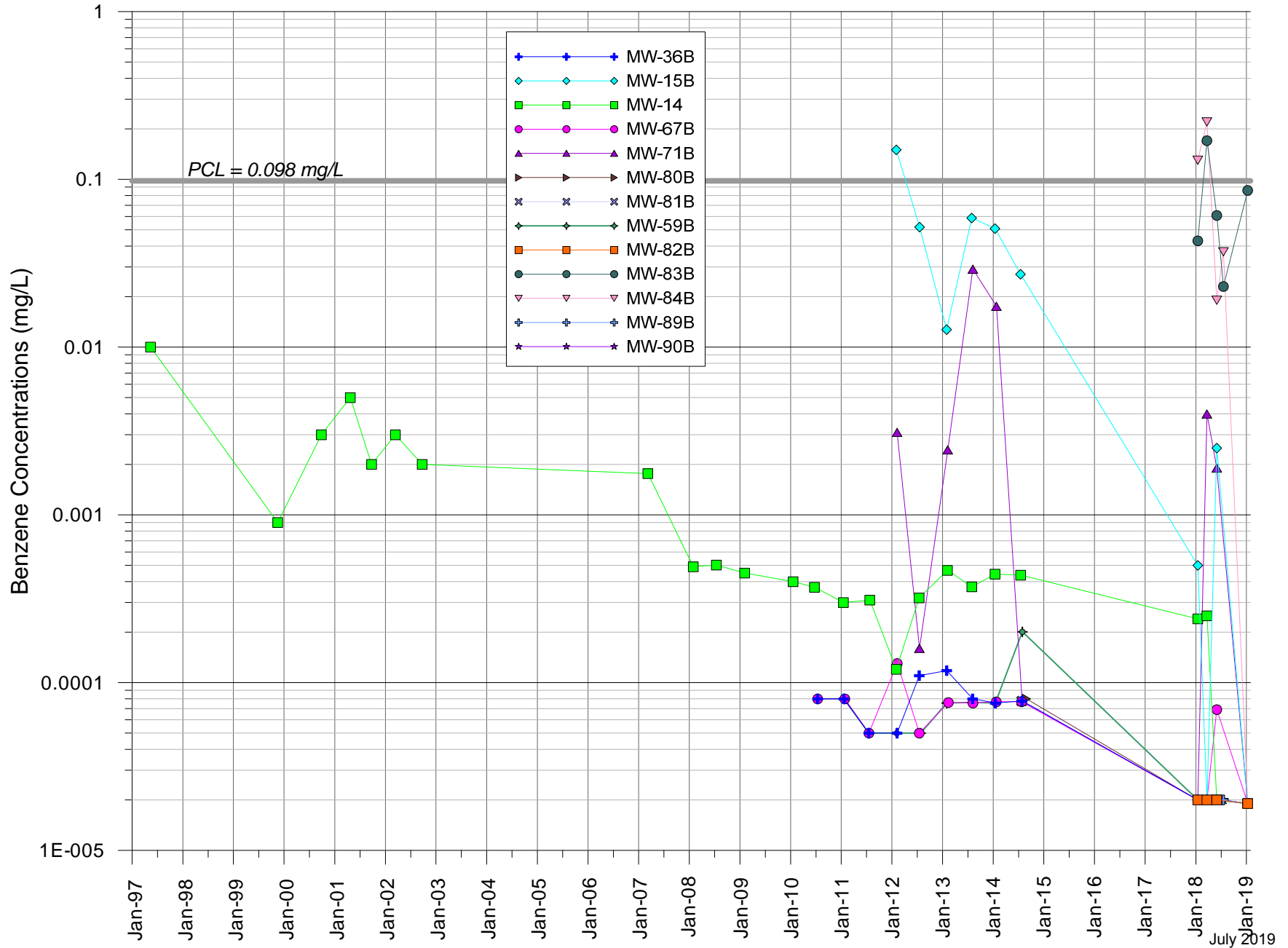
ATTACHMENT 1B-21
Benzene Concentrations at Perimeter Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



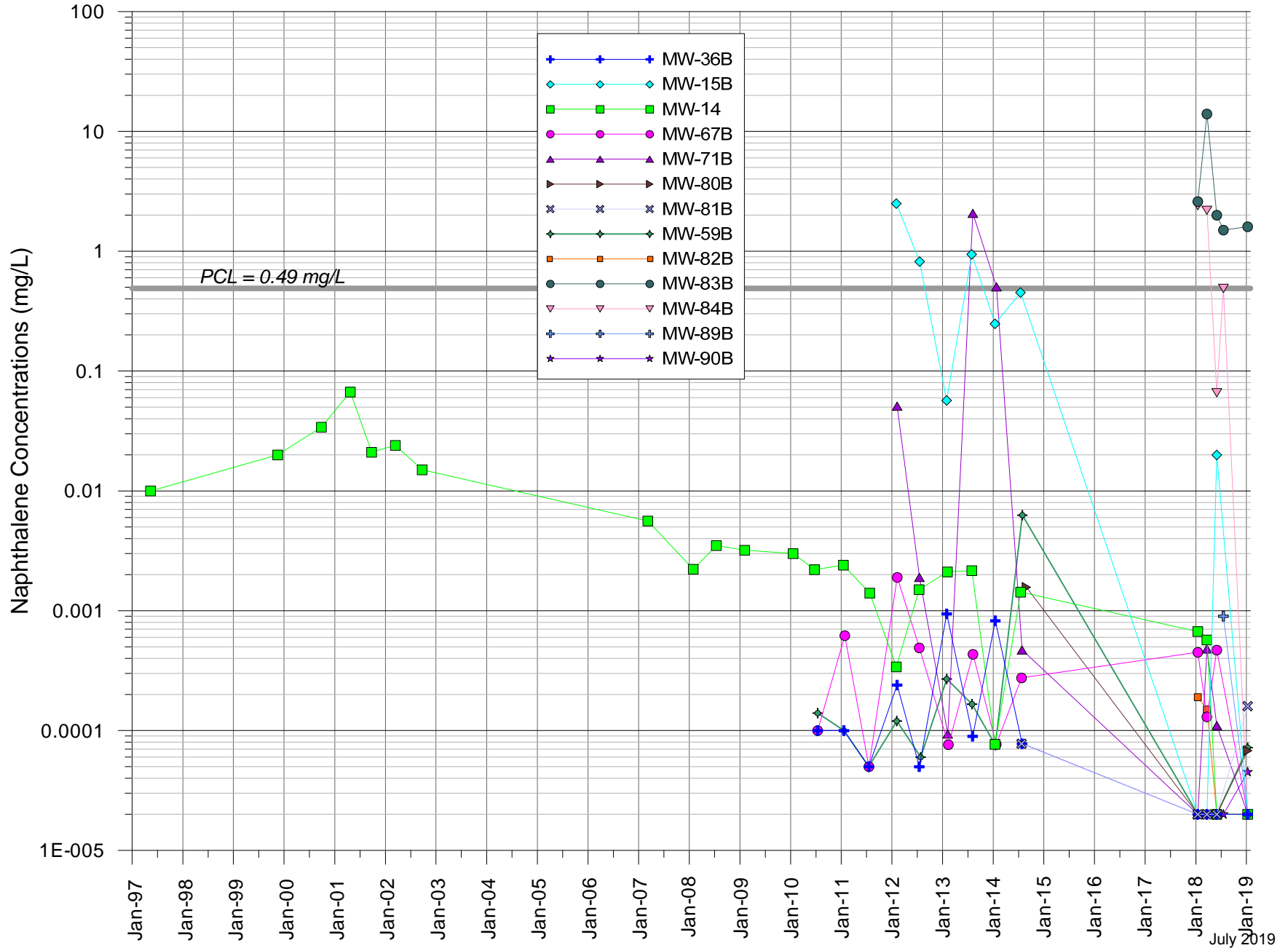
ATTACHMENT 1B-23
2-Methylnaphthalene Concentrations at Perimeter Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



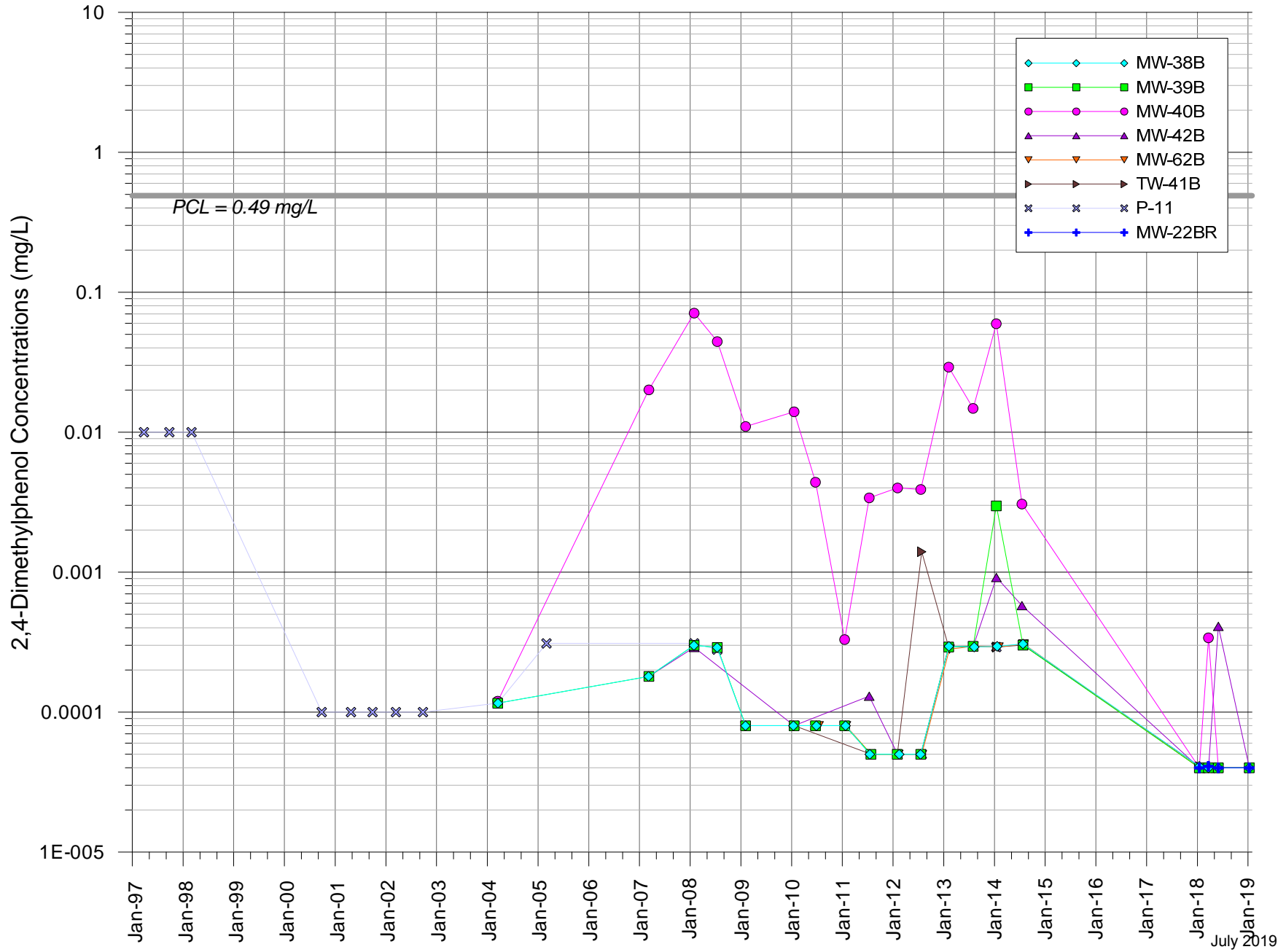
ATTACHMENT 1B-24
Dibenzofuran Concentrations at Perimeter Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



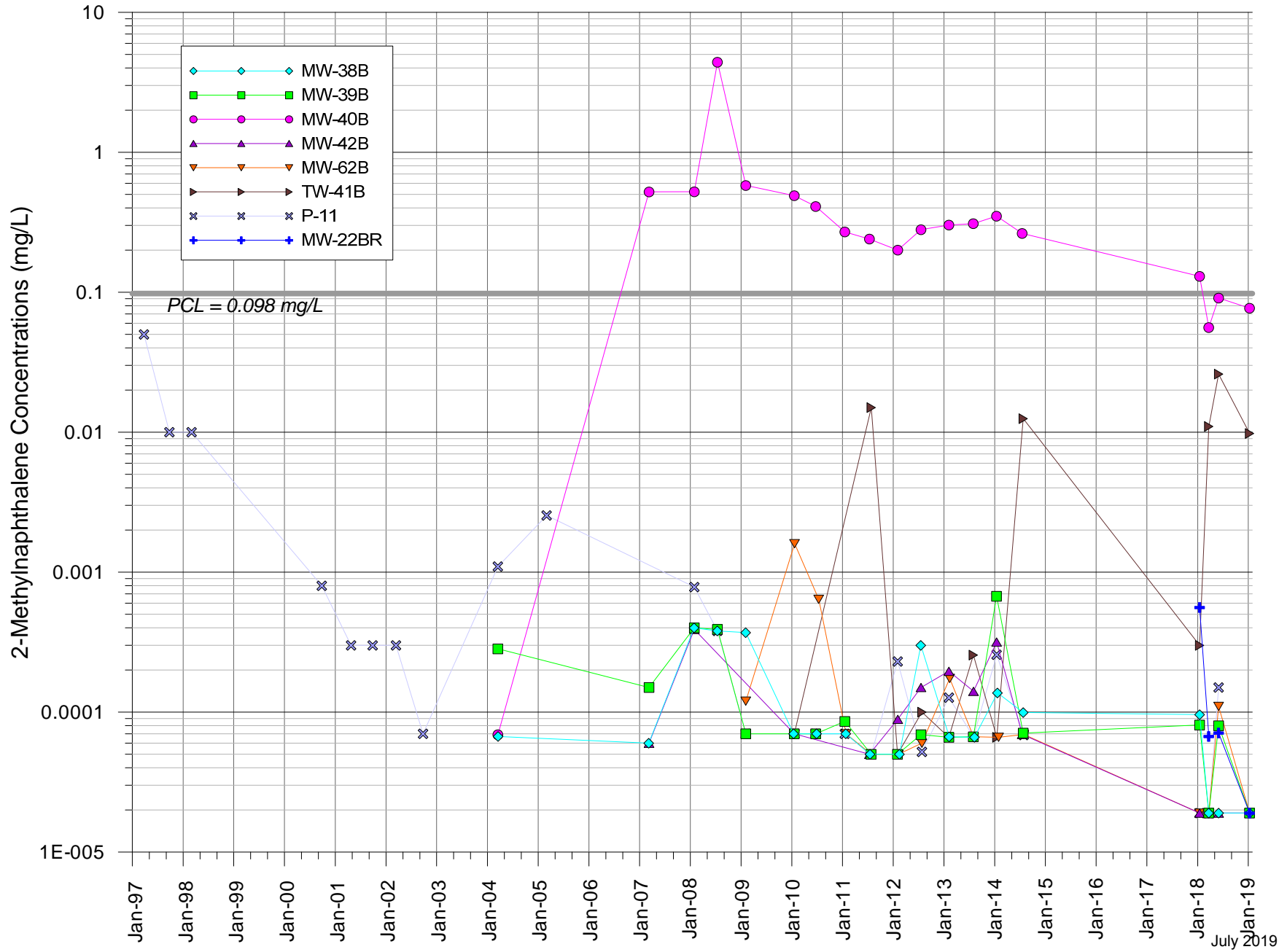
ATTACHMENT 1B-25
Naphthalene Concentrations at Perimeter Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



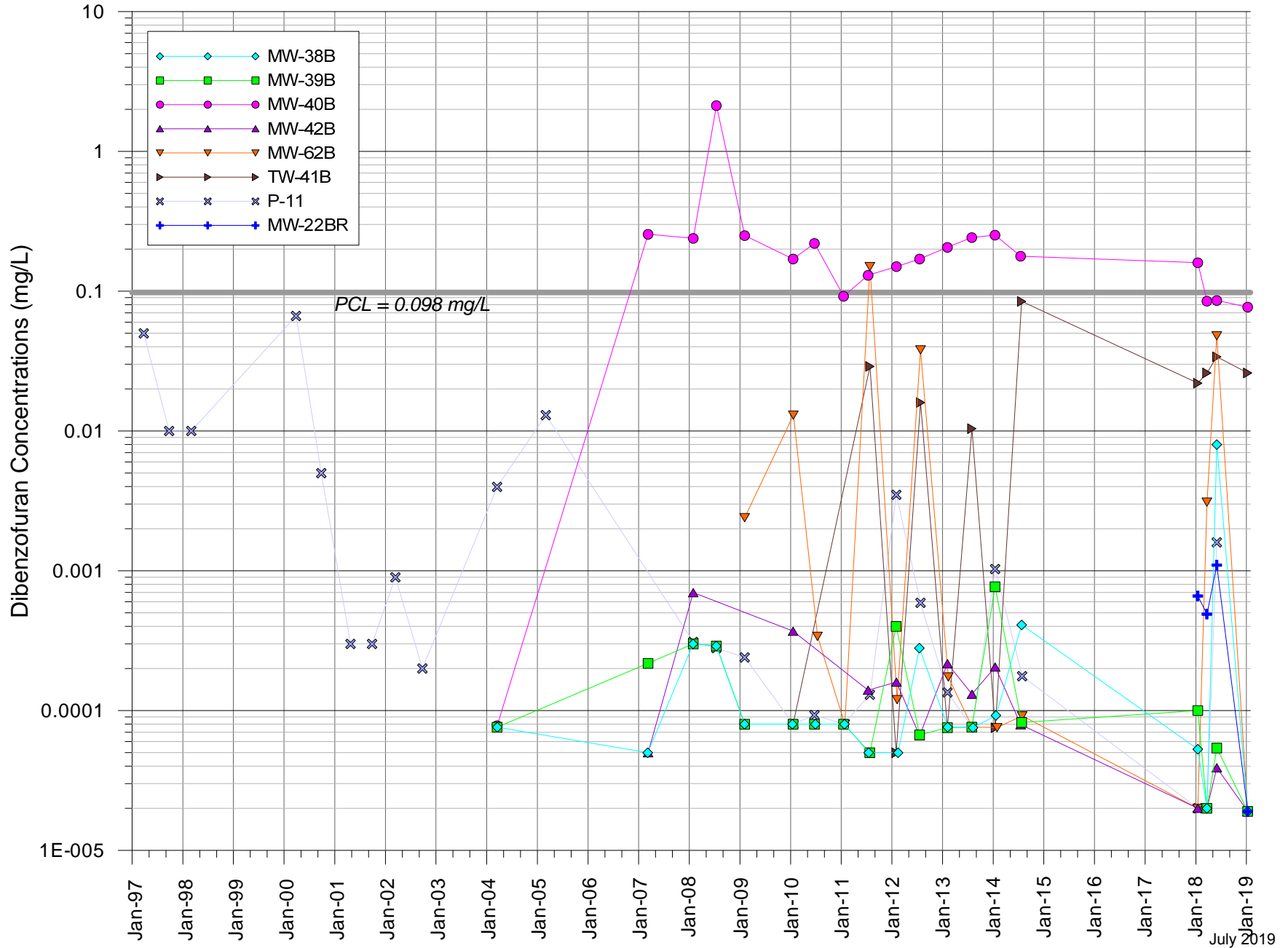
ATTACHMENT 1B-27
2,4-Dimethylphenol Concentrations at West End Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



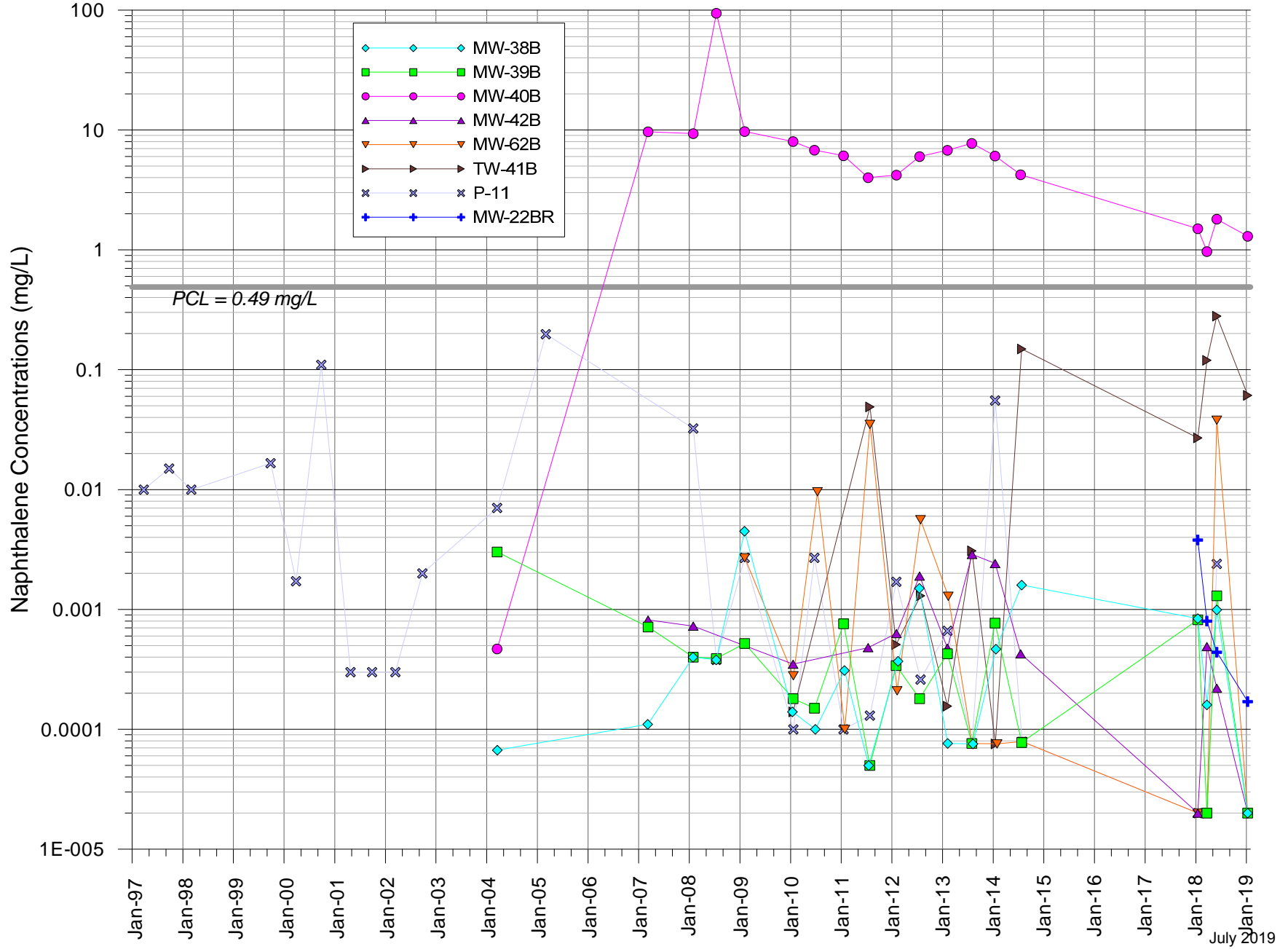
ATTACHMENT 1B-28
2-Methylnaphthalene Concentrations at West End Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



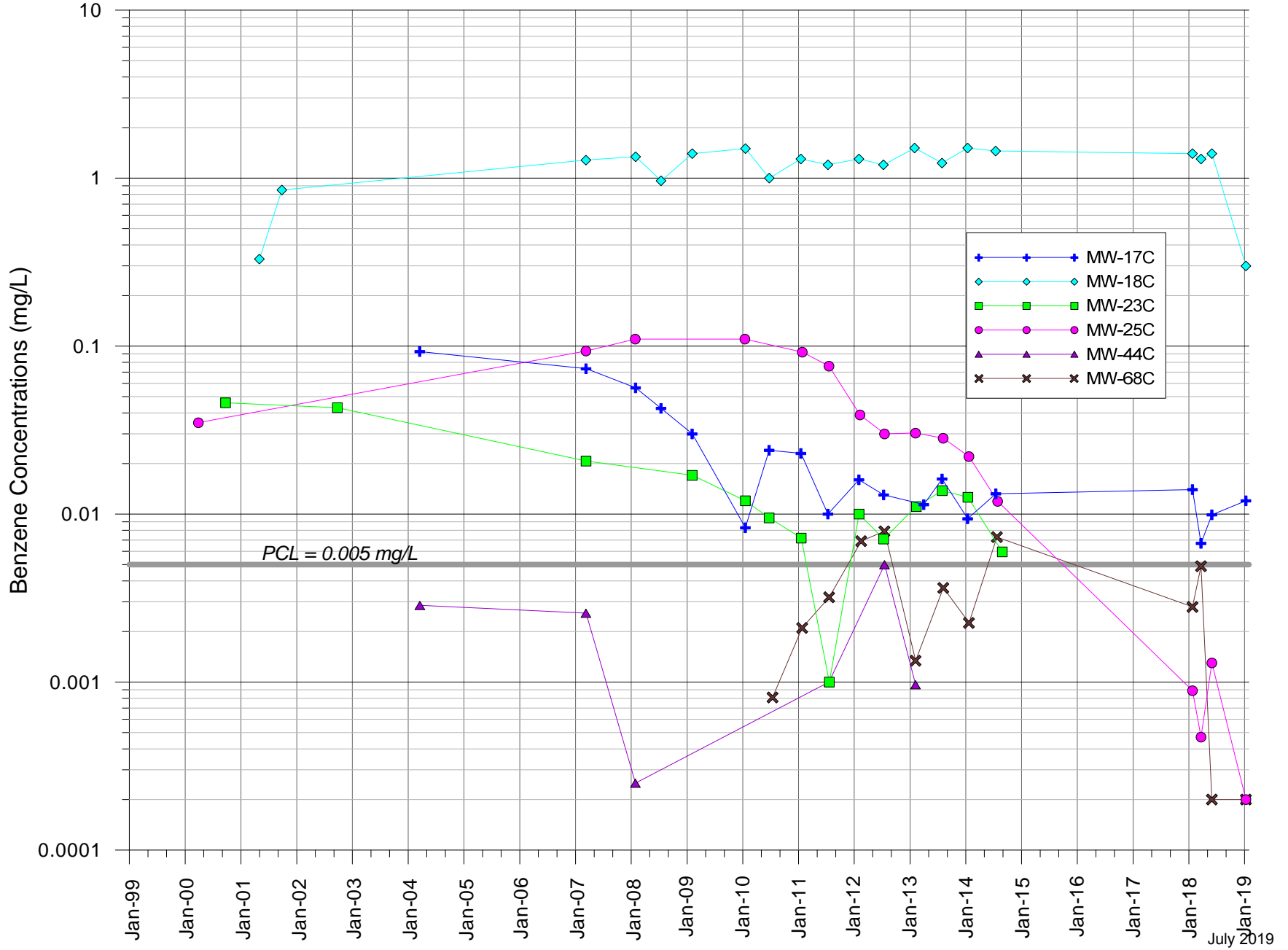
ATTACHMENT 1B-29
Dibenzofuran Concentrations at West End Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



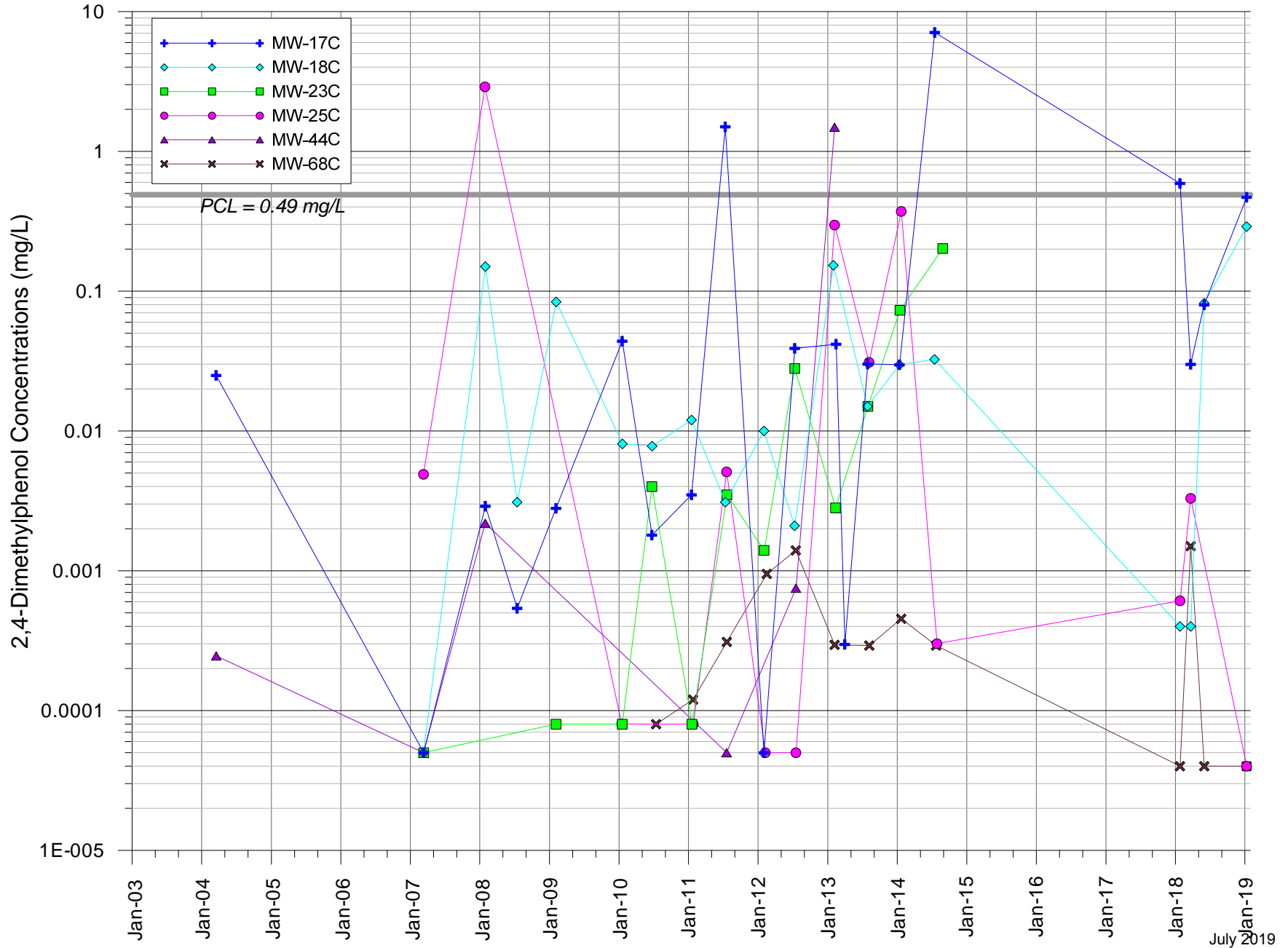
ATTACHMENT 1B-30
Naphthalene Concentrations at West End Area Wells - B-CZ/B-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



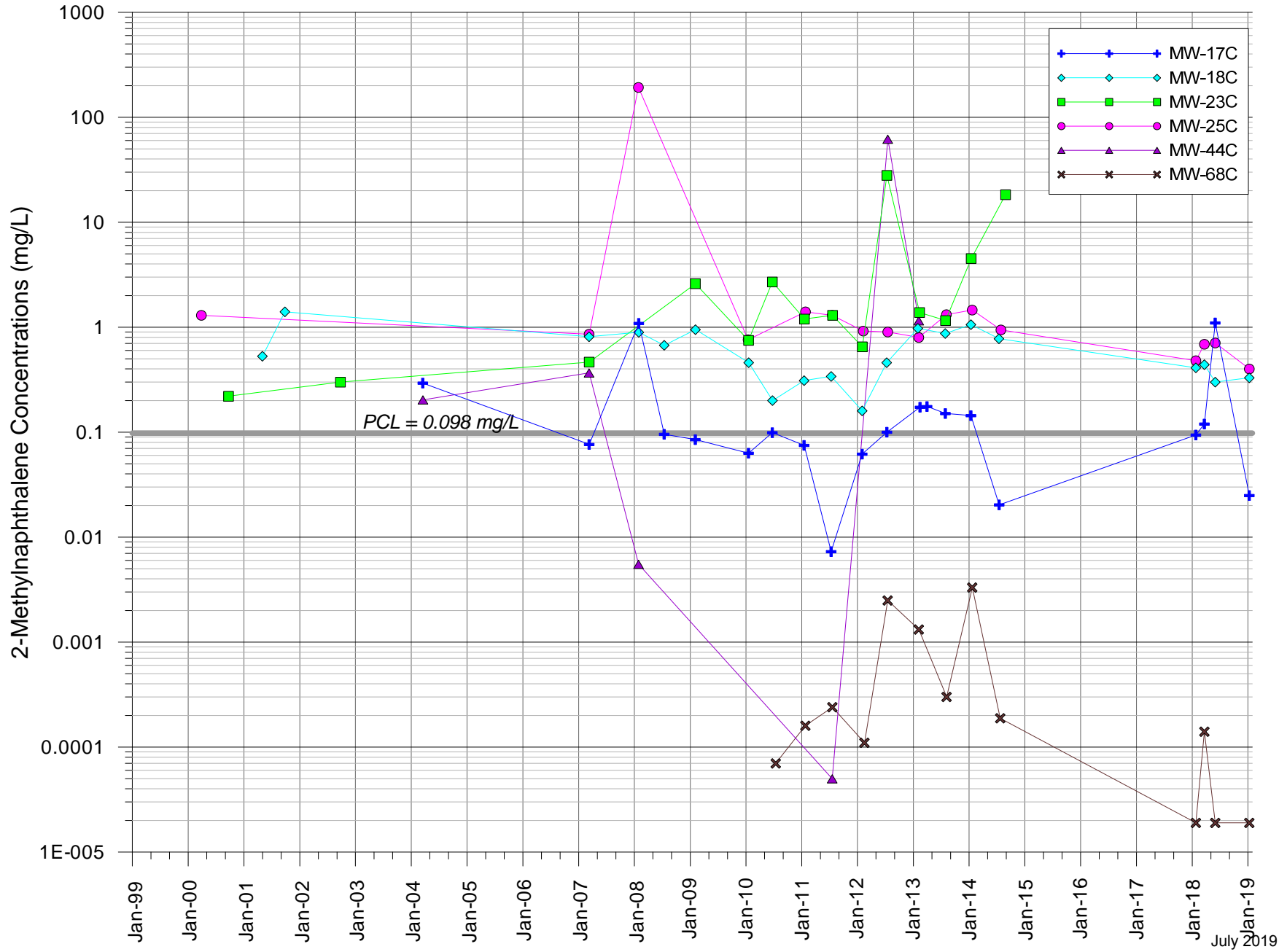
ATTACHMENT 1B-31
Benzene Concentrations at Source Area Wells - C-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



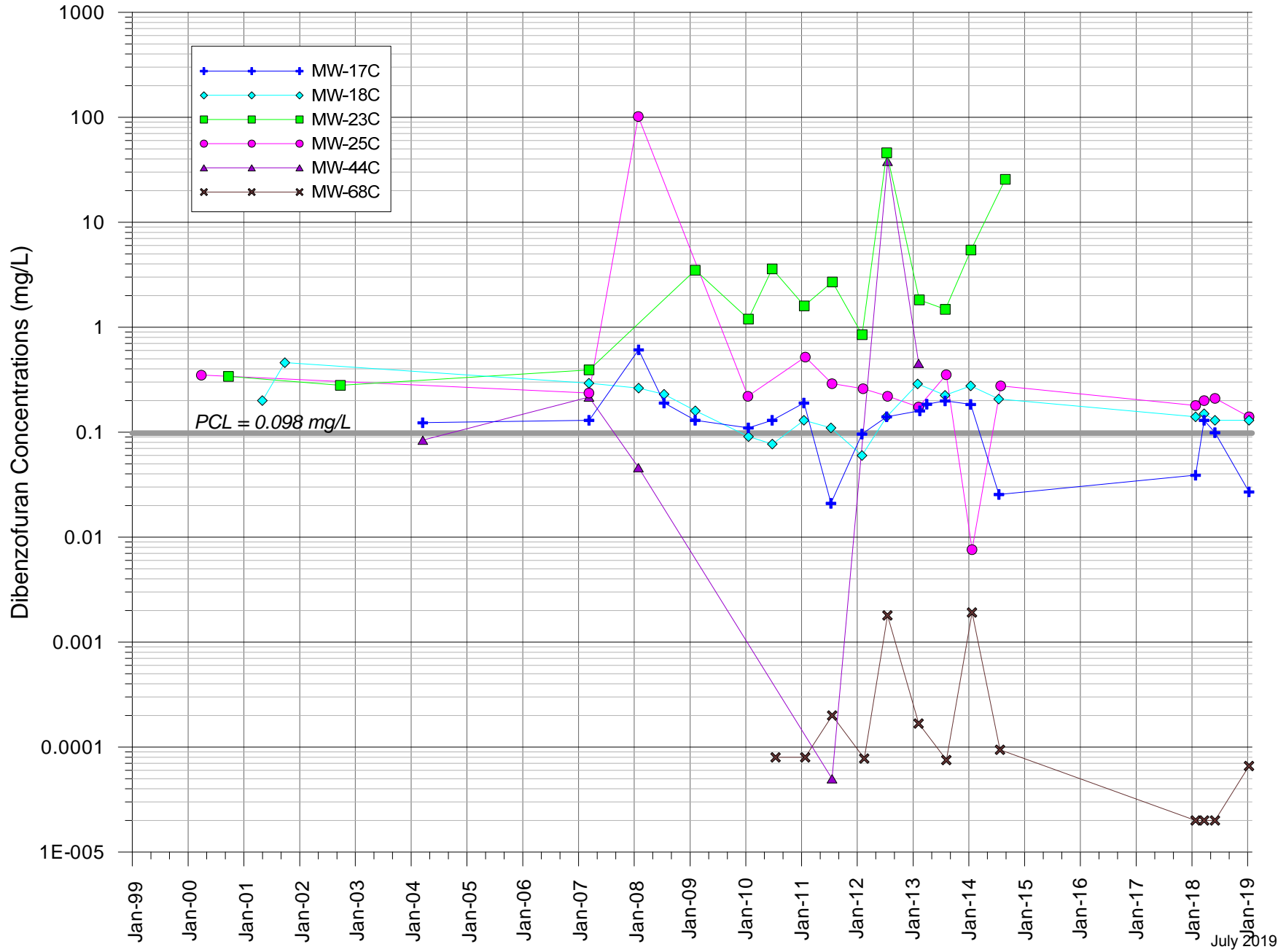
ATTACHMENT 1B-32
2,4-Dimethylphenol Concentrations at Source Area Wells - C-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



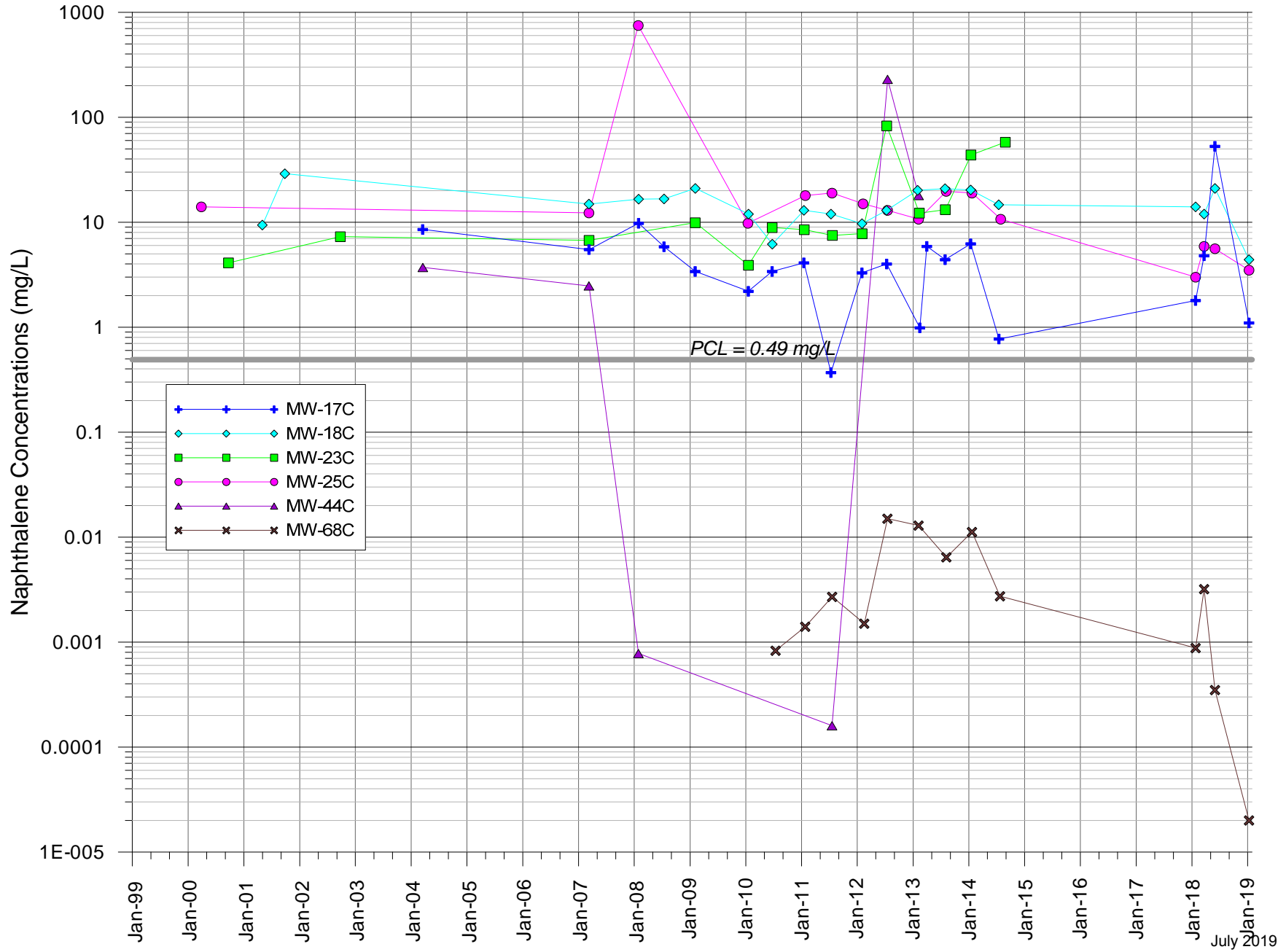
ATTACHMENT 1B-33
2-Methylnaphthalene Concentrations at Source Area Wells - C-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



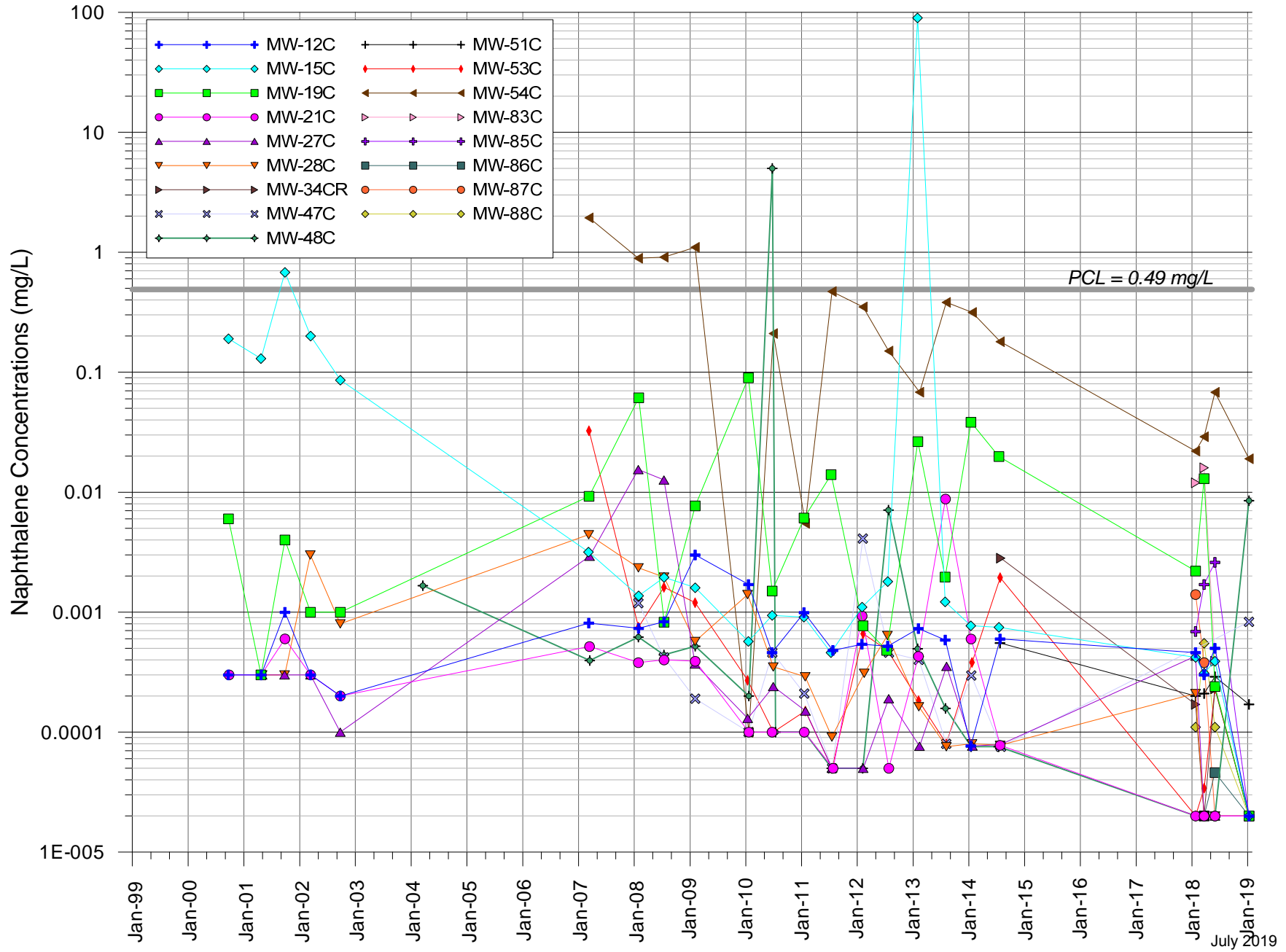
ATTACHMENT 1B-34
Dibenzofuran Concentrations at Source Area Wells - C-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



ATTACHMENT 1B-35
Naphthalene Concentrations at Source Area Wells - C-TZ
UPRR Houston Wood Preserving Works, Houston, Texas

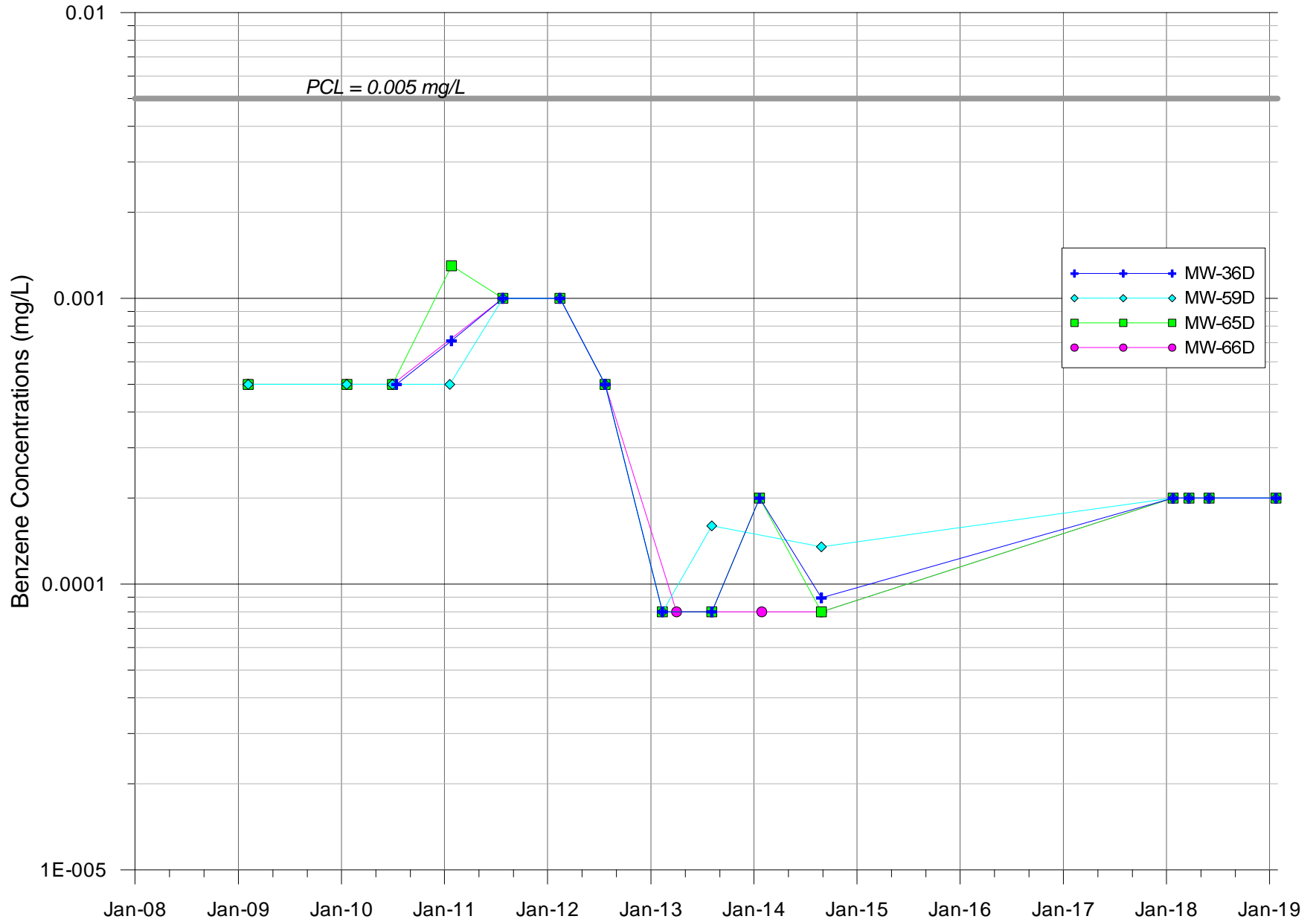


ATTACHMENT 1B-40
Naphthalene Concentrations at Perimeter Wells - C-TZ
UPRR Houston Wood Preserving Works, Houston, Texas

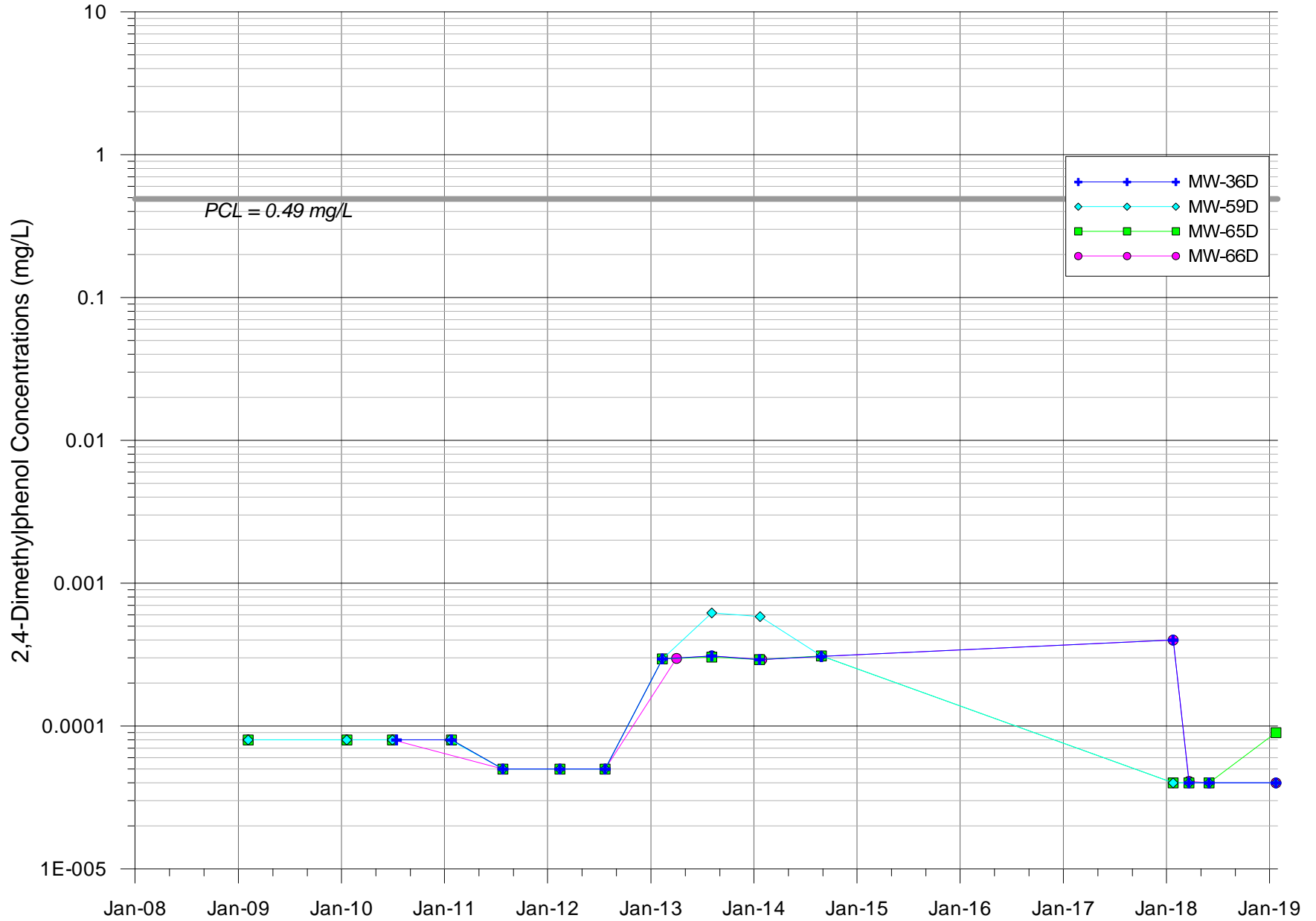


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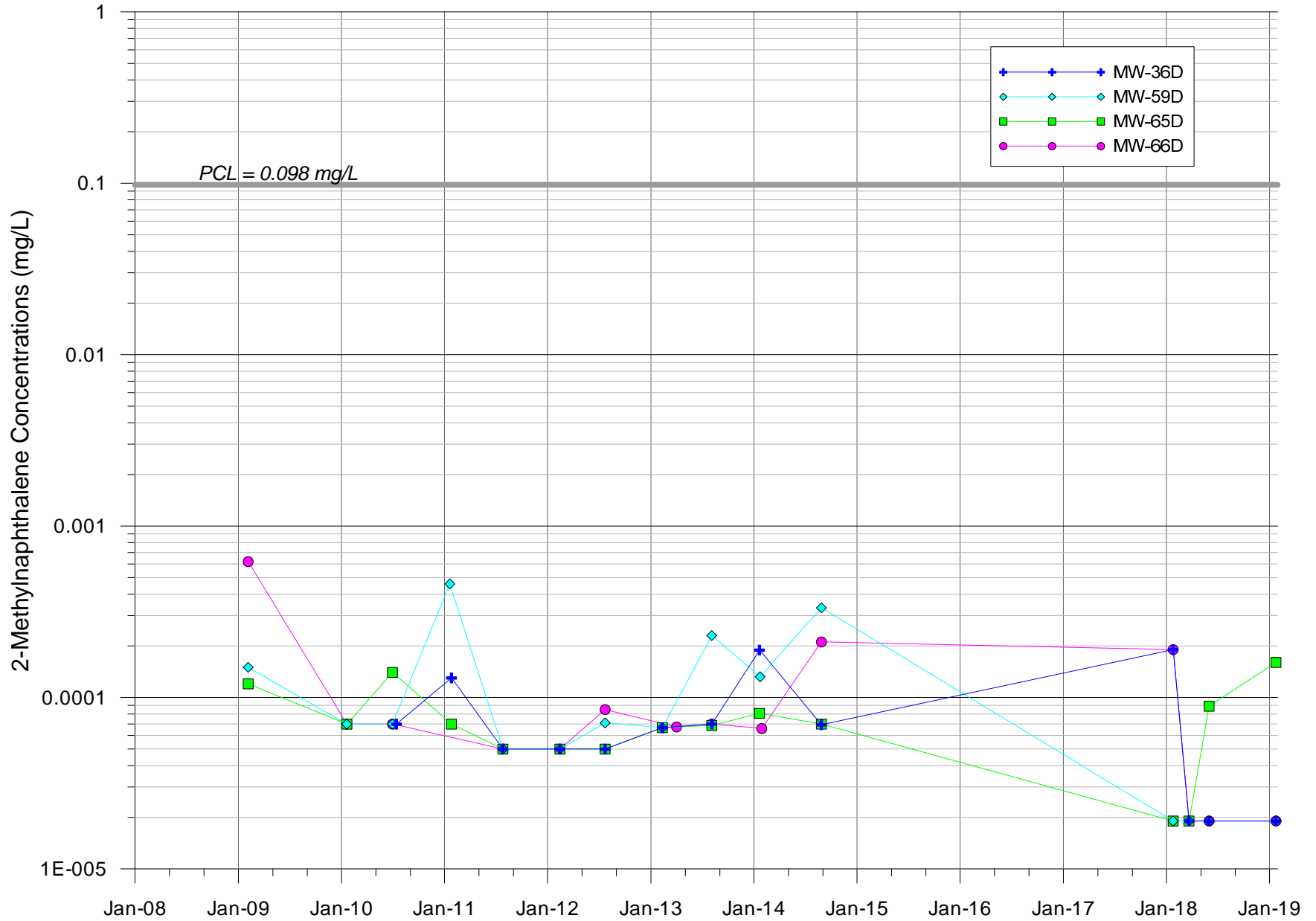
ATTACHMENT 1B-41
Benzene Concentrations at Source Area Wells - D-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



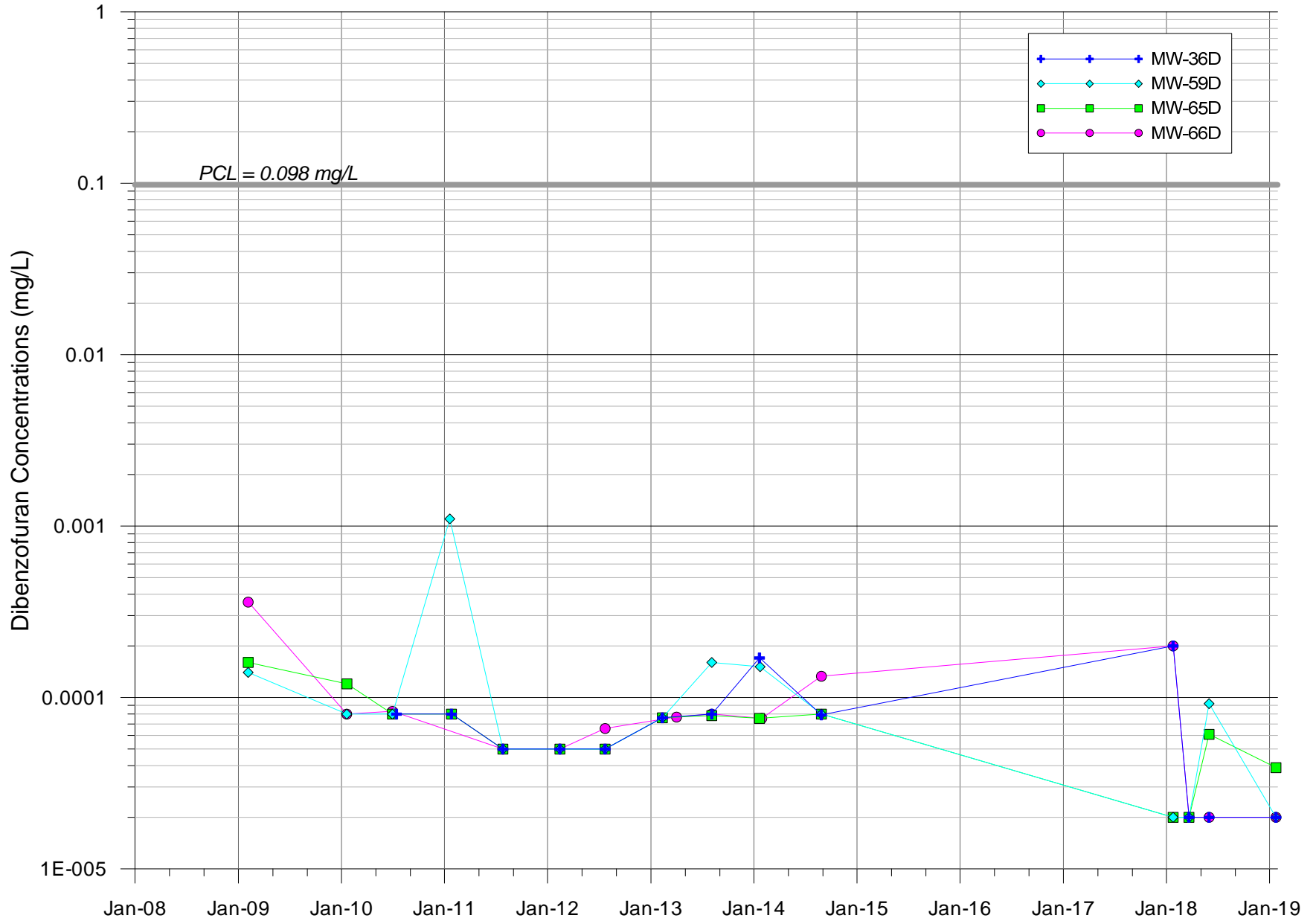
ATTACHMENT 1B-42
2,4-Dimethylphenol Concentrations at Source Area Wells - D-TZ
UPRR Houston Wood Preserving Works, Houston, Texas



ATTACHMENT 1B-43
2-Methylnaphthalene 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

