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July 14, 2014
PBW Project No. 1358

Ms. Merrie Smith
MC-127
Environmental Cleanup Section I, Team 3, Remediation Division
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Subject: Correction Action Monitoring Report: 2014 First Semi-Annual Event
Houston Wood Preserving Works, Houston, Texas
TCEQ SWR No. 31547; Hazardous Solid Waste Permit No. 50343

Dear Ms. Smith:

Pastor, Behling & Wheeler, LLC (PBW), on behalf of Union Pacific Railroad Company (UPRR), is pleased to provide two copies of the Corrective Action Monitoring Report: 2014 First Semi-Annual Event for your review. The report was prepared in accordance with Section VII.C.2 of Compliance Plan No. CP-50343, which was issued in conjunction with Post-Closure Care Permit No. HW-50343, both dated June 10, 2005.

If you have any questions or need additional information, please feel free to call me at (512) 671-3434 or Mr. Geoffrey Reeder of UPRR at (281) 350-7197.

Sincerely,

PASTOR, BEHLING & WHEELER, LLC

Eric C. Matzner, P.G.
Associate Hydrogeologist

cc: Waste Program Manager, TCEQ Region 12, Houston
Mr. Geoffrey Reeder, P.G., UPRR – Spring, TX

HAND DELIVERED

CORRECTIVE ACTION MONITORING REPORT
2014 FIRST SEMIANNUAL EVENT

FORMER HOUSTON WOOD PRESERVING WORKS
4910 LIBERTY ROAD
HOUSTON, TEXAS

June 30, 2014

Prepared for:

Mr. Geoffrey Reeder, P.G.
UNION PACIFIC RAILROAD COMPANY

24125 Aldine Westfield Road
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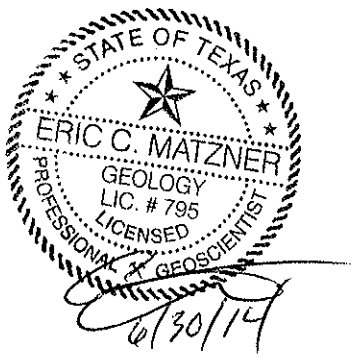

CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

7/10/2014
Date

JOEL STRAFELDA
GENERAL MANAGER
ENVIRONMENTAL MANAGEMENT
Name

Title

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1.0 EXECUTIVE SUMMARY

This semi-annual report presents a summary and evaluation of the Corrective Action Groundwater Monitoring for January through June 2014 for the Closed Surface Impoundment (Solid Waste Management Unit (SWMU) No. 1) at the former Wood Preserving Works facility (the Site) located in Houston, Texas. The groundwater monitoring activities for this period were performed by Pastor, Behling & Wheeler, LLC (PBW) on behalf of Union Pacific Railroad (UPRR) in January 2014.

The two uppermost groundwater bearing units, the A-Transmissive Zone (A-TZ) and the B-Transmissive Zone (B-TZ), were monitored during this period. Groundwater elevation data collected during the January 2014 sampling event show groundwater flow in the A-TZ to the west-southwest with a hydraulic gradient of approximately 0.0012 ft/ft. Groundwater flow during the previous event (2013 second semi-annual monitoring event) was observed to have an inward gradient towards MW-10A.

Groundwater elevation data collected in the B-TZ show groundwater flow to the west-northwest at SWMU No. 1 with a hydraulic gradient of approximately 0.0035 ft/ft. Groundwater flow during the previous event (2013 second semi-annual monitoring event) was observed to have a southwestwardly hydraulic gradient.

Analytical results from the January 2014 sampling event were compared to Texas Commission on Environmental Quality Texas Risk Reduction Program Protective Concentration Limits, as designated in Section IV.D of the Compliance Plan, dated June 10, 2005. Constituent concentrations were below their respective PCLs for the sixteenth consecutive semi-annual monitoring event. Monitoring wells in both the A-TZ and B-TZ are considered to be compliant for this monitoring period.

2.0 INTRODUCTION

This semi-annual report presents a summary and evaluation of groundwater monitoring data collected during the 2014 first semi-annual monitoring period (January through June) at the Union Pacific Railroad (UPRR) former Houston Wood Preserving Works facility (the Site) located at 4910 Liberty Road in Houston, Texas (Figure 1). Semi-annual groundwater monitoring is required for the Site as a condition of the Texas Commission on Environmental Quality (TCEQ) Hazardous Waste Permit No. 50343 and associated Compliance Plan (CP) No. 50343, both renewed and issued on June 10, 2005. Groundwater monitoring at the Site is performed to monitor groundwater quality beneath the Closed Surface Impoundment Unit No. 001 (Solid Waste Management Unit (SWMU) No. 1).

On behalf of UPRR, Pastor, Behling & Wheeler, LLC (PBW) conducted groundwater monitoring activities at the Site on January 8-9, 2014. Groundwater monitoring activities included sampling and gauging the background and point of compliance (POC) wells and piezometers associated with SWMU No. 1. The sampling event, analytical data, and data evaluation provided in this report fulfill the semi-annual corrective action reporting requirements for the first half of 2014 as described in the CP, Section VII.C.2. This section requires the following reporting elements:

Semi-Annual Corrective Action Report Requirements	**Report Section, Table(s) and/or Figure(s)**
A narrative summary of the evaluations made in accordance with CP Sections V, VI, and VII for the preceding six-month period. These periods shall be January 1 through June 30 and July 1 through December 31 (VII.C.2.a.)	3.0
Summary of Methods utilized for management of recovered/purged water (VII.C.2.b.)	3.2
An updated table and map of the monitoring and corrective action system wells (VII.C.2.c.)	Section 3.1.1 and Figure 2
The results of the chemical analyses, submitted in a tabulated format in a form acceptable to the Executive Director, which clearly indicates each parameter that exceeds the Groundwater Protection Standard (GWPS). Copies of the original laboratory report for chemical analyses showing detection limits and quality control and quality assurance data shall be provided if requested by the Executive Director (VII.C.2.d.)	Tables 1 & 2 Appendix C
Tabulation of the water level elevations (relative to mean sea level), depth to water measurements, and total depth of well measurements collected since the data that was submitted in the previous semiannual report (VII.C.2.e.)	Table 4
Potentiometric surface maps showing the elevation of the water table at the time of sampling and direction of groundwater flow gradients (VII.C.2.f.)	Figures 3 & 4
A notation of the presence or absence of non-aqueous phase liquids (NAPLs), both light and dense phases, in each well during each sampling event since the last event covered in the previous semiannual report and tabulation of depth and thickness of NAPLs, if detected (VII.C.2.g.)	Table 4

Semi-Annual Corrective Action Report Requirements (cont'd)	Report Section, Table(s) and/or Figure(s)
Quarterly tabulations of quantities of recovered groundwater and NAPLs, and graphs of monthly recorded flow rates versus time for the recovery wells during each period. A narrative summary describing and evaluating the NAPL recovery program shall also be included (VII.C.2.h.)	Not Applicable
Tabulation of the total contaminant mass recovered from each recovery system for each reporting period, if such a system is installed (VII.C.2.i.)	Not Applicable
Tabulation of the data evaluation results pursuant to Section VI.D and status of each well listed on CP Table V with regard to compliance with the corrective action objectives and compliance with the GWPSs (VII.C.2.j.)	Table 5
Maps of the contaminated area depicting concentrations of constituents listed in Table IV and any newly detected Table III constituents as isopleths contours or discrete concentrations if isopleths contours cannot be inferred (VII.C.2.k.)	Not Applicable
Maps indicating the extent and thickness of the LNAPLs and DNAPLs, if detected (VII.C.2.l.)	Not Detected
An updated schedule summary as required by Section X (VII.C.2.m.)	Appendix D
Summary of any changes made to the monitoring/corrective action program and a summary of recovery well inspections, repairs, and any operational difficulties (VII.C.2.n.)	None
A table of the modifications and amendments made to this Compliance Plan with their corresponding approval dates by the executive director or the Commission and a brief description of each action (VII.C.2.o.)	None
Corrective Measures Implementation (CMI) Report to be submitted in accordance with Section VIII.F, if necessary (VII.C.2.p.)	Not Applicable
Tabulation of well casing elevations in accordance with Attachment B No. 16 (VII.C.2.q.)	Table 4
Recommendation for any changes (VII.C.2.r.)	None
Certification and well installation diagram for any new well installation or replacement and certification for any well plugging and abandonment (VII.C.2.s.)	Not Applicable
A summary of any activity within an area subject to institutional control (VII.C.2.t.)	None
Any other items requested by the Executive Director (VII.C.2.u.)	None

As of January 2014, a recovery system had not been installed and is not necessary for the regulated unit. Therefore, Provisions 8, 9, and 10 that relate to recovery wells or recovery system, are not applicable for this reporting period.

Responses to each of the semi-annual report provisions required by CP Section VII.C.2 are provided in Section 3.0. Conclusions and recommendations are provided in Section 4.0.

3.0 2014 FIRST SEMI-ANNUAL GROUNDWATER MONITORING EVENT

A discussion of each of the semi-annual report provisions required by CP Section VII.C.2 is presented below by reference number to the list of provisions in Section 2.0.

3.1 Narrative Summary of First Semi-Annual Monitoring Activities

The CP requires an evaluation of the Corrective Action Program (Section V) and Groundwater Monitoring Program summarizing the overall effectiveness of the Corrective Action Program (Section VI). This narrative summary includes provisions for response and reporting requirements as detailed in the CP Section VII, as discussed below.

3.1.1 Corrective Action Program

Groundwater samples were collected from the Background and POC wells (as detailed in CP Table V, which is provided in Appendix A) to assess potentially affected groundwater quality in the A-Transmissive Zone (A-TZ) and the B-Transmissive Zone (B-TZ). These water-bearing zones are defined as:

- A-TZ refers to the first sand unit encountered at approximately 13 feet below ground surface (bgs) and averages 7 feet in thickness; and
- B-TZ refers to the second sand unit encountered at approximately 30 feet bgs and averages 9 feet in thickness.

The definitions of the A-TZ and B-TZ are consistent with the Uppermost Transmissive Zone (UTZ) and Second Transmissive Zone (STZ), respectively, as defined in CP Provision I.A.

The following monitoring wells were sampled during this event (Figure 2):

- A-TZ POC wells: MW-01A, MW-02, MW-07, MW-10A, and MW-11A;
- A-TZ Background well: MW-08;
- B-TZ POC wells: MW-10B, MW-11B, and P-10; and
- B-TZ background well: P-12.

3.1.2 Groundwater Monitoring

PBW performed quarterly inspections of SWMU No. 1 in January and April, 2014 and conducted semi-annual groundwater sampling activities on January 8-9, 2014. Groundwater sampling was performed using procedures outlined in a U.S. Environmental Protection Agency (EPA) document titled *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures* (EPA/540/S-95/504) published in April 1996 and approved in the CP application. Groundwater samples were analyzed for the Detected Hazardous and Solid Waste Constituents listed in the CP, Table III (Appendix A).

Monitoring wells are equipped with dedicated polytetrafluoroethylene (PTFE) tubing for groundwater sampling. A peristaltic pump was used to purge and collect the groundwater samples. An approximate one-foot section of disposable silicon tubing was placed around the pump head and attached to the PTFE tubing for proper operation of the pump. Groundwater was pumped from the screened interval of each well at a flow rate of less than 0.5 L/min using a flow-through cell. Field parameters including temperature, pH, specific conductivity, dissolved oxygen, and turbidity were measured during purging and sampling activities. When field parameters had stabilized to the EPA-specified criteria, a sample was then collected for analysis. The samples were also collected at a flow rate of less than 0.5 L/min. Recorded field parameters are summarized in Appendix B.

For each well, sample bottles were filled directly from the pumping apparatus described above, and were sealed and packed in coolers with sufficient ice to maintain a sample temperature of approximately 4°C. The sample coolers were delivered to TestAmerica Laboratories, in Houston, Texas for analysis. Chain-of-Custody (COC) forms were completed and kept with their respective samples. Copies of the analytical data and COCs are included in Appendix C. Groundwater samples were then analyzed for the Detected Hazardous and Solid Waste Constituents listed in the CP, Table III (Appendix A).

3.2 Purge Water Management

Approximately 5 gallons of purge water were generated during the January 2014 low-flow groundwater sampling event. The purge water was containerized in a Department of Transportation (DOT) certified, 55-gallon steel drum and temporarily stored on site in a fenced and locked container storage area (NOR 006). Since the groundwater sampled and analyzed during this event did not contain hazardous constituents above the applicable health-based levels (i.e. PCLs discussed in Section 3.10), the purge water generated was not considered hazardous in accordance with the EPA “contained-in determination”

detailed in the 1986 EPA memorandum "RCRA Regulatory Status of Contaminated Groundwater". However, wastes generated during the 2014 first semi-annual monitoring event were transported from the Site by USA Waste Transportation Services to the Clean Harbors Deer Park, LLC facility, located in La Porte, Texas on March 31, 2014 for disposal under EPA waste code F034 and TCEQ Notice of Registration (NOR) waste code 0914101H (purge water). Waste manifests are provided in Appendix D.

3.3 Monitoring and Corrective Action System Wells

A summary of the current monitoring and corrective action groundwater wells is discussed in Section 3.1.1. Configuration of the current monitoring and corrective action well network is presented on Figure 2.

3.4 Analytical Results

The 2014 first semi-annual groundwater analytical results from the A-TZ and B-TZ are summarized in Tables 1 and 2, respectively and the laboratory analytical report is provided in Appendix C. The analytical results were compared to the Detected Hazardous and Solid Waste Constituent limits, which are taken from the current TCEQ Texas Risk Reduction Program (TRRP) Tier 1 Protective Concentration Levels (PCLs). TRRP PCLs serve as the Groundwater Protection Standard (GWPS), as detailed in Section IV.D and Table III of the CP. If any concentrations exceeded the concentration limits of this report, the concentration is bolded within the table.

Quality assurance/quality control (QA/QC) samples (matrix spike and matrix spike duplicate results) are summarized in Table 3.

3.5 Well Measurements

During the sampling event, the following information was recorded at each monitoring well:

Before Sampling

- The presence of light NAPLs was evaluated; and
- Depth to groundwater below the top of casing was measured to the nearest 0.01 foot.

After Sampling

- The presence of dense non-aqueous phase liquids (DNAPLs) were evaluated using visual observations and an oil-water interface probe; and
- Total well depths of the wells were measured.

Table 4 provides a summary of these measurements. None of the compliance wells had measurable amounts or any indication of LNAPL or DNAPL.

3.6 Potentiometric Surface Maps

Groundwater elevation data recorded during the 2014 first semi-annual monitoring event were used to create potentiometric surface maps of the A-TZ and B-TZ, presented on Figures 3 and 4, respectively.

The two uppermost groundwater bearing units, the A-Transmissive Zone (A-TZ) and the B-Transmissive Zone (B-TZ), were monitored during this period. Groundwater elevation data collected during the January 2014 sampling event show groundwater flow in the A-TZ to the west-southwest with a hydraulic gradient of approximately 0.0012 ft/ft. Groundwater flow during the previous event (2013 second semi-annual monitoring event) was observed to have an inward gradient towards MW-10A.

Groundwater elevation data collected in the B-TZ show groundwater flow to the west-northwest at SWMU No. 1 with a hydraulic gradient of approximately 0.0035 ft/ft. Groundwater flow during the previous event (2013 second semi-annual monitoring event) was observed to have a southwestwardly hydraulic gradient.

3.7 Non-Aqueous Phase Liquids

Measurable amounts of LNAPL and/or DNAPL were not observed in any of the compliance wells.

3.8 Recovered Groundwater and NAPL

To date, a recovery system has not been installed nor is necessary at the SWMU No. 1; therefore, this provision is not applicable.

3.9 Contaminant Mass Recovered

With the groundwater analytical data for the POC wells in compliance and no groundwater recovery system installed, or necessary, this provision is not applicable for the Site.

3.10 Analytical Data Evaluation

Section VI.D of the CP describes two methods which may be used to determine the compliance status of a given well:

1) Analytical results may be either directly compared with PCLs (CP Table III; included in Appendix A), or
2) Analytical results can be statistically compared PCLs using the Confidence Interval Procedure for the mean concentration based on normal, log-normal, or non-parametric distribution, which the 95% confidence coefficient of the t-distribution will be used in construction of the confidence interval.

Direct comparison to PCLs was used to evaluate the analytical data. Tables 1 (A-TZ) and 2 (B-TZ) show the results of a direct comparison of data for this sampling event to the respective PCLs. Wells and piezometers are in compliance if each of the constituents listed in the CP Table III was reported at a concentration less than or equal to the PCL. Based on the analytical results from the January 2014 monitoring event, the compliance wells completed in both transmissive zones are compliant with GWPSs; therefore the monitoring wells are considered to be compliant for this monitoring period. Compliance status for each of the monitoring wells is provided in Table 5.

Monitoring wells in A-TZ and B-TZ have not exceeded the established CP PCLs since July 2005, at which time dibenzofuran exceeded its respective PCL of 0.098 mg/L in MW-01A (0.11 mg/L). Including the 2014 first semi-annual analytical data, the SMWU No. 1 monitoring wells have been compliant for sixteen consecutive semi-annual monitoring events (8 years). Concentration versus time graphs for COCs in the A-TZ (2-methylnaphthalene (Figure E-1), dibenzofuran (Figure E-2), and naphthalene (Figure E-3)) and the B-TZ (dibenzofuran (Figure E-4) and naphthalene (Figure E-5)) are provided in Appendix E. The graphs demonstrate that COC concentrations in the A-TZ and B-TZ POC wells have shown a steady decrease over time, and are currently compliant with the TCEQ Remedy Standard A requirements for groundwater protection.

A QA/QC review and Data Usability Summary (DUS) were prepared for the January 2014 analytical data by Conestoga-Rovers & Associates (CRA) (Appendix C). The laboratory qualified analytes with concentrations above the sample detection limits (SDLs) but below the method quantitation limits (MQLs) as estimated on analytical tables (Tables 1 and 2). In addition to the laboratory qualifiers, CRA qualified the following results:

- FB-01 – The following analytes were detected in the field blank FB-01: acenaphthene, acenaphthylene, anthracene, dibenzofuran, fluoranthene, fluorene, phenanthrene, and pyrene. Consequently analytical results collected at MW-01A, MW-02, MW-10B, MW-11A, and MW-11B were qualified. However, based on professional judgment this data should remain valid.
- FB-02 – The di-n-butylphthalate results in P-10 and P-12 were U flagged due to di-n-butylphthalate concentrations in the field blank.
- MW-07 – SVOC results were rejected by the data validation due to poor surrogate recoveries.
- MW-01A – The 2-methylnaphthalene and naphthalene concentrations at MW-01A were J and U flagged, respectively due to variability in field duplicate results.
- P-10 – The dibenzofuran and fluorene concentrations at P-10 were U flagged due to variability in field duplicate results.
- DUP-1 - The 2-methylnaphthalene and naphthalene concentrations at DUP-1 were J flagged due to variability in field duplicate results.
- DUP-2 - The dibenzofuran and fluorene concentrations at DUP-2 were J flagged due to variability in field duplicate results.

COC concentrations observed in the Field Blank were less than PCLs; however, they were greater than concentrations observed in the groundwater samples. COC concentrations observed in the groundwater samples were consistent with previous sampling events and suggest that the Field Blank results are erroneous. Rather than qualify the associated groundwater samples as non-detect based on the Field Blank results, the groundwater sample data was used as reported. Based on the QA/QC data review, CRA noted that the analytical data are usable for the intended use with the above qualifications except for MW-7 which was rejected by CRA due to poor surrogate recoveries. Based on historical data for this monitoring well, a PCL exceedance is unlikely; therefore, MW-7 will be resampled during the next semi-annual sampling event scheduled for July 2014.

3.11 Reported Concentration Maps

Reported concentrations of each constituent analyzed for the 2014 first semi-annual monitoring event are presented on Figures 5 and 6 for the A-TZ and B-TZ compliance wells, respectively. In the event a constituent exceeded their respective PCL, the value would be highlighted on the figures. There were no exceedances of PCLs for any of the required constituents.

3.12 Extent of NAPL

No measurable amounts of LNAPL or DNAPL were detected in any of the compliance wells.

3.13 Updated Compliance Schedule

Section X of the CP requires that the Permittee submit a schedule summarizing the activities required by the Compliance Plan issued on June 10, 2005, which was originally submitted to the TCEQ on August 4, 2004. An updated compliance schedule is included as Appendix F of this report.

3.14 Summary of Changes Made to Corrective Action Program

No changes have been made to the corrective action program.

3.15 Modifications and Amendments to Compliance Plan

A compliance plan renewal application was submitted to TCEQ on December 23, 2003 consistent with the renewal requirements for the RCRA permit at the site. The RCRA permit and CP were issued June 10, 2005. There have been no modifications or amendments to the Compliance Plan since the last permit issued.

3.16 Corrective Measures Implementation (CMI) Report

A Response Action Plan (RAP) has not been submitted; therefore, this provision does not apply.

3.17 Well Casing Elevations

In accordance with the facility Groundwater Sampling and Analysis Plan (GWSAP) dated May 13, 2004 (Revision 1), which requires SWMU No. 1 monitoring well elevations to be resurveyed every five years, the six A-TZ and four B-TZ monitoring well elevations were most recently surveyed on December 2, 2010.

3.18 Recommendation for Changes

There are no recommendations for changes to the monitoring program or to the Corrective Action Program.

3.19 Well Installation and/or Abandonment

No monitoring wells were installed or abandoned as part of the monitoring program or the Corrective Action Program during the reporting period.

3.20 Activity Within Area Subject to Institutional Control

No areas are under institutional control; therefore, this provision does not apply.

3.21 Other Requested Items

No other items have been requested by the executive director.

TABLES

Table 1
Summary of Analytical Results for the A-Transmissive Zone (A-TZ)
Semiannual Monitoring Report: 2014 First Semiannual Event

Houston Wood Preserving Works
Houston, Texas

Analyte	PCL (mg/L)	Monitoring Well IDs (Concentrations mg/L)																				
		MW-01A			DUP-01			MW-02			MW-07			MW-08			MW-10A			MW-11A		
		1/8/2014	LQ	VQ	1/8/2014	LQ	VQ	1/8/2014	LQ	VQ	1/9/2014	LQ	VQ	1/9/2014	LQ	VQ	1/8/2014	LQ	VQ	1/8/2014	LQ	VQ
Acenaphthene	1.5	0.0895			0.1			0.000445	J		<0.0000741	U	R	<0.0000741	U		<0.0000741	U		<0.0000741	U	
Acenaphthylene	1.5	0.00093			0.00144			0.000101	J		<0.0000556	U	R	<0.0000556	U		<0.0000556	U		0.0001	J	
Anthracene	7.3	0.003			0.00371			0.00131			<0.0000463	U	R	0.000494			<0.0000463	U		0.00125		
bis(2-ethylhexyl)phthalate	0.006	0.000838	J		0.00067	J		<0.000343	U		<0.000343	U	R	<0.000343	U		<0.000343	U		0.00046	J	
Dibenzofuran	0.098	0.00951			0.0168			0.000147	J		<0.0000741	U	R	<0.0000741	U		<0.0000741	U		<0.0000741	U	
Fluoranthene	0.98	0.00257			0.00345			0.000307	J		<0.0000648	U	R	<0.0000648	U		<0.0000648	U		0.0000795	J	
Fluorene	0.98	0.0369			0.0432			0.000255	J		<0.0000648	U	R	<0.0000648	U		<0.0000648	U		<0.0000648	U	
2-Methylnaphthalene	0.098	0.00222		J	0.0152		J	<0.0000648	U		<0.0000648	U	R	<0.0000648	U		<0.0000648	U		<0.0000648	U	
Naphthalene	0.49	<0.0000741	U	U	0.00172	J	J	<0.0000741	U		<0.0000741	U	R	<0.0000741	U		<0.0000741	U		<0.0000741	U	
Phenanthrene	0.73	0.00175			0.00451			0.000122	J		<0.0000556	U	R	0.0000637	J		<0.0000556	U		<0.0000556	U	
Pyrene	0.73	0.0013			0.00165			0.000175	J		<0.000102	U	R	<0.000102	U		<0.000102	U		<0.000102	U	

Notes:
PCL = Protective Concentration Level
The Compliance Plan Section IV.D defines the Groundwater Protection Standard (GWPS) as the PCL
DUP-01 = Duplicate sample collected at MW-01A

LQ - Lab Qualifier
J = Estimated value between the SDL and the MQL
U = Value not detected greater than the MQL

VQ - Validation Qualifier
J = Estimated concentration
U = Non-detect due to low concentrations detected in the associated field blank
R - Rejected due to poor surrogate recoveries

Table 2
Summary of Analytical Results for the B-Transmissive Zone (B-TZ)
Semiannual Monitoring Report: 2014 First Semiannual Event

Houston Wood Preserving Works
Houston, Texas

Analyte	PCL (mg/L)	Monitoring Well IDs (Concentrations mg/L)														
		MW-10B			MW-11B			P-10			DUP-02			P-12		
		1/8/2014	LQ	VQ	1/8/2014	LQ	VQ	1/9/2014	LQ	VQ	1/9/2014	LQ	VQ	1/9/2014	LQ	VQ
Acenaphthene	1.5	0.021			0.0603			0.000102	J		0.000966			<0.0000741	U	
Acenaphthylene	1.5	0.000536			0.00102			<0.0000556	U		0.0000571	J		<0.0000556	U	
Anthracene	7.3	0.00107			0.00242			0.000323	J		0.000369	J		0.0002	J	
bis(2-ethylhexyl)phthalate	0.006	0.000408	J		0.000493	J		<0.000343	U		<0.000343	U		0.000515	J	
Dibenzofuran	0.098	0.00493			0.0111			<0.0000741	U	U	0.000135	J	J	<0.0000741	U	
Di-n-butyl phthalate	2.4	0.000275	J		0.000317	J		0.000262	J	U	0.000309	J	U	0.000416	J	U
Fluoranthene	0.98	0.000117	J		0.00267			<0.0000648	U		<0.0000648	U		<0.0000648	U	
Fluorene	0.98	0.00429			0.0195			<0.0000648	U	U	0.000262	J	J	<0.0000648	U	
Naphthalene	0.49	0.0646			0.000382	J		<0.0000741	U		<0.0000741	U		<0.0000741	U	
Phenol	7.3	<0.000037	U		<0.000037	U		<0.000037	U		<0.000037	U		<0.000037	U	
Pyrene	0.73	<0.000102	U		0.00126			<0.000102	U		<0.000102	U		<0.000102	U	

Notes:
PCL = Protective Concentration Level
The Compliance Plan Section IV.D defines the Groundwater Protection Standard (GWPS) as the PCL
DUP-02 = Duplicate sample collected at P-10

LQ - Lab Qualifier
J = Estimated value between the SDL and the MDQ
U = Value not detected greater than the MQL

VQ - Validation Qualifier
J = Estimated concentration
U = Non-detect due to low concentrations detected in the associated field blank

Table 3
Summary of Analytical Results for Quality Assurance/Quality Control Samples
Semiannual Monitoring Report: 2014 First Semiannual Event

Houston Wood Preserving Works
Houston, Texas

Analyte	PCL (mg/L)	P-12(MS)[1] Matrix Spike 1/9/2014		P-12(MSD)[1] Matrix Spike Duplicate 1/9/2014	
Acenaphthene	1.5	<0.0000741	U	<0.0000741	U
Acenaphthylene	1.5	<0.0000556	U	<0.0000556	U
Anthracene	7.3	0.0002	J	0.0002	J
bis(2-ethylhexyl)phthalate	0.006	0.000515	J	0.000515	J
Dibenzofuran	0.098	<0.0000741	U	<0.0000741	U
Di-n-butyl phthalate	2.4	0.0004160	J	0.000416	J
Fluoranthene	0.98	<0.0000648	U	<0.0000648	U
Fluorene	0.98	<0.0000648	U	<0.0000648	U
Naphthalene	0.49	<0.0000741	U	<0.0000741	U
Phenol	7.3	<0.000037	U	<0.000037	U
Pyrene	0.73	<0.000102	U	<0.000102	U

Notes:
PCL = Protective Concentration Level
(1) = P-12(MS) and P-12(MSD) are matrix spike and matrix spike duplicate samples collected at P-12, respectively.
N = Relative percent difference of the MS and MSD exceeds the control limits.

Table 4

Water Level Measurements
Semiannual Monitoring Report: 2014 First Semiannual Event

Houston Wood Preserving Works
Houston, Texas

Well ID	Top of Casing Elevation (TOC) (ft MSL)*	Date Measured	Water Depth (ft. BTOC)	Depth to NAPL (ft. BTOC)	Total Well Depth as Completed (ft. BTOC)	Total Well Depth (ft. BTOC)	Potentiometric Elevation (ft. MSL)
A-TZ Monitoring Locations							
MW-01A	47.88	1/8/2014	5.21	ND	20.2	19.85	42.67
MW-02	48.00	1/8/2014	5.47	ND	20.3	20.20	42.53
MW-07	48.92	1/9/2014	6.42	ND	NA	24.80	42.50
MW-08	49.33	1/9/2014	6.87	ND	26.8	25.10	42.46
MW-10A	49.82	1/8/2014	7.33	ND	25.9	25.50	42.49
MW-11A	50.07	1/8/2014	7.64	ND	24.4	24.05	42.43
B-TZ Monitoring Locations							
MW-10B	49.95	1/8/2014	7.46	ND	48.8	46.50	42.49
MW-11B	50.23	1/8/2014	7.82	ND	46.8	46.70	42.41
P-10	47.73	1/9/2014	5.51	ND	40.0	42.90	42.22
P-12	48.80	1/9/2014	6.41	ND	40.0	42.80	42.39

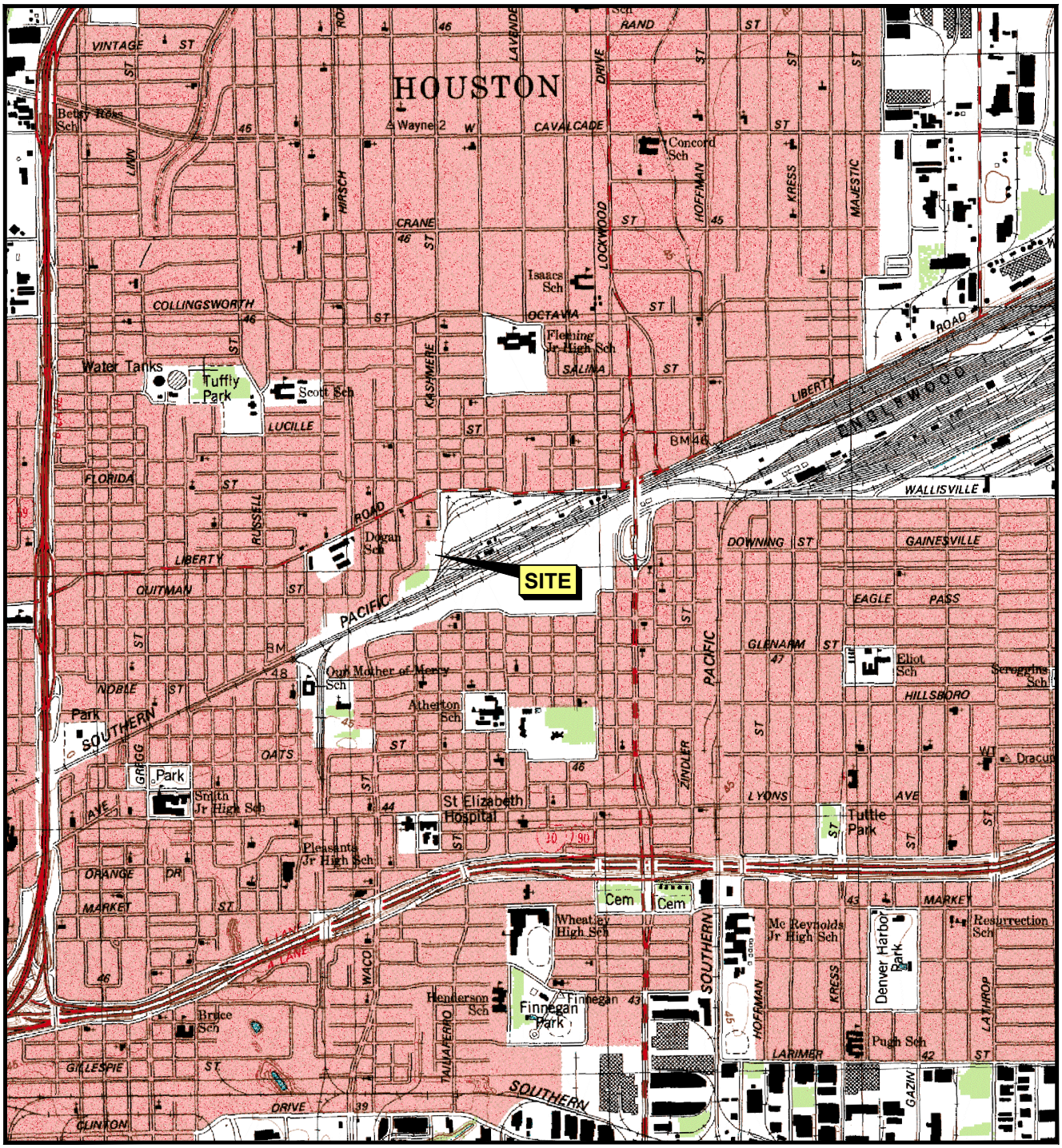
Notes
BTOC = feet below the top of the well casing
ft. MSL = feet above Mean Sea Level
NA = Not Available
*TOC elevations based on December 2010 survey (see Section 3.17)

Table 5
Compliance Status of Wells and Piezometers
Semiannual Monitoring Report: 2014 First Semiannual Event

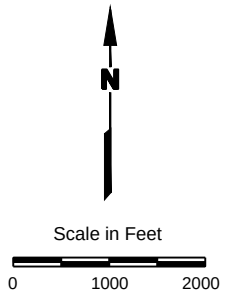
Houston Wood Preserving Works
Houston, Texas

Zone	Monitoring Well Location	Well Designation	Compliance Status
A-TZ Monitoring Location	MW-01A	Point of Compliance	Compliant
	MW-02	Point of Compliance	Compliant
	MW-07	Point of Compliance	Compliant
	MW-08	Background Well	Compliant
	MW-10A	Point of Compliance	Compliant
	MW-11A	Point of Compliance	Compliant
B-TZ Monitoring Location	MW-10B	Point of Compliance	Compliant
	MW-11B	Point of Compliance	Compliant
	P-10	Point of Compliance	Compliant
	P-12	Background Well	Compliant

FIGURES



QUADRANGLE LOCATION



Source:
U.S.G.S. 7.5 minute quadrangle, Settegast, Texas, 1982.

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HOUSTON WOOD PRESERVING WORKS

Figure 1

SITE LOCATION MAP

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2014	CHECKED: ECM	

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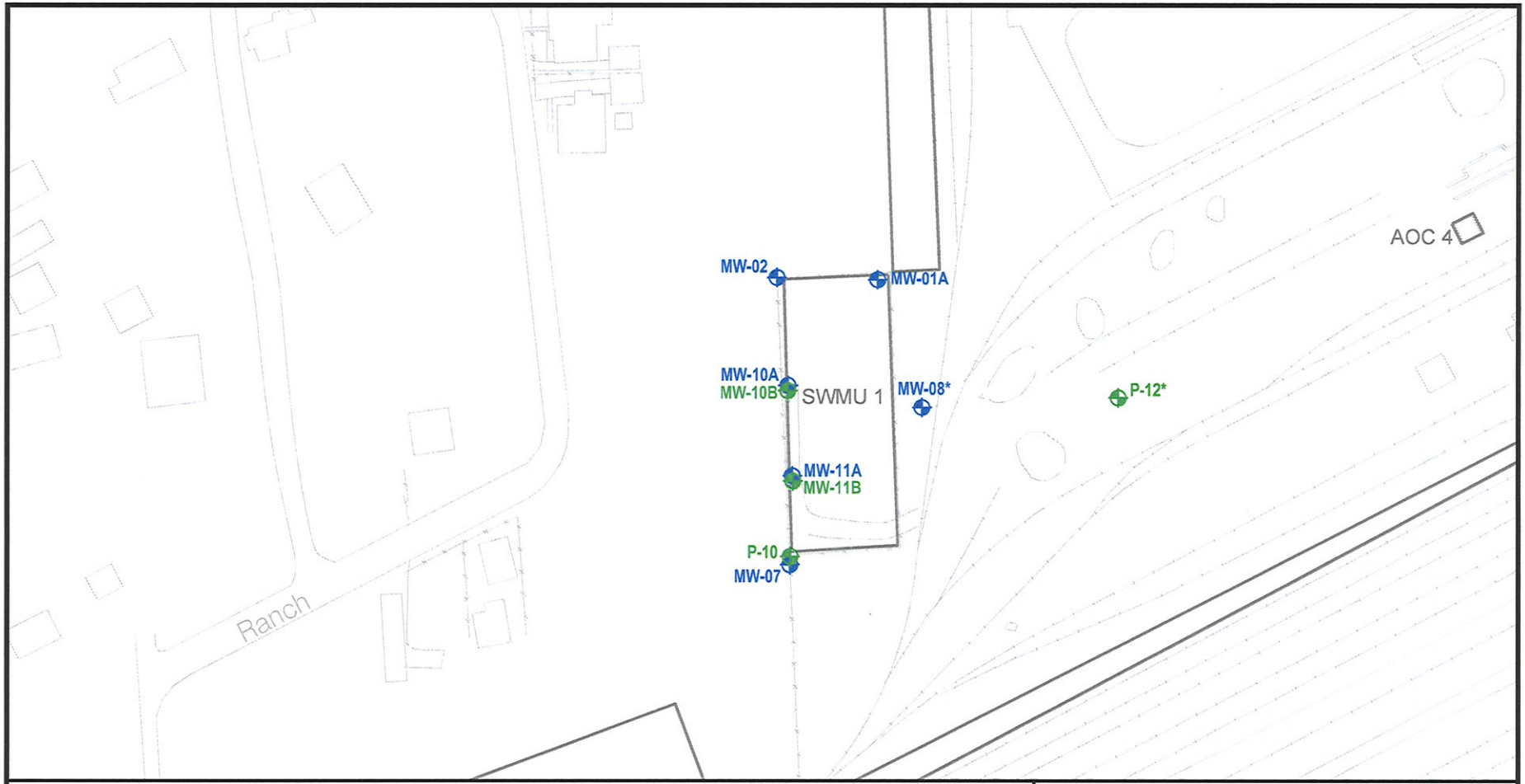

EXPLANATION

- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- A-TZ Monitoring Well Location
- B-TZ Monitoring Well Location

Note:
* Background well.

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N

Approx. Scale in Feet

0 60 120

Source:
Base map from ERM-Southwest, Inc
0014419a310.dwg, 6/19/2006.

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HOUSTON WOOD PRESERVING WORKS

Figure 2

CORRECTIVE ACTION MONITORING WELL NETWORK TCEQ PERMIT UNIT NO. 1

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2014	CHECKED: ECM	

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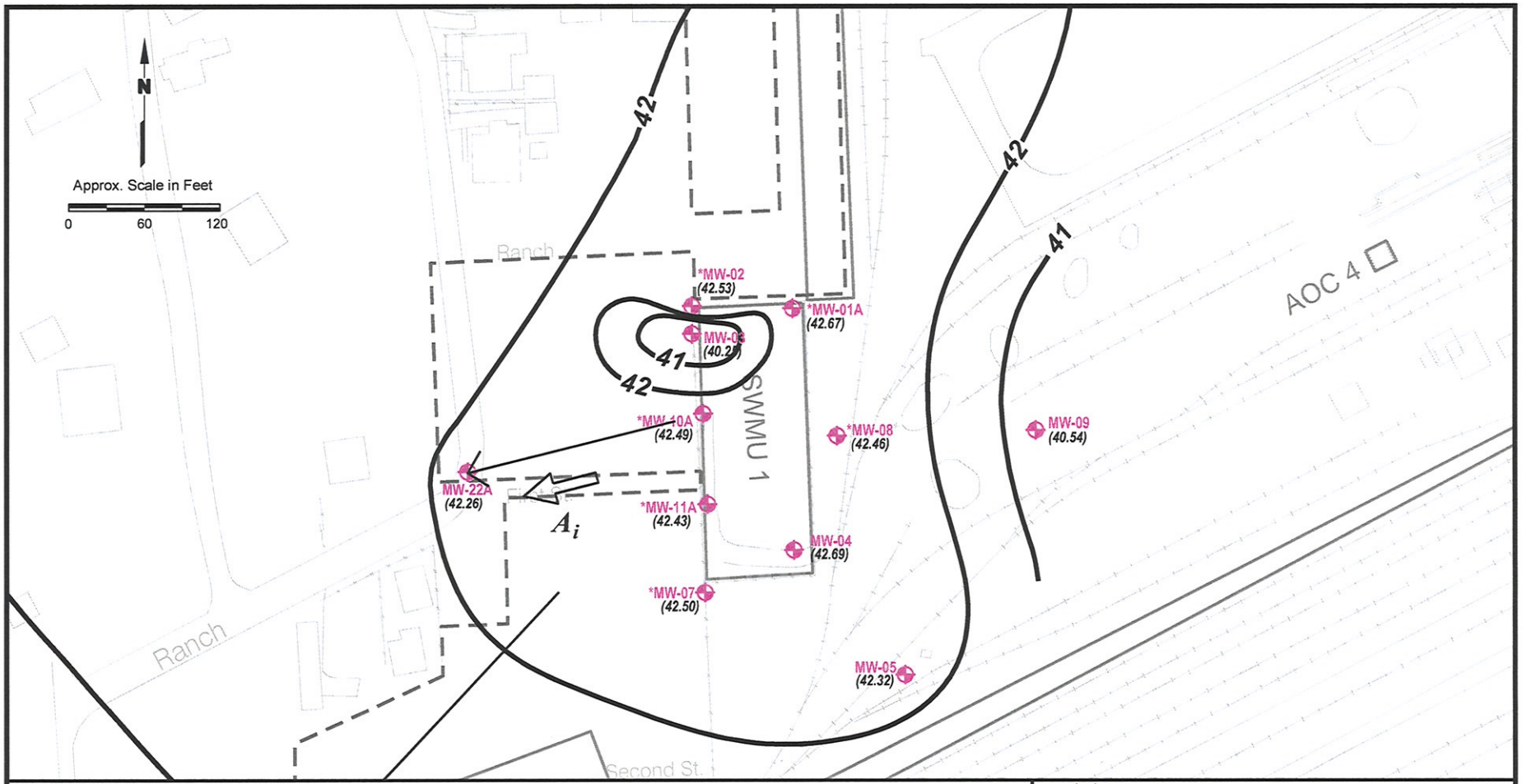

EXPLANATION

- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- A-TZ Monitoring Well Location (* - Compliance Well)
- (42.32) Groundwater Elevation (Ft, MSL) (NM = Not Measured)
- 41 Groundwater Elevation Contour (Ft, MSL) C.I.= 1 Ft (dashed where inferred)
- General Groundwater Flow DIrection

ESTIMATED GRADIENT

$$A_i \rightarrow A_i = \frac{0.23ft}{200ft} = 0.0012\ ft/ft$$

Source:
Base map from ERM-Southwest, Inc
0014419a310.dwg, 6/19/2006.

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Figure 3

A-TZ POTENTIOMETRIC SURFACE CONTOUR MAP JANUARY 8-9, 2014

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2014	CHECKED: ECM	

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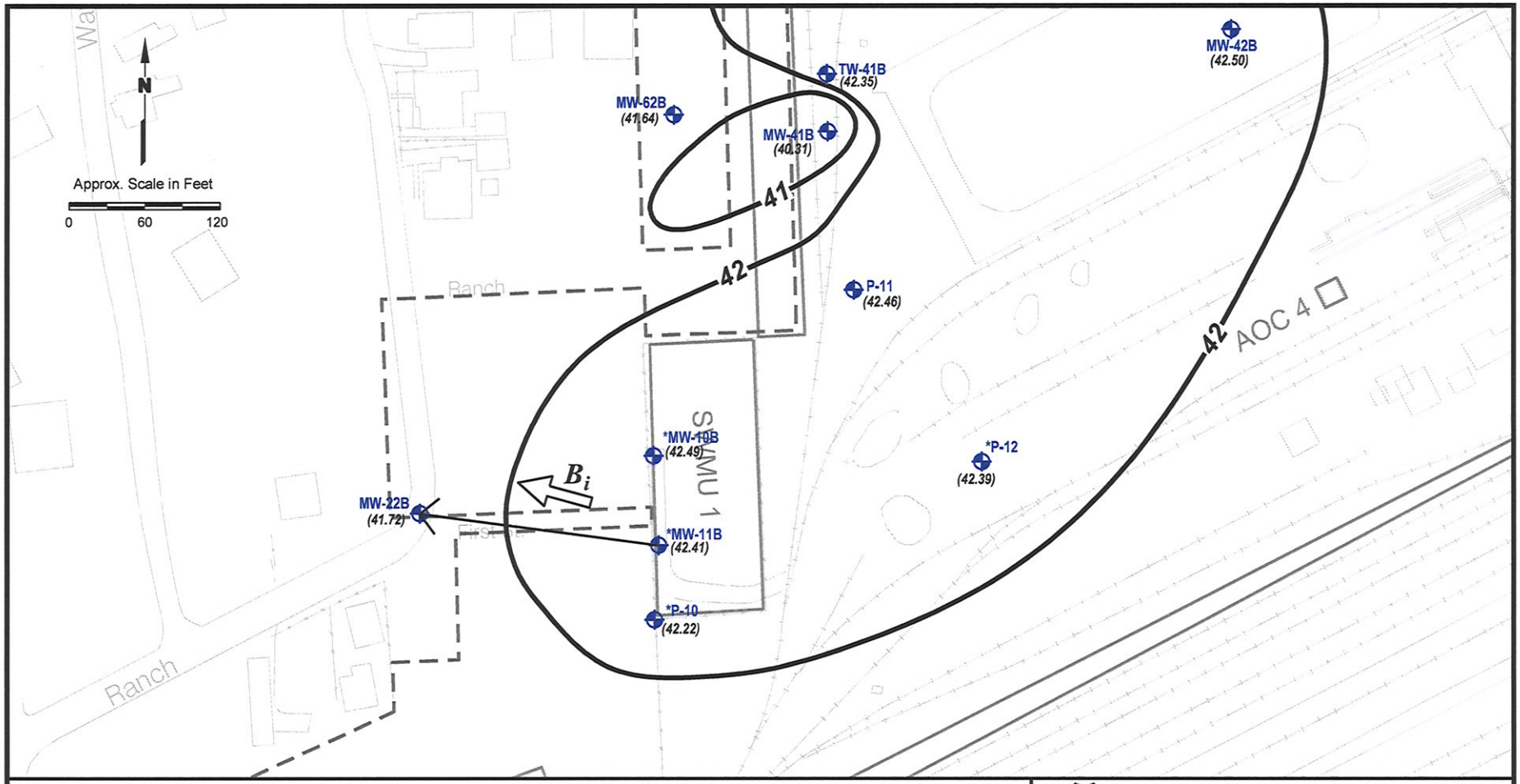

EXPLANATION

- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- B-TZ Monitoring Well Location (* - Compliance Well)
- (42.22) Groundwater Elevation (Ft, MSL) (NM = Not Measured)
- 41 Groundwater Elevation Contour (Ft, MSL) C.I.= 1 Ft (dashed where inferred)
- General Groundwater Flow Direction

ESTIMATED GRADIENT

$B_i \rightarrow B_i = \frac{0.69ft}{200ft} = 0.0035\ ft/ft$

Source:
Base map from ERM-Southwest, Inc
0014419a310.dwg, 6/19/2006.

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Figure 4

B-TZ POTENTIOMETRIC SURFACE CONTOUR MAP JANUARY 8-9, 2014

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2014	CHECKED: ECM	

PASTOR, BEHLING & WHEELER, LLC
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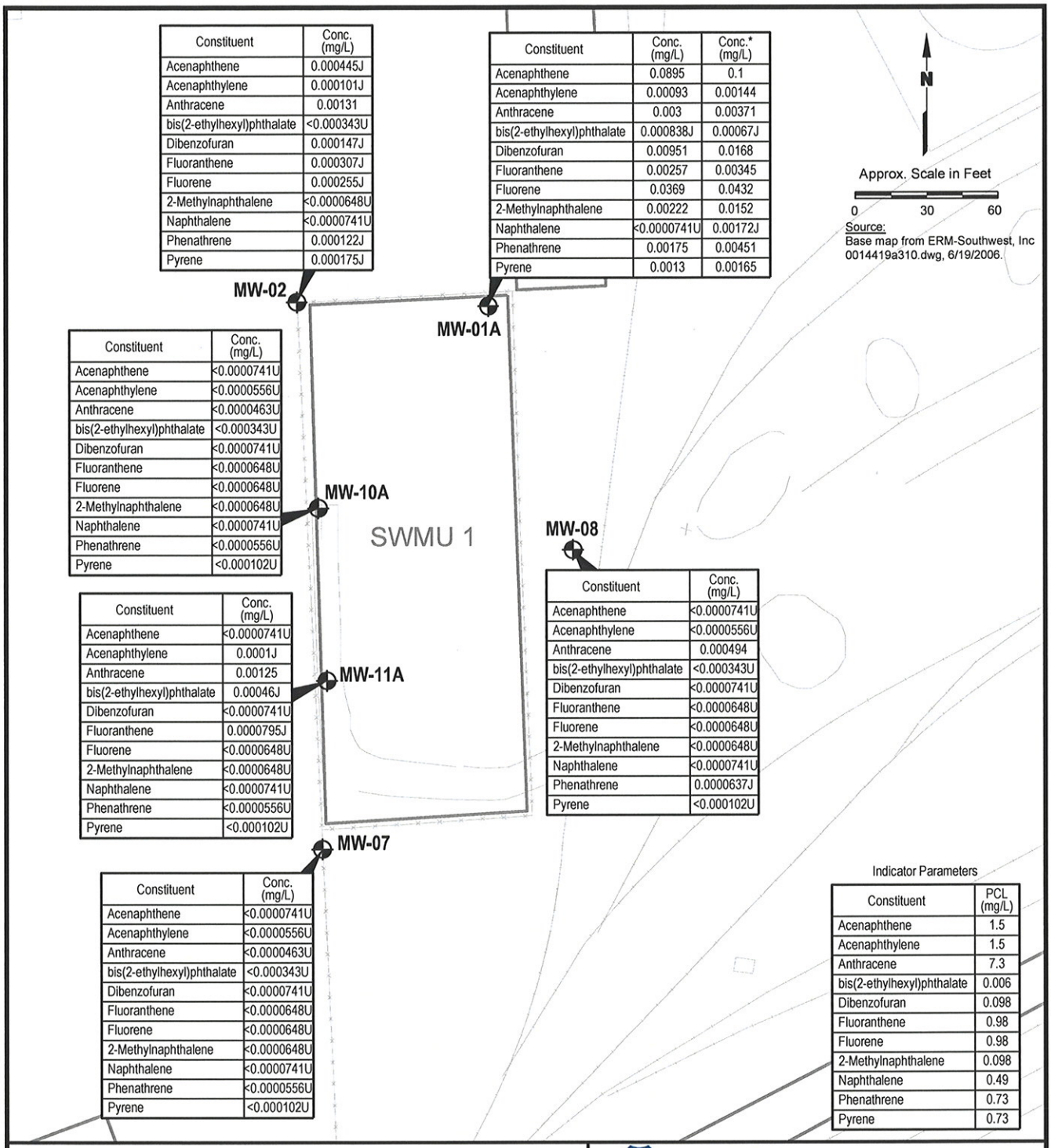

Constituent	Conc. (mg/L)
Acenaphthene	0.000445J
Acenaphthylene	0.000101J
Anthracene	0.00131
bis(2-ethylhexyl)phthalate	<0.000343U
Dibenzofuran	0.000147J
Fluoranthene	0.000307J
Fluorene	0.000255J
2-Methylnaphthalene	<0.0000648U
Naphthalene	<0.0000741U
Phenathrene	0.000122J
Pyrene	0.000175J

Constituent	Conc. (mg/L)	Conc.* (mg/L)
Acenaphthene	0.0895	0.1
Acenaphthylene	0.00093	0.00144
Anthracene	0.003	0.00371
bis(2-ethylhexyl)phthalate	0.000838J	0.00067J
Dibenzofuran	0.00951	0.0168
Fluoranthene	0.00257	0.00345
Fluorene	0.0369	0.0432
2-Methylnaphthalene	0.00222	0.0152
Naphthalene	<0.0000741U	0.00172J
Phenathrene	0.00175	0.00451
Pyrene	0.0013	0.00165

Source:
Base map from ERM-Southwest, Inc
0014419a310.dwg, 6/19/2006.

Constituent	Conc. (mg/L)
Acenaphthene	<0.0000741U
Acenaphthylene	<0.0000556U
Anthracene	<0.0000463U
bis(2-ethylhexyl)phthalate	<0.000343U
Dibenzofuran	<0.0000741U
Fluoranthene	<0.0000648U
Fluorene	<0.0000648U
2-Methylnaphthalene	<0.0000648U
Naphthalene	<0.0000741U
Phenathrene	<0.0000556U
Pyrene	<0.000102U

Constituent	Conc. (mg/L)
Acenaphthene	<0.0000741U
Acenaphthylene	0.0001J
Anthracene	0.00125
bis(2-ethylhexyl)phthalate	0.00046J
Dibenzofuran	<0.0000741U
Fluoranthene	0.0000795J
Fluorene	<0.0000648U
2-Methylnaphthalene	<0.0000648U
Naphthalene	<0.0000741U
Phenathrene	<0.0000556U
Pyrene	<0.000102U

Constituent	Conc. (mg/L)
Acenaphthene	<0.0000741U
Acenaphthylene	<0.0000556U
Anthracene	0.000494
bis(2-ethylhexyl)phthalate	<0.000343U
Dibenzofuran	<0.0000741U
Fluoranthene	<0.0000648U
Fluorene	<0.0000648U
2-Methylnaphthalene	<0.0000648U
Naphthalene	<0.0000741U
Phenathrene	0.0000637J
Pyrene	<0.000102U

Constituent	Conc. (mg/L)
Acenaphthene	<0.0000741U
Acenaphthylene	<0.0000556U
Anthracene	<0.0000463U
bis(2-ethylhexyl)phthalate	<0.000343U
Dibenzofuran	<0.0000741U
Fluoranthene	<0.0000648U
Fluorene	<0.0000648U
2-Methylnaphthalene	<0.0000648U
Naphthalene	<0.0000741U
Phenathrene	<0.0000556U
Pyrene	<0.000102U

Indicator Parameters

Constituent	PCL (mg/L)
Acenaphthene	1.5
Acenaphthylene	1.5
Anthracene	7.3
bis(2-ethylhexyl)phthalate	0.006
Dibenzofuran	0.098
Fluoranthene	0.98
Fluorene	0.98
2-Methylnaphthalene	0.098
Naphthalene	0.49
Phenathrene	0.73
Pyrene	0.73

EXPLANATION

- Fence
- Railroad
- A-TZ Monitoring Well Location

Notes:
1. * Duplicates sample taken at MW-01A.
2. Sample collected on January 8-9, 2014.
3. J= Estimated value between SQL and MDL.
4. U= Value not detected greater than the MDL.

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Figure 5

A-TZ REPORTED CONCENTRATIONS 2014 1st SEMI ANNUAL MONITORING EVENT

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2014	CHECKED: ECM	

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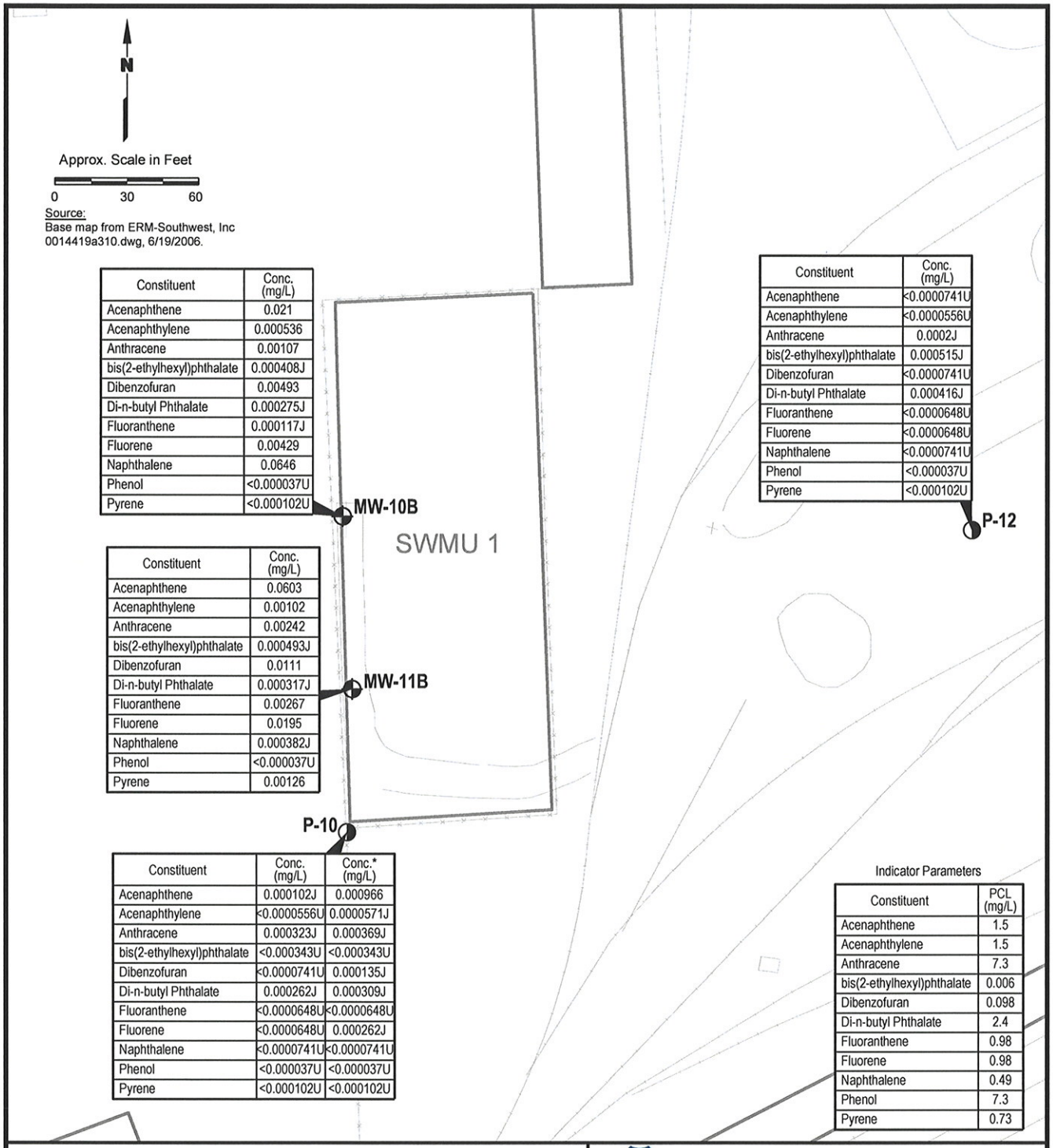

Source:
Base map from ERM-Southwest, Inc
0014419a310.dwg, 6/19/2006.

Constituent	Conc. (mg/L)
Acenaphthene	0.021
Acenaphthylene	0.000536
Anthracene	0.00107
bis(2-ethylhexyl)phthalate	0.000408J
Dibenzofuran	0.00493
Di-n-butyl Phthalate	0.000275J
Fluoranthene	0.000117J
Fluorene	0.00429
Naphthalene	0.0646
Phenol	<0.000037U
Pyrene	<0.000102U

Constituent	Conc. (mg/L)
Acenaphthene	0.0603
Acenaphthylene	0.00102
Anthracene	0.00242
bis(2-ethylhexyl)phthalate	0.000493J
Dibenzofuran	0.0111
Di-n-butyl Phthalate	0.000317J
Fluoranthene	0.00267
Fluorene	0.0195
Naphthalene	0.000382J
Phenol	<0.000037U
Pyrene	0.00126

Constituent	Conc. (mg/L)	Conc.* (mg/L)
Acenaphthene	0.000102J	0.000966
Acenaphthylene	<0.0000556U	0.0000571J
Anthracene	0.000323J	0.000369J
bis(2-ethylhexyl)phthalate	<0.000343U	<0.000343U
Dibenzofuran	<0.0000741U	0.000135J
Di-n-butyl Phthalate	0.000262J	0.000309J
Fluoranthene	<0.0000648U	<0.0000648U
Fluorene	<0.0000648U	0.000262J
Naphthalene	<0.0000741U	<0.0000741U
Phenol	<0.000037U	<0.000037U
Pyrene	<0.000102U	<0.000102U

Constituent	Conc. (mg/L)
Acenaphthene	<0.0000741U
Acenaphthylene	<0.0000556U
Anthracene	0.0002J
bis(2-ethylhexyl)phthalate	0.000515J
Dibenzofuran	<0.0000741U
Di-n-butyl Phthalate	0.000416J
Fluoranthene	<0.0000648U
Fluorene	<0.0000648U
Naphthalene	<0.0000741U
Phenol	<0.000037U
Pyrene	<0.000102U

Indicator Parameters

Constituent	PCL (mg/L)
Acenaphthene	1.5
Acenaphthylene	1.5
Anthracene	7.3
bis(2-ethylhexyl)phthalate	0.006
Dibenzofuran	0.098
Di-n-butyl Phthalate	2.4
Fluoranthene	0.98
Fluorene	0.98
Naphthalene	0.49
Phenol	7.3
Pyrene	0.73

EXPLANATION

- Fence
- Railroad
- B-TZ Monitoring Well Location
- Piezometer Location

Notes:
1. * Duplicates sample taken at P-10.
2. Sample collected on January 8-9 2014.
3. J= Estimated value between SQL and MDL.
4. U= Value not detected greater than the MDL.

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Figure 6

B-TZ REPORTED CONCENTRATIONS 2014 1st SEMI ANNUAL MONITORING EVENT

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2014	CHECKED: ECM	

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APPENDIX A
COMPLIANCE PLAN TABLES

TABLE III - CORRECTIVE ACTION PROGRAM
Table of Detected Hazardous and Solid Waste Constituents and
Concentration Limits for the Ground-Water Protection Standard

Closed Surface Impoundment (NOR Unit No. 001, SWMU No. 01)

A-Transmissive Zone		B-Transmissive Zone	
COLUMN A Hazardous Constituents	COLUMN B Concentration Limits (mg/l)	COLUMN A Hazardous Constituents	COLUMN B Concentration Limits (mg/l)
Acenaphthene	1.5[PCL]	Acenaphthene	1.5[PCL]
Acenaphthylene	1.5[PCL]	Acenaphthylene	1.5[PCL]
Anthracene	7.3[PCL]	Anthracene	7.3[PCL]
Dibenzofuran	0.098[PCL]	Dibenzofuran	0.098[PCL]
Bis(2-ethylhexyl)phthalate	0.006[PCL]	Bis(2-ethylhexyl)phthalate	0.006[PCL]
Fluoranthene	0.98[PCL]	Fluoranthene	0.98[PCL]
Fluorene	0.98[PCL]	Fluorene	0.98[PCL]
2-Methylnaphthalene	0.098[PCL]	Di-n-butyl phthalate	2.4[PCL]
Naphthalene	0.49[PCL]	Naphthalene	0.49[PCL]
Phenanthrene	0.73[PCL]	Phenol	7.3[PCL]
Pyrene	0.73[PCL]	Pyrene	0.73[PCL]

PCL Alternate Concentration Limit pursuant to 30 TAC §335.160(b) based upon the Protective Concentration Level determined under 30 TAC Chapter 350 for Residential Land Use. The PCL value, Column B, will change as updates to the rule are promulgated. Changes to the rule automatically change the concentration value established in Column B in this table.

TABLE V
Designation of Wells by Function

POINT OF COMPLIANCE WELLS

1. Closed Surface Impoundment (NOR Unit No. 001, SWMU No. 01)
A-Transmissive Zone: MW-01A, MW-02, MW-07, MW-10A, and MW-11A
B-Transmissive Zone: MW-10B, MW-11B, and P-10

POINT OF EXPOSURE WELLS

1. Closed Surface Impoundment (NOR Unit No. 001, SWMU No. 01)
None

BACKGROUND WELLS

1. Closed Surface Impoundment (NOR Unit No. 001, SWMU No. 01)
A-Transmissive Zone: MW-8
B-Transmissive Zone: P-12

Note: Wells and piezometers identified on Attachment A maps that are not listed in this table are subject to change, upon approval by the executive director, without modification to the Compliance Plan. The wells and piezometers for the Closed Surface Impoundment are depicted on Attachment A, Sheets 3 and 4.

APPENDIX B
FIELD PARAMETERS

Table B-1
Groundwater Sampling Field Parameters
Semiannual Monitoring Report: 2014 First Semiannual Event

Houston Wood Preserving Works
Houston, Texas

Field Parameter	Monitoring Well IDs									
	A-Transmissive Zone						B-Transmissive Zone			
	MW-01A	MW-02	MW-07	MW-08	MW-10A	MW-11A	MW-10B	MW-11B	P-10	P-12
	1/8/2014	1/8/2014	1/9/2014	1/9/2014	1/8/2014	1/8/2014	1/8/2014	1/8/2014	1/9/2014	1/9/2014
Time Sampled (hrs CST)	14:14	13:25	9:07	11:12	17:32	16:02	16:51	15:18	10:03	7:51
Temperature (ºC)	23.1	22.6	22.7	22.9	23.4	23.1	22.8	23.1	22.4	22.7
pH (Standard Units)	6.81	6.92	6.93	6.77	6.63	6.76	6.84	6.89	6.79	6.92
Specific Conductivity (mmhos/cm)	1,710	2,010	2,130	2,060	1,770	2,010	2,190	1,970	2,060	2,420
Dissolved Oxygen (mg/L)	0.84	0.71	0.47	0.96	0.52	0.52	0.37	0.76	0.76	0.34
Turbidity (NTU)	7.4	9.6	13.0	6.7	3.7	9.2	7.7	9.4	5.1	5.7

APPENDIX C
LABORATORY ANALYTICAL REPORTS and DATA USABILITY SUMMARIES

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Tel: (713)690-4444

TestAmerica Job ID: 600-85302-1
Client Project/Site: 1620 UPRR HWPW
Revision: 1

For:
Pastor, Behling & Wheeler LLC
2201 Double Creek Dr
Suite 4004
Round Rock, Texas 78664

Attn: Mr. Eric Matzner

Authorized for release by:
6/30/2014 2:10:00 PM
Sophia Shah, Project Management Assistant I
sophia.shah@testamericainc.com

Designee for

Sachin Kudchadkar, Senior Project Manager
(713)690-4444
sachin.kudchadkar@testamericainc.com

Table of Contents

Appendix A
Laboratory Data Package Cover Page - Page 1 of 4

This data package is for TestAmerica Houston job number 600-85302-1 and consists of:

- ☑ 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.

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

Sophia Shah		1/30/2014
Name (printed)	Signature	Date

Project Management Assistant
Official Title (printed)

Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	1/30/2014
Project Name:	1620 UPRR HWPW	Laboratory Job Number:	600-85302-1
Reviewer Name:	Sachin G Kudchadkar		

#[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 SW846 Method 5035?			X		
		If required for the project, are TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			R04B
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
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				
		Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?		X			R10B
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	X				

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

Laboratory Review checklist: Supporting Data - Page 3 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	1/30/2014
Project Name:	1620 UPRR HWPW	Laboratory Job Number:	600-85302-1
Reviewer Name:	Sachin G Kudchadkar		

#[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 (ICV and CCV) and continuing calibration blank (CCB):**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?			X		
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	**Mass spectral tuning**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS)**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data (NELAC Section 5.5.10)**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs)**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results**					
		Were percent recoveries within method QC limits?			X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs)**					
		Are laboratory SOPs current and on file for each method performed?	X				

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

Laboratory Review Checklist: Exceptions Reports - Page 4 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	1/30/2014
Project Name:	1620 UPRR HWPW	Laboratory Job Number:	600-85302-1
Reviewer Name:	Sachin G Kudchadkar		

ER #[1]	Description
R04B	Method 8270C LL: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample(s) contained an allowable number of surrogate compounds outside limits: 600-85302-2, 600-85302-3 and 600-85302-11. These results have been reported and qualified. Method 8270C LL: Surrogate compounds were biased low for the following sample(s): 600-85302-10. There was insufficient sample(s) remaining to perform re-extraction and/or re-analysis; therefore, the data have been reported and qualified. Method 8270C LL: Surrogate recovery for the following samples were outside control limits: 600-85302-2 and 600-85302-3. Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed. Method 8270C LL: Surrogate recovery for the following samples were outside control limits: 600-85302-1 and 600-85302-9. Samples were re-extracted and run with similar results; matrix interference is suspected. Method 8270C LL: The following sample required a dilution due to the nature of the sample matrix: 600-85302-8. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.
R10B	Method 8270C LL: The following samples were diluted due to the nature of the sample matrix: 600-85302-2, 600-85302-3, 600-85302-4, 600-85302-6, and 600-85302-8. Elevated reporting limits (RLs) are provided.

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

Matrix: Water
Method: 8270C
Prep Method: 3510C
Date Analyzed: 1/10/2014
Job #: 600-85250
TALS Batch: 124708
Units: ug/L

Analyte	MDL	DCS Spike	Measured Result	MQL
1,1'-Biphenyl	1.120	2.500	2.599	10
1,2,4,5-Tetrachlorobenzene	1.680	2.500	2.619	10
1,2,4-Trichlorobenzene	1.140	2.500	2.512	10
1,2-Dichlorobenzene	1.090	2.500	2.475	10
1,2-Dinitrobenzene	1.020	2.500	2.003	10
1,2-Diphenylhydrazine	0.900	2.500	2.890	10
1,3-Dichlorobenzene	1.150	2.500	2.580	10
1,3-Dinitrobenzene	3.470	5.000	4.860	10
1,4-Dichlorobenzene	1.260	2.500	2.580	10
1-Methylnaphthalene	0.530	2.500	2.645	10
2,2'-oxybis[1-chloropropane]	1.700	2.500	2.849	10
2,3,4,6-Tetrachlorophenol	0.830	2.500	1.973	10
2,4,5-Trichlorophenol	1.260	2.500	2.284	10
2,4,6-Trichlorophenol	0.920	2.500	2.319	10
2,4-Dichlorophenol	1.540	2.500	2.415	10
2,4-Dimethylphenol	1.340	2.500	2.781	10
2,4-Dinitrophenol	0.890	5.000	8.242	50
2,4-Dinitrotoluene	0.950	2.500	2.491	10
2,6-Dimethylphenol	1.030	2.500	2.249	10
2,6-Dinitrotoluene	0.640	2.500	2.481	10
2-Chloronaphthalene	1.000	2.500	2.695	10
2-Chlorophenol	0.670	2.500	2.420	10
2-Methylnaphthalene	1.100	2.500	2.692	10
2-Methylphenol	1.010	2.500	2.530	10
2-Nitroaniline	1.130	2.500	2.804	50
2-Nitrophenol	0.630	2.500	2.493	10
3 & 4 Methylphenol	1.880	2.500	2.655	20
3,3'-Dichlorobenzidine	0.580	2.500	4.823	20
3-Nitroaniline	0.510	2.500	2.477	50
4,6-Dinitro-2-methylphenol	1.880	5.000	3.164	50
4-Bromophenyl phenyl ether	0.680	2.500	2.519	10
4-Chloro-3-methylphenol	0.820	2.500	2.796	10
4-Chloroaniline	0.980	2.500	2.228	10
4-Chlorophenyl phenyl ether	0.790	2.500	2.875	10
4-Nitroaniline	1.010	2.500	2.276	50
4-Nitrophenol	0.990	5.000	3.057	50
Acenaphthene	0.530	2.500	2.607	10
Acenaphthylene	0.900	2.500	2.580	10
Acetophenone	1.020	2.500	2.738	10
Aniline	1.620	2.500	1.999	10
Anthracene	0.670	2.500	2.528	10
Azobenzene	10	2.500	2.890	10
Benzidine	0.610	25.000	2.670	50
Benzo[a]anthracene	0.580	2.500	2.537	10
Benzo[a]pyrene	0.570	2.500	2.311	10
Benzo[b]fluoranthene	1.050	2.500	2.564	10

DCS = Detection Check Standard
MQL = Method Quantitation Limit

Matrix:	Water
Method:	8270C
Prep Method:	3510C
Date Analyzed:	1/10/2014
Job #:	600-85250
TALS Batch:	124708
Units:	ug/L

Analyte	MDL	DCS Spike	Measured Result	MQL
Benzo[g,h,i]perylene	0.830	2.500	2.142	10
Benzo[k]fluoranthene	0.930	2.500	2.470	10
Benzoic acid	2.510	5.000	2.420	50
Benzyl alcohol	1.180	2.500	2.395	10
Bis(2-chloroethoxy)methane	1.240	2.500	2.776	10
Bis(2-chloroethyl)ether	1.190	2.500	2.577	10
Bis(2-ethylhexyl) phthalate	0.520	2.500	2.735	10
Butyl benzyl phthalate	0.610	2.500	2.781	10
Caprolactam	2.320	5.000	4.190	10
Carbazole	1.140	2.500	2.630	10
Chrysene	0.600	2.500	2.639	10
Dibenz(a,h)anthracene	0.720	2.500	2.244	10
Dibenzofuran	0.990	2.500	2.671	10
Diethyl phthalate	1.140	2.500	2.795	10
Dimethyl phthalate	0.520	2.500	2.597	10
Di-n-butyl phthalate	1.040	2.500	2.836	10
Di-n-octyl phthalate	0.690	2.500	2.335	10
Fluoranthene	0.520	2.500	2.616	10
Fluorene	1.420	2.500	2.748	10
Hexachlorobenzene	0.900	2.500	2.763	10
Hexachlorobutadiene	1.110	2.500	2.591	10
Hexachlorocyclopentadiene	0.580	2.500	1.623	10
Hexachloroethane	1.160	2.500	2.427	10
Indeno[1,2,3-cd]pyrene	0.670	2.500	1.627	10
Isophorone	0.730	2.500	2.806	10
Naphthalene	0.510	2.500	2.664	10
Nitrobenzene	1.180	2.500	3.061	10
N-Nitrosodimethylamine	1.930	2.500	1.988	10
N-Nitrosodi-n-propylamine	0.660	2.500	2.808	10
N-Nitrosodiphenylamine	1.030	2.500	2.590	10
Pentachlorophenol	0.890	5.000	2.274	50
Phenanthrene	0.790	2.500	2.579	10
Phenol	0.950	2.500	2.010	10
Pyrene	1.120	2.500	2.619	10
Pyridine	1.040	2.500	0.536	10
Total Cresols	1.880	5.000	5.200	50

DCS = Detection Check Standard
MQL = Method Quantitation Limit

Job ID: 600-85302-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative
600-85302-1

Comments
This report was revised on 6/30/2014 to include additional comments in the case narrative.

Receipt
The samples were received on 1/9/2014 1:11 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.9º C, 2.6º C and 4.1º C.

GC/MS Semi VOA
Method 8270C LL: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample(s) contained an allowable number of surrogate compounds outside limits: 600-85302-2, 600-85302-3 and 600-85302-11. These results have been reported and qualified.

Method 8270C LL: Surrogate compounds were biased low for the following sample(s): 600-85302-10. There was insufficient sample(s) remaining to perform re-extraction and/or re-analysis; therefore, the data have been reported and qualified.

Method 8270C LL: Surrogate recovery for the following samples were outside control limits: 600-85302-2 and 600-85302-3. Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed. Method 8270C LL: Surrogate recovery for the following samples were outside control limits: 600-85302-1 and 600-85302-9. Samples were re-extracted and run with similar results; matrix interference is suspected.

Method 8270C LL: The following sample required a dilution due to the nature of the sample matrix: 600-85302-8. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: Pastor, Behling & Wheeler LLC
Project/Site: 1620 UPRR HWPW

TestAmerica Job ID: 600-85302-1

Method	Method Description	Protocol	Laboratory
8270C LL	Semivolatile Organic Compounds by GCMS - Low Levels	SW846	TAL HOU

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Sample Summary

Client: Pastor, Behling & Wheeler LLC
Project/Site: 1620 UPRR HWPW

TestAmerica Job ID: 600-85302-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-85302-1	WG-1620-MW02-20140108	Water	01/08/14 13:40	01/09/14 13:11
600-85302-2	WG-1620-MW01A-20140108	Water	01/08/14 14:40	01/09/14 13:11
600-85302-3	WG-1620-FD01-20140108	Water	01/08/14 14:40	01/09/14 13:11
600-85302-4	WG-1620-MW11B-20140108	Water	01/08/14 15:30	01/09/14 13:11
600-85302-5	WG-1620-MW11A-20140108	Water	01/08/14 16:20	01/09/14 13:11
600-85302-6	WG-1620-MW10B-20140108	Water	01/08/14 17:05	01/09/14 13:11
600-85302-7	WG-1620-MW10A-20140108	Water	01/08/14 17:45	01/09/14 13:11
600-85302-8	WG-1620-FB1-20140108	Water	01/08/14 18:00	01/09/14 13:11
600-85302-9	WG-1620-P12-20140109	Water	01/09/14 08:30	01/09/14 13:11
600-85302-10	WG-1620-MW07-20140109	Water	01/09/14 09:20	01/09/14 13:11
600-85302-11	WG-1620-P10-20140109	Water	01/09/14 10:30	01/09/14 13:11
600-85302-12	WG-1620-FD02-20140109	Water	01/09/14 10:30	01/09/14 13:11
600-85302-13	WG-1620-MW08-20140109	Water	01/09/14 11:30	01/09/14 13:11
600-85302-14	WG-1620-FB02-20140109	Water	01/09/14 11:45	01/09/14 13:11

Client Sample ID: WG-1620-MW02-20140108

Lab Sample ID: 600-85302-1

Date Collected: 01/08/14 13:40

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0000741	U	0.00463	0.0000741	mg/L		01/13/14 10:00	01/20/14 10:38	1
2-Methylnaphthalene	0.0000648	U	0.00463	0.0000648	mg/L		01/13/14 10:00	01/20/14 10:38	1
Acenaphthylene	**0.000101**	**J**	0.00463	0.0000556	mg/L		01/13/14 10:00	01/20/14 10:38	1
Acenaphthene	**0.000445**	**J**	0.00463	0.0000741	mg/L		01/13/14 10:00	01/20/14 10:38	1
Dibenzofuran	**0.000147**	**J**	0.00463	0.0000741	mg/L		01/13/14 10:00	01/20/14 10:38	1
Fluorene	**0.000255**	**J**	0.00463	0.0000648	mg/L		01/13/14 10:00	01/20/14 10:38	1
Phenanthrene	**0.000122**	**J**	0.00463	0.0000556	mg/L		01/13/14 10:00	01/20/14 10:38	1
Anthracene	**0.00131**		0.00463	0.0000463	mg/L		01/13/14 10:00	01/20/14 10:38	1
Fluoranthene	**0.000307**	**J**	0.00463	0.0000648	mg/L		01/13/14 10:00	01/20/14 10:38	1
Pyrene	**0.000175**	**J**	0.00463	0.000102	mg/L		01/13/14 10:00	01/20/14 10:38	1
Bis(2-ethylhexyl) phthalate	0.000343	U	0.00231	0.000343	mg/L		01/13/14 10:00	01/20/14 10:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*62*		*44 - 123*	*01/13/14 10:00*	*01/20/14 10:38*	*1*
2-Fluorobiphenyl	*55*		*43 - 120*	*01/13/14 10:00*	*01/20/14 10:38*	*1*
2-Fluorophenol	*16*	*X*	*18 - 120*	*01/13/14 10:00*	*01/20/14 10:38*	*1*
Nitrobenzene-d5	*58*		*47 - 120*	*01/13/14 10:00*	*01/20/14 10:38*	*1*
Terphenyl-d14	*73*		*33 - 141*	*01/13/14 10:00*	*01/20/14 10:38*	*1*
Phenol-d5 (Surr)	*8*	*X*	*12 - 128*	*01/13/14 10:00*	*01/20/14 10:38*	*1*

Client Sample ID: WG-1620-MW01A-20140108

Lab Sample ID: 600-85302-2

Date Collected: 01/08/14 14:40

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0000741	U	0.00463	0.0000741	mg/L		01/13/14 10:00	01/20/14 11:05	1
2-Methylnaphthalene	**0.00222**		0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 11:05	1
Acenaphthylene	**0.000930**		0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 11:05	1
Acenaphthene	**0.0895**		0.00231	0.000370	mg/L		01/13/14 10:00	01/22/14 23:12	5
Dibenzofuran	**0.00951**		0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 11:05	1
Fluorene	**0.0369**		0.00231	0.000324	mg/L		01/13/14 10:00	01/22/14 23:12	5
Phenanthrene	**0.00175**		0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 11:05	1
Anthracene	**0.00300**		0.000463	0.0000463	mg/L		01/13/14 10:00	01/20/14 11:05	1
Fluoranthene	**0.00257**		0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 11:05	1
Pyrene	**0.00130**		0.000463	0.000102	mg/L		01/13/14 10:00	01/20/14 11:05	1
Bis(2-ethylhexyl) phthalate	**0.000838**	**J**	0.00231	0.000343	mg/L		01/13/14 10:00	01/20/14 11:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*110*		*44 - 123*	*01/13/14 10:00*	*01/20/14 11:05*	*1*
2,4,6-Tribromophenol	*118*		*44 - 123*	*01/13/14 10:00*	*01/22/14 23:12*	*5*
2-Fluorobiphenyl	*83*		*43 - 120*	*01/13/14 10:00*	*01/20/14 11:05*	*1*
2-Fluorobiphenyl	*94*		*43 - 120*	*01/13/14 10:00*	*01/22/14 23:12*	*5*
2-Fluorophenol	*30*		*18 - 120*	*01/13/14 10:00*	*01/20/14 11:05*	*1*
2-Fluorophenol	*39*		*18 - 120*	*01/13/14 10:00*	*01/22/14 23:12*	*5*
Nitrobenzene-d5	*92*		*47 - 120*	*01/13/14 10:00*	*01/20/14 11:05*	*1*
Nitrobenzene-d5	*121*	*X*	*47 - 120*	*01/13/14 10:00*	*01/22/14 23:12*	*5*
Terphenyl-d14	*111*		*33 - 141*	*01/13/14 10:00*	*01/20/14 11:05*	*1*
Terphenyl-d14	*122*		*33 - 141*	*01/13/14 10:00*	*01/22/14 23:12*	*5*
Phenol-d5 (Surr)	*16*		*12 - 128*	*01/13/14 10:00*	*01/20/14 11:05*	*1*

Client Sample ID: WG-1620-MW01A-20140108

Lab Sample ID: 600-85302-2

Date Collected: 01/08/14 14:40

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	21		12 - 128	01/13/14 10:00	01/22/14 23:12	5

Client Sample ID: WG-1620-FD01-20140108

Lab Sample ID: 600-85302-3

Date Collected: 01/08/14 14:40

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.00172	J	0.00463	0.0000741	mg/L		01/13/14 10:00	01/20/14 11:31	1
2-Methylnaphthalene	0.0152		0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 11:31	1
Acenaphthylene	0.00144		0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 11:31	1
Acenaphthene	0.100		0.00463	0.000741	mg/L		01/13/14 10:00	01/22/14 23:38	10
Dibenzofuran	0.0168		0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 11:31	1
Fluorene	0.0432		0.00463	0.000648	mg/L		01/13/14 10:00	01/22/14 23:38	10
Phenanthrene	0.00451		0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 11:31	1
Anthracene	0.00371		0.000463	0.0000463	mg/L		01/13/14 10:00	01/20/14 11:31	1
Fluoranthene	0.00345		0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 11:31	1
Pyrene	0.00165		0.000463	0.000102	mg/L		01/13/14 10:00	01/20/14 11:31	1
Bis(2-ethylhexyl) phthalate	0.000670	J	0.00231	0.000343	mg/L		01/13/14 10:00	01/20/14 11:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	127	X	44 - 123	01/13/14 10:00	01/20/14 11:31	1
2,4,6-Tribromophenol	138	X	44 - 123	01/13/14 10:00	01/22/14 23:38	10
2-Fluorobiphenyl	101		43 - 120	01/13/14 10:00	01/20/14 11:31	1
2-Fluorobiphenyl	104		43 - 120	01/13/14 10:00	01/22/14 23:38	10
2-Fluorophenol	35		18 - 120	01/13/14 10:00	01/20/14 11:31	1
2-Fluorophenol	34		18 - 120	01/13/14 10:00	01/22/14 23:38	10
Nitrobenzene-d5	102		47 - 120	01/13/14 10:00	01/20/14 11:31	1
Nitrobenzene-d5	110		47 - 120	01/13/14 10:00	01/22/14 23:38	10
Terphenyl-d14	128		33 - 141	01/13/14 10:00	01/20/14 11:31	1
Terphenyl-d14	122		33 - 141	01/13/14 10:00	01/22/14 23:38	10
Phenol-d5 (Surr)	16		12 - 128	01/13/14 10:00	01/20/14 11:31	1
Phenol-d5 (Surr)	12		12 - 128	01/13/14 10:00	01/22/14 23:38	10

Client Sample ID: WG-1620-MW11B-20140108

Lab Sample ID: 600-85302-4

Date Collected: 01/08/14 15:30

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000370	U	0.000463	0.0000370	mg/L		01/13/14 10:00	01/20/14 11:58	1
Naphthalene	0.000382	J	0.00463	0.0000741	mg/L		01/13/14 10:00	01/20/14 11:58	1
Acenaphthylene	0.00102		0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 11:58	1
Acenaphthene	0.0603		0.00231	0.000370	mg/L		01/13/14 10:00	01/23/14 00:03	5
Dibenzofuran	0.0111		0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 11:58	1
Fluorene	0.0195		0.00231	0.000324	mg/L		01/13/14 10:00	01/23/14 00:03	5
Anthracene	0.00242		0.000463	0.0000463	mg/L		01/13/14 10:00	01/20/14 11:58	1
Di-n-butyl phthalate	0.000317	J	0.00231	0.000102	mg/L		01/13/14 10:00	01/20/14 11:58	1
Fluoranthene	0.00267		0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 11:58	1
Pyrene	0.00126		0.000463	0.000102	mg/L		01/13/14 10:00	01/20/14 11:58	1

Client Sample ID: WG-1620-MW11B-20140108

Lab Sample ID: 600-85302-4

Date Collected: 01/08/14 15:30

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	**0.000493**	**J**	0.00231	0.000343	mg/L		01/13/14 10:00	01/20/14 11:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*93*		*44 - 123*	*01/13/14 10:00*	*01/20/14 11:58*	*1*
2,4,6-Tribromophenol	*99*		*44 - 123*	*01/13/14 10:00*	*01/23/14 00:03*	*5*
2-Fluorobiphenyl	*71*		*43 - 120*	*01/13/14 10:00*	*01/20/14 11:58*	*1*
2-Fluorobiphenyl	*76*		*43 - 120*	*01/13/14 10:00*	*01/23/14 00:03*	*5*
2-Fluorophenol	*21*		*18 - 120*	*01/13/14 10:00*	*01/20/14 11:58*	*1*
2-Fluorophenol	*19*		*18 - 120*	*01/13/14 10:00*	*01/23/14 00:03*	*5*
Nitrobenzene-d5	*65*		*47 - 120*	*01/13/14 10:00*	*01/20/14 11:58*	*1*
Nitrobenzene-d5	*72*		*47 - 120*	*01/13/14 10:00*	*01/23/14 00:03*	*5*
Terphenyl-d14	*99*		*33 - 141*	*01/13/14 10:00*	*01/20/14 11:58*	*1*
Terphenyl-d14	*107*		*33 - 141*	*01/13/14 10:00*	*01/23/14 00:03*	*5*
Phenol-d5 (Surr)	*10*	*X*	*12 - 128*	*01/13/14 10:00*	*01/20/14 11:58*	*1*
Phenol-d5 (Surr)	*14*		*12 - 128*	*01/13/14 10:00*	*01/23/14 00:03*	*5*

Client Sample ID: WG-1620-MW11A-20140108

Lab Sample ID: 600-85302-5

Date Collected: 01/08/14 16:20

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0000741	U	0.00463	0.0000741	mg/L		01/13/14 10:00	01/20/14 12:25	1
2-Methylnaphthalene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 12:25	1
Acenaphthylene	**0.000100**	**J**	0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 12:25	1
Acenaphthene	0.0000741	U	0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 12:25	1
Dibenzofuran	0.0000741	U	0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 12:25	1
Fluorene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 12:25	1
Phenanthrene	0.0000556	U	0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 12:25	1
Anthracene	**0.00125**		0.000463	0.0000463	mg/L		01/13/14 10:00	01/20/14 12:25	1
Fluoranthene	**0.0000795**	**J**	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 12:25	1
Pyrene	0.000102	U	0.000463	0.000102	mg/L		01/13/14 10:00	01/20/14 12:25	1
Bis(2-ethylhexyl) phthalate	**0.000460**	**J**	0.00231	0.000343	mg/L		01/13/14 10:00	01/20/14 12:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*102*		*44 - 123*	*01/13/14 10:00*	*01/20/14 12:25*	*1*
2-Fluorobiphenyl	*86*		*43 - 120*	*01/13/14 10:00*	*01/20/14 12:25*	*1*
2-Fluorophenol	*33*		*18 - 120*	*01/13/14 10:00*	*01/20/14 12:25*	*1*
Nitrobenzene-d5	*88*		*47 - 120*	*01/13/14 10:00*	*01/20/14 12:25*	*1*
Terphenyl-d14	*107*		*33 - 141*	*01/13/14 10:00*	*01/20/14 12:25*	*1*
Phenol-d5 (Surr)	*13*		*12 - 128*	*01/13/14 10:00*	*01/20/14 12:25*	*1*

Client Sample ID: WG-1620-MW10B-20140108

Lab Sample ID: 600-85302-6

Date Collected: 01/08/14 17:05

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000370	U	0.000463	0.0000370	mg/L		01/13/14 10:00	01/20/14 12:51	1
Naphthalene	**0.0646**		0.0231	0.000370	mg/L		01/13/14 10:00	01/23/14 00:29	5

Client Sample ID: WG-1620-MW10B-20140108

Lab Sample ID: 600-85302-6

Date Collected: 01/08/14 17:05

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	0.000536		0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 12:51	1
Acenaphthene	0.0210		0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 12:51	1
Dibenzofuran	0.00493		0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 12:51	1
Fluorene	0.00429		0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 12:51	1
Anthracene	0.00107		0.000463	0.0000463	mg/L		01/13/14 10:00	01/20/14 12:51	1
Di-n-butyl phthalate	0.000275	J	0.00231	0.000102	mg/L		01/13/14 10:00	01/20/14 12:51	1
Fluoranthene	0.000117	J	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 12:51	1
Pyrene	0.000102	U	0.000463	0.000102	mg/L		01/13/14 10:00	01/20/14 12:51	1
Bis(2-ethylhexyl) phthalate	0.000408	J	0.00231	0.000343	mg/L		01/13/14 10:00	01/20/14 12:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*112*		*44 - 123*	*01/13/14 10:00*	*01/20/14 12:51*	*1*
2,4,6-Tribromophenol	*115*		*44 - 123*	*01/13/14 10:00*	*01/23/14 00:29*	*5*
2-Fluorobiphenyl	*90*		*43 - 120*	*01/13/14 10:00*	*01/20/14 12:51*	*1*
2-Fluorobiphenyl	*86*		*43 - 120*	*01/13/14 10:00*	*01/23/14 00:29*	*5*
2-Fluorophenol	*30*		*18 - 120*	*01/13/14 10:00*	*01/20/14 12:51*	*1*
2-Fluorophenol	*27*		*18 - 120*	*01/13/14 10:00*	*01/23/14 00:29*	*5*
Nitrobenzene-d5	*83*		*47 - 120*	*01/13/14 10:00*	*01/20/14 12:51*	*1*
Nitrobenzene-d5	*85*		*47 - 120*	*01/13/14 10:00*	*01/23/14 00:29*	*5*
Terphenyl-d14	*106*		*33 - 141*	*01/13/14 10:00*	*01/20/14 12:51*	*1*
Terphenyl-d14	*104*		*33 - 141*	*01/13/14 10:00*	*01/23/14 00:29*	*5*
Phenol-d5 (Surr)	*14*		*12 - 128*	*01/13/14 10:00*	*01/20/14 12:51*	*1*
Phenol-d5 (Surr)	*13*		*12 - 128*	*01/13/14 10:00*	*01/23/14 00:29*	*5*

Client Sample ID: WG-1620-MW10A-20140108

Lab Sample ID: 600-85302-7

Date Collected: 01/08/14 17:45

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0000741	U	0.00463	0.0000741	mg/L		01/13/14 10:00	01/20/14 13:18	1
2-Methylnaphthalene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 13:18	1
Acenaphthylene	0.0000556	U	0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 13:18	1
Acenaphthene	0.0000741	U	0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 13:18	1
Dibenzofuran	0.0000741	U	0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 13:18	1
Fluorene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 13:18	1
Phenanthrene	0.0000556	U	0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 13:18	1
Anthracene	0.0000463	U	0.000463	0.0000463	mg/L		01/13/14 10:00	01/20/14 13:18	1
Fluoranthene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 13:18	1
Pyrene	0.000102	U	0.000463	0.000102	mg/L		01/13/14 10:00	01/20/14 13:18	1
Bis(2-ethylhexyl) phthalate	0.000343	U	0.00231	0.000343	mg/L		01/13/14 10:00	01/20/14 13:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*69*		*44 - 123*	*01/13/14 10:00*	*01/20/14 13:18*	*1*
2-Fluorobiphenyl	*80*		*43 - 120*	*01/13/14 10:00*	*01/20/14 13:18*	*1*
2-Fluorophenol	*38*		*18 - 120*	*01/13/14 10:00*	*01/20/14 13:18*	*1*
Nitrobenzene-d5	*82*		*47 - 120*	*01/13/14 10:00*	*01/20/14 13:18*	*1*
Terphenyl-d14	*99*		*33 - 141*	*01/13/14 10:00*	*01/20/14 13:18*	*1*
Phenol-d5 (Surr)	*19*		*12 - 128*	*01/13/14 10:00*	*01/20/14 13:18*	*1*

Client Sample ID: WG-1620-FB1-20140108

Lab Sample ID: 600-85302-8

Date Collected: 01/08/14 18:00

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**0.461**		0.0926	0.00148	mg/L		01/13/14 10:00	01/23/14 00:55	20
2-Methylnaphthalene	**0.0976**		0.00926	0.00130	mg/L		01/13/14 10:00	01/23/14 00:55	20
Acenaphthylene	**0.00145**		0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 13:44	1
Acenaphthene	**0.203**		0.00926	0.00148	mg/L		01/13/14 10:00	01/23/14 00:55	20
Dibenzofuran	**0.0759**		0.00926	0.00148	mg/L		01/13/14 10:00	01/23/14 00:55	20
Fluorene	**0.107**		0.00926	0.00130	mg/L		01/13/14 10:00	01/23/14 00:55	20
Phenanthrene	**0.0427**		0.00926	0.00111	mg/L		01/13/14 10:00	01/23/14 00:55	20
Anthracene	**0.00829**		0.000463	0.0000463	mg/L		01/13/14 10:00	01/20/14 13:44	1
Fluoranthene	**0.00572**		0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 13:44	1
Pyrene	**0.00253**		0.000463	0.000102	mg/L		01/13/14 10:00	01/20/14 13:44	1
Bis(2-ethylhexyl) phthalate	0.000343	U	0.00231	0.000343	mg/L		01/13/14 10:00	01/20/14 13:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*121*		*44 - 123*	*01/13/14 10:00*	*01/20/14 13:44*	*1*
2,4,6-Tribromophenol	*0*	*X*	*44 - 123*	*01/13/14 10:00*	*01/23/14 00:55*	*20*
2-Fluorobiphenyl	*95*		*43 - 120*	*01/13/14 10:00*	*01/20/14 13:44*	*1*
2-Fluorobiphenyl	*0*	*X*	*43 - 120*	*01/13/14 10:00*	*01/23/14 00:55*	*20*
2-Fluorophenol	*46*		*18 - 120*	*01/13/14 10:00*	*01/20/14 13:44*	*1*
2-Fluorophenol	*0*	*X*	*18 - 120*	*01/13/14 10:00*	*01/23/14 00:55*	*20*
Nitrobenzene-d5	*101*		*47 - 120*	*01/13/14 10:00*	*01/20/14 13:44*	*1*
Nitrobenzene-d5	*0*	*X*	*47 - 120*	*01/13/14 10:00*	*01/23/14 00:55*	*20*
Terphenyl-d14	*112*		*33 - 141*	*01/13/14 10:00*	*01/20/14 13:44*	*1*
Terphenyl-d14	*0*	*X*	*33 - 141*	*01/13/14 10:00*	*01/23/14 00:55*	*20*
Phenol-d5 (Surr)	*18*		*12 - 128*	*01/13/14 10:00*	*01/20/14 13:44*	*1*
Phenol-d5 (Surr)	*0*	*X*	*12 - 128*	*01/13/14 10:00*	*01/23/14 00:55*	*20*

Client Sample ID: WG-1620-P12-20140109

Lab Sample ID: 600-85302-9

Date Collected: 01/09/14 08:30

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000370	U	0.000463	0.0000370	mg/L		01/13/14 10:00	01/20/14 14:11	1
Naphthalene	0.0000741	U	0.00463	0.0000741	mg/L		01/13/14 10:00	01/20/14 14:11	1
Acenaphthylene	0.0000556	U	0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 14:11	1
Acenaphthene	0.0000741	U	0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 14:11	1
Dibenzofuran	0.0000741	U	0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 14:11	1
Fluorene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 14:11	1
Anthracene	**0.000200**	**J**	0.000463	0.0000463	mg/L		01/13/14 10:00	01/20/14 14:11	1
Di-n-butyl phthalate	**0.000416**	**J**	0.00231	0.000102	mg/L		01/13/14 10:00	01/20/14 14:11	1
Fluoranthene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 14:11	1
Pyrene	0.000102	U	0.000463	0.000102	mg/L		01/13/14 10:00	01/20/14 14:11	1
Bis(2-ethylhexyl) phthalate	**0.000515**	**J**	0.00231	0.000343	mg/L		01/13/14 10:00	01/20/14 14:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*34*	*X*	*44 - 123*	*01/13/14 10:00*	*01/20/14 14:11*	*1*
2-Fluorobiphenyl	*79*		*43 - 120*	*01/13/14 10:00*	*01/20/14 14:11*	*1*
2-Fluorophenol	*16*	*X*	*18 - 120*	*01/13/14 10:00*	*01/20/14 14:11*	*1*
Nitrobenzene-d5	*78*		*47 - 120*	*01/13/14 10:00*	*01/20/14 14:11*	*1*
Terphenyl-d14	*105*		*33 - 141*	*01/13/14 10:00*	*01/20/14 14:11*	*1*

Client Sample ID: WG-1620-P12-20140109

Lab Sample ID: 600-85302-9

Date Collected: 01/09/14 08:30

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Phenol-d5 (Surr)	*9*	*X*	*12 - 128*	*01/13/14 10:00*	*01/20/14 14:11*	*1*

Client Sample ID: WG-1620-MW07-20140109

Lab Sample ID: 600-85302-10

Date Collected: 01/09/14 09:20

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0000741	U	0.00463	0.0000741	mg/L		01/13/14 10:00	01/20/14 15:31	1
2-Methylnaphthalene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 15:31	1
Acenaphthylene	0.0000556	U	0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 15:31	1
Acenaphthene	0.0000741	U	0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 15:31	1
Dibenzofuran	0.0000741	U	0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 15:31	1
Fluorene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 15:31	1
Phenanthrene	0.0000556	U	0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 15:31	1
Anthracene	0.0000463	U	0.000463	0.0000463	mg/L		01/13/14 10:00	01/20/14 15:31	1
Fluoranthene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 15:31	1
Pyrene	0.000102	U	0.000463	0.000102	mg/L		01/13/14 10:00	01/20/14 15:31	1
Bis(2-ethylhexyl) phthalate	0.000343	U	0.00231	0.000343	mg/L		01/13/14 10:00	01/20/14 15:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	*8*	*X*	*44 - 123*	*01/13/14 10:00*	*01/20/14 15:31*	*1*
2-Fluorobiphenyl	*8*	*X*	*43 - 120*	*01/13/14 10:00*	*01/20/14 15:31*	*1*
2-Fluorophenol	*5*	*X*	*18 - 120*	*01/13/14 10:00*	*01/20/14 15:31*	*1*
Nitrobenzene-d5	*7*	*X*	*47 - 120*	*01/13/14 10:00*	*01/20/14 15:31*	*1*
Terphenyl-d14	*10*	*X*	*33 - 141*	*01/13/14 10:00*	*01/20/14 15:31*	*1*
Phenol-d5 (Surr)	*3*	*X*	*12 - 128*	*01/13/14 10:00*	*01/20/14 15:31*	*1*

Client Sample ID: WG-1620-P10-20140109

Lab Sample ID: 600-85302-11

Date Collected: 01/09/14 10:30

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000370	U	0.000463	0.0000370	mg/L		01/13/14 10:00	01/20/14 15:58	1
Naphthalene	0.0000741	U	0.00463	0.0000741	mg/L		01/13/14 10:00	01/20/14 15:58	1
Acenaphthylene	0.0000556	U	0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 15:58	1
Acenaphthene	**0.000102**	**J**	0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 15:58	1
Dibenzofuran	0.0000741	U	0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 15:58	1
Fluorene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 15:58	1
Anthracene	**0.000323**	**J**	0.000463	0.0000463	mg/L		01/13/14 10:00	01/20/14 15:58	1
Di-n-butyl phthalate	**0.000262**	**J**	0.00231	0.000102	mg/L		01/13/14 10:00	01/20/14 15:58	1
Fluoranthene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 15:58	1
Pyrene	0.000102	U	0.000463	0.000102	mg/L		01/13/14 10:00	01/20/14 15:58	1
Bis(2-ethylhexyl) phthalate	0.000343	U	0.00231	0.000343	mg/L		01/13/14 10:00	01/20/14 15:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	*53*		*44 - 123*	*01/13/14 10:00*	*01/20/14 15:58*	*1*
2-Fluorobiphenyl	*75*		*43 - 120*	*01/13/14 10:00*	*01/20/14 15:58*	*1*
2-Fluorophenol	*19*		*18 - 120*	*01/13/14 10:00*	*01/20/14 15:58*	*1*

Client Sample ID: WG-1620-P10-20140109

Lab Sample ID: 600-85302-11

Date Collected: 01/09/14 10:30

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	*73*		*47 - 120*	*01/13/14 10:00*	*01/20/14 15:58*	*1*
Terphenyl-d14	*99*		*33 - 141*	*01/13/14 10:00*	*01/20/14 15:58*	*1*
Phenol-d5 (Surr)	*10*	*X*	*12 - 128*	*01/13/14 10:00*	*01/20/14 15:58*	*1*

Client Sample ID: WG-1620-FD02-20140109

Lab Sample ID: 600-85302-12

Date Collected: 01/09/14 10:30

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000370	U	0.000463	0.0000370	mg/L		01/13/14 10:00	01/20/14 16:25	1
Naphthalene	0.0000741	U	0.00463	0.0000741	mg/L		01/13/14 10:00	01/20/14 16:25	1
Acenaphthylene	**0.0000571**	**J**	0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 16:25	1
Acenaphthene	**0.000966**		0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 16:25	1
Dibenzofuran	**0.000135**	**J**	0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 16:25	1
Fluorene	**0.000262**	**J**	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 16:25	1
Anthracene	**0.000369**	**J**	0.000463	0.0000463	mg/L		01/13/14 10:00	01/20/14 16:25	1
Di-n-butyl phthalate	**0.000309**	**J**	0.00231	0.000102	mg/L		01/13/14 10:00	01/20/14 16:25	1
Fluoranthene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 16:25	1
Pyrene	0.000102	U	0.000463	0.000102	mg/L		01/13/14 10:00	01/20/14 16:25	1
Bis(2-ethylhexyl) phthalate	0.000343	U	0.00231	0.000343	mg/L		01/13/14 10:00	01/20/14 16:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	*80*		*44 - 123*	*01/13/14 10:00*	*01/20/14 16:25*	*1*
2-Fluorobiphenyl	*87*		*43 - 120*	*01/13/14 10:00*	*01/20/14 16:25*	*1*
2-Fluorophenol	*27*		*18 - 120*	*01/13/14 10:00*	*01/20/14 16:25*	*1*
Nitrobenzene-d5	*83*		*47 - 120*	*01/13/14 10:00*	*01/20/14 16:25*	*1*
Terphenyl-d14	*101*		*33 - 141*	*01/13/14 10:00*	*01/20/14 16:25*	*1*
Phenol-d5 (Surr)	*12*		*12 - 128*	*01/13/14 10:00*	*01/20/14 16:25*	*1*

Client Sample ID: WG-1620-MW08-20140109

Lab Sample ID: 600-85302-13

Date Collected: 01/09/14 11:30

Matrix: Water

Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0000741	U	0.00463	0.0000741	mg/L		01/13/14 10:00	01/20/14 16:51	1
2-Methylnaphthalene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 16:51	1
Acenaphthylene	0.0000556	U	0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 16:51	1
Acenaphthene	0.0000741	U	0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 16:51	1
Dibenzofuran	0.0000741	U	0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 16:51	1
Fluorene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 16:51	1
Phenanthrene	**0.0000637**	**J**	0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 16:51	1
Anthracene	**0.000494**		0.000463	0.0000463	mg/L		01/13/14 10:00	01/20/14 16:51	1
Fluoranthene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 16:51	1
Pyrene	0.000102	U	0.000463	0.000102	mg/L		01/13/14 10:00	01/20/14 16:51	1
Bis(2-ethylhexyl) phthalate	0.000343	U	0.00231	0.000343	mg/L		01/13/14 10:00	01/20/14 16:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	*97*		*44 - 123*	*01/13/14 10:00*	*01/20/14 16:51*	*1*

Client: Pastor, Behling & Wheeler LLC
Project/Site: 1620 UPRR HWPW

TestAmerica Job ID: 600-85302-1

Client Sample ID: WG-1620-MW08-20140109

Lab Sample ID: 600-85302-13

Date Collected: 01/09/14 11:30
Matrix: Water
Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*85*		*43 - 120*	*01/13/14 10:00*	*01/20/14 16:51*	*1*
2-Fluorophenol	*29*		*18 - 120*	*01/13/14 10:00*	*01/20/14 16:51*	*1*
Nitrobenzene-d5	*83*		*47 - 120*	*01/13/14 10:00*	*01/20/14 16:51*	*1*
Terphenyl-d14	*107*		*33 - 141*	*01/13/14 10:00*	*01/20/14 16:51*	*1*
Phenol-d5 (Surr)	*12*		*12 - 128*	*01/13/14 10:00*	*01/20/14 16:51*	*1*

Client Sample ID: WG-1620-FB02-20140109

Lab Sample ID: 600-85302-14

Date Collected: 01/09/14 11:45
Matrix: Water
Date Received: 01/09/14 13:11

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000370	U	0.000463	0.0000370	mg/L		01/13/14 10:00	01/20/14 17:18	1
Naphthalene	0.0000741	U	0.00463	0.0000741	mg/L		01/13/14 10:00	01/20/14 17:18	1
Acenaphthylene	0.0000556	U	0.000463	0.0000556	mg/L		01/13/14 10:00	01/20/14 17:18	1
Acenaphthene	0.0000741	U	0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 17:18	1
Dibenzofuran	0.0000741	U	0.000463	0.0000741	mg/L		01/13/14 10:00	01/20/14 17:18	1
Fluorene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 17:18	1
Anthracene	0.0000463	U	0.000463	0.0000463	mg/L		01/13/14 10:00	01/20/14 17:18	1
Di-n-butyl phthalate	**0.000156**	**J**	0.00231	0.000102	mg/L		01/13/14 10:00	01/20/14 17:18	1
Fluoranthene	0.0000648	U	0.000463	0.0000648	mg/L		01/13/14 10:00	01/20/14 17:18	1
Pyrene	0.000102	U	0.000463	0.000102	mg/L		01/13/14 10:00	01/20/14 17:18	1
Bis(2-ethylhexyl) phthalate	0.000343	U	0.00231	0.000343	mg/L		01/13/14 10:00	01/20/14 17:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*93*		*44 - 123*	*01/13/14 10:00*	*01/20/14 17:18*	*1*
2-Fluorobiphenyl	*97*		*43 - 120*	*01/13/14 10:00*	*01/20/14 17:18*	*1*
2-Fluorophenol	*38*		*18 - 120*	*01/13/14 10:00*	*01/20/14 17:18*	*1*
Nitrobenzene-d5	*94*		*47 - 120*	*01/13/14 10:00*	*01/20/14 17:18*	*1*
Terphenyl-d14	*103*		*33 - 141*	*01/13/14 10:00*	*01/20/14 17:18*	*1*
Phenol-d5 (Surr)	*17*		*12 - 128*	*01/13/14 10:00*	*01/20/14 17:18*	*1*

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
U	Analyte was not detected at or above the SDL.
J	Result is less than the MQL but greater than or equal to the SDL and the concentration is an estimated value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: Pastor, Behling & Wheeler LLC
Project/Site: 1620 UPRR HWPW

TestAmerica Job ID: 600-85302-1

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	TPH	PHL
Lab Sample ID	Client Sample ID	(44-123)	(43-120)	(18-120)	(47-120)	(33-141)	(12-128)
600-85302-1	WG-1620-MW02-20140108	62	55	16 X	58	73	8 X
600-85302-2	WG-1620-MW01A-20140108	110	83	30	92	111	16
600-85302-2	WG-1620-MW01A-20140108	118	94	39	121 X	122	21
600-85302-3	WG-1620-FD01-20140108	127 X	101	35	102	128	16
600-85302-3	WG-1620-FD01-20140108	138 X	104	34	110	122	12
600-85302-4	WG-1620-MW11B-20140108	93	71	21	65	99	10 X
600-85302-4	WG-1620-MW11B-20140108	99	76	19	72	107	14
600-85302-5	WG-1620-MW11A-20140108	102	86	33	88	107	13
600-85302-6	WG-1620-MW10B-20140108	112	90	30	83	106	14
600-85302-6	WG-1620-MW10B-20140108	115	86	27	85	104	13
600-85302-7	WG-1620-MW10A-20140108	69	80	38	82	99	19
600-85302-8	WG-1620-FB1-20140108	121	95	46	101	112	18
600-85302-8	WG-1620-FB1-20140108	0 X	0 X	0 X	0 X	0 X	0 X
600-85302-9	WG-1620-P12-20140109	34 X	79	16 X	78	105	9 X
600-85302-9 MS	WG-1620-P12MS-20140109	109	85	27	82	101	16
600-85302-9 MSD	WG-1620-P12MSD-20140109	107	78	26	70	99	15
600-85302-10	WG-1620-MW07-20140109	8 X	8 X	5 X	7 X	10 X	3 X
600-85302-11	WG-1620-P10-20140109	53	75	19	73	99	10 X
600-85302-12	WG-1620-FD02-20140109	80	87	27	83	101	12
600-85302-13	WG-1620-MW08-20140109	97	85	29	83	107	12
600-85302-14	WG-1620-FB02-20140109	93	97	38	94	103	17
LCS 600-124802/2-A	Lab Control Sample	99	101	107	101	110	107
MB 600-124802/1-A	Method Blank	75	88	100	87	94	92

Surrogate Legend

TBP = 2,4,6-Tribromophenol
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
TPH = Terphenyl-d14
PHL = Phenol-d5 (Surr)

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Lab Sample ID: MB 600-124802/1-A
Matrix: Water
Analysis Batch: 125413

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 124802

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000400	U	0.000500	0.0000400	mg/L		01/13/14 10:00	01/20/14 09:10	1
2-Methylnaphthalene	0.0000700	U	0.000500	0.0000700	mg/L		01/13/14 10:00	01/20/14 09:10	1
Naphthalene	0.0000800	U	0.00500	0.0000800	mg/L		01/13/14 10:00	01/20/14 09:10	1
Acenaphthylene	0.0000600	U	0.000500	0.0000600	mg/L		01/13/14 10:00	01/20/14 09:10	1
Acenaphthene	0.0000800	U	0.000500	0.0000800	mg/L		01/13/14 10:00	01/20/14 09:10	1
Dibenzofuran	0.0000800	U	0.000500	0.0000800	mg/L		01/13/14 10:00	01/20/14 09:10	1
Fluorene	0.0000700	U	0.000500	0.0000700	mg/L		01/13/14 10:00	01/20/14 09:10	1
Phenanthrene	0.0000600	U	0.000500	0.0000600	mg/L		01/13/14 10:00	01/20/14 09:10	1
Anthracene	0.0000500	U	0.000500	0.0000500	mg/L		01/13/14 10:00	01/20/14 09:10	1
Di-n-butyl phthalate	0.000110	U	0.00250	0.000110	mg/L		01/13/14 10:00	01/20/14 09:10	1
Fluoranthene	0.0000700	U	0.000500	0.0000700	mg/L		01/13/14 10:00	01/20/14 09:10	1
Pyrene	0.000110	U	0.000500	0.000110	mg/L		01/13/14 10:00	01/20/14 09:10	1
Bis(2-ethylhexyl) phthalate	0.000370	U	0.00250	0.000370	mg/L		01/13/14 10:00	01/20/14 09:10	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*75*		*44 - 123*	*01/13/14 10:00*	*01/20/14 09:10*	*1*
2-Fluorobiphenyl	*88*		*43 - 120*	*01/13/14 10:00*	*01/20/14 09:10*	*1*
2-Fluorophenol	*100*		*18 - 120*	*01/13/14 10:00*	*01/20/14 09:10*	*1*
Nitrobenzene-d5	*87*		*47 - 120*	*01/13/14 10:00*	*01/20/14 09:10*	*1*
Terphenyl-d14	*94*		*33 - 141*	*01/13/14 10:00*	*01/20/14 09:10*	*1*
Phenol-d5 (Surr)	*92*		*12 - 128*	*01/13/14 10:00*	*01/20/14 09:10*	*1*

Lab Sample ID: LCS 600-124802/2-A
Matrix: Water
Analysis Batch: 125413

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 124802

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	0.0100	0.01009		mg/L		101	11 - 112
2-Methylnaphthalene	0.0100	0.01027		mg/L		103	40 - 121
Naphthalene	0.0100	0.009727		mg/L		97	39 - 120
Acenaphthylene	0.0100	0.01036		mg/L		104	35 - 135
Acenaphthene	0.0100	0.01008		mg/L		101	47 - 145
Dibenzofuran	0.0100	0.01019		mg/L		102	46 - 123
Fluorene	0.0100	0.01035		mg/L		104	48 - 127
Phenanthrene	0.0100	0.01035		mg/L		104	52 - 121
Anthracene	0.0100	0.01074		mg/L		107	53 - 124
Di-n-butyl phthalate	0.0100	0.01104		mg/L		110	54 - 138
Fluoranthene	0.0100	0.01075		mg/L		107	53 - 127
Pyrene	0.0100	0.01076		mg/L		108	49 - 121
Bis(2-ethylhexyl) phthalate	0.0100	0.01153		mg/L		115	47 - 132

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*99*		*44 - 123*
2-Fluorobiphenyl	*101*		*43 - 120*
2-Fluorophenol	*107*		*18 - 120*
Nitrobenzene-d5	*101*		*47 - 120*
Terphenyl-d14	*110*		*33 - 141*

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: LCS 600-124802/2-A
Matrix: Water
Analysis Batch: 125413

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 124802

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Phenol-d5 (Surr)	*107*		*12 - 128*

Lab Sample ID: 600-85302-9 MS
Matrix: Water
Analysis Batch: 125413

Client Sample ID: WG-1620-P12MS-20140109
Prep Type: Total/NA
Prep Batch: 124802

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	0.0000370	U	0.00926	0.001369		mg/L		15	10 - 62
Naphthalene	0.0000741	U	0.00926	0.006985		mg/L		75	34 - 99
Acenaphthylene	0.0000556	U	0.00926	0.008619		mg/L		93	38 - 115
Acenaphthene	0.0000741	U	0.00926	0.008435		mg/L		91	46 - 118
Dibenzofuran	0.0000741	U	0.00926	0.008663		mg/L		94	46 - 110
Fluorene	0.0000648	U	0.00926	0.009238		mg/L		100	44 - 112
Anthracene	0.000200	J	0.00926	0.009743		mg/L		103	35 - 116
Di-n-butyl phthalate	0.000416	J	0.00926	0.01084		mg/L		113	31 - 137
Fluoranthene	0.0000648	U	0.00926	0.009734		mg/L		105	14 - 145
Pyrene	0.000102	U	0.00926	0.009284		mg/L		100	28 - 133
Bis(2-ethylhexyl) phthalate	0.000515	J	0.00926	0.01089		mg/L		112	14 - 123

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol	*109*		*44 - 123*
2-Fluorobiphenyl	*85*		*43 - 120*
2-Fluorophenol	*27*		*18 - 120*
Nitrobenzene-d5	*82*		*47 - 120*
Terphenyl-d14	*101*		*33 - 141*
Phenol-d5 (Surr)	*16*		*12 - 128*

Lab Sample ID: 600-85302-9 MSD
Matrix: Water
Analysis Batch: 125413

Client Sample ID: WG-1620-P12MSD-20140109
Prep Type: Total/NA
Prep Batch: 124802

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phenol	0.0000370	U	0.00926	0.001303		mg/L		14	10 - 62	5	20
Naphthalene	0.0000741	U	0.00926	0.005956		mg/L		64	34 - 99	16	20
Acenaphthylene	0.0000556	U	0.00926	0.007703		mg/L		83	38 - 115	11	20
Acenaphthene	0.0000741	U	0.00926	0.007548		mg/L		82	46 - 118	11	20
Dibenzofuran	0.0000741	U	0.00926	0.007820		mg/L		84	46 - 110	10	20
Fluorene	0.0000648	U	0.00926	0.008293		mg/L		90	44 - 112	11	20
Anthracene	0.000200	J	0.00926	0.009312		mg/L		98	35 - 116	5	20
Di-n-butyl phthalate	0.000416	J	0.00926	0.01038		mg/L		108	31 - 137	4	20
Fluoranthene	0.0000648	U	0.00926	0.009622		mg/L		104	14 - 145	1	20
Pyrene	0.000102	U	0.00926	0.009516		mg/L		103	28 - 133	2	20
Bis(2-ethylhexyl) phthalate	0.000515	J	0.00926	0.01082		mg/L		111	14 - 123	1	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol	*107*		*44 - 123*
2-Fluorobiphenyl	*78*		*43 - 120*

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels (Continued)

Lab Sample ID: 600-85302-9 MSD
Matrix: Water
Analysis Batch: 125413

Client Sample ID: WG-1620-P12MSD-20140109
Prep Type: Total/NA
Prep Batch: 124802

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorophenol	26		18 - 120
Nitrobenzene-d5	70		47 - 120
Terphenyl-d14	99		33 - 141
Phenol-d5 (Surr)	15		12 - 128

Unadjusted Detection Limits

Client: Pastor, Behling & Wheeler LLC
Project/Site: 1620 UPRR HWPW

TestAmerica Job ID: 600-85302-1

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels

Analyte	MQL	MDL	Units	Method
2-Methylnaphthalene	0.000500	0.0000700	mg/L	8270C LL
Acenaphthene	0.000500	0.0000800	mg/L	8270C LL
Acenaphthylene	0.000500	0.0000600	mg/L	8270C LL
Anthracene	0.000500	0.0000500	mg/L	8270C LL
Bis(2-ethylhexyl) phthalate	0.00250	0.000370	mg/L	8270C LL
Dibenzofuran	0.000500	0.0000800	mg/L	8270C LL
Di-n-butyl phthalate	0.00250	0.000110	mg/L	8270C LL
Fluoranthene	0.000500	0.0000700	mg/L	8270C LL
Fluorene	0.000500	0.0000700	mg/L	8270C LL
Naphthalene	0.00500	0.0000800	mg/L	8270C LL
Phenanthrene	0.000500	0.0000600	mg/L	8270C LL
Phenol	0.000500	0.0000400	mg/L	8270C LL
Pyrene	0.000500	0.000110	mg/L	8270C LL

GC/MS Semi VOA

Prep Batch: 124802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-85302-1	WG-1620-MW02-20140108	Total/NA	Water	3510C	
600-85302-2	WG-1620-MW01A-20140108	Total/NA	Water	3510C	
600-85302-3	WG-1620-FD01-20140108	Total/NA	Water	3510C	
600-85302-4	WG-1620-MW11B-20140108	Total/NA	Water	3510C	
600-85302-5	WG-1620-MW11A-20140108	Total/NA	Water	3510C	
600-85302-6	WG-1620-MW10B-20140108	Total/NA	Water	3510C	
600-85302-7	WG-1620-MW10A-20140108	Total/NA	Water	3510C	
600-85302-8	WG-1620-FB1-20140108	Total/NA	Water	3510C	
600-85302-9	WG-1620-P12-20140109	Total/NA	Water	3510C	
600-85302-9 MS	WG-1620-P12MS-20140109	Total/NA	Water	3510C	
600-85302-9 MSD	WG-1620-P12MSD-20140109	Total/NA	Water	3510C	
600-85302-10	WG-1620-MW07-20140109	Total/NA	Water	3510C	
600-85302-11	WG-1620-P10-20140109	Total/NA	Water	3510C	
600-85302-12	WG-1620-FD02-20140109	Total/NA	Water	3510C	
600-85302-13	WG-1620-MW08-20140109	Total/NA	Water	3510C	
600-85302-14	WG-1620-FB02-20140109	Total/NA	Water	3510C	
LCS 600-124802/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 600-124802/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 125413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-85302-1	WG-1620-MW02-20140108	Total/NA	Water	8270C LL	124802
600-85302-2	WG-1620-MW01A-20140108	Total/NA	Water	8270C LL	124802
600-85302-3	WG-1620-FD01-20140108	Total/NA	Water	8270C LL	124802
600-85302-4	WG-1620-MW11B-20140108	Total/NA	Water	8270C LL	124802
600-85302-5	WG-1620-MW11A-20140108	Total/NA	Water	8270C LL	124802
600-85302-6	WG-1620-MW10B-20140108	Total/NA	Water	8270C LL	124802
600-85302-7	WG-1620-MW10A-20140108	Total/NA	Water	8270C LL	124802
600-85302-8	WG-1620-FB1-20140108	Total/NA	Water	8270C LL	124802
600-85302-9	WG-1620-P12-20140109	Total/NA	Water	8270C LL	124802
600-85302-9 MS	WG-1620-P12MS-20140109	Total/NA	Water	8270C LL	124802
600-85302-9 MSD	WG-1620-P12MSD-20140109	Total/NA	Water	8270C LL	124802
600-85302-10	WG-1620-MW07-20140109	Total/NA	Water	8270C LL	124802
600-85302-11	WG-1620-P10-20140109	Total/NA	Water	8270C LL	124802
600-85302-12	WG-1620-FD02-20140109	Total/NA	Water	8270C LL	124802
600-85302-13	WG-1620-MW08-20140109	Total/NA	Water	8270C LL	124802
600-85302-14	WG-1620-FB02-20140109	Total/NA	Water	8270C LL	124802
LCS 600-124802/2-A	Lab Control Sample	Total/NA	Water	8270C LL	124802
MB 600-124802/1-A	Method Blank	Total/NA	Water	8270C LL	124802

Analysis Batch: 125638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-85302-2	WG-1620-MW01A-20140108	Total/NA	Water	8270C LL	124802
600-85302-3	WG-1620-FD01-20140108	Total/NA	Water	8270C LL	124802
600-85302-4	WG-1620-MW11B-20140108	Total/NA	Water	8270C LL	124802
600-85302-6	WG-1620-MW10B-20140108	Total/NA	Water	8270C LL	124802
600-85302-8	WG-1620-FB1-20140108	Total/NA	Water	8270C LL	124802

Client Sample ID: WG-1620-MW02-20140108 — **Lab Sample ID: 600-85302-1**
Date Collected: 01/08/14 13:40 — **Matrix: Water**
Date Received: 01/09/14 13:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			124802	01/13/14 10:00	SMB	TAL HOU
Total/NA	Analysis	8270C LL		1	125413	01/20/14 10:38	TTD	TAL HOU

Client Sample ID: WG-1620-MW01A-20140108 — **Lab Sample ID: 600-85302-2**
Date Collected: 01/08/14 14:40 — **Matrix: Water**
Date Received: 01/09/14 13:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			124802	01/13/14 10:00	SMB	TAL HOU
Total/NA	Analysis	8270C LL		1	125413	01/20/14 11:05	TTD	TAL HOU
Total/NA	Analysis	8270C LL		5	125638	01/22/14 23:12	MBB	TAL HOU

Client Sample ID: WG-1620-FD01-20140108 — **Lab Sample ID: 600-85302-3**
Date Collected: 01/08/14 14:40 — **Matrix: Water**
Date Received: 01/09/14 13:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			124802	01/13/14 10:00	SMB	TAL HOU
Total/NA	Analysis	8270C LL		1	125413	01/20/14 11:31	TTD	TAL HOU
Total/NA	Analysis	8270C LL		10	125638	01/22/14 23:38	MBB	TAL HOU

Client Sample ID: WG-1620-MW11B-20140108 — **Lab Sample ID: 600-85302-4**
Date Collected: 01/08/14 15:30 — **Matrix: Water**
Date Received: 01/09/14 13:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8270C LL		1	125413	01/20/14 11:58	TTD	TAL HOU
Total/NA	Prep	3510C			124802	01/13/14 10:00	SMB	TAL HOU
Total/NA	Analysis	8270C LL		5	125638	01/23/14 00:03	MBB	TAL HOU

Client Sample ID: WG-1620-MW11A-20140108 — **Lab Sample ID: 600-85302-5**
Date Collected: 01/08/14 16:20 — **Matrix: Water**
Date Received: 01/09/14 13:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			124802	01/13/14 10:00	SMB	TAL HOU
Total/NA	Analysis	8270C LL		1	125413	01/20/14 12:25	TTD	TAL HOU

Lab Chronicle

Client: Pastor, Behling & Wheeler LLC
Project/Site: 1620 UPRR HWPW

TestAmerica Job ID: 600-85302-1

Client Sample ID: WG-1620-MW10B-20140108

Lab Sample ID: 600-85302-6

Date Collected: 01/08/14 17:05
Matrix: Water
Date Received: 01/09/14 13:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			124802	01/13/14 10:00	SMB	TAL HOU
Total/NA	Analysis	8270C LL		1	125413	01/20/14 12:51	TTD	TAL HOU
Total/NA	Analysis	8270C LL		5	125638	01/23/14 00:29	MBB	TAL HOU

Client Sample ID: WG-1620-MW10A-20140108

Lab Sample ID: 600-85302-7

Date Collected: 01/08/14 17:45
Matrix: Water
Date Received: 01/09/14 13:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			124802	01/13/14 10:00	SMB	TAL HOU
Total/NA	Analysis	8270C LL		1	125413	01/20/14 13:18	TTD	TAL HOU

Client Sample ID: WG-1620-FB1-20140108

Lab Sample ID: 600-85302-8

Date Collected: 01/08/14 18:00
Matrix: Water
Date Received: 01/09/14 13:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			124802	01/13/14 10:00	SMB	TAL HOU
Total/NA	Analysis	8270C LL		1	125413	01/20/14 13:44	TTD	TAL HOU
Total/NA	Analysis	8270C LL		20	125638	01/23/14 00:55	MBB	TAL HOU

Client Sample ID: WG-1620-P12-20140109

Lab Sample ID: 600-85302-9

Date Collected: 01/09/14 08:30
Matrix: Water
Date Received: 01/09/14 13:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			124802	01/13/14 10:00	SMB	TAL HOU
Total/NA	Analysis	8270C LL		1	125413	01/20/14 14:11	TTD	TAL HOU

Client Sample ID: WG-1620-MW07-20140109

Lab Sample ID: 600-85302-10

Date Collected: 01/09/14 09:20
Matrix: Water
Date Received: 01/09/14 13:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			124802	01/13/14 10:00	SMB	TAL HOU
Total/NA	Analysis	8270C LL		1	125413	01/20/14 15:31	TTD	TAL HOU

Lab Chronicle

Client: Pastor, Behling & Wheeler LLC
Project/Site: 1620 UPRR HWPW

TestAmerica Job ID: 600-85302-1

Client Sample ID: WG-1620-P10-20140109

Lab Sample ID: 600-85302-11

Date Collected: 01/09/14 10:30

Matrix: Water

Date Received: 01/09/14 13:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			124802	01/13/14 10:00	SMB	TAL HOU
Total/NA	Analysis	8270C LL		1	125413	01/20/14 15:58	TTD	TAL HOU

Client Sample ID: WG-1620-FD02-20140109

Lab Sample ID: 600-85302-12

Date Collected: 01/09/14 10:30

Matrix: Water

Date Received: 01/09/14 13:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			124802	01/13/14 10:00	SMB	TAL HOU
Total/NA	Analysis	8270C LL		1	125413	01/20/14 16:25	TTD	TAL HOU

Client Sample ID: WG-1620-MW08-20140109

Lab Sample ID: 600-85302-13

Date Collected: 01/09/14 11:30

Matrix: Water

Date Received: 01/09/14 13:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			124802	01/13/14 10:00	SMB	TAL HOU
Total/NA	Analysis	8270C LL		1	125413	01/20/14 16:51	TTD	TAL HOU

Client Sample ID: WG-1620-FB02-20140109

Lab Sample ID: 600-85302-14

Date Collected: 01/09/14 11:45

Matrix: Water

Date Received: 01/09/14 13:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			124802	01/13/14 10:00	SMB	TAL HOU
Total/NA	Analysis	8270C LL		1	125413	01/20/14 17:18	TTD	TAL HOU

Laboratory References:

TAL HOU = TestAmerica Houston, 6310 Rothway Street, Houston, TX 77040, TEL (713)690-4444

Certification Summary

Client: Pastor, Behling & Wheeler LLC
Project/Site: 1620 UPRR HWPW

TestAmerica Job ID: 600-85302-1

Laboratory: TestAmerica Houston

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Arkansas DEQ	State Program	6	88-0759	08-04-14
Louisiana	NELAP	6	30643	06-30-14
Oklahoma	State Program	6	1309	08-31-14
Texas	NELAP	6	T104704223	10-31-14
USDA	Federal		P330-08-00217	04-01-14
Utah	NELAP	8	TX00083	10-31-14

TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

6/30/2014

Client Information	Sampler: JOHN BRAYTON	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-25646-9049.1
Client Contact: Mr. Eric Matzner	Phone: 512-671-3434	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 1 of 2
Company: Pastor, Behling & Wheeler LLC				Job #:
Address: 2201 Double Creek Dr Suite 4004	Due Date Requested:	Analysis Requested		
City: Round Rock	TAT Requested (days):			
State, Zip: TX, 78664				
Phone: 512-671-3434(Tel) 512-671-3446(Fax)	PO #: Purchase Order not required			
Email: eric.matzner@pbwllc.com	WO #:			
Project Name: 1620 UPRR HWPW	Project #: 60003722			
Site: UPRR HWPW	SSOW#:			

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8270C_LL - (MOD) 8270C	AMR SPECIFIC LIST 8270 - BTE SPECIFIC LIST	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N			
WG-1620-MW02-20140108	1-8-14	1340	G	Water			X			
WG-1620-MW01A-20140108		1440	G	Water			X			
WG-1620-FD01-20140108		1440	G	Water			X			
WG-1620-MW11B-20140108		1530	G	Water				X		
WG-1620-MW11A-20140108		1620	G	Water			X			
WG-1620-MW03B-20140108		1705	G	Water				X		
WG-1620-MW10A-20140108		1745	G	Water			X			
WG-1620-FB1-20140108		1800	G	Water			X			
WG-1620-P12-20140109	1-9-14	0830	G	Water				X		
WG-1620-P12MS-20140109		0830	G	Water				X		
WG-1620-P12MSD-20140109		0830	G	Water				X		

600-85302 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	1-9-14 1311	PBW			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
				1/9/14 1311	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

TestAmerica Houston
6310 Rothway Street
Houston, TX 77040
Phone (713) 690-4444 Fax (713) 690-5646

Chain of Custody Record

6/30/2014

Client Information	Sampler: JOHN DRAYTON	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No: 600-25646-9049.1
Client Contact: Mr. Eric Matzner	Phone: 512-671-3434	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page 2 of 2
Company: Pastor, Behling & Wheeler LLC				Job #:
Address: 2201 Double Creek Dr Suite 4004	Due Date Requested:			
City: Round Rock	TAT Requested (days):			
State, Zip: TX, 78664				
Phone: 512-671-3434(Tel) 512-671-3446(Fax)	PO #: Purchase Order not required			
Email: eric.matzner@pbwllc.com	WO #:			
Project Name: 1620 UPRR HWPW	Project #: 60003722			
Site: UPRR- HWPW	SSOW#:			

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8270C_LL - (MOD) 8270C ATZ SPECIFIC LIST	8270 - BTZ SPECIFIC LIST	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N			
WG-1620-MW07-20140109	1-9-14	0920	G	Water			X			
WG-1620-P10-20140109	"	1030	G	Water				X		
WG-1620-FD02-20140109	"	1030	G	Water				X		
WG-1620-MW08-20140109	"	1130	G	Water			X			
WG-1620-FB02-20140109	"	1145	G	Water				X		
				Water						
				Water						
				Water						
				Water						
				Water						
				Water						

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	1-9-14 1311	PBW			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
			[signature]	1/9/14 1311	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Login Sample Receipt Checklist

Client: Pastor, Behling & Wheeler LLC

Job Number: 600-85302-1

Login Number: 85302

List Source: TestAmerica Houston

List Number: 1

Creator: Lopez, Sandro R

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.1/1.9/2.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	Check done at department level as required.

CONESTOGA-ROVERS & ASSOCIATES

E-Mail Date:	February 12, 2014
Revision:	June 30, 2014
E-Mail To:	Eric Matzner, Jesse Orth
c.c.:	Chris G. Knight

DATA USABILITY SUMMARY

SEMIANNUAL GROUNDWATER MONITORING

UNION PACIFIC RAILROAD (UPRR)

1620 – WOOD PRESERVING WORKS

HOUSTON, TEXAS

JANUARY 2014

PREPARED BY:
CONESTOGA-ROVERS & ASSOCIATES
13091 Pond Springs Road
Austin, Texas 78729
Telephone: 512-506-8803
Contact: Chris G. Knight [eew]
Date: February 12, 2014
Revision: June 30, 2014
www.CRAworld.com

Data Usability Summary

Reviewer:	Chris G. Knight – Conestoga-Rovers & Associates, Inc.
Contract Laboratory:	TestAmerica Laboratories, Inc., Houston, Texas
Project/Area of Interest:	1620 – Wood Preserving Works located in Houston, Texas
Description of Data Packages Reviewed:	Groundwater sample results in data package: J85302-1
Sample Collection Date(s):	January 2014
Intended Use of Data:	*To support the semiannual groundwater monitoring at the site by providing current concentrations of chemicals of concern (COCs).*

1.0 Scope of Data Usability Summary

Data were reviewed and validated in accordance with Title 30 of the Texas Administrative Code Section 350.54 (30 TAC 350.54) as described in *Review and Reporting of COC Concentration Data,* (RG-366/TRRP-13) and the results of the review/validation are discussed in this Data Usability Summary (DUS). The review included examination of the reported data, the laboratory review checklist (LRC), and field/laboratory quality assurance/quality control (QA/QC) samples collected at the site. Tables summarizing data qualifications discussed in this DUS can be found in Appendix A.

A sampling and analysis summary is presented in Appendix A, Table 1. This summary includes 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 Appendix A, Table 2. A summary of the analytical methodology is presented in Appendix A, Table 3. The laboratory's data packages, including the LRC and any associated exception reports, are presented in Appendix B. Each data package includes a cross-reference list of field sample identifications to laboratory sample designations.

2.0 Laboratory Qualifications

Analytical services were provided by TestAmerica Laboratories, Inc. located in Houston, Texas. This 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 # T104704223 at the time the analysis was performed and the certificate is included in Appendix C.

3.0 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.

- Method blanks of a matrix similar to that of the associated samples are prepared by the laboratory and analyzed to determine if laboratory contaminants are affecting the analytical results. Method blanks are prepared and analyzed on a batch basis.
- The field blank consists of analyte-free water poured over or through decontaminated field equipment prior to the collection of field samples and is used to assess the adequacy of the decontamination process.

Similarly, the QA/QC program was designed to evaluate the quality of the resulting data with respect to bias and precision. First, laboratory control samples (LCS) were prepared and analyzed on a batch basis. The recovery ranges established by the laboratory are adopted as the acceptance criteria for the project. Second, matrix spike/matrix spike duplicate (MS/MSD) analyses were performed on a batch basis. The recovery ranges and relative percent differences (RPDs) established by the laboratory are adopted as the acceptance criteria for the project. Third, field duplicates were collected and submitted for analysis. The RPDs associated with these duplicate samples must be less than 30 percent for water samples. The above RPDs are only used when sample concentrations are above the estimated regions of detection.

4.0 Data Review/Validation Results

4.1 Analytical Results

A summary of the analytical results with qualifiers applied is reported in Appendix A, Table 2. Analytes with concentrations above the sample detection limits (SDL) but below the method quantitation limits (MQL) have been qualified as J (estimated) on the analytical table per the TRRP-13 document and also in the attached copy of the laboratory data packages.

4.2 Preservation and Holding Times

Samples were preserved in the field and cooled to 4°C (±2°C). All samples were shipped on ice. Samples were shipped with chains of custody and the paperwork was filled out properly. All samples were prepared and analyzed within the applicable holding times.

4.3 Sample Containers

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

4.4 Calibrations

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

4.5 Blanks

Method Blanks: As these were not discrete samples handled in the field, method blanks are not listed on the sample identification cross-reference list found in the data packages. Results are reported in the data package on a laboratory batch basis. All of the laboratory blank results were non-detect or below the MQL.

Field blanks: These are discrete samples handled in the field, and are listed on the sample identification cross-reference list found in the laboratory data packages. Results are reported in the data package with the other project sample results. All results were non-detect for the analytes of interest with the following exceptions (see Appendix A, Table 4):

i. Low concentrations of semi-volatile organic compounds (SVOCs) were found in the field blanks. All associated samples with similar concentrations were qualified as non-detect.

4.6 Internal Standard and Surrogate Recoveries

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

Surrogate results are reported with the other project sample results in the data package. According to the TCEQ Regulatory Guidelines, one outlying surrogate is acceptable for methods with multiple surrogate spike compounds.

Surrogate recoveries for all samples were within laboratory acceptance criteria and the guidance in TRRP-13, indicating good analytical efficiency with the following exceptions (see Appendix A, Table 5):

i. Several SVOCs results were reported with outlying associated surrogate recoveries due to interferences. No further action was required.

ii. One SVOCs results were rejected due to recoveries less than ten percent.

4.7 Laboratory Control Samples (LCS)

LCS were reported for all COCs. These results are reported in the data packages on a laboratory batch basis. LCS spike recoveries for all parameters were within the project objectives.

4.8 Matrix Spikes/Matrix Spike Duplicates (MS/MSD)

MS/MSD analyses were prepared and analyzed for all parameters. These results are reported in the data package on a laboratory batch basis.

For this investigation, to ensure that the site-specific groundwater matrices were represented in the quality control check, a site sample was chosen for MS/MSD analyses as specified in Appendix A, Table 1. All recoveries and/or RPD met QC criteria.

4.9 Field Duplicates

Field samples were collected in duplicate and submitted as indicated in Table 1. All results showed good comparability outside of the estimated region of detection, demonstrating acceptable sampling and analytical precision with the following exception (see Appendix A, Table 6):

i. SVOCs results did show some variability. The associated results were qualified as estimated.

4.10 Field Procedures

Pastor, Behling & Wheeling (PB&W) collected groundwater samples in accordance with their Standard Operating Procedures (SOP) for groundwater sample collection.

4.11 Summary

The analytical data in this report are usable for the purpose of providing current concentrations of COCs in groundwater at the site and may be used with the qualifications and exceptions noted.

Qualifications of the data as discussed in this report are summarized in Appendix A.

APPENDIX A

TABLES

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
SEMIANNUAL GROUNDWATER MONITORING
UNION PACIFIC RAILROAD (UPRR) - 1620 WOOD PRESERVING WORKS
HOUSTON, TEXAS
JANUARY 2014

					Analysis/Parameters	
Sample Identification	***Location***	***Matrix***	***Collection Date (mm/dd/yyyy)***	***Collection Time (hr:min)***	***SVOCs***	***Comments***
WG-1620-MW02-20140108	MW-02	water	01/08/2014	13:40	X	
WG-1620-MW01A-20140108	MW-01A	water	01/08/2014	14:40	X	
WG-1620-FD01-20140108	MW-01A	water	01/08/2014	14:40	X	
WG-1620-MW11B-20140108	MW-11B	water	01/08/2014	15:30	X	
WG-1620-MW11A-20140108	MW-11A	water	01/08/2014	16:20	X	
WG-1620-MW10B-20140108	MW-10B	water	01/08/2014	17:05	X	
WG-1620-MW10A-20140108	MW-10A	water	01/08/2014	17:45	X	
WG-1620-FB1-20140108	-	water	01/08/2014	18:00	X	Field Blank
WG-1620-P12-20140109	P-12	water	01/09/2014	08:30	X	MS/MSD
WG-1620-MW07-20140109	MW-07	water	01/09/2014	09:20	X	
WG-1620-P10-20140109	P-10	water	01/09/2014	10:30	X	
WG-1620-FD02-20140109	P-10	water	01/09/2014	10:30	X	
WG-1620-MW08-20140109	MW-08	water	01/09/2014	11:30	X	
WG-1620-FB02-20140109	-	water	01/09/2014	11:45	X	Field Blank

Notes:

SVOCs - Semi-volatile Organic Compounds
MS/MSD - Matrix Spike and/or Matrix Spike Duplicate

TABLE 2

ANALYTICAL RESULTS SUMMARY
SEMIANNUAL GROUNDWATER MONITORING
UNION PACIFIC RAILROAD (UPRR) - 1620 WOOD PRESERVING WORKS
HOUSTON, TEXAS
JANUARY 2014

Sample Location:		*MW-01A*	*MW-01A*	*MW-02*	*MW-07*	*MW-08*	*MW-10A*
Sample ID:		*WG-1620-MW01A-20140108*	*WG-1620-FD01-20140108*	*WG-1620-MW02-20140108*	*WG-1620-MW07-20140109*	*WG-1620-MW08-20140109*	*WG-1620-MW10A-20140108*
Sample Date:		*1/8/2014*	*1/8/2014*	*1/8/2014*	*1/9/2014*	*1/9/2014*	*1/8/2014*
			Duplicate				
Parameters	***Units***						
Semi-volatile Organic Compounds							
2-Methylnaphthalene	mg/L	0.00222 J	0.0152 J	<0.0000648	R	<0.0000648	<0.0000648
Acenaphthene	mg/L	<0.000370	<0.000741	<0.0000741	R	<0.0000741	<0.0000741
Acenaphthylene	mg/L	<0.000930	<0.00144	<0.000101	R	<0.0000556	<0.0000556
Anthracene	mg/L	<0.00300	<0.00371	<0.00131	R	0.000494	<0.0000463
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.000838 J	0.000670 J	<0.000343	R	<0.000343	<0.000343
Dibenzofuran	mg/L	<0.00951	<0.0168	<0.000147	R	<0.0000741	<0.0000741
Di-n-butylphthalate (DBP)	mg/L	-	-	-	-	-	-
Fluoranthene	mg/L	<0.00257	<0.00345	<0.000307	R	<0.0000648	<0.0000648
Fluorene	mg/L	<0.0369	<0.0432	<0.000255	R	<0.0000648	<0.0000648
Naphthalene	mg/L	<0.0000741	0.00172 J	<0.0000741	R	<0.0000741	<0.0000741
Phenanthrene	mg/L	<0.00175	<0.00451	<0.000122	R	0.0000637 J	<0.0000556
Phenol	mg/L	-	-	-	-	-	-
Pyrene	mg/L	<0.00130	<0.00165	<0.000175	R	<0.000102	<0.000102

TABLE 2

ANALYTICAL RESULTS SUMMARY
SEMIANNUAL GROUNDWATER MONITORING
UNION PACIFIC RAILROAD (UPRR) - 1620 WOOD PRESERVING WORKS
HOUSTON, TEXAS
JANUARY 2014

Sample Location:		*MW-10B*	*MW-11A*	*MW-11B*	*P-10*	*P-10*	*P-12*
Sample ID:		*WG-1620-MW10B-20140108*	*WG-1620-MW11A-20140108*	*WG-1620-MW11B-20140108*	*WG-1620-P10-20140109*	*WG-1620-FD02-20140109*	*WG-1620-P12-20140109*
Sample Date:		*1/8/2014*	*1/8/2014*	*1/8/2014*	*1/9/2014*	*1/9/2014*	*1/9/2014*
						Duplicate	
Parameters	***Units***						
Semi-volatile Organic Compounds							
2-Methylnaphthalene	mg/L	-	<0.0000648	-	-	-	-
Acenaphthene	mg/L	<0.0000741	<0.0000741	<0.000370	0.000102 J	0.000966	<0.0000741
Acenaphthylene	mg/L	<0.000536	<0.000100	<0.00102	<0.0000556	0.0000571 J	<0.0000556
Anthracene	mg/L	<0.00107	<0.00125	<0.00242	0.000323 J	0.000369 J	0.000200 J
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.000408 J	0.000460 J	0.000493 J	<0.000343	<0.000343	0.000515 J
Dibenzofuran	mg/L	<0.00493	<0.0000741	<0.0111	<0.0000741	0.000135 J	<0.0000741
Di-n-butylphthalate (DBP)	mg/L	0.000275 J	-	0.000317 J	<0.000262	<0.000309	<0.000416
Fluoranthene	mg/L	<0.000117	<0.0000795	<0.00267	<0.0000648	<0.0000648	<0.0000648
Fluorene	mg/L	<0.00429	<0.0000648	<0.0195	<0.0000648	0.000262 J	<0.0000648
Naphthalene	mg/L	0.0646	<0.0000741	0.000382 J	<0.0000741	<0.0000741	<0.0000741
Phenanthrene	mg/L	-	<0.0000556	-	-	-	-
Phenol	mg/L	<0.0000370	-	<0.0000370	<0.0000370	<0.0000370	<0.0000370
Pyrene	mg/L	<0.000102	<0.000102	<0.00126	<0.000102	<0.000102	<0.000102

Notes:

- Not applicable
J -Estimated concentration
R -Rejected

TABLE 3

ANALYTICAL METHODS AND HOLDING TIME CRITERIA
SEMIANNUAL GROUNDWATER MONITORING
UNION PACIFIC RAILROAD (UPRR) - 1620 WOOD PRESERVING WORKS
HOUSTON, TEXAS
JANUARY 2014

			Holding Time	
Parameter	***Method***	***Matrix***	***Collection to Extraction (Days)***	***Extraction to Analysis (Days)***
SVOCs	SW-846 8270C LL	Water	7	40

Notes:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions
SVOCs - Semi-volatile Organic Compounds

TABLE 4

QUALIFIED SAMPLE DATA DUE TO ANALYTE CONCENTRATIONS IN THE FIELD BLANKS
SEMIANNUAL GROUNDWATER MONITORING
UNION PACIFIC RAILROAD (UPRR) - 1620 WOOD PRESERVING WORKS
HOUSTON, TEXAS
JANUARY 2014

Parameter	*Field Blank ID*	*Blank Date*	*Analyte*	*Blank Result*	*Associated Sample ID*	*Original Result*	*Qualified Result*	*Units*
SVOCs	WG-1620-FB1-20140108	01/08/14	Acenaphthene	0.203	WG-1620-FD01-20140108	0.000741	<0.000741	mg/L
					WG-1620-MW01A-20140108	0.000370	<0.000370	mg/L
					WG-1620-MW02-20140108	0.0000741 J	<0.0000741	mg/L
					WG-1620-MW10B-20140108	0.0000741	<0.0000741	mg/L
					WG-1620-MW11B-20140108	0.000370	<0.000370	mg/L
			Acenaphthylene	0.00145	WG-1620-FD01-20140108	0.00144	<0.00144	mg/L
					WG-1620-MW01A-20140108	0.000930	<0.000930	mg/L
					WG-1620-MW02-20140108	0.000101 J	<0.000101	mg/L
					WG-1620-MW10B-20140108	0.000536	<0.000536	mg/L
					WG-1620-MW11A-20140108	0.000100 J	<0.000100	mg/L
					WG-1620-MW11B-20140108	0.00102	<0.00102	mg/L
			Anthracene	0.00829	WG-1620-FD01-20140108	0.00371	<0.00371	mg/L
					WG-1620-MW01A-20140108	0.00300	<0.00300	mg/L
					WG-1620-MW02-20140108	0.00131	<0.00131	mg/L
					WG-1620-MW10B-20140108	0.00107	<0.00107	mg/L
					WG-1620-MW11A-20140108	0.00125	<0.00125	mg/L
					WG-1620-MW11B-20140108	0.00242	<0.00242	mg/L
			Dibenzofuran	0.0759	WG-1620-FD01-20140108	0.0168	<0.0168	mg/L
					WG-1620-MW01A-20140108	0.00951	<0.00951	mg/L
					WG-1620-MW02-20140108	0.000147 J	<0.000147	mg/L
					WG-1620-MW10B-20140108	0.00493	<0.00493	mg/L
					WG-1620-MW11B-20140108	0.0111	<0.0111	mg/L
			Fluoranthene	0.00572	WG-1620-FD01-20140108	0.00345	<0.00345	mg/L
					WG-1620-MW01A-20140108	0.00257	<0.00257	mg/L
					WG-1620-MW02-20140108	0.000307 J	<0.000307	mg/L
					WG-1620-MW10B-20140108	0.000117 J	<0.000117	mg/L
					WG-1620-MW11A-20140108	0.0000795 J	<0.0000795	mg/L
					WG-1620-MW11B-20140108	0.00267	<0.00267	mg/L

TABLE 4

QUALIFIED SAMPLE DATA DUE TO ANALYTE CONCENTRATIONS IN THE FIELD BLANKS
SEMIANNUAL GROUNDWATER MONITORING
UNION PACIFIC RAILROAD (UPRR) - 1620 WOOD PRESERVING WORKS
HOUSTON, TEXAS
JANUARY 2014

Parameter	*Field Blank ID*	*Blank Date*	*Analyte*	*Blank Result*	*Associated Sample ID*	*Original Result*	*Qualified Result*	*Units*
SVOCs	WG-1620-FB1-20140108	01/08/14	Fluorene	0.107	WG-1620-FD01-20140108	0.0432	<0.0432	mg/L
					WG-1620-MW01A-20140108	0.0369	<0.0369	mg/L
					WG-1620-MW02-20140108	0.000255 J	<0.000255	mg/L
					WG-1620-MW10B-20140108	0.00429	<0.00429	mg/L
					WG-1620-MW11B-20140108	0.0195	<0.0195	mg/L
			Phenanthrene	0.0427	WG-1620-FD01-20140108	0.00451	<0.00451	mg/L
					WG-1620-MW01A-20140108	0.00175	<0.00175	mg/L
					WG-1620-MW02-20140108	0.000122 J	<0.000122	mg/L
			Pyrene	0.00253	WG-1620-FD01-20140108	0.00165	<0.00165	mg/L
					WG-1620-MW01A-20140108	0.00130	<0.00130	mg/L
					WG-1620-MW02-20140108	0.000175 J	<0.000175	mg/L
					WG-1620-MW11B-20140108	0.00126	<0.00126	mg/L
SVOCs	WG-1620-FB02-20140109	1/9/2014	Di-n-butylphthalate (DBP)	0.000156 J	WG-1620-FD02-20140109	0.000309	<0.000309	mg/L
					WG-1620-P10-20140109	0.000262	<0.000262	mg/L
					WG-1620-P12-20140109	0.000416	<0.000416	mg/L

Notes:

SVOCs - Semi-volatile Organic Compounds
J - Estimated concentration

TABLE 5

QUALIFIED SAMPLE DATA DUE TO OUTLYING OF SURROGATE RECOVERIES
SEMIANNUAL GROUNDWATER MONITORING
UNION PACIFIC RAILROAD (UPRR) - 1620 WOOD PRESERVING WORKS
HOUSTON, TEXAS
JANUARY 2014

Parameter	*Sample ID*	*Surrogate*	*Surrogate Recovery (percent)*	*Control Limits (percent)*	*Analyte*	*Qualified Result*	*Units*
SVOCs	WG-1620-MW07-20140109	2,4,6-Tribromophenol	8	44-123	2-Methylnaphthalene	R	
		2-Fluorobiphenyl	8	43-120	Acenaphthene	R	
		2-Fluorophenol	5	18-120	Acenaphthylene	R	
		Nitrobenzene-d5	7	47-120	Anthracene	R	
		Terphenyl-d14	10	33-141	bis(2-Ethylhexyl)phthalate (DEHP)	R	
		Phenol-d5	3	12-128	Dibenzofuran	R	
					Fluoranthene	R	
					Fluorene	R	
					Naphthalene	R	
					Phenanthrene	R	
					Pyrene	R	

Notes:

SVOCs - Semi-volatile Organic Compounds
R - Rejected

TABLE 6

QUALIFIED SAMPLE DATA DUE TO VARIABILITY IN FIELD DUPLICATE RESULTS
SEMIANNUAL GROUNDWATER MONITORING
UNION PACIFIC RAILROAD (UPRR) - 1620 WOOD PRESERVING WORKS
HOUSTON, TEXAS
JANUARY 2014

Parameter	*Analyte*	*RPD/Diff*	*Sample ID*	*Qualified Result*	*Field Duplicate Sample ID*	*Qualified Result*	*Units*
SVOCs	2-Methylnaphthalene	149	WG-1620-MW01A-20140108	0.00222 J	WG-1620-FD01-20140108	0.0152 J	mg/L
	Naphthalene	183		<0.0000741		0.00172 J	mg/L
SVOCs	Dibenzofuran	58	WG-1620-P10-20140109	<0.0000741	WG-1620-FD02-20140109	0.000135 J	mg/L
	Fluorene	120	WG-1620-P10-20140109	<0.0000648	WG-1620-FD02-20140109	0.000262 J	mg/L

Notes:

Diff - Difference (i.e. >1X RL for waters)
RPD - Relative Percent Difference
SVOCs - Semi-volatile Organic Compounds
J - Estimated concentration

APPENDIX B

LABORATORY DATA

SEE LABORATORY ANALYTICAL REPORT
PROVIDED IN APPENDIX C OF THE
2014 FIRST SEMIANNUAL EVENT
CORRECTIVE ACTION MONITORING REPORT

APPENDIX C

LABORATORY NELAP CERTIFICATE

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704223-13-11

TestAmerica Laboratories, Inc. - Houston

Expiration Date: 10/31/2014

6310 Rothway Drive
Houston, TX 77040-5056

Issue Date: 11/1/2013

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

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

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	TX	1780	10116606

Method EPA 110.2

Analyte	AB	Analyte ID	Method ID
Color	TX	1605	10005604

Method EPA 120.1

Analyte	AB	Analyte ID	Method ID
Conductivity	TX	1610	10006403

Method EPA 130.2

Analyte	AB	Analyte ID	Method ID
Total hardness as CaCO3	TX	1755	10007202

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	TX	849	10118806

Method EPA 1312

Analyte	AB	Analyte ID	Method ID
SPLP	TX	850	10119003

Method EPA 150.1

Analyte	AB	Analyte ID	Method ID
pH	TX	1900	10008409

Method EPA 160.1

Analyte	AB	Analyte ID	Method ID
Residue-filterable (TDS)	TX	1955	10009208

Method EPA 160.2

Analyte	AB	Analyte ID	Method ID
Residue-nonfilterable (TSS)	TX	1960	10009606

Method EPA 160.3

Analyte	AB	Analyte ID	Method ID
Residue-total (total solids)	TX	1950	10010001

Method EPA 1664

Analyte	AB	Analyte ID	Method ID

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

n-Hexane Extractable Material (HEM) (O&G)	TX	1803	10127807
Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	TX	10220	10127807

Method EPA 180.1

Analyte	**AB**	**Analyte ID**	**Method ID**
Turbidity	TX	2055	10011606

Method EPA 200.7

Analyte	**AB**	**Analyte ID**	**Method ID**
Aluminum	TX	1000	10013806
Antimony	TX	1005	10013806
Arsenic	TX	1010	10013806
Barium	TX	1015	10013806
Beryllium	TX	1020	10013806
Boron	TX	1025	10013806
Cadmium	TX	1030	10013806
Calcium	TX	1035	10013806
Chromium	TX	1040	10013806
Cobalt	TX	1050	10013806
Copper	TX	1055	10013806
Iron	TX	1070	10013806
Lead	TX	1075	10013806
Magnesium	TX	1085	10013806
Manganese	TX	1090	10013806
Molybdenum	TX	1100	10013806
Nickel	TX	1105	10013806
Potassium	TX	1125	10013806
Selenium	TX	1140	10013806
Silver	TX	1150	10013806
Sodium	TX	1155	10013806
Strontium	TX	1160	10013806
Thallium	TX	1165	10013806
Tin	TX	1175	10013806

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

Titanium	TX	1180	10013806
Vanadium	TX	1185	10013806
Zinc	TX	1190	10013806

Method EPA 245.1

Analyte	AB	Analyte ID	Method ID
Mercury	TX	1095	10036609

Method EPA 300.0

Analyte	AB	Analyte ID	Method ID
Bromide	TX	1540	10053006
Chloride	TX	1575	10053006
Fluoride	TX	1730	10053006
Nitrate as N	TX	1810	10053006
Nitrate-nitrite	TX	1820	10053006
Nitrite as N	TX	1840	10053006
Sulfate	TX	2000	10053006

Method EPA 305.1

Analyte	AB	Analyte ID	Method ID
Acidity, as CaCO3	TX	1500	10054203

Method EPA 310.1

Analyte	AB	Analyte ID	Method ID
Alkalinity as CaCO3	TX	1505	10054805

Method EPA 330.4

Analyte	AB	Analyte ID	Method ID
Total residual chlorine	TX	1940	10059208

Method EPA 335.1

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	TX	1510	10060001

Method EPA 335.4

Analyte	AB	Analyte ID	Method ID
Total cyanide	TX	1645	10061402

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

Method EPA 350.1

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	10063408

Method EPA 351.2

Analyte	AB	Analyte ID	Method ID
Kjeldahl nitrogen - total (TKN)	TX	1795	10065200

Method EPA 353.2

Analyte	AB	Analyte ID	Method ID
Nitrate as N	TX	1810	10067400
Nitrate-nitrite	TX	1820	10067400

Method EPA 365.2

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	TX	1870	10070403
Phosphorus	TX	1910	10070403

Method EPA 377.1

Analyte	AB	Analyte ID	Method ID
Sulfite	TX	2015	10075000

Method EPA 405.1

Analyte	AB	Analyte ID	Method ID
Biochemical oxygen demand (BOD)	TX	1530	10075602

Method EPA 415.1

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	10078407

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 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	TX	1000	10155609

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

Antimony	TX	1005	10155609
Arsenic	TX	1010	10155609
Barium	TX	1015	10155609
Beryllium	TX	1020	10155609
Boron	TX	1025	10155609
Cadmium	TX	1030	10155609
Calcium	TX	1035	10155609
Chromium	TX	1040	10155609
Cobalt	TX	1050	10155609
Copper	TX	1055	10155609
Iron	TX	1070	10155609
Lead	TX	1075	10155609
Magnesium	TX	1085	10155609
Manganese	TX	1090	10155609
Molybdenum	TX	1100	10155609
Nickel	TX	1105	10155609
Potassium	TX	1125	10155609
Selenium	TX	1140	10155609
Silver	TX	1150	10155609
Sodium	TX	1155	10155609
Strontium	TX	1160	10155609
Thallium	TX	1165	10155609
Tin	TX	1175	10155609
Titanium	TX	1180	10155609
Vanadium	TX	1185	10155609
Zinc	TX	1190	10155609

Method EPA 602

Analyte	**AB**	**Analyte ID**	**Method ID**
Benzene	TX	4375	10102202
Ethylbenzene	TX	4765	10102202

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

m+p-xylene	TX	5240	10102202
o-Xylene	TX	5250	10102202
Toluene	TX	5140	10102202
Xylene (total)	TX	5260	10102202

Method EPA 608

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	TX	7355	10103603
4,4'-DDE	TX	7360	10103603
4,4'-DDT	TX	7365	10103603
Aldrin	TX	7025	10103603
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10103603
alpha-Chlordane	TX	7240	10103603
Aroclor-1016 (PCB-1016)	TX	8880	10103603
Aroclor-1221 (PCB-1221)	TX	8885	10103603
Aroclor-1232 (PCB-1232)	TX	8890	10103603
Aroclor-1242 (PCB-1242)	TX	8895	10103603
Aroclor-1248 (PCB-1248)	TX	8900	10103603
Aroclor-1254 (PCB-1254)	TX	8905	10103603
Aroclor-1260 (PCB-1260)	TX	8910	10103603
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10103603
Chlordane (tech.)	TX	7250	10103603
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10103603
Dieldrin	TX	7470	10103603
Endosulfan I	TX	7510	10103603
Endosulfan II	TX	7515	10103603
Endosulfan sulfate	TX	7520	10103603
Endrin	TX	7540	10103603
Endrin aldehyde	TX	7530	10103603
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10103603
gamma-Chlordane	TX	7245	10103603

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

Heptachlor	TX	7685	10103603
Heptachlor epoxide	TX	7690	10103603
Methoxychlor	TX	7810	10103603
Toxaphene (Chlorinated camphene)	TX	8250	10103603

Method EPA 615

Analyte	AB	Analyte ID	Method ID
2,4,5-T	TX	8655	10105609
2,4-D	TX	8545	10105609
2,4-DB	TX	8560	10105609
Dalapon	TX	8555	10105609
Dicamba	TX	8595	10105609
Dichloroprop (Dichlorprop, Weedone)	TX	8605	10105609
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10105609
MCPA	TX	7775	10105609
MCPP	TX	7780	10105609
Silvex (2,4,5-TP)	TX	8650	10105609

Method EPA 624

Analyte	AB	Analyte ID	Method ID
1,1,1-Trichloroethane	TX	5160	10107207
1,1,2,2-Tetrachloroethane	TX	5110	10107207
1,1,2-Trichloroethane	TX	5165	10107207
1,1-Dichloroethane	TX	4630	10107207
1,1-Dichloroethylene	TX	4640	10107207
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10107207
1,2-Dichlorobenzene	TX	4610	10107207
1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10107207
1,2-Dichloropropane	TX	4655	10107207
1,3-Dichlorobenzene	TX	4615	10107207
1,4-Dichlorobenzene	TX	4620	10107207
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10107207
2-Chloroethyl vinyl ether	TX	4500	10107207

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

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-1,3-Dichloropropene	TX	4680	10107207
Ethylbenzene	TX	4765	10107207
m+p-xylene	TX	5240	10107207
Methyl chloride (Chloromethane)	TX	4960	10107207
Methyl tert-butyl ether (MTBE)	TX	5000	10107207
Methylene chloride (Dichloromethane)	TX	4975	10107207
o-Xylene	TX	5250	10107207
Tetrachloroethylene (Perchloroethylene)	TX	5115	10107207
Toluene	TX	5140	10107207
trans-1,2-Dichloroethylene	TX	4700	10107207
trans-1,3-Dichloropropylene	TX	4685	10107207
Trichloroethene (Trichloroethylene)	TX	5170	10107207
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10107207
Vinyl chloride	TX	5235	10107207
Xylene (total)	TX	5260	10107207

Method EPA 625

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,4,5-Tetrachlorobenzene	TX	6715	10107401
1,2,4-Trichlorobenzene	TX	5155	10107401

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Matrix: *Non-Potable Water*

1,2-Dichlorobenzene	TX	4610	10107401
1,3-Dichlorobenzene	TX	4615	10107401
1,4-Dichlorobenzene	TX	4620	10107401
2,3,4,6-Tetrachlorophenol	TX	6735	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
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

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

Benzo(k)fluoranthene	TX	5600	10107401
bis(2-Chloroethoxy)methane	TX	5760	10107401
bis(2-Chloroethyl) ether	TX	5765	10107401
bis(2-Chloroisopropyl) ether	TX	5780	10107401
bis(2-Ethylhexyl) phthalate (DEHP)	TX	6255	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
n-Nitrosodi-n-butylamine	TX	5025	10107401
n-Nitrosodi-n-propylamine	TX	6545	10107401
n-Nitrosodiphenylamine	TX	6535	10107401
Pentachlorophenol	TX	6605	10107401
Phenanthrene	TX	6615	10107401
Phenol	TX	6625	10107401

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

Pyrene	TX	6665	10107401
Pyridine	TX	5095	10107401

Method EPA 7196

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	TX	1045	10162400

Method EPA 7470

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10165807

Method EPA 8015

Analyte	**AB**	**Analyte ID**	**Method ID**
Allyl alcohol	TX	4350	10173601
Diesel range organics (DRO)	TX	9369	10173601
Ethanol	TX	4750	10173601
Ethylene glycol	TX	4785	10173601
Gasoline range organics (GRO)	TX	9408	10173601
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10173601
Isopropanol	TX	4885	10173601
Methanol	TX	4930	10173601
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10173601
n-Propanol (1-Propanol)	TX	5055	10173601

Method EPA 8021

Analyte	**AB**	**Analyte ID**	**Method ID**
Benzene	TX	4375	10174808
Ethylbenzene	TX	4765	10174808
m+p-xylene	TX	5240	10174808
Methyl tert-butyl ether (MTBE)	TX	5000	10174808
o-Xylene	TX	5250	10174808
Toluene	TX	5140	10174808
Xylene (total)	TX	5260	10174808

Method EPA 8081

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

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

4,4'-DDD	TX	7355	10178606
4,4'-DDE	TX	7360	10178606
4,4'-DDT	TX	7365	10178606
Aldrin	TX	7025	10178606
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10178606
alpha-Chlordane	TX	7240	10178606
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10178606
Chlordane (tech.)	TX	7250	10178606
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10178606
Dieldrin	TX	7470	10178606
Endosulfan I	TX	7510	10178606
Endosulfan II	TX	7515	10178606
Endosulfan sulfate	TX	7520	10178606
Endrin	TX	7540	10178606
Endrin aldehyde	TX	7530	10178606
Endrin ketone	TX	7535	10178606
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10178606
gamma-Chlordane	TX	7245	10178606
Heptachlor	TX	7685	10178606
Heptachlor epoxide	TX	7690	10178606
Methoxychlor	TX	7810	10178606
Toxaphene (Chlorinated camphene)	TX	8250	10178606

Method EPA 8082

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

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

Aroclor-1260 (PCB-1260)	TX	8910	10179007
PCBs (total)	TX	8870	10179007

Method EPA 8151

Analyte	AB	Analyte ID	Method ID
2,4,5-T	TX	8655	10183207
2,4-D	TX	8545	10183207
2,4-DB	TX	8560	10183207
Dalapon	TX	8555	10183207
Dicamba	TX	8595	10183207
Dichloroprop (Dichlorprop, Weedone)	TX	8605	10183207
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10183207
MCPA	TX	7775	10183207
MCPP	TX	7780	10183207
Silvex (2,4,5-TP)	TX	8650	10183207

Method EPA 8260

Analyte	AB	Analyte ID	Method ID
1,1,1,2-Tetrachloroethane	TX	5105	10184802
1,1,1-Trichloroethane	TX	5160	10184802
1,1,2,2-Tetrachloroethane	TX	5110	10184802
1,1,2-Trichloroethane	TX	5165	10184802
1,1-Dichloroethane	TX	4630	10184802
1,1-Dichloroethylene	TX	4640	10184802
1,1-Dichloropropene	TX	4670	10184802
1,2,3-Trichlorobenzene	TX	5150	10184802
1,2,3-Trichloropropane	TX	5180	10184802
1,2,4-Trichlorobenzene	TX	5155	10184802
1,2,4-Trimethylbenzene	TX	5210	10184802
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10184802
1,2-Dichlorobenzene	TX	4610	10184802
1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10184802
1,2-Dichloropropane	TX	4655	10184802

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Matrix: *Non-Potable Water*

1,3,5-Trimethylbenzene	TX	5215	10184802
1,3-Dichlorobenzene	TX	4615	10184802
1,3-Dichloropropane	TX	4660	10184802
1,4-Dichlorobenzene	TX	4620	10184802
1,4-Dioxane (1,4-Diethyleneoxide)	TX	4735	10184802
2,2-Dichloropropane	TX	4665	10184802
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10184802
2-Chloroethyl vinyl ether	TX	4500	10184802
2-Chlorotoluene	TX	4535	10184802
2-Hexanone (MBK)	TX	4860	10184802
2-Nitropropane	TX	5020	10184802
2-Propanol	TX	5065	10184802
4-Chlorotoluene	TX	4540	10184802
4-Isopropyltoluene (p-Cymene)	TX	4915	10184802
4-Methyl-2-pentanone (MIBK)	TX	4995	10184802
Acetone (2-Propanone)	TX	4315	10184802
Acetonitrile	TX	4320	10184802
Acrolein (Propenal)	TX	4325	10184802
Acrylonitrile	TX	4340	10184802
Allyl chloride (3-Chloropropene)	TX	4355	10184802
Benzene	TX	4375	10184802
Benzyl chloride	TX	5635	10184802
Bromobenzene	TX	4385	10184802
Bromochloromethane	TX	4390	10184802
Bromodichloromethane	TX	4395	10184802
Bromoform	TX	4400	10184802
Carbon disulfide	TX	4450	10184802
Carbon tetrachloride	TX	4455	10184802
Chlorobenzene	TX	4475	10184802
Chlorodibromomethane	TX	4575	10184802

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Chloroethane (Ethyl chloride)	TX	4485	10184802
Chloroform	TX	4505	10184802
Chloroprene (2-Chloro-1,3-butadiene)	TX	4525	10184802
cis-1,2-Dichloroethylene	TX	4645	10184802
cis-1,3-Dichloropropene	TX	4680	10184802
Dibromofluoromethane	TX	4590	10184802
Dibromomethane (Methylene bromide)	TX	4595	10184802
Dichlorodifluoromethane (Freon-12)	TX	4625	10184802
Diethyl ether	TX	4725	10184802
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	TX	4745	10184802
Ethyl acetate	TX	4755	10184802
Ethyl methacrylate	TX	4810	10184802
Ethylbenzene	TX	4765	10184802
Ethylene oxide	TX	4795	10184802
Hexachlorobutadiene	TX	4835	10184802
Iodomethane (Methyl iodide)	TX	4870	10184802
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10184802
Isopropylbenzene (Cumene)	TX	4900	10184802
m+p-xylene	TX	5240	10184802
Methacrylonitrile	TX	4925	10184802
Methyl acrylate	TX	4945	10184802
Methyl chloride (Chloromethane)	TX	4960	10184802
Methyl methacrylate	TX	4990	10184802
Methyl tert-butyl ether (MTBE)	TX	5000	10184802
Methylene chloride (Dichloromethane)	TX	4975	10184802
Naphthalene	TX	5005	10184802
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10184802
n-Butylbenzene	TX	4435	10184802
n-Propylbenzene	TX	5090	10184802
sec-Butylbenzene	TX	4440	10184802

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

Styrene	TX	5100	10184802
tert-Butyl alcohol	TX	4420	10184802
tert-Butylbenzene	TX	4445	10184802
Tetrachloroethylene (Perchloroethylene)	TX	5115	10184802
Toluene	TX	5140	10184802
trans-1,2-Dichloroethylene	TX	4700	10184802
trans-1,3-Dichloropropylene	TX	4685	10184802
trans-1,4-Dichloro-2-butene	TX	4605	10184802
Trichloroethene (Trichloroethylene)	TX	5170	10184802
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10184802
Vinyl acetate	TX	5225	10184802
Vinyl chloride	TX	5235	10184802
Xylene (total)	TX	5260	10184802

Method EPA 8270

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,4,5-Tetrachlorobenzene	TX	6715	10185805
1,2,4-Trichlorobenzene	TX	5155	10185805
1,2-Dichlorobenzene	TX	4610	10185805
1,2-Dinitrobenzene	TX	6155	10185805
1,2-Diphenylhydrazine	TX	6220	10185805
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10185805
1,3-Dichlorobenzene	TX	4615	10185805
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10185805
1,4-Dichlorobenzene	TX	4620	10185805
1,4-Dinitrobenzene	TX	6165	10185805
1,4-Naphthoquinone	TX	6420	10185805
1,4-Phenylenediamine	TX	6630	10185805
1-Chloronaphthalene	TX	5790	10185805
1-Naphthylamine	TX	6425	10185805
2,3,4,6-Tetrachlorophenol	TX	6735	10185805

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

2,4,5-Trichlorophenol	TX	6835	10185805
2,4,6-Trichlorophenol	TX	6840	10185805
2,4-Diaminotoluene	TX	5880	10185805
2,4-Dichlorophenol	TX	6000	10185805
2,4-Dimethylphenol	TX	6130	10185805
2,4-Dinitrophenol	TX	6175	10185805
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10185805
2,6-Dichlorophenol	TX	6005	10185805
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10185805
2-Acetylaminofluorene	TX	5515	10185805
2-Chloronaphthalene	TX	5795	10185805
2-Chlorophenol	TX	5800	10185805
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	TX	6360	10185805
2-Methylaniline (o-Toluidine)	TX	5145	10185805
2-Methylnaphthalene	TX	6385	10185805
2-Methylphenol (o-Cresol)	TX	6400	10185805
2-Naphthylamine	TX	6430	10185805
2-Nitroaniline	TX	6460	10185805
2-Nitrophenol	TX	6490	10185805
2-Picoline (2-Methylpyridine)	TX	5050	10185805
3,3'-Dichlorobenzidine	TX	5945	10185805
3,3'-Dimethoxybenzidine	TX	6100	10185805
3,3'-Dimethylbenzidine	TX	6120	10185805
3-Methylcholanthrene	TX	6355	10185805
3-Methylphenol (m-Cresol)	TX	6405	10185805
3-Nitroaniline	TX	6465	10185805
4-Aminobiphenyl	TX	5540	10185805
4-Bromophenyl phenyl ether (BDE-3)	TX	5660	10185805
4-Chloro-3-methylphenol	TX	5700	10185805
4-Chloroaniline	TX	5745	10185805

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Matrix: *Non-Potable Water*

4-Chlorophenyl phenylether	TX	5825	10185805
4-Dimethyl aminoazobenzene	TX	6105	10185805
4-Methylphenol (p-Cresol)	TX	6410	10185805
4-Nitroaniline	TX	6470	10185805
4-Nitrophenol	TX	6500	10185805
5-Nitro-o-toluidine	TX	6570	10185805
7,12-Dimethylbenz(a) anthracene	TX	6115	10185805
a-a-Dimethylphenethylamine	TX	6125	10185805
Acenaphthene	TX	5500	10185805
Acenaphthylene	TX	5505	10185805
Acetophenone	TX	5510	10185805
Aniline	TX	5545	10185805
Anthracene	TX	5555	10185805
Azobenzene	TX	5562	10185805
Benzidine	TX	5595	10185805
Benzo(a)anthracene	TX	5575	10185805
Benzo(a)pyrene	TX	5580	10185805
Benzo(b)fluoranthene	TX	5585	10185805
Benzo(g,h,i)perylene	TX	5590	10185805
Benzo(k)fluoranthene	TX	5600	10185805
Benzoic acid	TX	5610	10185805
Benzyl alcohol	TX	5630	10185805
Biphenyl	TX	5640	10185805
bis(2-Chloroethoxy)methane	TX	5760	10185805
bis(2-Chloroethyl) ether	TX	5765	10185805
bis(2-Chloroisopropyl) ether	TX	5780	10185805
bis(2-Ethylhexyl) phthalate (DEHP)	TX	6255	10185805
Butyl benzyl phthalate	TX	5670	10185805
Carbazole	TX	5680	10185805
Chlorobenzilate	TX	7260	10185805

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

Chrysene	TX	5855	10185805
Diallate	TX	7405	10185805
Dibenz(a,h) anthracene	TX	5895	10185805
Dibenz(a,j) acridine	TX	5900	10185805
Dibenzo(a,e) pyrene	TX	5890	10185805
Dibenzofuran	TX	5905	10185805
Diethyl phthalate	TX	6070	10185805
Dimethoate	TX	7475	10185805
Dimethyl phthalate	TX	6135	10185805
Di-n-butyl phthalate	TX	5925	10185805
Di-n-octyl phthalate	TX	6200	10185805
Diphenylamine	TX	6205	10185805
Disulfoton	TX	8625	10185805
Ethyl methanesulfonate	TX	6260	10185805
Fluoranthene	TX	6265	10185805
Fluorene	TX	6270	10185805
Hexachlorobenzene	TX	6275	10185805
Hexachlorobutadiene	TX	4835	10185805
Hexachlorocyclopentadiene	TX	6285	10185805
Hexachloroethane	TX	4840	10185805
Hexachloropropene	TX	6295	10185805
Indeno(1,2,3-cd) pyrene	TX	6315	10185805
Isodrin	TX	7725	10185805
Isophorone	TX	6320	10185805
Isosafrole	TX	6325	10185805
Methyl methanesulfonate	TX	6375	10185805
Methyl parathion (Parathion, methyl)	TX	7825	10185805
Naphthalene	TX	5005	10185805
Nitrobenzene	TX	5015	10185805
Nitroquinoline-1-oxide	TX	6515	10185805

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

n-Nitrosodiethylamine	TX	6525	10185805
n-Nitrosodimethylamine	TX	6530	10185805
n-Nitrosodi-n-butylamine	TX	5025	10185805
n-Nitrosodi-n-propylamine	TX	6545	10185805
n-Nitrosodiphenylamine	TX	6535	10185805
n-Nitrosomethylethylamine	TX	6550	10185805
n-Nitrosomorpholine	TX	6555	10185805
n-Nitrosopiperidine	TX	6560	10185805
n-Nitrosopyrrolidine	TX	6565	10185805
o,o,o-Triethyl phosphorothioate	TX	8290	10185805
Parathion, ethyl	TX	7955	10185805
Pentachlorobenzene	TX	6590	10185805
Pentachloronitrobenzene (PCNB)	TX	6600	10185805
Pentachlorophenol	TX	6605	10185805
Phenacetin	TX	6610	10185805
Phenanthrene	TX	6615	10185805
Phenol	TX	6625	10185805
Phorate	TX	7985	10185805
Pronamide (Kerb)	TX	6650	10185805
Pyrene	TX	6665	10185805
Pyridine	TX	5095	10185805
Safrole	TX	6685	10185805
Thionazin (Zinophos)	TX	8235	10185805

Method EPA 8315

Analyte	**AB**	**Analyte ID**	**Method ID**
Formaldehyde	TX	4815	10188008

Method EPA 9012

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	TX	1510	10193405
Total Cyanide	TX	1635	10193405

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

Method EPA 9034

Analyte	AB	Analyte ID	Method ID
Sulfide	TX	2005	10196006

Method EPA 9040

Analyte	AB	Analyte ID	Method ID
pH	TX	1900	10197203

Method EPA 9050

Analyte	AB	Analyte ID	Method ID
Conductivity	TX	1610	10198808

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
Sulfate	TX	2000	10199209

Method EPA 9060

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	10200201

Method EPA 9066

Analyte	AB	Analyte ID	Method ID
Total phenolics	TX	1905	10200609

Method EPA RSK 175

Analyte	AB	Analyte ID	Method ID
Ethane	TX	4747	10212905
Ethene	TX	4752	10212905
Methane	TX	4926	10212905

Method HACH 8000

Analyte	AB	Analyte ID	Method ID

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

Chemical oxygen demand (COD)	TX	1565	60003001
Method HACH 8507			
Analyte	**AB**	**Analyte ID**	**Method ID**
Nitrite as N	TX	1840	60004208
Method SM 2120 B			
Analyte	**AB**	**Analyte ID**	**Method ID**
Color	TX	1605	20223807
Method SM 2130 B			
Analyte	**AB**	**Analyte ID**	**Method ID**
Turbidity	TX	2055	20042200
Method SM 2310 B (4a)			
Analyte	**AB**	**Analyte ID**	**Method ID**
Acidity, as CaCO3	TX	1500	20002806
Method SM 2320 B			
Analyte	**AB**	**Analyte ID**	**Method ID**
Alkalinity as CaCO3	TX	1505	20045005
Method SM 2340 B			
Analyte	**AB**	**Analyte ID**	**Method ID**
Total hardness as CaCO3	TX	1755	20046008
Method SM 2510 B			
Analyte	**AB**	**Analyte ID**	**Method ID**
Conductivity	TX	1610	20048004
Method SM 2540 B			
Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-total (total solids)	TX	1950	20004608
Method SM 2540 C			
Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-filterable (TDS)	TX	1955	20049803
Method SM 2540 D			
Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-nonfilterable (TSS)	TX	1960	20004802

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

Method SM 3500-Cr D

Analyte	AB	Analyte ID	Method ID
Chromium (VI)	TX	1045	20009001

Method SM 4500-Cl F

Analyte	AB	Analyte ID	Method ID
Total residual chlorine	TX	1940	20080482

Method SM 4500-CN^- G

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	TX	1510	20021607

Method SM 4500-H+ B

Analyte	AB	Analyte ID	Method ID
pH	TX	1900	20104603

Method SM 4500-NH3 G

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	20023205

Method SM 4500-O G

Analyte	AB	Analyte ID	Method ID
Oxygen, dissolved	TX	1880	20025405

Method SM 4500-P E

Analyte	AB	Analyte ID	Method ID
Orthophosphate as P	TX	1870	20025803
Phosphorus	TX	1910	20025803

Method SM 4500-$S2^-$ D

Analyte	AB	Analyte ID	Method ID
Sulfide	TX	2005	20125400

Method SM 4500-$S2^-$ E

Analyte	AB	Analyte ID	Method ID
Sulfide	TX	2005	20026408

Method SM 4500-$SO3^-$ B

Analyte	AB	Analyte ID	Method ID
Sulfite	TX	2015	20026806

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

Method SM 5210 B

Analyte	AB	Analyte ID	Method ID
Biochemical oxygen demand (BOD)	TX	1530	20027401
Carbonaceous BOD, CBOD	TX	1555	20027401

Method SM 5310 D

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	TX	2040	20139202

Method SM 5540 C

Analyte	AB	Analyte ID	Method ID
Surfactants - MBAS	TX	2025	20144405

Method TCEQ 1005

Analyte	AB	Analyte ID	Method ID
Total Petroleum Hydrocarbons (TPH)	TX	2050	90019208

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

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	TX	1780	10116606

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	TX	849	10118806

Method EPA 1312

Analyte	AB	Analyte ID	Method ID
SPLP	TX	850	10119003

Method EPA 300.0

Analyte	AB	Analyte ID	Method ID
Bromide	TX	1540	10053006
Chloride	TX	1575	10053006
Fluoride	TX	1730	10053006
Nitrate as N	TX	1810	10053006
Nitrate-nitrite	TX	1820	10053006
Nitrite as N	TX	1840	10053006
Orthophosphate as P	TX	1870	10053006
Sulfate	TX	2000	10053006

Method EPA 350.1

Analyte	AB	Analyte ID	Method ID
Ammonia as N	TX	1515	10063408

Method EPA 353.2

Analyte	AB	Analyte ID	Method ID
Nitrate-nitrite	TX	1820	10067604

Method EPA 365.2

Analyte	AB	Analyte ID	Method ID
Phosphorus	TX	1910	10070403

Method EPA 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	TX	1000	10155609

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

Antimony	TX	1005	10155609
Arsenic	TX	1010	10155609
Barium	TX	1015	10155609
Beryllium	TX	1020	10155609
Boron	TX	1025	10155609
Cadmium	TX	1030	10155609
Calcium	TX	1035	10155609
Chromium	TX	1040	10155609
Cobalt	TX	1050	10155609
Copper	TX	1055	10155609
Iron	TX	1070	10155609
Lead	TX	1075	10155609
Magnesium	TX	1085	10155609
Manganese	TX	1090	10155609
Molybdenum	TX	1100	10155609
Nickel	TX	1105	10155609
Potassium	TX	1125	10155609
Selenium	TX	1140	10155609
Silica as SiO2	TX	1990	10155609
Silver	TX	1150	10155609
Sodium	TX	1155	10155609
Strontium	TX	1160	10155609
Thallium	TX	1165	10155609
Tin	TX	1175	10155609
Titanium	TX	1180	10155609
Vanadium	TX	1185	10155609
Zinc	TX	1190	10155609

Method EPA 7471

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	TX	1095	10166208

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

Method EPA 8015

Analyte	AB	Analyte ID	Method ID
Allyl alcohol	TX	4350	10173601
Diesel range organics (DRO)	TX	9369	10173601
Ethanol	TX	4750	10173601
Ethylene glycol	TX	4785	10173601
Gasoline range organics (GRO)	TX	9408	10173601
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10173601
Isopropyl alcohol (2-Propanol, Isopropanol)	TX	4895	10173601
Methanol	TX	4930	10173601
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10173601
n-Propanol (1-Propanol)	TX	5055	10173601

Method EPA 8021

Analyte	AB	Analyte ID	Method ID
Benzene	TX	4375	10174808
m+p-xylene	TX	5240	10174808
Methyl tert-butyl ether (MTBE)	TX	5000	10174808
o-Xylene	TX	5250	10174808
Toluene	TX	5140	10174808
Xylene (total)	TX	5260	10174808

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	TX	7355	10178606
4,4'-DDE	TX	7360	10178606
4,4'-DDT	TX	7365	10178606
Aldrin	TX	7025	10178606
alpha-BHC (alpha-Hexachlorocyclohexane)	TX	7110	10178606
alpha-Chlordane	TX	7240	10178606
beta-BHC (beta-Hexachlorocyclohexane)	TX	7115	10178606
delta-BHC (delta-Hexachlorocyclohexane)	TX	7105	10178606
Dieldrin	TX	7470	10178606

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

Endosulfan I	TX	7510	10178606
Endosulfan II	TX	7515	10178606
Endosulfan sulfate	TX	7520	10178606
Endrin	TX	7540	10178606
Endrin aldehyde	TX	7530	10178606
Endrin ketone	TX	7535	10178606
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10178606
gamma-Chlordane	TX	7245	10178606
Heptachlor	TX	7685	10178606
Heptachlor epoxide	TX	7690	10178606
Methoxychlor	TX	7810	10178606
Toxaphene (Chlorinated camphene)	TX	8250	10178606

Method EPA 8082

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

Method EPA 8151

Analyte	**AB**	**Analyte ID**	**Method ID**
2,4-D	TX	8545	10183207
2,4-DB	TX	8560	10183207
Dalapon	TX	8555	10183207
Dicamba	TX	8595	10183207
Dichloroprop (Dichlorprop, Weedone)	TX	8605	10183207
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	TX	8620	10183207
MCPA	TX	7775	10183207

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

MCPP	TX	7780	10183207
Silvex (2,4,5-TP)	TX	8650	10183207

Method EPA 8260

Analyte	AB	Analyte ID	Method ID
1,1,1,2-Tetrachloroethane	TX	5105	10184802
1,1,1-Trichloroethane	TX	5160	10184802
1,1,2,2-Tetrachloroethane	TX	5110	10184802
1,1,2-Trichloroethane	TX	5165	10184802
1,1-Dichloroethane	TX	4630	10184802
1,1-Dichloroethylene	TX	4640	10184802
1,1-Dichloropropene	TX	4670	10184802
1,2,3-Trichlorobenzene	TX	5150	10184802
1,2,3-Trichloropropane	TX	5180	10184802
1,2,4-Trichlorobenzene	TX	5155	10184802
1,2,4-Trimethylbenzene	TX	5210	10184802
1,2-Dibromo-3-chloropropane (DBCP)	TX	4570	10184802
1,2-Dibromoethane (EDB, Ethylene dibromide)	TX	4585	10184802
1,2-Dichlorobenzene	TX	4610	10184802
1,2-Dichloroethane (Ethylene dichloride)	TX	4635	10184802
1,2-Dichloropropane	TX	4655	10184802
1,3,5-Trimethylbenzene	TX	5215	10184802
1,3-Dichlorobenzene	TX	4615	10184802
1,3-Dichloropropane	TX	4660	10184802
1,4-Dichlorobenzene	TX	4620	10184802
1,4-Dioxane (1,4-Diethyleneoxide)	TX	4735	10184802
2,2-Dichloropropane	TX	4665	10184802
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10184802
2-Chloroethyl vinyl ether	TX	4500	10184802
2-Chlorotoluene	TX	4535	10184802
2-Hexanone (MBK)	TX	4860	10184802

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

2-Propanol	TX	5065	10184802
4-Chlorotoluene	TX	4540	10184802
4-Isopropyltoluene (p-Cymene)	TX	4915	10184802
4-Methyl-2-pentanone (MIBK)	TX	4995	10184802
Acetone (2-Propanone)	TX	4315	10184802
Acetonitrile	TX	4320	10184802
Acrolein (Propenal)	TX	4325	10184802
Acrylonitrile	TX	4340	10184802
Benzene	TX	4375	10184802
Benzyl chloride	TX	5635	10184802
Bromobenzene	TX	4385	10184802
Bromochloromethane	TX	4390	10184802
Bromodichloromethane	TX	4395	10184802
Bromoform	TX	4400	10184802
Carbon disulfide	TX	4450	10184802
Carbon tetrachloride	TX	4455	10184802
Chlorobenzene	TX	4475	10184802
Chlorodibromomethane	TX	4575	10184802
Chloroethane (Ethyl chloride)	TX	4485	10184802
Chloroform	TX	4505	10184802
Chloroprene (2-Chloro-1,3-butadiene)	TX	4525	10184802
cis-1,2-Dichloroethylene	TX	4645	10184802
cis-1,3-Dichloropropene	TX	4680	10184802
Dibromofluoromethane	TX	4590	10184802
Dibromomethane (Methylene bromide)	TX	4595	10184802
Dichlorodifluoromethane (Freon-12)	TX	4625	10184802
Ethyl acetate	TX	4755	10184802
Ethyl methacrylate	TX	4810	10184802
Ethylbenzene	TX	4765	10184802
Ethylene oxide	TX	4795	10184802

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Matrix: *Solid & Chemical Materials*

Hexachlorobutadiene	TX	4835	10184802
Iodomethane (Methyl iodide)	TX	4870	10184802
Isobutyl alcohol (2-Methyl-1-propanol)	TX	4875	10184802
Isopropylbenzene (Cumene)	TX	4900	10184802
m+p-xylene	TX	5240	10184802
Methacrylonitrile	TX	4925	10184802
Methyl acrylate	TX	4945	10184802
Methyl bromide (Bromomethane)	TX	4950	10184802
Methyl chloride (Chloromethane)	TX	4960	10184802
Methyl methacrylate	TX	4990	10184802
Methyl tert-butyl ether (MTBE)	TX	5000	10184802
Methylene chloride (Dichloromethane)	TX	4975	10184802
Naphthalene	TX	5005	10184802
n-Butyl alcohol (1-Butanol, n-Butanol)	TX	4425	10184802
n-Butylbenzene	TX	4435	10184802
n-Propylbenzene	TX	5090	10184802
o-Xylene	TX	5250	10184802
sec-Butylbenzene	TX	4440	10184802
Styrene	TX	5100	10184802
tert-Butyl alcohol	TX	4420	10184802
tert-Butylbenzene	TX	4445	10184802
Tetrachloroethylene (Perchloroethylene)	TX	5115	10184802
Toluene	TX	5140	10184802
trans-1,2-Dichloroethylene	TX	4700	10184802
trans-1,3-Dichloropropylene	TX	4685	10184802
trans-1,4-Dichloro-2-butene	TX	4605	10184802
Trichloroethene (Trichloroethylene)	TX	5170	10184802
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10184802
Vinyl acetate	TX	5225	10184802
Vinyl chloride	TX	5235	10184802

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

Xylene (total)	TX	5260	10184802

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
1,2,4,5-Tetrachlorobenzene	TX	6715	10185805
1,2,4-Trichlorobenzene	TX	5155	10185805
1,2-Dichlorobenzene	TX	4610	10185805
1,2-Dinitrobenzene	TX	6155	10185805
1,2-Diphenylhydrazine	TX	6220	10185805
1,3,5-Trinitrobenzene (1,3,5-TNB)	TX	6885	10185805
1,3-Dichlorobenzene	TX	4615	10185805
1,3-Dinitrobenzene (1,3-DNB)	TX	6160	10185805
1,4-Dichlorobenzene	TX	4620	10185805
1,4-Dinitrobenzene	TX	6165	10185805
1,4-Naphthoquinone	TX	6420	10185805
1,4-Phenylenediamine	TX	6630	10185805
1-Chloronaphthalene	TX	5790	10185805
1-Naphthylamine	TX	6425	10185805
2,3,4,6-Tetrachlorophenol	TX	6735	10185805
2,4,5-Trichlorophenol	TX	6835	10185805
2,4,6-Trichlorophenol	TX	6840	10185805
2,4-Diaminotoluene	TX	5880	10185805
2,4-Dichlorophenol	TX	6000	10185805
2,4-Dimethylphenol	TX	6130	10185805
2,4-Dinitrophenol	TX	6175	10185805
2,4-Dinitrotoluene (2,4-DNT)	TX	6185	10185805
2,6-Dichlorophenol	TX	6005	10185805
2,6-Dinitrotoluene (2,6-DNT)	TX	6190	10185805
2-Acetylaminofluorene	TX	5515	10185805
2-Chloronaphthalene	TX	5795	10185805
2-Chlorophenol	TX	5800	10185805

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Matrix: *Solid & Chemical Materials*

2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	TX	6360	10185805
2-Methylaniline (o-Toluidine)	TX	5145	10185805
2-Methylnaphthalene	TX	6385	10185805
2-Methylphenol (o-Cresol)	TX	6400	10185805
2-Naphthylamine	TX	6430	10185805
2-Nitroaniline	TX	6460	10185805
2-Nitrophenol	TX	6490	10185805
2-Picoline (2-Methylpyridine)	TX	5050	10185805
3,3'-Dichlorobenzidine	TX	5945	10185805
3,3'-Dimethoxybenzidine	TX	6100	10185805
3,3'-Dimethylbenzidine	TX	6120	10185805
3-Methylcholanthrene	TX	6355	10185805
3-Methylphenol (m-Cresol)	TX	6405	10185805
3-Nitroaniline	TX	6465	10185805
4-Aminobiphenyl	TX	5540	10185805
4-Bromophenyl phenyl ether (BDE-3)	TX	5660	10185805
4-Chloro-3-methylphenol	TX	5700	10185805
4-Chloroaniline	TX	5745	10185805
4-Chlorophenyl phenylether	TX	5825	10185805
4-Methylphenol (p-Cresol)	TX	6410	10185805
4-Nitroaniline	TX	6470	10185805
4-Nitrophenol	TX	6500	10185805
5-Nitro-o-toluidine	TX	6570	10185805
7,12-Dimethylbenz(a) anthracene	TX	6115	10185805
Acenaphthene	TX	5500	10185805
Acenaphthylene	TX	5505	10185805
Acetophenone	TX	5510	10185805
Aniline	TX	5545	10185805
Anthracene	TX	5555	10185805
Azobenzene	TX	5562	10185805

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

Benzenethiol (Thiophenol)	TX	6750	10185805
Benzidine	TX	5595	10185805
Benzo(a)anthracene	TX	5575	10185805
Benzo(a)pyrene	TX	5580	10185805
Benzo(b)fluoranthene	TX	5585	10185805
Benzo(g,h,i)perylene	TX	5590	10185805
Benzo(k)fluoranthene	TX	5600	10185805
Benzoic acid	TX	5610	10185805
Benzyl alcohol	TX	5630	10185805
Biphenyl	TX	5640	10185805
bis(2-Chloroethoxy)methane	TX	5760	10185805
bis(2-Chloroethyl) ether	TX	5765	10185805
bis(2-Chloroisopropyl) ether	TX	5780	10185805
bis(2-Ethylhexyl) phthalate (DEHP)	TX	6255	10185805
Butyl benzyl phthalate	TX	5670	10185805
Caprolactam	TX	7180	10185805
Carbazole	TX	5680	10185805
Chlorobenzilate	TX	7260	10185805
Chrysene	TX	5855	10185805
Diallate	TX	7405	10185805
Dibenz(a,h) anthracene	TX	5895	10185805
Dibenzofuran	TX	5905	10185805
Diethyl phthalate	TX	6070	10185805
Dimethoate	TX	7475	10185805
Dimethyl phthalate	TX	6135	10185805
Di-n-butyl phthalate	TX	5925	10185805
Di-n-octyl phthalate	TX	6200	10185805
Diphenylamine	TX	6205	10185805
Disulfoton	TX	8625	10185805
Ethyl methanesulfonate	TX	6260	10185805

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

Fluoranthene	TX	6265	10185805
Fluorene	TX	6270	10185805
Hexachlorobenzene	TX	6275	10185805
Hexachlorobutadiene	TX	4835	10185805
Hexachlorocyclopentadiene	TX	6285	10185805
Hexachloroethane	TX	4840	10185805
Hexachlorophene	TX	6290	10185805
Indeno(1,2,3-cd) pyrene	TX	6315	10185805
Isodrin	TX	7725	10185805
Isophorone	TX	6320	10185805
Isosafrole	TX	6325	10185805
Methyl methanesulfonate	TX	6375	10185805
Methyl parathion (Parathion, methyl)	TX	7825	10185805
Methylphenols, total	TX	10313	10185805
Naphthalene	TX	5005	10185805
Nitrobenzene	TX	5015	10185805
Nitroquinoline-1-oxide	TX	6515	10185805
n-Nitrosodiethylamine	TX	6525	10185805
n-Nitrosodimethylamine	TX	6530	10185805
n-Nitrosodi-n-butylamine	TX	5025	10185805
n-Nitrosodi-n-propylamine	TX	6545	10185805
n-Nitrosodiphenylamine	TX	6535	10185805
n-Nitrosomethylethylamine	TX	6550	10185805
n-Nitrosomorpholine	TX	6555	10185805
n-Nitrosopiperidine	TX	6560	10185805
n-Nitrosopyrrolidine	TX	6565	10185805
o,o,o-Triethyl phosphorothioate	TX	8290	10185805
Parathion, ethyl	TX	7955	10185805
Pentachlorobenzene	TX	6590	10185805
Pentachloronitrobenzene (PCNB)	TX	6600	10185805

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

Pentachlorophenol	TX	6605	10185805
Phenacetin	TX	6610	10185805
Phenanthrene	TX	6615	10185805
Phenol	TX	6625	10185805
Phorate	TX	7985	10185805
Pronamide (Kerb)	TX	6650	10185805
Pyrene	TX	6665	10185805
Pyridine	TX	5095	10185805
Safrole	TX	6685	10185805
Thionazin (Zinophos)	TX	8235	10185805
Toluene diisocyanate	TX	6775	10185805

Method EPA 9012

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	TX	1510	10193405
Total Cyanide	TX	1635	10193405

Method EPA 9034

Analyte	**AB**	**Analyte ID**	**Method ID**
Sulfide	TX	2005	10196006

Method EPA 9040

Analyte	**AB**	**Analyte ID**	**Method ID**
Corrosivity	TX	1615	10197203
pH	TX	1900	10197203

Method EPA 9045

Analyte	**AB**	**Analyte ID**	**Method ID**
pH	TX	1900	10198400

Method EPA 9050

Analyte	**AB**	**Analyte ID**	**Method ID**
Conductivity	TX	1610	10198808

Method EPA 9056

Analyte	**AB**	**Analyte ID**	**Method ID**
Bromide	TX	1540	10199209

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

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 9066

Analyte	**AB**	**Analyte ID**	**Method ID**
Total phenolics	TX	1905	10200609

Method EPA 9071

Analyte	**AB**	**Analyte ID**	**Method ID**
Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	TX	10220	10201806

Method EPA 9095

Analyte	**AB**	**Analyte ID**	**Method ID**
Paint Filter Liquids Test	TX	10312	10204203

Method SSA/ASA Part 3:34

Analyte	**AB**	**Analyte ID**	**Method ID**
Carbon, organic (Walkley-Black)	TX	10340	SSA/ASA Pt 3:34

Method TCEQ 1005

Analyte	**AB**	**Analyte ID**	**Method ID**
Total Petroleum Hydrocarbons (TPH)	TX	2050	90019208

APPENDIX D
WASTE MANIFEST

2469-TD-H156

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator ID Number: TXD000820266
2. Page 1 of 1
3. Emergency Response Phone: 866-780-3116
4. Manifest Tracking Number: 012110955 JJK

5. Generator's Name and Mailing Address:
UNION PACIFIC RAILROAD
c/o USA, P.O. Box 87687
Houston, TX 77287

Generator's Site Address (if different than mailing address):
4910 Liberty Road
Houston, TX 77287

Generator's Phone: 281-350-7197

6. Transporter 1 Company Name: USA WASTE TRANSPORTATION SERVICES — U.S. EPA ID Number: TXR000032045

7. Transporter 2 Company Name: Clean Harbors Env Sv — U.S. EPA ID Number: MAD039322250

8. Designated Facility Name and Site Address:
CLEAN HARBORS DEER PARK, LLC
2027 INDEPENDENCE PARKWAY SOUTH
LA PORTE, TX 77571
U.S. EPA ID Number: TXD055141378

Facility's Phone: 281-930-2300

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. NA3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S., 9, PGIII, RQ (CREOSOTE)	001	DM	250	P	0918	219H	F034
X	2. NA3082, HAZARDOUS WASTE, LIQUID, N.O.S.(F034 PURGEWATER), 9, PGIII	002	DM	350	P	0914	101H	F034
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1) CH629200 2)CH229097

1) CH629200 2)CH229097

DX9584237

15. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

Generator's/Offeror's Printed/Typed Name: GEOFFREY REEDER — Signature: Geoffrey Reeder — Month 3 Day 31 Year 14

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: L. DeMone Hatch — Signature: L. DeMone Hatch — Month 3 Day 31 Year 14
Transporter 2 Printed/Typed Name: Lynda O'Brien, Agent for CHES — Signature: Lynda OB — Month 4 Day 2 Year 14

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

18b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

18c. Signature of Alternate Facility (or Generator) — Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H040	H040		

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Terri Sterner — Signature: T Sterner — Month 4 Day 7 Year 14

EPA Form 8700-22 (Rev. 3-05) Previous editions are obsolete.

DESIGNATED FACILITY TO GENERATOR

APPENDIX E
POC CONCENTRATIONS VS. TIME GRAPHS

Figure E-1
2-Methylnaphthalene Concentrations vs Time - A-TZ Unit
UPRR HWPW Facility - RCRA SWMU No. 1

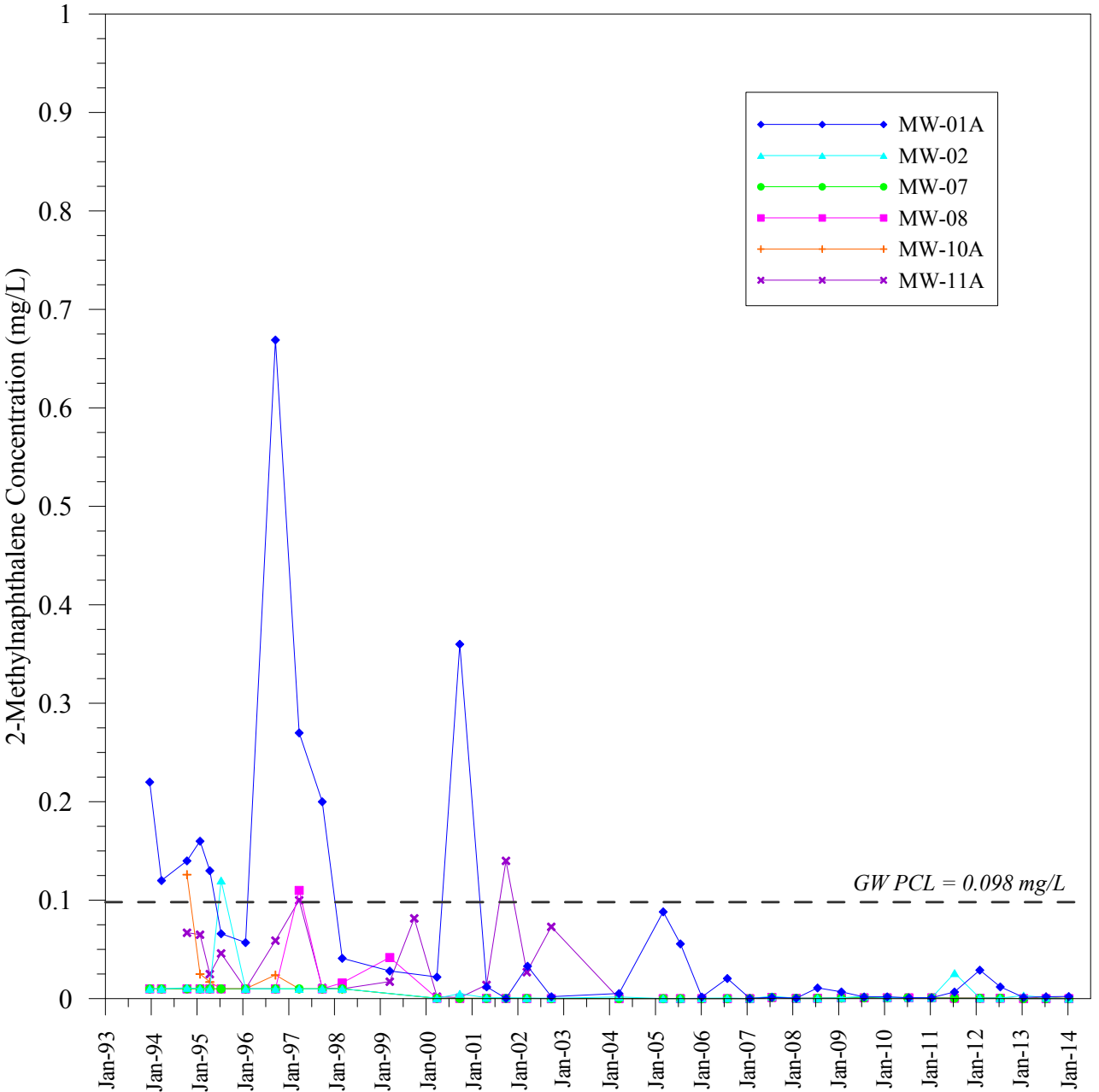


Figure E-2
Dibenzofuran Concentrations vs Time - A-TZ Unit
UPRR HWPW Facility - RCRA SWMU No. 1

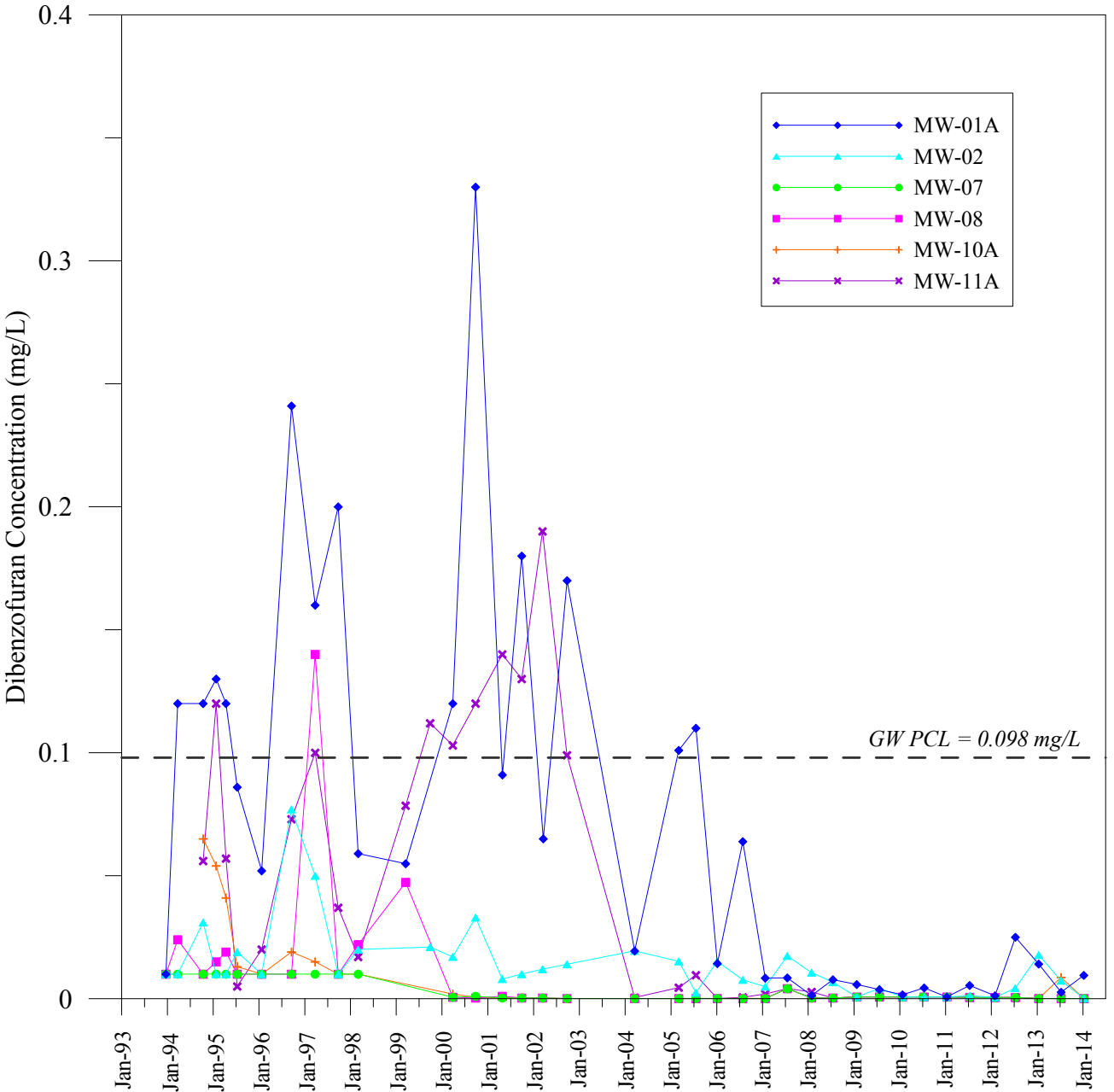


Figure E-3
Naphthalene Concentrations vs Time - A-TZ Unit
UPRR HWPW Facility - RCRA SWMU No. 1

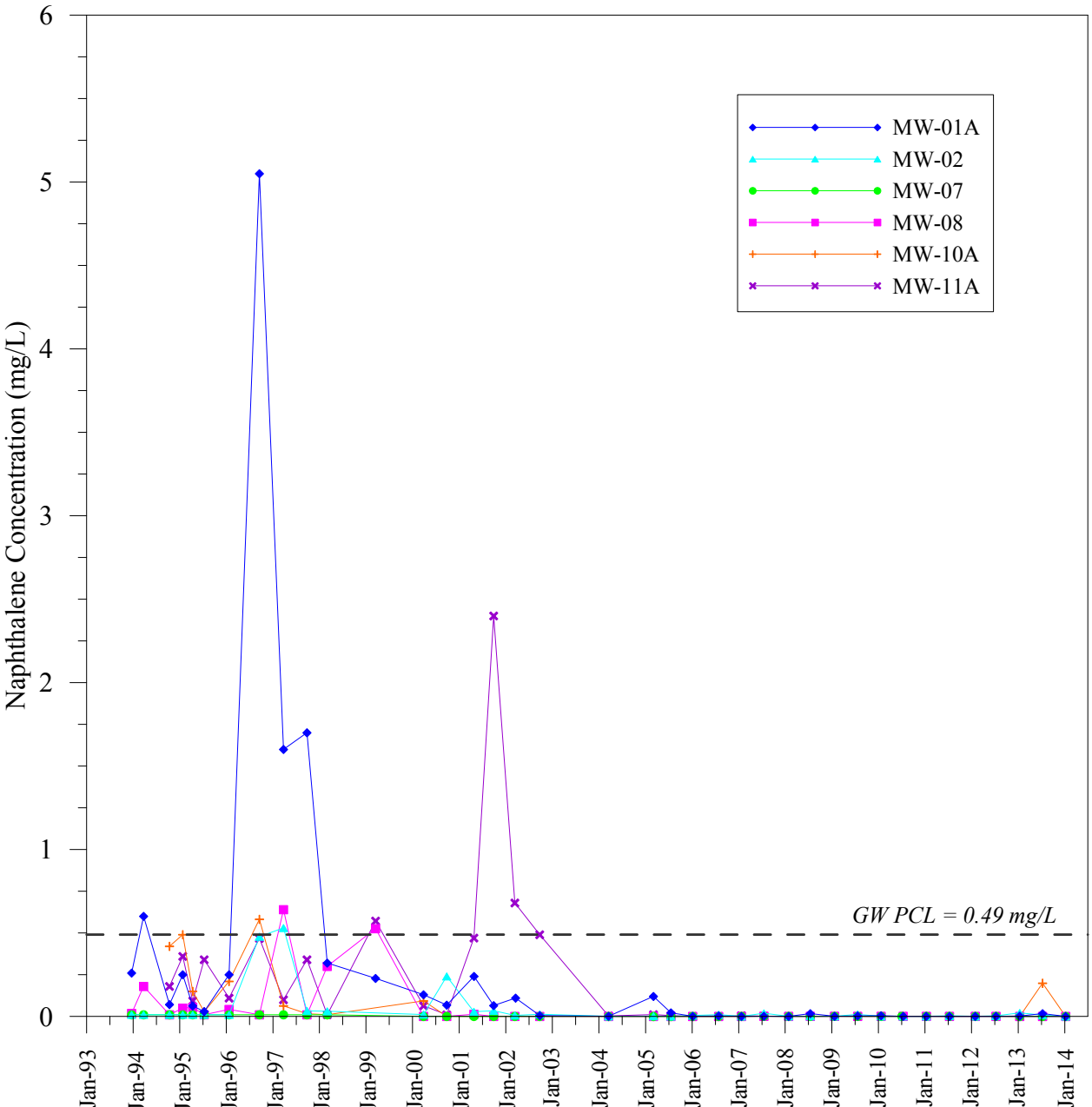


Figure E-4
Dibenzofuran Concentrations vs Time - B-TZ Unit
UPRR HWPW Facility - RCRA SWMU No. 1

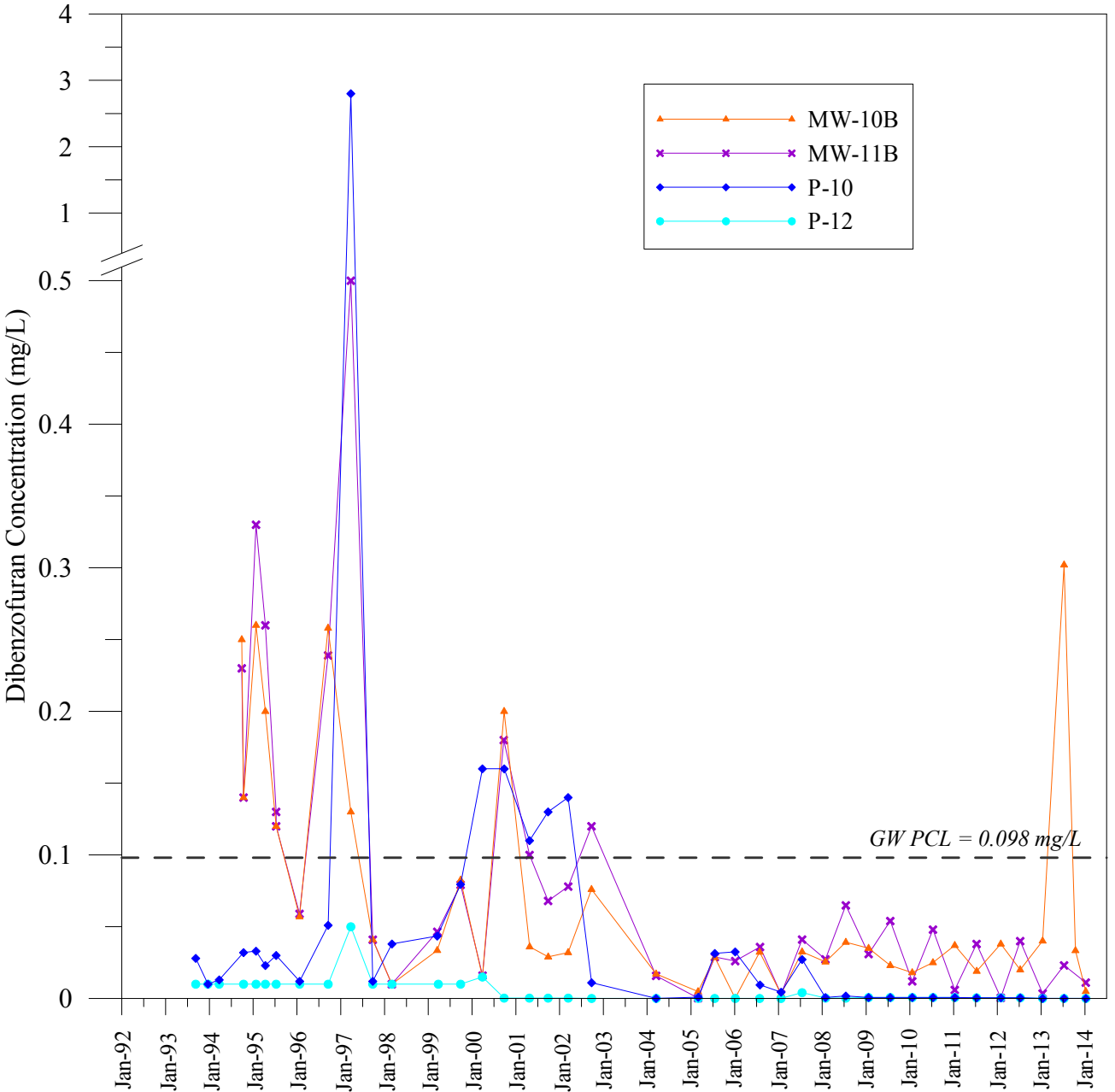
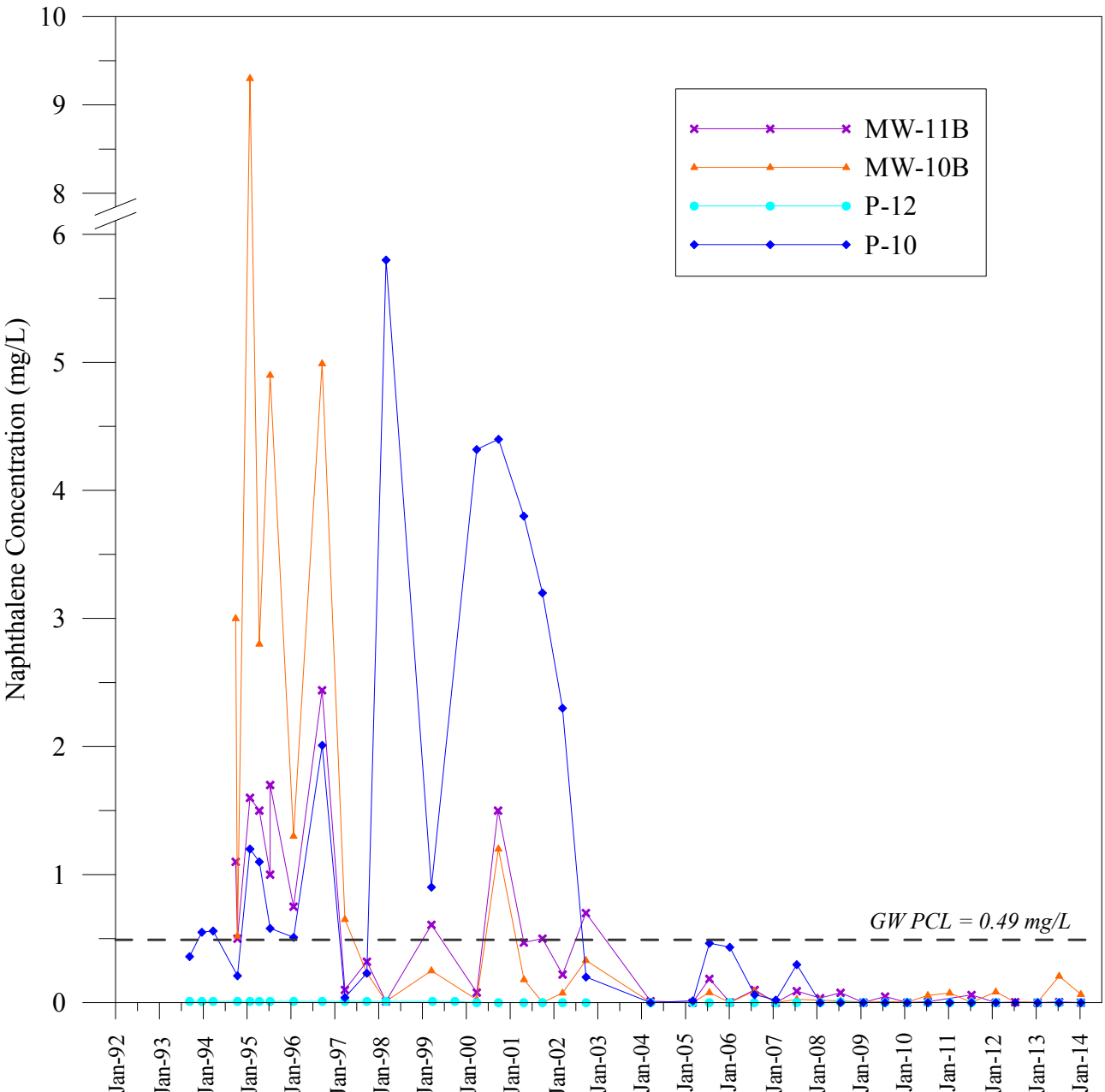
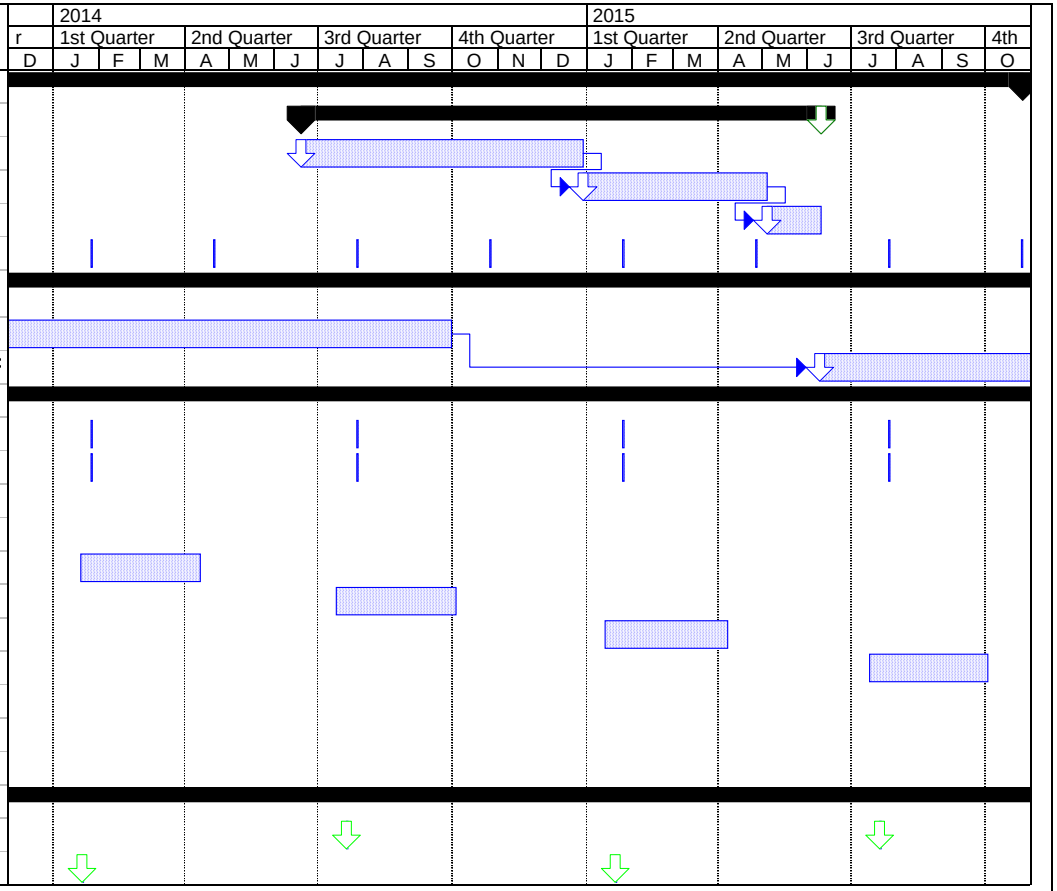


Figure E-5
Naphthalene Concentrations vs Time - B-TZ Unit
UPRR HWPW Facility - RCRA SWMU No. 1



APPENDIX F
UPDATED COMPLIANCE SCHEDULE

ID	Task Name/Permit or CP Section No.
1	**Facility Management**
2	**RCRA Permit/Compliance Plan Renewal and Major Amendments**
3	Draft Permit Renewal/Compliance Plan and Major Amendments
4	TCEQ Review of Permit Renewal/Major Amendments
5	Finalize and Submit Permit Renewal/Major Amendments
6	General Inspection Requirements (quaterly) [Permit Section III.D; Table III.D]
45	**Corrective Measures Implementation (CMI)/Response Action Plan (RAP) [CP Section VIII.F]**
46	Prepare and Submit Response Action Plan (RAP)
47	Implement Corrective Action as detailed in RAP (pending approval of Permit Renewal/Complianc
48	**Ground-Water Monitoring Program [Permit Section VI.A.; CP Section VI.]**
49	Water Level Measurements (Semiannually) [CP Section VI.C.4.a]1
78	Monitoring Well Inspections (Semiannually) [CP Section VI.C.4.a]1
107	Ground Water Sampling and Data Evaluation (1st Semiannual) [CP Setion VI.C.2]
108	Ground Water Sampling and Data Evaluation (2nd Semiannual) [CP Setion VI.C.2]
109	Ground Water Sampling and Data Evaluation (1st Semiannual) [CP Setion VI.C.2]
110	Ground Water Sampling and Data Evaluation (2nd Semiannual) [CP Setion VI.C.2]
111	Ground Water Sampling and Data Evaluation (1st Semiannual) [CP Setion VI.C.2]
112	Ground Water Sampling and Data Evaluation (2nd Semiannual) [CP Setion VI.C.2]
113	Ground Water Sampling and Data Evaluation (1st Semiannual) [CP Setion VI.C.2]
114	Ground Water Sampling and Data Evaluation (2nd Semiannual) [CP Setion VI.C.2]
115	Ground Water Sampling and Data Evaluation (1st Semiannual) [CP Setion VI.C.2]
116	**Response and Reporting [Permit Section II.B.7; CP Section VII.)**
117	First Semi-Annual GW Monitoring Report - July 21 [CP Section VII.C.2]
133	Second Semi-Annual GW Monitoring Report - January 21 [CP Section VII.C.2]



Compliance Schedule
UPRR Houston Wood Preserving Works Site
Houston, Texas

Task		Rolled Up Task		External Tasks	
Progress		Rolled Up Milestone		Project Summary	
Milestone		Rolled Up Progress		External Milestone	
Summary		Split		Deadline	

APPENDIX G
LABORATORY DATA QA/QC REPORT CHECKLIST

FORMER HOUSTON WOOD PRESERVING WORKS
LABORATORY DATA QA/QC REPORT CHECKLIST
ANALYTICAL REPORT 600-85302-1
January 30, 2014

Facility Name: Former Houston Wood Preserving Works SWMU 1	**Permit/ISW Reg No.: 50343**	**For TCEQ Use Only**
Laboratory Name: TestAmerica Laboratories, Inc.	**EPA I.D. No.:**	**Project Mgr:**
Reviewer Name: Jennifer Bush	**TCEQ Project Manager/Data Reviewer:**	
Date: June 30, 2014	**Date:**	

Description	Status	More in Case Narrative (Check Box)	Technically Complete
1. Were laboratory analyses performed by a laboratory accredited by TCEQ, whose accreditation included the matrix (ces), methods, and parameters associated with the data? If not was an explanation given in the Case-Narrative (e.g., laboratory exemption, accreditation for method /parameter not available from TCEQ)?	**Yes☒ No☐ NA☐**	☐	**Yes☐ No☐ NA☐**
2. Was a Case Narrative from laboratory (QC data description summary) submitted with the data set?	**Yes☒ No☐ NA☐**	☐	**Yes☐ No☐ NA☐**
3. Are the sample collection, preparation and analyses methods listed in the permit, preparation and analysis methods listed in the permit or other documents specifying criteria the ones used on the final report?	**Yes☒ No☐ NA☐**	☐	**Yes☐ No☐ NA☐**
4. Were there any modifications to the sample collection, preparation and/or analytical methodology (ies)? If so was the description included on the Case-Narrative?	**Yes☐ No☒ NA☐** **Yes☐ No☐ NA☒**	☐	**Yes☐ No☐ NA☐**
5. Were all samples prepared and analyzed within required holding times?	**Yes☒ No☐ NA☐**	☐	**Yes☐ No☐ NA☐**
6. Were samples properly preserved according to method and QAPP requirements?	**Yes☒ No☐ NA☐**	☐	**Yes☐ No☐ NA☐**

Description	Status	More in Case Narrative (Check Box)	Technically Complete
7. Have the method detection limits (MDL) and/or practical quantitation limit (PQL) been defined in the final report? Note: NELAC uses terms limit of detection (LOD) and Limit of Quantitation respectively.	**Yes☒ No☐ NA☐**	☐	**Yes☐ No☐ NA☐**
8. Do parameters listed on final report match regulatory parameters of concern (POC) specified in permit and/or Waste Analysis Plan or other required document? Note: POC may also be referred to chemicals of concern (COCs)	**Yes☒ No☐ NA☐**	☐	**Yes☐ No☐ NA☐**
9. Are the POC=s included within the analytical method=s target analyte list?	**Yes☒ No☐ NA☐**	☐	**Yes☐ No☐ NA☐**
10. Were the appropriate type(s) of blanks analyzed?	**Yes☒ No☐ NA☐**	☐	
11. Did any blank samples contain POC concentrations >5x or 10x of MDL? If so, please explain potential bias? ****see comments on page 3 of this checklist**	**Yes☒ No☐ NA☐**	☐	**Yes☐ No☐ NA☐**
12. Were method blanks taken through the entire preparation and analytical process?	**Yes☒ No☐ NA☐**	☐	**Yes☐ No☐ NA☐**
13. Did the calibration curve and continuing calibration verification meet regulatory (e.g. NELAC Standards) method specifications (No. of standards, acceptance criteria, etc.)?	**Yes☒ No☐ NA☐**	☐	**Yes☐ No☐ NA☐**
14. Do the initial calibration standards include a concentration below the regulatory limit/decision level? If not please explain? If an MDL and PQL are each used on a report then the relationship between the two must be defined for each method.	**Yes☒ No☐ NA☐** **Yes☐ No☐ NA☐**	☐	**Yes☐ No☐ NA☐**
15. Were manual peak integrations performed? If so pre and post chromatograms and method change histories may be requested?	**Yes☒ No☐ NA☐** **Yes☒ No☐ NA☐**	☐	**Yes☐ No☐ NA☐**
16. Were all results bracketed by a lower and upper range calibration standard?	**Yes☒ No☐ NA☐**	☐	**Yes☐ No☐ NA☐**
17. Was any result reported outside of the range of the calibration standards?	**Yes☐ No☒ NA☐**	☐	**Yes☐ No☐ NA☐**
18. Were all matrix spike (MS) and MS duplicate (MSD) recoveries within the data decision making goals of QC data in the RCRA/UIC QAPP and/or within the laboratories control charts? If not were data flagged with explanation in case narrative?	**Yes☒ No☐ NA☐** **Yes☐ No☐ NA☒**	☒	**Yes☐ No☐ NA☐**
19. Were all of the MS and MSD relative percent differences (RPDs) within the data decision making goals of QC data in the RCRA/UIC QAPP? If not were data flagged with explanation in case narrative?	**Yes☒ No☐ NA☐** **Yes☐ No☐ NA☒**	☐	**Yes☐ No☐ NA☐**
20. Were all laboratory control sample (LCS) recoveries at least within the MS and MSD ranges of recoveries and within laboratories control charts? If not were data flagged with explanation in Case Narrative?	**Yes☒ No☐ NA☐** **Yes☐ No☐ NA☒**	☐	**Yes☐ No☐ NA☐**

Description	Status	More in Case Narrative (Check Box)	Technically Complete
21. Were all POCs (COCs) in the LCS?	**Yes☒ No☐ NA☐**	☐	**Yes☐ No☐ NA☐**
22. Were the MS and MSD from samples collected for this work order or other samples in the analytical batch as defined by the NELAC Standards? *This information is used to identify factors contributing to matrix interferences. It should not be assumed, unless it is understood by the laboratory, that samples relating to this report were the ones selected to be fortified with the POCs.*	**Yes☒ No☐ NA☐**	☐	**Yes☐ No☐ NA☐**
23. Were any of the samples diluted? If so were appropriate calculations made to the MDL and/or PQL of the final report?	**Yes☒ No☐ NA☐**	☒	**Yes☐ No☐ NA☐**

**As noted in Section 3.10 of the report, several COCs were detected in the field blank sample (FB-01). COC concentrations in FB-01 were noted to be higher than concentrations observed in groundwater samples. Groundwater sample concentrations were consistent with previous sampling events and suggest that FB-01 results are erroneous. Rather than qualify the associated groundwater samples as non-detect based on the FB-01 results, the groundwater sample data was used as reported.

LABORATORY DATA REPORT QA/QC CHECKLIST
LABORATORY CASE-NARRATIVE
(To accompany laboratory checklist)

Facility Name: Former Houston Wood Preserving Works SWMU 1	**Permit/ISW Reg No.: 50343**
Laboratory Name: Test America Laboratories, Inc.	**EPA I.D. No.:**

Method No.	Non-conformance Description	Method Modification Description
8270C	Several surrogate %recoveries were outside of QC limits	As detailed in the case narrative, results have been qualified when necessary.
8270C	Several samples were diluted due to the nature of the sample matrix.	Elevated reporting limits are provided.