PBW

Consulting Engineers and Scientists

PASTOR, BEHLING & WHEELER, LLC
2201 Double Creek Drive, Suite 4004
Round Rock, TX 78664

Tel (512) 671-3434
Fax (512) 671-3446

July 16, 2015
PBW Project No. 1358

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

Subject: Correction Action Monitoring Report: 2015 First Semi-Annual Event
Houston Wood Preserving Works, Houston, Texas
TCEQ SWR No. 31547; Hazardous Solid Waste Permit No. 50343

Dear Ms. Hatfield:

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: 2015 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

HAND DELIVERED

RECEIVED
JUL 16 2015
TCEQ Remediation Division

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

CORRECTIVE ACTION MONITORING REPORT
2015 FIRST SEMIANNUAL EVENT

FORMER HOUSTON WOOD PRESERVING WORKS
4910 LIBERTY ROAD
HOUSTON, TEXAS

June 29, 2015

Prepared for:

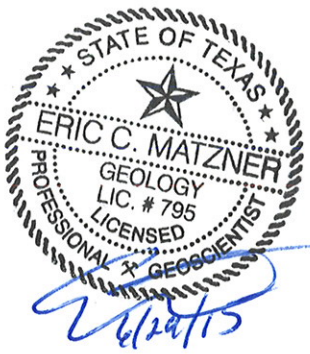
Mr. Geoffrey Reeder, P.G.
UNION PACIFIC RAILROAD COMPANY

24125 Aldine Westfield Road
Spring, Texas 77373

Prepared by:

PASTOR, BEHLING & WHEELER, LLC

2201 Double Creek Drive, Suite 4004
Round Rock, Texas 78664
(512) 671-3434



PBW Project No. 1358

June 29, 2015

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

7/9/2015

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 2015 for the Closed Surface Impoundment (Solid Waste Management Unit (SWMU) 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 2015.

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 2015 sampling event show groundwater flow in the A-TZ to have an outward hydraulic gradient to the east and west away from SWMU 1 of approximately 0.027 ft/ft. Groundwater flow during the previous event (2014 second semi-annual monitoring event) was observed to have a northwestward hydraulic gradient towards MW-03.

Groundwater elevation data collected in the B-TZ show groundwater flow to the north, west, and south away from SWMU 1 with a hydraulic gradient of approximately 0.018 ft/ft. Groundwater flow during the previous event (2014 second semi-annual monitoring event) was observed to have an inward hydraulic gradient toward wells P-10 and P-11.

Analytical results from the January 2015 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 or Groundwater Protection Standards (GWPs). An initial, unverified exceedance for naphthalene was detected in MW-10B; however, conformation sampling results were less than the GWPs and the unverified exceedance was not verified. Constituent concentrations were below their respective PCLs for the 18th 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 2015 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) 1).

On behalf of UPRR, Pastor, Behling & Wheeler, LLC (PBW) conducted groundwater monitoring activities at the Site on January 7, 2015. Groundwater monitoring activities included sampling and gauging the background and point of compliance (POC) wells and piezometers associated with SWMU 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 2015 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 2015, 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 2015 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 1 in January and April 2015 and conducted semi-annual groundwater sampling activities on January 7, 2015. 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 2015 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 2015 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 February 9, 2015 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 2015 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 2015 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-TZ and the B-TZ, were monitored during this period. Groundwater elevation data collected during the January 2015 sampling event show groundwater flow in the A-TZ to have an outward hydraulic gradient to the east and west away from SWMU 1 of approximately 0.027 ft/ft. Groundwater flow during the previous event (2014 second semi-annual monitoring event) was observed to have a northwestward hydraulic gradient towards MW-03.

Groundwater elevation data collected in the B-TZ show groundwater flow to the north, west, and south away from SWMU 1 with a hydraulic gradient of approximately 0.018 ft/ft. Groundwater flow during the previous event (2014 second semi-annual monitoring event) was observed to have an inward flow to wells P-10 and P-11.

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 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 2015 monitoring event, the compliance wells completed in both transmissive zones are compliant with GWPSs. However, there was an initial, unverified naphthalene exceedance of 0.556 mg/L at MW-10B during the January 7, 2015 sampling event. In accordance with the verification resampling procedures described ni the GWSAP, MW-10B was resampled on January 29, 2015. The naphthalene concentration at MW-10B associated with the resample was 0.0247 mg/L below the GWPs of 0.49 mg/L. Therefore, the initial result was not verified through resampling and MW-10B and other compliance 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 2015 first semi-annual analytical data, the SMWU 1 monitoring wells have been compliant for 18 consecutive semi-annual monitoring events (9 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 2015 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:

- MW-10B and FD-02 – The di-n-butylphthalate (DBP) concentrations at MW-10B and FD-02 were qualified as non-detect due to DBP concentrations in the method blanks.
- P-12 – The pyrene concentrations at P-12 were qualified (JL flagged) due to outlying MS/MSD results.
- MW-01A – The 2-methylnaphthalene, bis(2-Ethylhexyl)phthalate (DEHP) and naphthalene concentrations at MW-01A were J-flagged due to variability in the field duplicate results.
- P-10 – The DEHP concentrations at P-10 were J-flagged due to variability in the field duplicate results.

3.11 Reported Concentration Maps

Reported concentrations of each constituent analyzed for the 2015 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 verified 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. However, a RCRA Part A and Part B Permit Renewal Application with a Compliance Plan was submitted on December 10, 2014 that included a request for no further action for the SWMU 1.

3.16 Corrective Measures Implementation (CMI) Report

A Response Action Plan (RAP) was submitted within the Compliance Plan on December 10, 2014 to the TCEQ.

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 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

Recommendations for changes to the post-closure care for SWMU 1 are included in the RCRA Part B Permit Renewal Application submitted on December 10, 2014.

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: 2015 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		
		1/7/2015	LQ	VQ	1/7/2015	LQ	VQ	1/7/2015	LQ	VQ	1/7/2015	LQ	VQ	1/7/2015	LQ	VQ	1/7/2015	LQ	VQ	1/7/2015	LQ	VQ
Acenaphthene	1.5	0.0594			0.0607			0.0026			0.00008	U	U	0.00008	U	U	0.00272			0.000471	J	J
Acenaphthylene	1.5	0.00104			0.00102			0.0000892	J	J	0.00006	U	U	0.00006	U	U	0.000126	J	J	0.00006	U	U
Anthracene	7.3	0.00139			0.00139			0.000153	J	J	0.000271	J	J	0.000056	J	J	0.000191	J	J	0.000399	J	J
bis(2-ethylhexyl)phthalate	0.006	0.00533		J	0.00259		J	0.000426	J	J	0.000944			0.00037	U	U	0.00037	U	U	0.00037	U	U
Dibenzofuran	0.098	0.000541			0.000602			0.000377	J	J	0.00008	U	U	0.00008	U	U	0.000349	J	J	0.00008	U	U
Fluoranthene	0.98	0.00246			0.00235			0.00007	U	U	0.000189	J	J	0.00007	U	U	0.00007	U	U	0.00007	U	U
Fluorene	0.98	0.0209			0.0217			0.000681			0.0000792	J	J	0.00007	U	U	0.000694			0.00007	U	U
2-Methylnaphthalene	0.098	0.00007	U	UJ	0.000132	J	J	0.000105	J	J	0.00007	U	U	0.00007	U	U	0.00007	U	U	0.00007	U	U
Naphthalene	0.49	0.000121	J	J	0.000313	J	J	0.000472	J	J	0.00008	U	U	0.00008	U	U	0.000322	J	J	0.00008	U	U
Phenanthrene	0.73	0.000335	J	J	0.000326	J	J	0.000162	J	J	0.00006	U	U	0.00006	U	U	0.000126	J	J	0.00006	U	U
Pyrene	0.73	0.00105			0.00102			0.00011	U	U	0.000142	J	J	0.00011	U	U	0.00011	U	U	0.00011	U	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: 2015 First Semiannual Event

Houston Wood Preserving Works
Houston, Texas

Analyte	PCL (mg/L)	Monitoring Well IDs (Concentrations mg/L)																	
		MW-10B			MW-10B Resample			MW-11B			P-10			DUP-02			P-12		
		1/7/2015	LQ	VQ	1/29/2015	LQ	VQ	1/7/2015	LQ	VQ	1/7/2015	LQ	VQ	1/7/2015	LQ	VQ	1/7/2015	LQ	VQ
Acenaphthene	1.5	0.166			0.0507			0.0472			0.00008	U	U	0.00008	U	U	0.00008	U	U
Acenaphthylene	1.5	0.00104			0.000597			0.00113			0.00006	U	U	0.00006	U	U	0.00006	U	U
Anthracene	7.3	0.00702			0.00179			0.000945			0.000122	J	J	0.000115	J	J	0.00005	U	U
bis(2-ethylhexyl)phthalate	0.006	0.00037	U	U	0.000366	U	U	0.00037	U	U	0.000853		J	0.00155		J	0.00037	U	U
Dibenzofuran	0.098	0.0727			0.0129			0.00472			0.00008	U	U	0.00008	U	U	0.00008	U	U
Di-n-butyl phthalate	2.4	0.00011	Jb	U	0.000109	U	U	0.00011	U	U	0.00011	U	U	0.00011	Jb	U	0.00011	U	U
Fluoranthene	0.98	0.00711			0.00117			0.00201			0.000114	J	J	0.000113	J	J	0.00007	U	U
Fluorene	0.98	0.0975			0.0202			0.00867			0.00007	U	U	0.00007	U	U	0.00007	U	U
Naphthalene	0.49	0.556			0.0247			0.00008	U	U	0.00008	U	U	0.00008	U	U	0.00008	U	U
Phenol	7.3	0.00004	U	U	0.00004	U	U	0.00004	U	U	0.00004	U	U	0.00004	U	U	0.00004	U	U
Pyrene	0.73	0.00234			0.000392	J	J	0.000935			0.00011	U	U	0.00011	U	U	0.00152		JL

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: 2015 First Semiannual Event

Houston Wood Preserving Works
Houston, Texas

Analyte	PCL (mg/L)	P-12(MS)[1] Matrix Spike 1/7/2015		P-12(MSD)[1] Matrix Spike Duplicate 1/7/2015	
Acenaphthene	1.5	0.0000792	U	0.0000792	U
Acenaphthylene	1.5	0.0000594	U	0.0000594	U
Anthracene	7.3	0.0000495	U	0.0000495	U
bis(2-ethylhexyl)phthalate	0.006	0.000366	U	0.000366	U
Dibenzofuran	0.098	0.0000792	U	0.0000792	U
Di-n-butyl phthalate	2.4	0.000109	U	0.000109	U
Fluoranthene	0.98	0.0000693	U	0.0000693	U
Fluorene	0.98	0.0000693	U	0.0000693	U
Naphthalene	0.49	0.0000792	U	0.0000792	U
Phenol	7.3	0.0000396	U	0.0000396	U
Pyrene	0.73	0.00152		0.00152	

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: 2015 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	1/7/2015	2.36	ND	20.2	19.85	45.52
MW-02	48.00	1/7/2015	2.41	ND	20.3	20.20	45.59
MW-07	48.92	1/7/2015	3.46	ND	NA	25.25	45.46
MW-08	49.33	1/7/2015	3.82	ND	26.8	25.05	45.51
MW-10A	49.82	1/7/2015	4.26	ND	25.9	24.10	45.56
MW-11A	50.07	1/7/2015	4.58	ND	24.4	24.05	45.49
B-TZ Monitoring Locations							
MW-10B	49.95	1/7/2015	4.46	ND	48.8	46.45	45.49
MW-11B	50.23	1/7/2015	4.79	ND	46.8	46.65	45.44
P-10	47.73	1/7/2015	3.96	ND	40.0	42.85	43.77
P-12	48.80	1/7/2015	3.19	ND	40.0	42.85	45.61

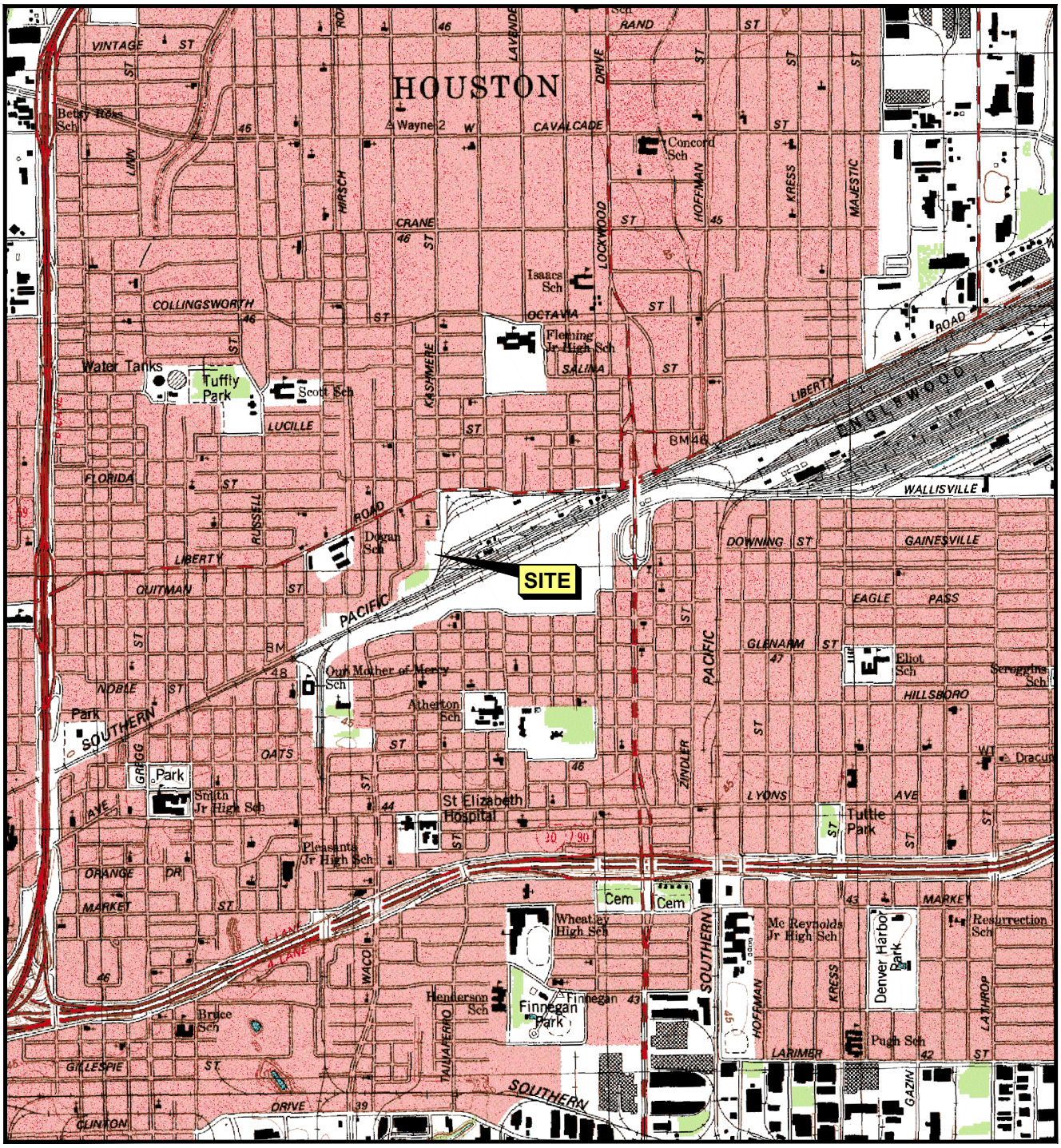
Notes
BTOC = feet below the top of the well casing
ft. MSL = feet above Mean Sea Level
NA = Not Available
*TOC elevations based on December 2010 survey (see Section 3.17)

Table 5
Compliance Status of Wells and Piezometers
Semiannual Monitoring Report: 2015 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

N

Scale in Feet

0 1000 2000

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: MAY, 2015	CHECKED: ECM	

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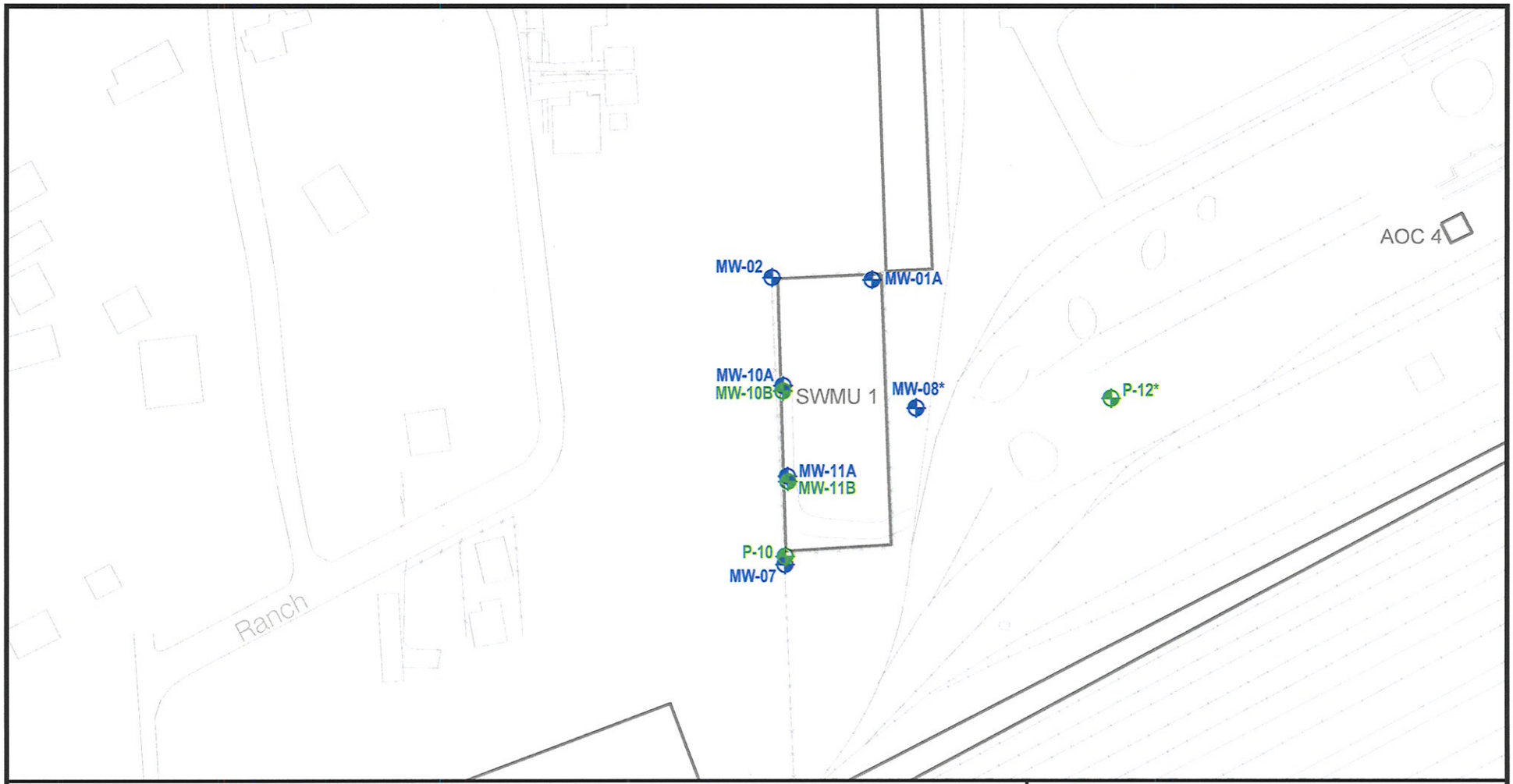

EXPLANATION

- 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: MAY, 2015	CHECKED: ECM	

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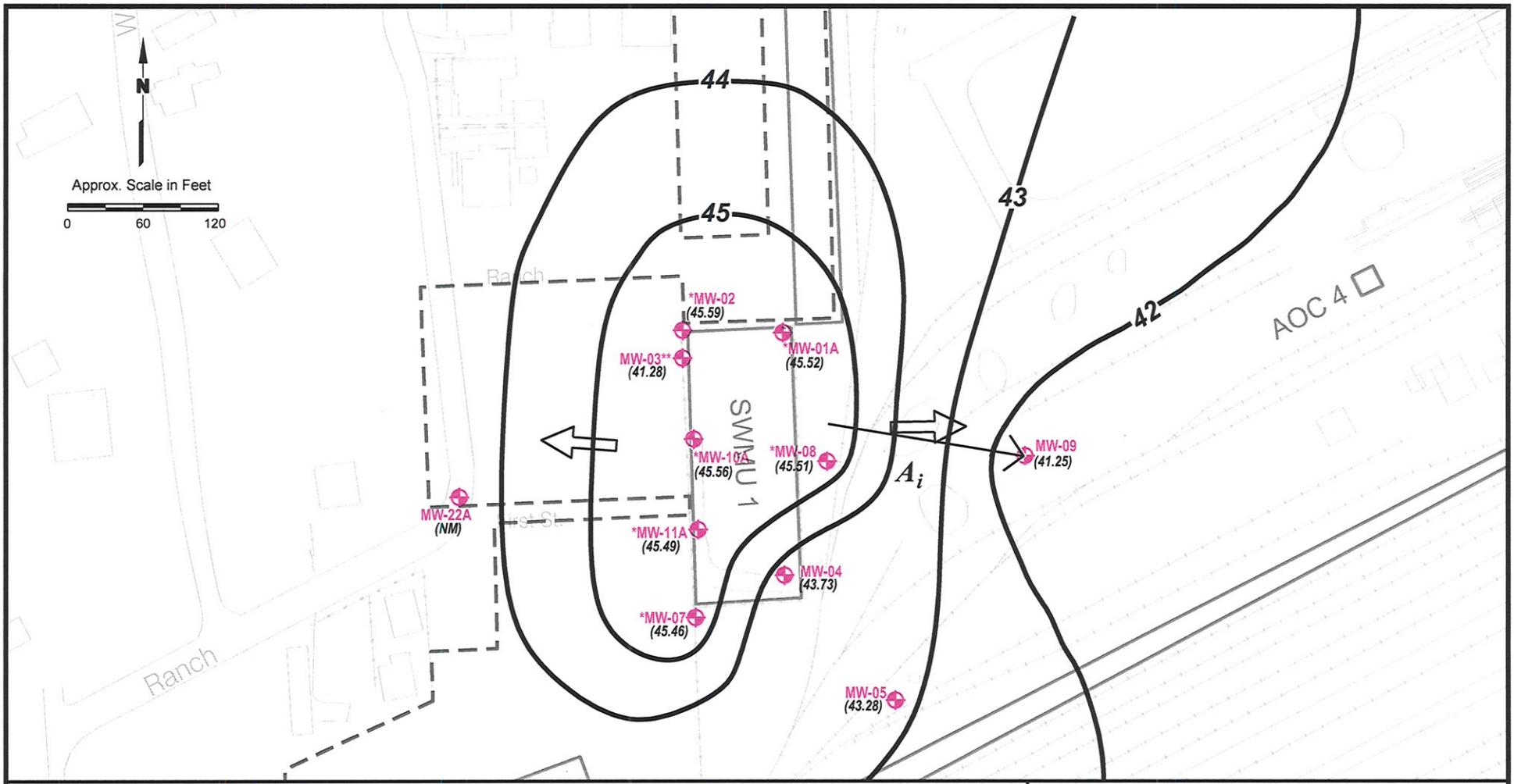

EXPLANATION

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

ESTIMATED GRADIENT

$$A_i \rightarrow A_i = \frac{4.26ft}{160ft} = 0.027\ ft/ft$$

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

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HOUSTON WOOD PRESERVING WORKS

Figure 3

A-TZ POTENTIOMETRIC SURFACE CONTOUR MAP JANUARY 7, 2015

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2015	CHECKED: ECM	

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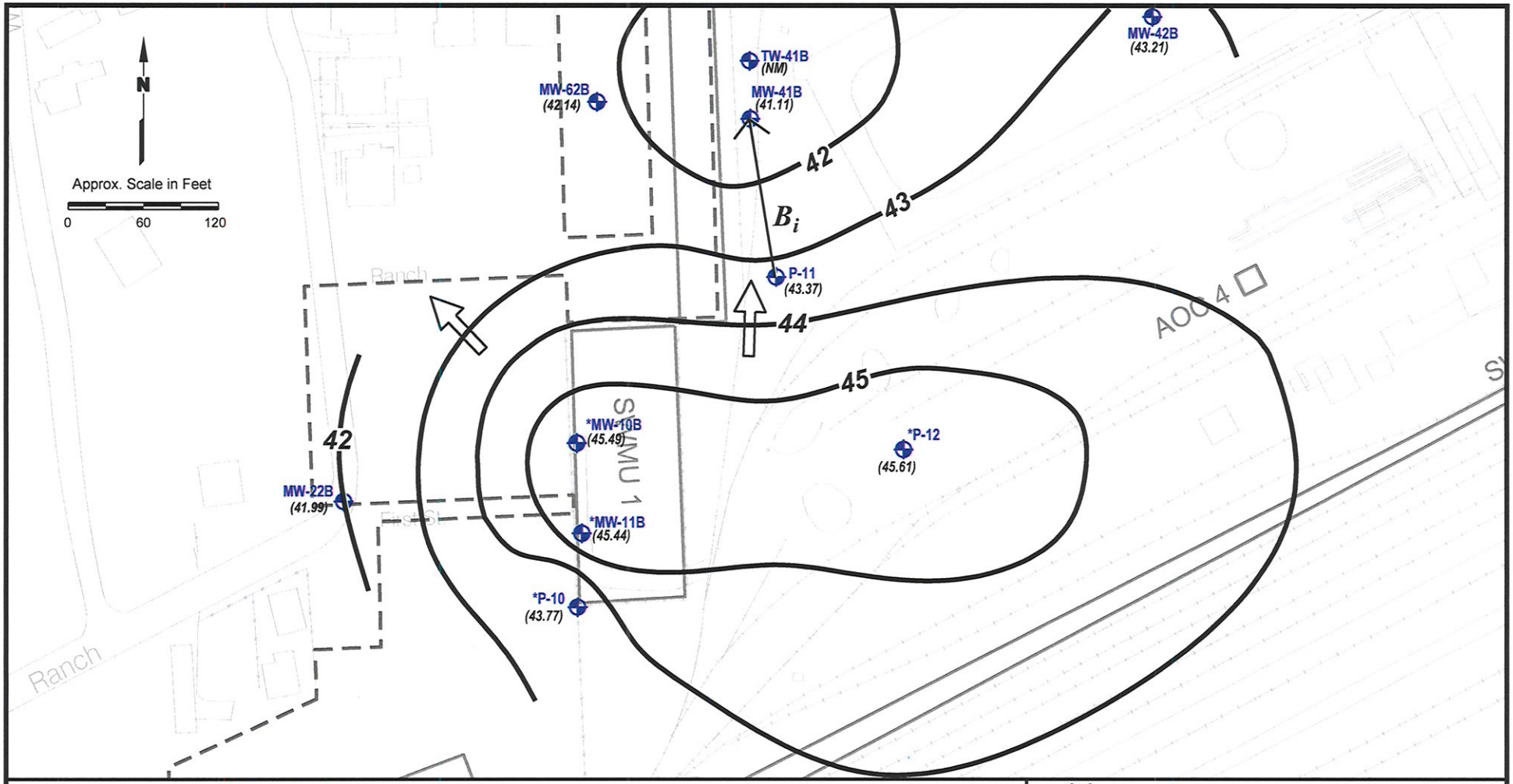

EXPLANATION

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

ESTIMATED GRADIENT

$$B_i \rightarrow B_i = \frac{2.26ft}{120ft} = 0.018\ ft/ft$$

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 7, 2015

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2015	CHECKED: ECM	

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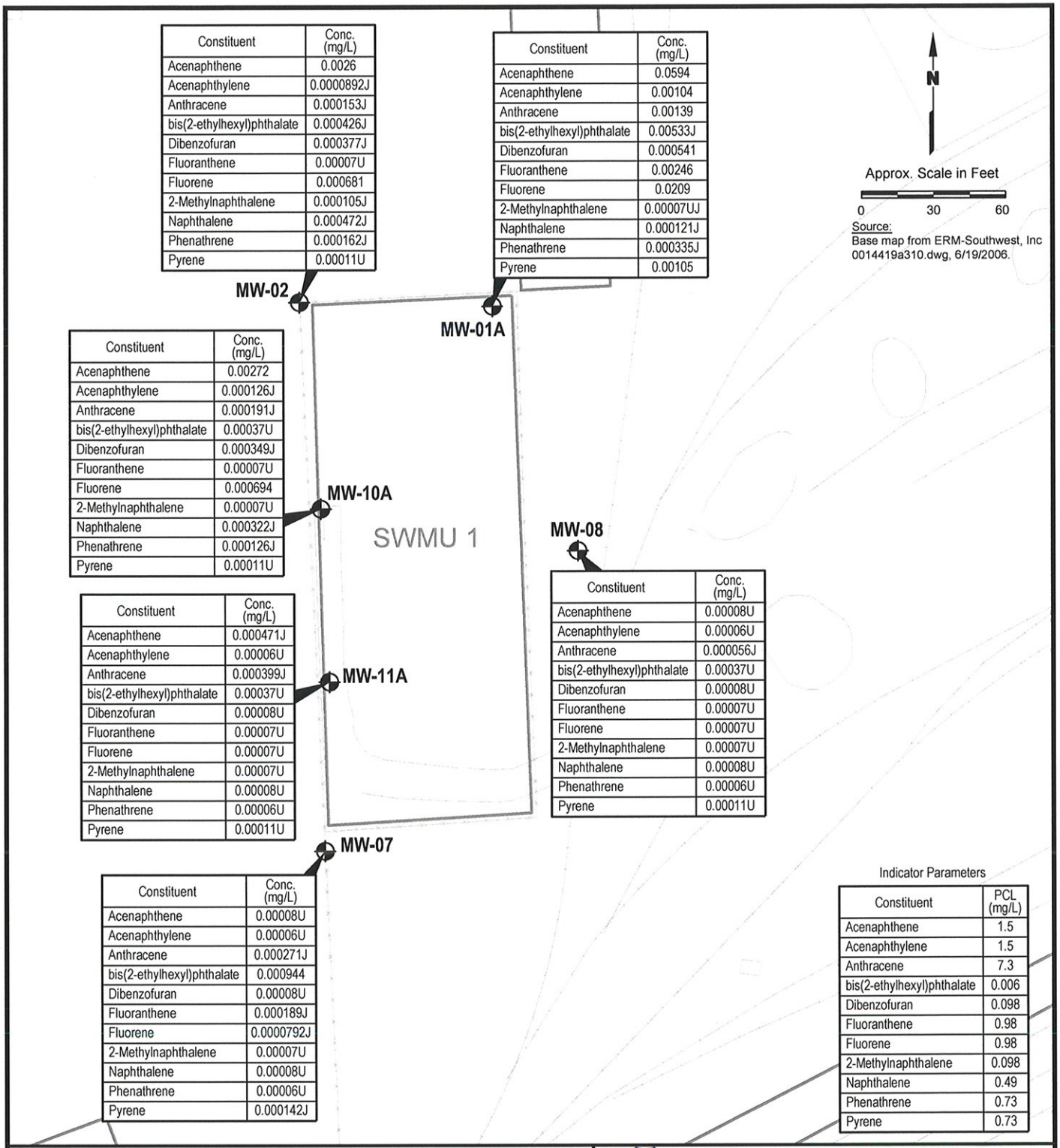

Constituent	Conc. (mg/L)
Acenaphthene	0.0026
Acenaphthylene	0.0000892J
Anthracene	0.000153J
bis(2-ethylhexyl)phthalate	0.000426J
Dibenzofuran	0.000377J
Fluoranthene	0.00007U
Fluorene	0.000681
2-Methylnaphthalene	0.000105J
Naphthalene	0.000472J
Phenathrene	0.000162J
Pyrene	0.00011U

Constituent	Conc. (mg/L)
Acenaphthene	0.0594
Acenaphthylene	0.00104
Anthracene	0.00139
bis(2-ethylhexyl)phthalate	0.00533J
Dibenzofuran	0.000541
Fluoranthene	0.00246
Fluorene	0.0209
2-Methylnaphthalene	0.00007UJ
Naphthalene	0.000121J
Phenathrene	0.000335J
Pyrene	0.00105

Constituent	Conc. (mg/L)
Acenaphthene	0.00272
Acenaphthylene	0.000126J
Anthracene	0.000191J
bis(2-ethylhexyl)phthalate	0.00037U
Dibenzofuran	0.000349J
Fluoranthene	0.00007U
Fluorene	0.000694
2-Methylnaphthalene	0.00007U
Naphthalene	0.000322J
Phenathrene	0.000126J
Pyrene	0.00011U

Constituent	Conc. (mg/L)
Acenaphthene	0.000471J
Acenaphthylene	0.00006U
Anthracene	0.000399J
bis(2-ethylhexyl)phthalate	0.00037U
Dibenzofuran	0.00008U
Fluoranthene	0.00007U
Fluorene	0.00007U
2-Methylnaphthalene	0.00007U
Naphthalene	0.00008U
Phenathrene	0.00006U
Pyrene	0.00011U

Constituent	Conc. (mg/L)
Acenaphthene	0.00008U
Acenaphthylene	0.00006U
Anthracene	0.000056J
bis(2-ethylhexyl)phthalate	0.00037U
Dibenzofuran	0.00008U
Fluoranthene	0.00007U
Fluorene	0.00007U
2-Methylnaphthalene	0.00007U
Naphthalene	0.00008U
Phenathrene	0.00006U
Pyrene	0.00011U

Constituent	Conc. (mg/L)
Acenaphthene	0.00008U
Acenaphthylene	0.00006U
Anthracene	0.000271J
bis(2-ethylhexyl)phthalate	0.000944
Dibenzofuran	0.00008U
Fluoranthene	0.000189J
Fluorene	0.0000792J
2-Methylnaphthalene	0.00007U
Naphthalene	0.00008U
Phenathrene	0.00006U
Pyrene	0.000142J

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. Sample collected on January 7, 2015.
2. J= Estimated value between SQL and MDL.
3. U= Value not detected greater than the MDL.

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Figure 5

A-TZ REPORTED CONCENTRATIONS 2015 1st SEMI ANNUAL MONITORING EVENT

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: MAY, 2015	CHECKED: ECM	

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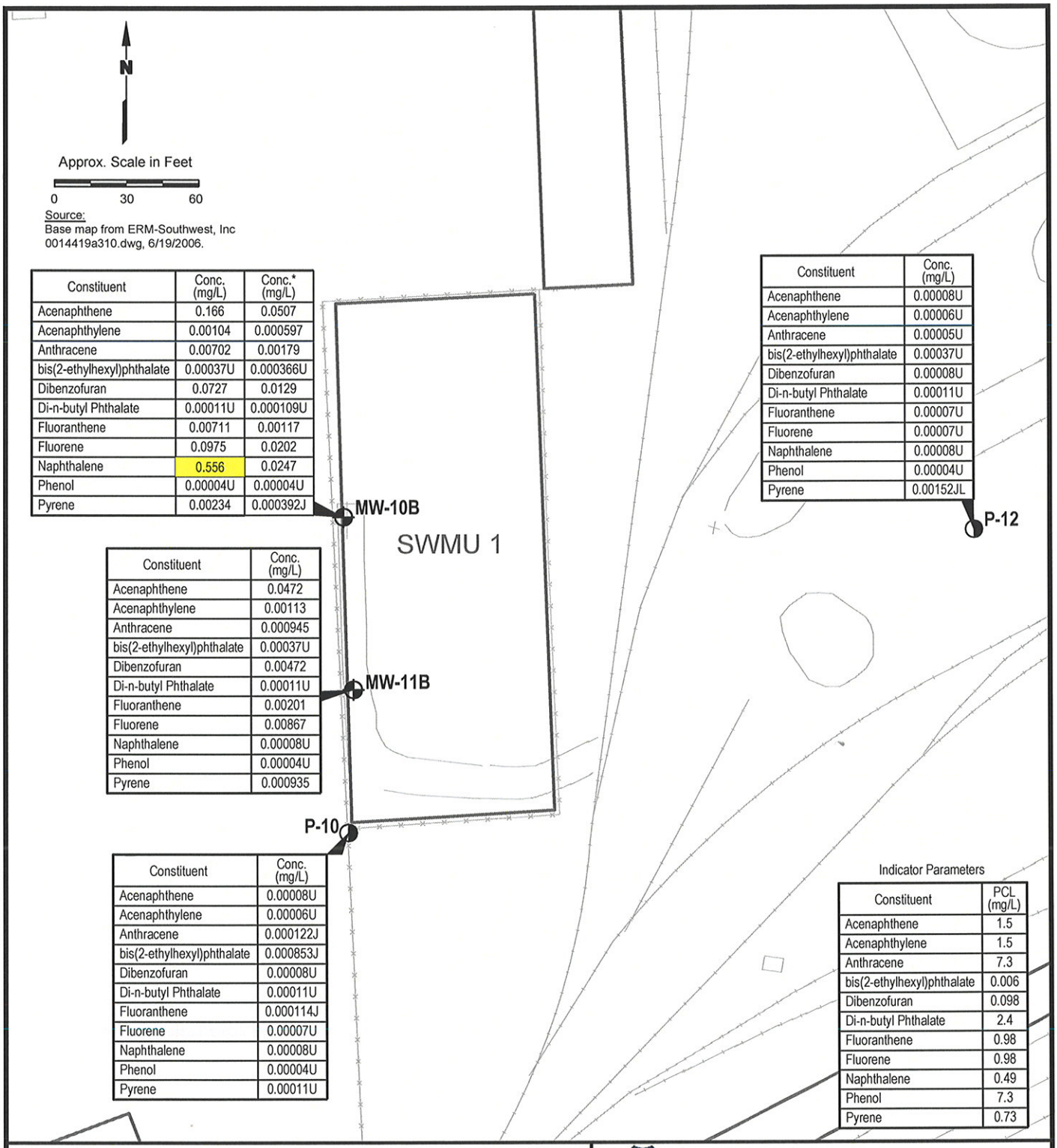

Constituent	Conc. (mg/L)	Conc.* (mg/L)
Acenaphthene	0.166	0.0507
Acenaphthylene	0.00104	0.000597
Anthracene	0.00702	0.00179
bis(2-ethylhexyl)phthalate	0.00037U	0.000366U
Dibenzofuran	0.0727	0.0129
Di-n-butyl Phthalate	0.00011U	0.000109U
Fluoranthene	0.00711	0.00117
Fluorene	0.0975	0.0202
Naphthalene	0.556	0.0247
Phenol	0.00004U	0.00004U
Pyrene	0.00234	0.000392J

Constituent	Conc. (mg/L)
Acenaphthene	0.00008U
Acenaphthylene	0.00006U
Anthracene	0.00005U
bis(2-ethylhexyl)phthalate	0.00037U
Dibenzofuran	0.00008U
Di-n-butyl Phthalate	0.00011U
Fluoranthene	0.00007U
Fluorene	0.00007U
Naphthalene	0.00008U
Phenol	0.00004U
Pyrene	0.00152JL

Constituent	Conc. (mg/L)
Acenaphthene	0.0472
Acenaphthylene	0.00113
Anthracene	0.000945
bis(2-ethylhexyl)phthalate	0.00037U
Dibenzofuran	0.00472
Di-n-butyl Phthalate	0.00011U
Fluoranthene	0.00201
Fluorene	0.00867
Naphthalene	0.00008U
Phenol	0.00004U
Pyrene	0.000935

Constituent	Conc. (mg/L)
Acenaphthene	0.00008U
Acenaphthylene	0.00006U
Anthracene	0.000122J
bis(2-ethylhexyl)phthalate	0.000853J
Dibenzofuran	0.00008U
Di-n-butyl Phthalate	0.00011U
Fluoranthene	0.000114J
Fluorene	0.00007U
Naphthalene	0.00008U
Phenol	0.00004U
Pyrene	0.00011U

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. Sample collected on January 7, 2015.
2. J= Estimated value between SQL and MDL.
3. U= Value not detected greater than the MDL.
4. JL= Estimated concentration; biased low.
5. * MW-10B resampled on January 29, 2015.
6. Highlighted value exceeds PCL.

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ERIC C. MATZNER
GEOLOGY
LIC. # 795
LICENSED
PROFESSIONAL GEOSCIENTIST
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Figure 6

B-TZ REPORTED CONCENTRATIONS 2015 1st SEMI ANNUAL MONITORING EVENT

PROJECT: 1358	BY: ADJ	REVISIONS
DATE: JUNE, 2015	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: 2015 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
	1/7/2015	1/7/2015	1/7/2015	1/7/2015	1/7/2015	1/7/2015	1/7/2015	1/7/2015	1/7/2015	1/7/2015
Time Sampled (hrs CST)	14:00	11:15	17:05	15:00	10:15	7:45	9:20	8:30	17:50	16:10
Temperature (ºC)	22.7	23.1	22.6	23.2	21.9	21.8	22.6	22.7	22.8	22.4
pH (Standard Units)	6.94	6.97	7.04	6.77	6.69	6.73	6.86	6.83	6.74	6.89
Specific Conductivity (mmhos/cm)	1,690	1,960	2,070	2,010	1,820	2,130	2,190	1,910	2,170	2,320
Dissolved Oxygen (mg/L)	1.06	0.47	0.36	0.51	0.77	0.61	0.57	0.32	0.77	0.81
Turbidity (NTU)	4.7	5.2	3.9	11.0	6.9	7.4	8.1	7.1	4.2	6.7

APPENDIX C
LABORATORY ANALYTICAL REPORT and DATA USABILITY SUMMARY

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: 600-104776-1
Client Project/Site: 1620 UPRR HWPW

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

Attn: Mr. Eric Matzner

Authorized for release by:
1/14/2015 10:12:07 AM
Donnie Combs, QA Specialist
(713)690-4444
donnie.combs@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 600-104776-1 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.

Donnie Combs, for Sachin Kudchadkar		1/14/2015
Name (printed)	Signature	Date

Senior Project Manager
Official Title (printed)

Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	1/14/2015
Project Name:	1620 UPRR HWPW	Laboratory Job Number:	600-104776-1
Reviewer Name:	Donnie Combs, for Sachin 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			R05D
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			R07C
		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:	1/14/2015
Project Name:	1620 UPRR HWPW	Laboratory Job Number:	600-104776-1
Reviewer Name:	Donnie Combs, for Sachin 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.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	1/14/2015
Project Name:	1620 UPRR HWPW	Laboratory Job Number:	600-104776-1
Reviewer Name:	Donnie Combs, for Sachin Kudchadkar		

ER #[1]	Description
R04B	Method 8270C LL: The following sample(s) required a dilution due to the nature of the sample matrix: 600-104776-3. 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. Method 8270C LL: The following sample(s) required a dilution due to the nature of the sample matrix: 600-104776-6. 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.
R05D	Method 8270C LL: The method blank for batch 153402 contained Di-n-butyl phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.
R07C	Method 8270C LL: 600-104776-9 MS & MSD failed the recovery criteria for the following analyte(s): Pyrene. Matrix interference is suspected.
R10B	Method 8270C LL: The following sample(s) was diluted to bring the concentration of target analytes within the calibration range: 600-104776-2,-3-,6,&-7. 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_LVI
Date Analyzed: 10/16/2014
Job #: 600-100259
TALS Batch: 146810
Units: ug/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MQL
1,1'-Biphenyl	CHSVMS04	2.680	4.000	3.620	10
1,2,4,5-Tetrachlorobenzene	CHSVMS04	3.410	4.000	3.247	10
1,2,4-Trichlorobenzene	CHSVMS04	2.050	4.000	3.175	10
1,2-Dichlorobenzene	CHSVMS04	2.410	4.000	3.492	10
1,2-Dinitrobenzene	CHSVMS04	3.340	4.000	3.807	10
1,2-Diphenylhydrazine	CHSVMS04	3.700	4.000	3.378	10
1,3,5-Trinitrobenzene	CHSVMS04	2.210	4.000	3.274	10
1,3-Dichlorobenzene	CHSVMS04	2.640	4.000	3.509	10
1,3-Dinitrobenzene	CHSVMS04	2.760	4.000	3.245	10
1,4-Dichlorobenzene	CHSVMS04	1.940	2.000	1.944	10
1,4-Dinitrobenzene	CHSVMS04	3.140	4.000	2.923	10
1-Chloronaphthalene	CHSVMS04	2.740	4.000	3.702	10
1-Methylnaphthalene	CHSVMS04	2.890	4.000	3.785	10
1-Naphthylamine	CHSVMS04	1.030	2.000	0.628	10
2,2'-oxybis[1-chloropropane]	CHSVMS04	2.920	4.000	3.288	10
2,3,4,6-Tetrachlorophenol	CHSVMS04	5.470	8.000	5.024	10
2,4,5-Trichlorophenol	CHSVMS04	4.200	8.000	4.863	10
2,4,6-Trichlorophenol	CHSVMS04	3.320	4.000	3.097	10
2,4-Dichlorophenol	CHSVMS04	2.160	4.000	3.061	10
2,4-Dimethylphenol	CHSVMS04	1.940	2.000	1.630	10
2,4-Dinitrophenol	CHSVMS04	5.460	8.000	1.782	10
2,4-Dinitrotoluene	CHSVMS04	2.110	4.000	3.082	10
2,6-Dichlorophenol	CHSVMS04	2.590	4.000	3.480	10
2,6-Dimethylphenol	CHSVMS04	20	4.000	3.149	20
2,6-Dinitrotoluene	CHSVMS04	2.790	4.000	3.166	10
2-Acetylaminofluorene	CHSVMS04	1.990	2.000	1.295	10
2-Chloronaphthalene	CHSVMS04	2.810	4.000	3.505	10
2-Chlorophenol	CHSVMS04	2.190	4.000	3.469	10
2-Methylnaphthalene	CHSVMS04	2.580	4.000	3.272	10
2-Methylphenol	CHSVMS04	1.420	2.000	1.832	10
2-Naphthylamine	CHSVMS04	1.340	2.000	0.673	10
2-Nitroaniline	CHSVMS04	3.800	4.000	2.905	10
2-Nitrophenol	CHSVMS04	2.100	4.000	3.172	10
2-Picoline	CHSVMS04	4.190	8.000	1.760	10
2-Toluidine	CHSVMS04	1.860	2.000	1.078	10
3 & 4 Methylphenol	CHSVMS04	1.350	2.000	1.683	10
3,3'-Dichlorobenzidine	CHSVMS04	2.370	4.000	2.560	10
3-Methylcholanthrene	CHSVMS04	1.980	2.000	1.155	10
3-Nitroaniline	CHSVMS04	1.850	4.000	1.098	10
4,6-Dinitro-2-methylphenol	CHSVMS04	3.360	4.000	2.134	10
4-Aminobiphenyl	CHSVMS04	1.790	2.000	0.847	10
4-Bromophenyl phenyl ether	CHSVMS04	2.500	4.000	3.334	10
4-Chloro-3-methylphenol	CHSVMS04	1.970	2.000	1.480	10
4-Chloroaniline	CHSVMS04	2.110	8.000	3.637	10
4-Chlorophenyl phenyl ether	CHSVMS04	2.190	4.000	3.331	10
4-Nitroaniline	CHSVMS04	2.340	4.000	0.609	10
4-Nitrophenol	CHSVMS04	2.800	8.000	1.350	10

DCS = Detection Check Standard
MQL = Method Quantitation Limit

Matrix:	Water
Method:	8270C
Prep Method:	3510C_LVI
Date Analyzed:	10/16/2014
Job #:	600-100259
TALS Batch:	146810
Units:	ug/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MQL
4-Nitroquinoline-1-oxide	CHSVMS04	1.23	8.000	0.5969	10
7,12-Dimethylbenz(a)anthracene	CHSVMS04	1.230	2.000	0.832	10
Acenaphthene	CHSVMS04	2.270	4.000	3.550	10
Acenaphthylene	CHSVMS04	2.290	4.000	3.714	10
Acetophenone	CHSVMS04	2.420	4.000	3.300	10
Aniline	CHSVMS04	1.59	8.000	4.4608	10
Anthracene	CHSVMS04	2.490	4.000	3.477	10
Azobenzene	CHSVMS04	3.700	4.000	3.378	10
Benzidine	CHSVMS04	17.920	40.000	3.187	50
Benzo[a]anthracene	CHSVMS04	2.110	4.000	3.817	10
Benzo[a]pyrene	CHSVMS04	2.460	4.000	3.841	10
Benzo[b]fluoranthene	CHSVMS04	2.500	4.000	3.510	10
Benzo[g,h,i]perylene	CHSVMS04	2.110	4.000	4.409	10
Benzo[k]fluoranthene	CHSVMS04	2.990	4.000	4.526	10
Benzyl alcohol	CHSVMS04	1.980	2.000	1.700	10
Bis(2-chloroethoxy)methane	CHSVMS04	2.910	4.000	3.276	10
Bis(2-chloroethyl)ether	CHSVMS04	2.630	4.000	3.197	10
Bis(2-ethylhexyl) phthalate	CHSVMS04	2.260	4.000	3.717	10
Butyl benzyl phthalate	CHSVMS04	2.360	4.000	3.885	10
Caprolactam	CHSVMS04	0.85	4.000	1.012	10
Carbazole	CHSVMS04	2.970	4.000	4.056	10
Chlorobenzilate	CHSVMS04	3.140	4.000	2.950	10
Chrysene	CHSVMS04	2.060	4.000	4.026	10
Dibenz(a,h)anthracene	CHSVMS04	2.480	4.000	3.607	10
Dibenzofuran	CHSVMS04	2.280	4.000	3.590	10
Diethyl phthalate	CHSVMS04	2.590	4.000	3.460	10
Dimethoate	CHSVMS04	1.290	2.000	1.327	10
Dimethyl phthalate	CHSVMS04	2.470	4.000	3.405	10
Di-n-butyl phthalate	CHSVMS04	2.090	4.000	4.186	10
Di-n-octyl phthalate	CHSVMS04	1.870	2.000	1.815	10
Diphenylamine	CHSVMS04	2.010	4.000	3.338	10
Disulfoton	CHSVMS04	2.210	4.000	3.878	10
Ethyl methanesulfonate	CHSVMS04	2.030	4.000	3.424	10
Ethyl Parathion	CHSVMS04	2.040	4.000	2.777	10
Fluoranthene	CHSVMS04	2.440	4.000	3.725	10
Fluorene	CHSVMS04	2.110	4.000	3.326	10
Hexachlorobenzene	CHSVMS04	3.280	4.000	3.140	10
Hexachlorobutadiene	CHSVMS04	2.570	4.000	3.175	10
Hexachlorocyclopentadiene	CHSVMS04	2.320	4.000	2.726	10
Hexachloroethane	CHSVMS04	3.290	4.000	3.454	10
Hexachloropropene	CHSVMS04	4.770	8.000	6.820	10
Indeno[1,2,3-cd]pyrene	CHSVMS04	3.090	4.000	3.628	10
Isodrin	CHSVMS04	2.190	4.000	3.358	10
Isophorone	CHSVMS04	2.640	4.000	3.027	10
Methyl methanesulfonate	CHSVMS04	1.230	2.000	1.344	10
Methyl parathion	CHSVMS04	2.240	4.000	3.080	10
Naphthalene	CHSVMS04	2.200	4.000	2.342	10

DCS = Detection Check Standard
MQL = Method Quantitation Limit

Matrix: Water
Method: 8270C
Prep Method: 3510C_LVI
Date Analyzed: 10/16/2014
Job #: 600-100259
TALS Batch: 146810
Units: ug/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MQL
Nitrobenzene	CHSVMS04	2.590	4.000	3.072	10
N-Nitro-o-toluidine	CHSVMS04	1.940	2.000	1.333	10
N-Nitrosodiethylamine	CHSVMS04	2.280	4.000	3.392	10
N-Nitrosodimethylamine	CHSVMS04	1.390	2.000	1.443	10
N-Nitrosodi-n-butylamine	CHSVMS04	1.840	2.000	1.187	10
N-Nitrosodi-n-propylamine	CHSVMS04	3.190	4.000	3.381	10
N-Nitrosodiphenylamine	CHSVMS04	2.010	4.000	3.703	10
N-Nitrosomethylethylamine	CHSVMS04	2.010	4.000	3.394	10
N-Nitrosomorpholine	CHSVMS04	1.760	2.000	1.543	10
N-Nitrosopiperidine	CHSVMS04	2.090	4.000	2.879	10
N-Nitrosopyrrolidine	CHSVMS04	2.010	4.000	3.187	10
o,o',o''-Triethylphosphorothioate	CHSVMS04	2.460	4.000	2.959	10
p-Dimethylamino azobenzene	CHSVMS04	2.000	2.000	1.300	10
Pentachlorobenzene	CHSVMS04	3.320	4.000	3.473	10
Pentachloroethane	CHSVMS04	2.880	4.000	3.754	10
Pentachloronitrobenzene	CHSVMS04	2.780	4.000	2.987	10
Pentachlorophenol	CHSVMS04	3.150	8.000	8.897	10
Phenacetin	CHSVMS04	1.990	2.000	1.018	10
Phenanthrene	CHSVMS04	2.240	4.000	3.795	10
Phenol	CHSVMS04	1.250	2.000	1.254	10
Phenyl ether	CHSVMS04	2.780	4.000	3.702	10
Phorate	CHSVMS04	2.380	4.000	3.255	10
Pronamide	CHSVMS04	2.310	4.000	3.130	10
Pyrene	CHSVMS04	3.000	4.000	3.848	10
Pyridine	CHSVMS04	2.160	4.000	0.333	10
Safrole, Total	CHSVMS04	2.660	4.000	3.623	10
Thionazin	CHSVMS04	2.420	4.000	2.871	10
Total Cresols	CHSVMS04	5.000	8.000	6.500	10

DCS = Detection Check Standard
MQL = Method Quantitation Limit

Job ID: 600-104776-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative
600-104776-1

Comments
No additional comments.

Receipt
The samples were received on 1/8/2015 8:53 AM; the samples arrived in good condition, properly preserved and, where required, on ice.
The temperatures of the 5 coolers at receipt time were -0.3º C, -0.1º C, 0.0º C, 0.5º C and 3.9º C.

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Method Summary

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

TestAmerica Job ID: 600-104776-1

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: 600-104776-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-104776-1	WG-1620-MW11A-20150107	Water	01/07/15 07:45	01/08/15 08:53
600-104776-2	WG-1620-MW11B-20150107	Water	01/07/15 08:30	01/08/15 08:53
600-104776-3	WG-1620-MW10B-20150107	Water	01/07/15 09:20	01/08/15 08:53
600-104776-4	WG-1620-MW10A-20150107	Water	01/07/15 10:15	01/08/15 08:53
600-104776-5	WG-1620-MW02-20150107	Water	01/07/15 11:15	01/08/15 08:53
600-104776-6	WG-1620-MW01A-20150107	Water	01/07/15 14:00	01/08/15 08:53
600-104776-7	WG-1620-FD01-20150107	Water	01/07/15 14:00	01/08/15 08:53
600-104776-8	WG-1620-MW08-20150107	Water	01/07/15 15:00	01/08/15 08:53
600-104776-9	WG-1620-P12-20150107	Water	01/07/15 16:10	01/08/15 08:53
600-104776-10	WG-1620-MW07-20150107	Water	01/07/15 17:05	01/08/15 08:53
600-104776-11	WG-1620-P10-20150107	Water	01/07/15 17:50	01/08/15 08:53
600-104776-12	WG-1620-FD02-20150107	Water	01/07/15 17:50	01/08/15 08:53
600-104776-13	WG-1620-FB01-20150107	Water	01/07/15 18:15	01/08/15 08:53

Client Sample ID: WG-1620-MW11A-20150107

Lab Sample ID: 600-104776-1

Date Collected: 01/07/15 07:45

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0000769	U	0.000481	0.0000769	mg/L		01/09/15 09:59	01/09/15 18:34	1
2-Methylnaphthalene	0.0000673	U	0.000481	0.0000673	mg/L		01/09/15 09:59	01/09/15 18:34	1
Acenaphthylene	0.0000577	U	0.000481	0.0000577	mg/L		01/09/15 09:59	01/09/15 18:34	1
Acenaphthene	**0.000471**	**J**	0.000481	0.0000769	mg/L		01/09/15 09:59	01/09/15 18:34	1
Dibenzofuran	0.0000769	U	0.000481	0.0000769	mg/L		01/09/15 09:59	01/09/15 18:34	1
Fluorene	0.0000673	U	0.000481	0.0000673	mg/L		01/09/15 09:59	01/09/15 18:34	1
Phenanthrene	0.0000577	U	0.000481	0.0000577	mg/L		01/09/15 09:59	01/09/15 18:34	1
Anthracene	**0.000399**	**J**	0.000481	0.0000481	mg/L		01/09/15 09:59	01/09/15 18:34	1
Fluoranthene	0.0000673	U	0.000481	0.0000673	mg/L		01/09/15 09:59	01/09/15 18:34	1
Pyrene	0.000106	U	0.000481	0.000106	mg/L		01/09/15 09:59	01/09/15 18:34	1
Bis(2-ethylhexyl) phthalate	0.000356	U	0.000481	0.000356	mg/L		01/09/15 09:59	01/09/15 18:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*82*		*10 - 147*	*01/09/15 09:59*	*01/09/15 18:34*	*1*
2-Fluorobiphenyl	*82*		*10 - 150*	*01/09/15 09:59*	*01/09/15 18:34*	*1*
2-Fluorophenol	*49*		*10 - 130*	*01/09/15 09:59*	*01/09/15 18:34*	*1*
Nitrobenzene-d5	*92*		*23 - 130*	*01/09/15 09:59*	*01/09/15 18:34*	*1*
Terphenyl-d14	*79*		*42 - 133*	*01/09/15 09:59*	*01/09/15 18:34*	*1*
Phenol-d5 (Surr)	*31*		*10 - 130*	*01/09/15 09:59*	*01/09/15 18:34*	*1*

Client Sample ID: WG-1620-MW11B-20150107

Lab Sample ID: 600-104776-2

Date Collected: 01/07/15 08:30

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000385	U	0.000481	0.0000385	mg/L		01/09/15 09:59	01/09/15 18:58	1
Naphthalene	0.0000769	U	0.000481	0.0000769	mg/L		01/09/15 09:59	01/09/15 18:58	1
Acenaphthylene	**0.00113**		0.000481	0.0000577	mg/L		01/09/15 09:59	01/09/15 18:58	1
Dibenzofuran	**0.00472**		0.000481	0.0000769	mg/L		01/09/15 09:59	01/09/15 18:58	1
Fluorene	**0.00867**		0.000481	0.0000673	mg/L		01/09/15 09:59	01/09/15 18:58	1
Anthracene	**0.000945**		0.000481	0.0000481	mg/L		01/09/15 09:59	01/09/15 18:58	1
Di-n-butyl phthalate	0.000106	U	0.000481	0.000106	mg/L		01/09/15 09:59	01/09/15 18:58	1
Fluoranthene	**0.00201**		0.000481	0.0000673	mg/L		01/09/15 09:59	01/09/15 18:58	1
Pyrene	**0.000935**		0.000481	0.000106	mg/L		01/09/15 09:59	01/09/15 18:58	1
Bis(2-ethylhexyl) phthalate	0.000356	U	0.000481	0.000356	mg/L		01/09/15 09:59	01/09/15 18:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*82*		*10 - 147*	*01/09/15 09:59*	*01/09/15 18:58*	*1*
2-Fluorobiphenyl	*72*		*10 - 150*	*01/09/15 09:59*	*01/09/15 18:58*	*1*
2-Fluorophenol	*43*		*10 - 130*	*01/09/15 09:59*	*01/09/15 18:58*	*1*
Nitrobenzene-d5	*75*		*23 - 130*	*01/09/15 09:59*	*01/09/15 18:58*	*1*
Terphenyl-d14	*74*		*42 - 133*	*01/09/15 09:59*	*01/09/15 18:58*	*1*
Phenol-d5 (Surr)	*28*		*10 - 130*	*01/09/15 09:59*	*01/09/15 18:58*	*1*

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.0472**		0.00240	0.000385	mg/L		01/09/15 09:59	01/12/15 13:18	5

Client Sample ID: WG-1620-MW11B-20150107

Lab Sample ID: 600-104776-2

Date Collected: 01/07/15 08:30

Matrix: Water

Date Received: 01/08/15 08:53

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	*75*		*10 - 147*	*01/09/15 09:59*	*01/12/15 13:18*	*5*
2-Fluorobiphenyl	*77*		*10 - 150*	*01/09/15 09:59*	*01/12/15 13:18*	*5*
2-Fluorophenol	*45*		*10 - 130*	*01/09/15 09:59*	*01/12/15 13:18*	*5*
Nitrobenzene-d5	*76*		*23 - 130*	*01/09/15 09:59*	*01/12/15 13:18*	*5*
Terphenyl-d14	*82*		*42 - 133*	*01/09/15 09:59*	*01/12/15 13:18*	*5*
Phenol-d5 (Surr)	*30*		*10 - 130*	*01/09/15 09:59*	*01/12/15 13:18*	*5*

Client Sample ID: WG-1620-MW10B-20150107

Lab Sample ID: 600-104776-3

Date Collected: 01/07/15 09:20

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000396	U	0.000495	0.0000396	mg/L		01/09/15 09:59	01/09/15 19:22	1
Acenaphthylene	**0.00104**		0.000495	0.0000594	mg/L		01/09/15 09:59	01/09/15 19:22	1
Anthracene	**0.00702**		0.000495	0.0000495	mg/L		01/09/15 09:59	01/09/15 19:22	1
Di-n-butyl phthalate	**0.000215**	**J b**	0.000495	0.000109	mg/L		01/09/15 09:59	01/09/15 19:22	1
Fluoranthene	**0.00711**		0.000495	0.0000693	mg/L		01/09/15 09:59	01/09/15 19:22	1
Pyrene	**0.00234**		0.000495	0.000109	mg/L		01/09/15 09:59	01/09/15 19:22	1
Bis(2-ethylhexyl) phthalate	0.000366	U	0.000495	0.000366	mg/L		01/09/15 09:59	01/09/15 19:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	*88*		*10 - 147*	*01/09/15 09:59*	*01/09/15 19:22*	*1*
2-Fluorobiphenyl	*80*		*10 - 150*	*01/09/15 09:59*	*01/09/15 19:22*	*1*
2-Fluorophenol	*53*		*10 - 130*	*01/09/15 09:59*	*01/09/15 19:22*	*1*
Nitrobenzene-d5	*100*		*23 - 130*	*01/09/15 09:59*	*01/09/15 19:22*	*1*
Terphenyl-d14	*76*		*42 - 133*	*01/09/15 09:59*	*01/09/15 19:22*	*1*
Phenol-d5 (Surr)	*50*		*10 - 130*	*01/09/15 09:59*	*01/09/15 19:22*	*1*

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.166**		0.00495	0.000792	mg/L		01/09/15 09:59	01/12/15 13:42	10
Dibenzofuran	**0.0727**		0.00495	0.000792	mg/L		01/09/15 09:59	01/12/15 13:42	10
Fluorene	**0.0975**		0.00495	0.000693	mg/L		01/09/15 09:59	01/12/15 13:42	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	*85*		*10 - 147*	*01/09/15 09:59*	*01/12/15 13:42*	*10*
2-Fluorobiphenyl	*86*		*10 - 150*	*01/09/15 09:59*	*01/12/15 13:42*	*10*
2-Fluorophenol	*56*		*10 - 130*	*01/09/15 09:59*	*01/12/15 13:42*	*10*
Nitrobenzene-d5	*92*		*23 - 130*	*01/09/15 09:59*	*01/12/15 13:42*	*10*
Terphenyl-d14	*92*		*42 - 133*	*01/09/15 09:59*	*01/12/15 13:42*	*10*
Phenol-d5 (Surr)	*49*		*10 - 130*	*01/09/15 09:59*	*01/12/15 13:42*	*10*

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels - DL2

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**0.556**		0.0248	0.00396	mg/L		01/09/15 09:59	01/12/15 18:03	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	*0*	*X*	*10 - 147*	*01/09/15 09:59*	*01/12/15 18:03*	*50*
2-Fluorobiphenyl	*0*	*X*	*10 - 150*	*01/09/15 09:59*	*01/12/15 18:03*	*50*
2-Fluorophenol	*0*	*X*	*10 - 130*	*01/09/15 09:59*	*01/12/15 18:03*	*50*

Client Sample ID: WG-1620-MW10B-20150107

Lab Sample ID: 600-104776-3

Date Collected: 01/07/15 09:20

Matrix: Water

Date Received: 01/08/15 08:53

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels - DL2 (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	*0*	*X*	*23 - 130*	*01/09/15 09:59*	*01/12/15 18:03*	*50*
Terphenyl-d14	*0*	*X*	*42 - 133*	*01/09/15 09:59*	*01/12/15 18:03*	*50*
Phenol-d5 (Surr)	*0*	*X*	*10 - 130*	*01/09/15 09:59*	*01/12/15 18:03*	*50*

Client Sample ID: WG-1620-MW10A-20150107

Lab Sample ID: 600-104776-4

Date Collected: 01/07/15 10:15

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**0.000322**	**J**	0.000495	0.0000792	mg/L		01/09/15 09:59	01/09/15 19:46	1
2-Methylnaphthalene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/09/15 19:46	1
Acenaphthylene	**0.000126**	**J**	0.000495	0.0000594	mg/L		01/09/15 09:59	01/09/15 19:46	1
Acenaphthene	**0.00272**		0.000495	0.0000792	mg/L		01/09/15 09:59	01/09/15 19:46	1
Dibenzofuran	**0.000349**	**J**	0.000495	0.0000792	mg/L		01/09/15 09:59	01/09/15 19:46	1
Fluorene	**0.000694**		0.000495	0.0000693	mg/L		01/09/15 09:59	01/09/15 19:46	1
Phenanthrene	**0.000126**	**J**	0.000495	0.0000594	mg/L		01/09/15 09:59	01/09/15 19:46	1
Anthracene	**0.000191**	**J**	0.000495	0.0000495	mg/L		01/09/15 09:59	01/09/15 19:46	1
Fluoranthene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/09/15 19:46	1
Pyrene	0.000109	U	0.000495	0.000109	mg/L		01/09/15 09:59	01/09/15 19:46	1
Bis(2-ethylhexyl) phthalate	0.000366	U	0.000495	0.000366	mg/L		01/09/15 09:59	01/09/15 19:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	*82*		*10 - 147*	*01/09/15 09:59*	*01/09/15 19:46*	*1*
2-Fluorobiphenyl	*69*		*10 - 150*	*01/09/15 09:59*	*01/09/15 19:46*	*1*
2-Fluorophenol	*41*		*10 - 130*	*01/09/15 09:59*	*01/09/15 19:46*	*1*
Nitrobenzene-d5	*71*		*23 - 130*	*01/09/15 09:59*	*01/09/15 19:46*	*1*
Terphenyl-d14	*71*		*42 - 133*	*01/09/15 09:59*	*01/09/15 19:46*	*1*
Phenol-d5 (Surr)	*28*		*10 - 130*	*01/09/15 09:59*	*01/09/15 19:46*	*1*

Client Sample ID: WG-1620-MW02-20150107

Lab Sample ID: 600-104776-5

Date Collected: 01/07/15 11:15

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**0.000472**	**J**	0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 17:15	1
2-Methylnaphthalene	**0.000105**	**J**	0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 17:15	1
Acenaphthylene	**0.0000892**	**J**	0.000495	0.0000594	mg/L		01/09/15 09:59	01/12/15 17:15	1
Acenaphthene	**0.00260**		0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 17:15	1
Dibenzofuran	**0.000377**	**J**	0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 17:15	1
Fluorene	**0.000681**		0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 17:15	1
Phenanthrene	**0.000162**	**J**	0.000495	0.0000594	mg/L		01/09/15 09:59	01/12/15 17:15	1
Anthracene	**0.000153**	**J**	0.000495	0.0000495	mg/L		01/09/15 09:59	01/12/15 17:15	1
Fluoranthene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 17:15	1
Pyrene	0.000109	U	0.000495	0.000109	mg/L		01/09/15 09:59	01/12/15 17:15	1
Bis(2-ethylhexyl) phthalate	**0.000426**	**J**	0.000495	0.000366	mg/L		01/09/15 09:59	01/12/15 17:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	*94*		*10 - 147*	*01/09/15 09:59*	*01/12/15 17:15*	*1*

Client Sample ID: WG-1620-MW02-20150107

Lab Sample ID: 600-104776-5

Date Collected: 01/07/15 11:15

Matrix: Water

Date Received: 01/08/15 08:53

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*95*		*10 - 150*	*01/09/15 09:59*	*01/12/15 17:15*	*1*
2-Fluorophenol	*65*		*10 - 130*	*01/09/15 09:59*	*01/12/15 17:15*	*1*
Nitrobenzene-d5	*104*		*23 - 130*	*01/09/15 09:59*	*01/12/15 17:15*	*1*
Terphenyl-d14	*86*		*42 - 133*	*01/09/15 09:59*	*01/12/15 17:15*	*1*
Phenol-d5 (Surr)	*41*		*10 - 130*	*01/09/15 09:59*	*01/12/15 17:15*	*1*

Client Sample ID: WG-1620-MW01A-20150107

Lab Sample ID: 600-104776-6

Date Collected: 01/07/15 14:00

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**0.000121**	**J**	0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 17:39	1
2-Methylnaphthalene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 17:39	1
Acenaphthylene	**0.00104**		0.000495	0.0000594	mg/L		01/09/15 09:59	01/12/15 17:39	1
Dibenzofuran	**0.000541**		0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 17:39	1
Fluorene	**0.0209**		0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 17:39	1
Phenanthrene	**0.000335**	**J**	0.000495	0.0000594	mg/L		01/09/15 09:59	01/12/15 17:39	1
Anthracene	**0.00139**		0.000495	0.0000495	mg/L		01/09/15 09:59	01/12/15 17:39	1
Fluoranthene	**0.00246**		0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 17:39	1
Pyrene	**0.00105**		0.000495	0.000109	mg/L		01/09/15 09:59	01/12/15 17:39	1
Bis(2-ethylhexyl) phthalate	**0.00533**		0.000495	0.000366	mg/L		01/09/15 09:59	01/12/15 17:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*101*		*10 - 147*	*01/09/15 09:59*	*01/12/15 17:39*	*1*
2-Fluorobiphenyl	*95*		*10 - 150*	*01/09/15 09:59*	*01/12/15 17:39*	*1*
2-Fluorophenol	*58*		*10 - 130*	*01/09/15 09:59*	*01/12/15 17:39*	*1*
Nitrobenzene-d5	*99*		*23 - 130*	*01/09/15 09:59*	*01/12/15 17:39*	*1*
Terphenyl-d14	*80*		*42 - 133*	*01/09/15 09:59*	*01/12/15 17:39*	*1*
Phenol-d5 (Surr)	*36*		*10 - 130*	*01/09/15 09:59*	*01/12/15 17:39*	*1*

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.0594**		0.00990	0.00158	mg/L		01/09/15 09:59	01/12/15 18:50	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*0*	*X*	*10 - 147*	*01/09/15 09:59*	*01/12/15 18:50*	*20*
2-Fluorobiphenyl	*0*	*X*	*10 - 150*	*01/09/15 09:59*	*01/12/15 18:50*	*20*
2-Fluorophenol	*0*	*X*	*10 - 130*	*01/09/15 09:59*	*01/12/15 18:50*	*20*
Nitrobenzene-d5	*0*	*X*	*23 - 130*	*01/09/15 09:59*	*01/12/15 18:50*	*20*
Terphenyl-d14	*0*	*X*	*42 - 133*	*01/09/15 09:59*	*01/12/15 18:50*	*20*
Phenol-d5 (Surr)	*0*	*X*	*10 - 130*	*01/09/15 09:59*	*01/12/15 18:50*	*20*

Client Sample ID: WG-1620-FD01-20150107

Lab Sample ID: 600-104776-7

Date Collected: 01/07/15 14:00

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**0.000313**	**J**	0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 14:53	1

Client Sample ID: WG-1620-FD01-20150107

Lab Sample ID: 600-104776-7

Date Collected: 01/07/15 14:00

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	**0.000132**	**J**	0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 14:53	1
Acenaphthylene	**0.00102**		0.000495	0.0000594	mg/L		01/09/15 09:59	01/12/15 14:53	1
Dibenzofuran	**0.000602**		0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 14:53	1
Fluorene	**0.0217**		0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 14:53	1
Phenanthrene	**0.000326**	**J**	0.000495	0.0000594	mg/L		01/09/15 09:59	01/12/15 14:53	1
Anthracene	**0.00139**		0.000495	0.0000495	mg/L		01/09/15 09:59	01/12/15 14:53	1
Fluoranthene	**0.00235**		0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 14:53	1
Pyrene	**0.00102**		0.000495	0.000109	mg/L		01/09/15 09:59	01/12/15 14:53	1
Bis(2-ethylhexyl) phthalate	**0.00259**		0.000495	0.000366	mg/L		01/09/15 09:59	01/12/15 14:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*96*		*10 - 147*	*01/09/15 09:59*	*01/12/15 14:53*	*1*
2-Fluorobiphenyl	*95*		*10 - 150*	*01/09/15 09:59*	*01/12/15 14:53*	*1*
2-Fluorophenol	*62*		*10 - 130*	*01/09/15 09:59*	*01/12/15 14:53*	*1*
Nitrobenzene-d5	*106*		*23 - 130*	*01/09/15 09:59*	*01/12/15 14:53*	*1*
Terphenyl-d14	*79*		*42 - 133*	*01/09/15 09:59*	*01/12/15 14:53*	*1*
Phenol-d5 (Surr)	*38*		*10 - 130*	*01/09/15 09:59*	*01/12/15 14:53*	*1*

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.0607**		0.00495	0.000792	mg/L		01/09/15 09:59	01/12/15 18:27	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*94*		*10 - 147*	*01/09/15 09:59*	*01/12/15 18:27*	*10*
2-Fluorobiphenyl	*95*		*10 - 150*	*01/09/15 09:59*	*01/12/15 18:27*	*10*
2-Fluorophenol	*57*		*10 - 130*	*01/09/15 09:59*	*01/12/15 18:27*	*10*
Nitrobenzene-d5	*101*		*23 - 130*	*01/09/15 09:59*	*01/12/15 18:27*	*10*
Terphenyl-d14	*80*		*42 - 133*	*01/09/15 09:59*	*01/12/15 18:27*	*10*
Phenol-d5 (Surr)	*33*		*10 - 130*	*01/09/15 09:59*	*01/12/15 18:27*	*10*

Client Sample ID: WG-1620-MW08-20150107

Lab Sample ID: 600-104776-8

Date Collected: 01/07/15 15:00

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 15:17	1
2-Methylnaphthalene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 15:17	1
Acenaphthylene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 09:59	01/12/15 15:17	1
Acenaphthene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 15:17	1
Dibenzofuran	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 15:17	1
Fluorene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 15:17	1
Phenanthrene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 09:59	01/12/15 15:17	1
Anthracene	**0.0000560**	**J**	0.000495	0.0000495	mg/L		01/09/15 09:59	01/12/15 15:17	1
Fluoranthene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 15:17	1
Pyrene	0.000109	U	0.000495	0.000109	mg/L		01/09/15 09:59	01/12/15 15:17	1
Bis(2-ethylhexyl) phthalate	0.000366	U	0.000495	0.000366	mg/L		01/09/15 09:59	01/12/15 15:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*92*		*10 - 147*	*01/09/15 09:59*	*01/12/15 15:17*	*1*
2-Fluorobiphenyl	*92*		*10 - 150*	*01/09/15 09:59*	*01/12/15 15:17*	*1*

Client Sample ID: WG-1620-MW08-20150107

Lab Sample ID: 600-104776-8

Date Collected: 01/07/15 15:00

Matrix: Water

Date Received: 01/08/15 08:53

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*62*		*10 - 130*	*01/09/15 09:59*	*01/12/15 15:17*	*1*
Nitrobenzene-d5	*103*		*23 - 130*	*01/09/15 09:59*	*01/12/15 15:17*	*1*
Terphenyl-d14	*85*		*42 - 133*	*01/09/15 09:59*	*01/12/15 15:17*	*1*
Phenol-d5 (Surr)	*40*		*10 - 130*	*01/09/15 09:59*	*01/12/15 15:17*	*1*

Client Sample ID: WG-1620-P12-20150107

Lab Sample ID: 600-104776-9

Date Collected: 01/07/15 16:10

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000396	U	0.000495	0.0000396	mg/L		01/09/15 09:59	01/09/15 20:10	1
Naphthalene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 09:59	01/09/15 20:10	1
Acenaphthylene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 09:59	01/09/15 20:10	1
Acenaphthene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 09:59	01/09/15 20:10	1
Dibenzofuran	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 09:59	01/09/15 20:10	1
Fluorene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/09/15 20:10	1
Anthracene	0.0000495	U	0.000495	0.0000495	mg/L		01/09/15 09:59	01/09/15 20:10	1
Di-n-butyl phthalate	0.000109	U	0.000495	0.000109	mg/L		01/09/15 09:59	01/09/15 20:10	1
Fluoranthene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/09/15 20:10	1
Pyrene	**0.00152**		0.000495	0.000109	mg/L		01/09/15 09:59	01/09/15 20:10	1
Bis(2-ethylhexyl) phthalate	0.000366	U	0.000495	0.000366	mg/L		01/09/15 09:59	01/09/15 20:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*70*		*10 - 147*	*01/09/15 09:59*	*01/09/15 20:10*	*1*
2-Fluorobiphenyl	*66*		*10 - 150*	*01/09/15 09:59*	*01/09/15 20:10*	*1*
2-Fluorophenol	*42*		*10 - 130*	*01/09/15 09:59*	*01/09/15 20:10*	*1*
Nitrobenzene-d5	*69*		*23 - 130*	*01/09/15 09:59*	*01/09/15 20:10*	*1*
Terphenyl-d14	*67*		*42 - 133*	*01/09/15 09:59*	*01/09/15 20:10*	*1*
Phenol-d5 (Surr)	*27*		*10 - 130*	*01/09/15 09:59*	*01/09/15 20:10*	*1*

Client Sample ID: WG-1620-MW07-20150107

Lab Sample ID: 600-104776-10

Date Collected: 01/07/15 17:05

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 15:41	1
2-Methylnaphthalene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 15:41	1
Acenaphthylene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 10:06	01/12/15 15:41	1
Acenaphthene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 15:41	1
Dibenzofuran	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 15:41	1
Fluorene	**0.0000792**	**J**	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 15:41	1
Phenanthrene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 10:06	01/12/15 15:41	1
Anthracene	**0.000271**	**J**	0.000495	0.0000495	mg/L		01/09/15 10:06	01/12/15 15:41	1
Fluoranthene	**0.000189**	**J**	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 15:41	1
Pyrene	**0.000142**	**J**	0.000495	0.000109	mg/L		01/09/15 10:06	01/12/15 15:41	1
Bis(2-ethylhexyl) phthalate	**0.000944**		0.000495	0.000366	mg/L		01/09/15 10:06	01/12/15 15:41	1

Client Sample ID: WG-1620-MW07-20150107

Lab Sample ID: 600-104776-10

Date Collected: 01/07/15 17:05

Matrix: Water

Date Received: 01/08/15 08:53

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*102*		*10 - 147*	*01/09/15 10:06*	*01/12/15 15:41*	*1*
2-Fluorobiphenyl	*98*		*10 - 150*	*01/09/15 10:06*	*01/12/15 15:41*	*1*
2-Fluorophenol	*81*		*10 - 130*	*01/09/15 10:06*	*01/12/15 15:41*	*1*
Nitrobenzene-d5	*112*		*23 - 130*	*01/09/15 10:06*	*01/12/15 15:41*	*1*
Terphenyl-d14	*83*		*42 - 133*	*01/09/15 10:06*	*01/12/15 15:41*	*1*
Phenol-d5 (Surr)	*56*		*10 - 130*	*01/09/15 10:06*	*01/12/15 15:41*	*1*

Client Sample ID: WG-1620-P10-20150107

Lab Sample ID: 600-104776-11

Date Collected: 01/07/15 17:50

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000396	U	0.000495	0.0000396	mg/L		01/09/15 10:06	01/12/15 16:04	1
Naphthalene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:04	1
Acenaphthylene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 10:06	01/12/15 16:04	1
Acenaphthene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:04	1
Dibenzofuran	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:04	1
Fluorene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 16:04	1
Anthracene	**0.000122**	**J**	0.000495	0.0000495	mg/L		01/09/15 10:06	01/12/15 16:04	1
Di-n-butyl phthalate	0.000109	U	0.000495	0.000109	mg/L		01/09/15 10:06	01/12/15 16:04	1
Fluoranthene	**0.000114**	**J**	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 16:04	1
Pyrene	0.000109	U	0.000495	0.000109	mg/L		01/09/15 10:06	01/12/15 16:04	1
Bis(2-ethylhexyl) phthalate	**0.000853**		0.000495	0.000366	mg/L		01/09/15 10:06	01/12/15 16:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*90*		*10 - 147*	*01/09/15 10:06*	*01/12/15 16:04*	*1*
2-Fluorobiphenyl	*91*		*10 - 150*	*01/09/15 10:06*	*01/12/15 16:04*	*1*
2-Fluorophenol	*61*		*10 - 130*	*01/09/15 10:06*	*01/12/15 16:04*	*1*
Nitrobenzene-d5	*102*		*23 - 130*	*01/09/15 10:06*	*01/12/15 16:04*	*1*
Terphenyl-d14	*81*		*42 - 133*	*01/09/15 10:06*	*01/12/15 16:04*	*1*
Phenol-d5 (Surr)	*39*		*10 - 130*	*01/09/15 10:06*	*01/12/15 16:04*	*1*

Client Sample ID: WG-1620-FD02-20150107

Lab Sample ID: 600-104776-12

Date Collected: 01/07/15 17:50

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000396	U	0.000495	0.0000396	mg/L		01/09/15 10:06	01/12/15 16:28	1
Naphthalene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:28	1
Acenaphthylene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 10:06	01/12/15 16:28	1
Acenaphthene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:28	1
Dibenzofuran	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:28	1
Fluorene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 16:28	1
Anthracene	**0.000115**	**J**	0.000495	0.0000495	mg/L		01/09/15 10:06	01/12/15 16:28	1
Di-n-butyl phthalate	**0.000119**	**J b**	0.000495	0.000109	mg/L		01/09/15 10:06	01/12/15 16:28	1
Fluoranthene	**0.000113**	**J**	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 16:28	1
Pyrene	0.000109	U	0.000495	0.000109	mg/L		01/09/15 10:06	01/12/15 16:28	1
Bis(2-ethylhexyl) phthalate	**0.00155**		0.000495	0.000366	mg/L		01/09/15 10:06	01/12/15 16:28	1

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

TestAmerica Job ID: 600-104776-1

Client Sample ID: WG-1620-FD02-20150107

Lab Sample ID: 600-104776-12

Date Collected: 01/07/15 17:50

Matrix: Water

Date Received: 01/08/15 08:53

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*96*		*10 - 147*	*01/09/15 10:06*	*01/12/15 16:28*	*1*
2-Fluorobiphenyl	*96*		*10 - 150*	*01/09/15 10:06*	*01/12/15 16:28*	*1*
2-Fluorophenol	*63*		*10 - 130*	*01/09/15 10:06*	*01/12/15 16:28*	*1*
Nitrobenzene-d5	*107*		*23 - 130*	*01/09/15 10:06*	*01/12/15 16:28*	*1*
Terphenyl-d14	*81*		*42 - 133*	*01/09/15 10:06*	*01/12/15 16:28*	*1*
Phenol-d5 (Surr)	*40*		*10 - 130*	*01/09/15 10:06*	*01/12/15 16:28*	*1*

Client Sample ID: WG-1620-FB01-20150107

Lab Sample ID: 600-104776-13

Date Collected: 01/07/15 18:15

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000396	U	0.000495	0.0000396	mg/L		01/09/15 10:06	01/12/15 16:52	1
Naphthalene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:52	1
2-Methylnaphthalene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 16:52	1
Acenaphthylene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 10:06	01/12/15 16:52	1
Acenaphthene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:52	1
Dibenzofuran	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:52	1
Fluorene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 16:52	1
Phenanthrene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 10:06	01/12/15 16:52	1
Anthracene	0.0000495	U	0.000495	0.0000495	mg/L		01/09/15 10:06	01/12/15 16:52	1
Di-n-butyl phthalate	0.000109	U	0.000495	0.000109	mg/L		01/09/15 10:06	01/12/15 16:52	1
Fluoranthene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 16:52	1
Pyrene	0.000109	U	0.000495	0.000109	mg/L		01/09/15 10:06	01/12/15 16:52	1
Bis(2-ethylhexyl) phthalate	0.000366	U	0.000495	0.000366	mg/L		01/09/15 10:06	01/12/15 16:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*86*		*10 - 147*	*01/09/15 10:06*	*01/12/15 16:52*	*1*
2-Fluorobiphenyl	*85*		*10 - 150*	*01/09/15 10:06*	*01/12/15 16:52*	*1*
2-Fluorophenol	*79*		*10 - 130*	*01/09/15 10:06*	*01/12/15 16:52*	*1*
Nitrobenzene-d5	*103*		*23 - 130*	*01/09/15 10:06*	*01/12/15 16:52*	*1*
Terphenyl-d14	*73*		*42 - 133*	*01/09/15 10:06*	*01/12/15 16:52*	*1*
Phenol-d5 (Surr)	*70*		*10 - 130*	*01/09/15 10:06*	*01/12/15 16:52*	*1*

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

TestAmerica Job ID: 600-104776-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
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.
b	The compound was found in the blank and sample
X	Surrogate is outside control limits
N1	MS, MSD: Spike recovery exceeds upper or lower control limits.

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
CFL	Contains Free Liquid
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: 600-104776-1

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	(10-147)	(10-150)	(10-130)	(23-130)	(42-133)	(10-130)
600-104776-1	WG-1620-MW11A-20150107	82	82	49	92	79	31
600-104776-2	WG-1620-MW11B-20150107	82	72	43	75	74	28
600-104776-2 - DL	WG-1620-MW11B-20150107	75	77	45	76	82	30
600-104776-3	WG-1620-MW10B-20150107	88	80	53	100	76	50
600-104776-3 - DL2	WG-1620-MW10B-20150107	0 X	0 X	0 X	0 X	0 X	0 X
600-104776-3 - DL	WG-1620-MW10B-20150107	85	86	56	92	92	49
600-104776-4	WG-1620-MW10A-20150107	82	69	41	71	71	28
600-104776-5	WG-1620-MW02-20150107	94	95	65	104	86	41
600-104776-6	WG-1620-MW01A-20150107	101	95	58	99	80	36
600-104776-6 - DL	WG-1620-MW01A-20150107	0 X	0 X	0 X	0 X	0 X	0 X
600-104776-7 - DL	WG-1620-FD01-20150107	94	95	57	101	80	33
600-104776-7	WG-1620-FD01-20150107	96	95	62	106	79	38
600-104776-8	WG-1620-MW08-20150107	92	92	62	103	85	40
600-104776-9	WG-1620-P12-20150107	70	66	42	69	67	27
600-104776-9 MS	WG-1620-P12-20150107	84	70	42	74	74	28
600-104776-9 MSD	WG-1620-P12-20150107	67	64	37	68	76	26
600-104776-10	WG-1620-MW07-20150107	102	98	81	112	83	56
600-104776-11	WG-1620-P10-20150107	90	91	61	102	81	39
600-104776-12	WG-1620-FD02-20150107	96	96	63	107	81	40
600-104776-13	WG-1620-FB01-20150107	86	85	79	103	73	70
LCS 600-153402/2-A	Lab Control Sample	92	81	57	90	93	38
MB 600-153402/1-A	Method Blank	80	80	57	85	79	38

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 600-153402/1-A
Matrix: Water
Analysis Batch: 153450

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 153402

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000400	U	0.000500	0.0000400	mg/L		01/09/15 09:59	01/09/15 16:32	1
Naphthalene	0.0000800	U	0.000500	0.0000800	mg/L		01/09/15 09:59	01/09/15 16:32	1
2-Methylnaphthalene	0.0000700	U	0.000500	0.0000700	mg/L		01/09/15 09:59	01/09/15 16:32	1
Acenaphthylene	0.0000600	U	0.000500	0.0000600	mg/L		01/09/15 09:59	01/09/15 16:32	1
Acenaphthene	0.0000800	U	0.000500	0.0000800	mg/L		01/09/15 09:59	01/09/15 16:32	1
Dibenzofuran	0.0000800	U	0.000500	0.0000800	mg/L		01/09/15 09:59	01/09/15 16:32	1
Fluorene	0.0000700	U	0.000500	0.0000700	mg/L		01/09/15 09:59	01/09/15 16:32	1
Phenanthrene	0.0000600	U	0.000500	0.0000600	mg/L		01/09/15 09:59	01/09/15 16:32	1
Anthracene	0.0000500	U	0.000500	0.0000500	mg/L		01/09/15 09:59	01/09/15 16:32	1
Di-n-butyl phthalate	0.0001618	J	0.000500	0.000110	mg/L		01/09/15 09:59	01/09/15 16:32	1
Fluoranthene	0.0000700	U	0.000500	0.0000700	mg/L		01/09/15 09:59	01/09/15 16:32	1
Pyrene	0.000110	U	0.000500	0.000110	mg/L		01/09/15 09:59	01/09/15 16:32	1
Bis(2-ethylhexyl) phthalate	0.000370	U	0.000500	0.000370	mg/L		01/09/15 09:59	01/09/15 16:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*80*		*10 - 147*	*01/09/15 09:59*	*01/09/15 16:32*	*1*
2-Fluorobiphenyl	*80*		*10 - 150*	*01/09/15 09:59*	*01/09/15 16:32*	*1*
2-Fluorophenol	*57*		*10 - 130*	*01/09/15 09:59*	*01/09/15 16:32*	*1*
Nitrobenzene-d5	*85*		*23 - 130*	*01/09/15 09:59*	*01/09/15 16:32*	*1*
Terphenyl-d14	*79*		*42 - 133*	*01/09/15 09:59*	*01/09/15 16:32*	*1*
Phenol-d5 (Surr)	*38*		*10 - 130*	*01/09/15 09:59*	*01/09/15 16:32*	*1*

Lab Sample ID: LCS 600-153402/2-A
Matrix: Water
Analysis Batch: 153450

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 153402

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	0.0100	0.003933		mg/L		39	10 - 144
Naphthalene	0.0100	0.007702		mg/L		77	57 - 130
2-Methylnaphthalene	0.0100	0.007673		mg/L		77	52 - 130
Acenaphthylene	0.0100	0.007989		mg/L		80	58 - 130
Acenaphthene	0.0100	0.007616		mg/L		76	59 - 130
Dibenzofuran	0.0100	0.007564		mg/L		76	56 - 130
Fluorene	0.0100	0.007817		mg/L		78	57 - 130
Phenanthrene	0.0100	0.008102		mg/L		81	60 - 130
Anthracene	0.0100	0.008307		mg/L		83	46 - 132
Di-n-butyl phthalate	0.0100	0.01004		mg/L		100	61 - 130
Fluoranthene	0.0100	0.009062		mg/L		91	63 - 130
Pyrene	0.0100	0.008363		mg/L		84	62 - 130
Bis(2-ethylhexyl) phthalate	0.0100	0.01006		mg/L		101	59 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*92*		*10 - 147*
2-Fluorobiphenyl	*81*		*10 - 150*
2-Fluorophenol	*57*		*10 - 130*
Nitrobenzene-d5	*90*		*23 - 130*
Terphenyl-d14	*93*		*42 - 133*

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

Lab Sample ID: LCS 600-153402/2-A
Matrix: Water
Analysis Batch: 153450

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 153402

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Phenol-d5 (Surr)	*38*		*10 - 130*

Lab Sample ID: 600-104776-9 MS
Matrix: Water
Analysis Batch: 153450

Client Sample ID: WG-1620-P12-20150107
Prep Type: Total/NA
Prep Batch: 153402

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	0.0000396	U	0.00990	0.002722		mg/L		27	10 - 144
Naphthalene	0.0000792	U	0.00990	0.006220		mg/L		63	57 - 130
Acenaphthylene	0.0000594	U	0.00990	0.006779		mg/L		68	58 - 130
Acenaphthene	0.0000792	U	0.00990	0.006586		mg/L		67	59 - 130
Dibenzofuran	0.0000792	U	0.00990	0.006698		mg/L		68	56 - 130
Fluorene	0.0000693	U	0.00990	0.006952		mg/L		70	57 - 130
Anthracene	0.0000495	U	0.00990	0.007231		mg/L		73	46 - 132
Di-n-butyl phthalate	0.000109	U	0.00990	0.008283		mg/L		84	61 - 130
Fluoranthene	0.0000693	U	0.00990	0.007669		mg/L		77	63 - 130
Pyrene	0.00152		0.00990	0.006596	N1	mg/L		51	62 - 130
Bis(2-ethylhexyl) phthalate	0.000366	U	0.00990	0.007871		mg/L		79	59 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol	*84*		*10 - 147*
2-Fluorobiphenyl	*70*		*10 - 150*
2-Fluorophenol	*42*		*10 - 130*
Nitrobenzene-d5	*74*		*23 - 130*
Terphenyl-d14	*74*		*42 - 133*
Phenol-d5 (Surr)	*28*		*10 - 130*

Lab Sample ID: 600-104776-9 MSD
Matrix: Water
Analysis Batch: 153450

Client Sample ID: WG-1620-P12-20150107
Prep Type: Total/NA
Prep Batch: 153402

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phenol	0.0000396	U	0.00990	0.002306		mg/L		23	10 - 144	17	20
Naphthalene	0.0000792	U	0.00990	0.005843		mg/L		59	57 - 130	6	20
Acenaphthylene	0.0000594	U	0.00990	0.006137		mg/L		62	58 - 130	10	20
Acenaphthene	0.0000792	U	0.00990	0.006054		mg/L		61	59 - 130	8	20
Dibenzofuran	0.0000792	U	0.00990	0.006103		mg/L		62	56 - 130	9	20
Fluorene	0.0000693	U	0.00990	0.006599		mg/L		67	57 - 130	5	20
Anthracene	0.0000495	U	0.00990	0.007188		mg/L		73	46 - 132	1	20
Di-n-butyl phthalate	0.000109	U	0.00990	0.008476		mg/L		86	61 - 130	2	20
Fluoranthene	0.0000693	U	0.00990	0.007604		mg/L		77	63 - 130	1	20
Pyrene	0.00152		0.00990	0.006740	N1	mg/L		53	62 - 130	2	20
Bis(2-ethylhexyl) phthalate	0.000366	U	0.00990	0.008025		mg/L		81	59 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol	*67*		*10 - 147*
2-Fluorobiphenyl	*64*		*10 - 150*

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

Lab Sample ID: 600-104776-9 MSD
Matrix: Water
Analysis Batch: 153450

Client Sample ID: WG-1620-P12-20150107
Prep Type: Total/NA
Prep Batch: 153402

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorophenol	37		10 - 130
Nitrobenzene-d5	68		23 - 130
Terphenyl-d14	76		42 - 133
Phenol-d5 (Surr)	26		10 - 130

Unadjusted Detection Limits

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

TestAmerica Job ID: 600-104776-1

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	0.000500	0.000370	mg/L	8270C LL
Dibenzofuran	0.000500	0.0000800	mg/L	8270C LL
Di-n-butyl phthalate	0.000500	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	0.000500	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: 153402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-104776-1	WG-1620-MW11A-20150107	Total/NA	Water	3510C	
600-104776-2 - DL	WG-1620-MW11B-20150107	Total/NA	Water	3510C	
600-104776-2	WG-1620-MW11B-20150107	Total/NA	Water	3510C	
600-104776-3 - DL2	WG-1620-MW10B-20150107	Total/NA	Water	3510C	
600-104776-3	WG-1620-MW10B-20150107	Total/NA	Water	3510C	
600-104776-3 - DL	WG-1620-MW10B-20150107	Total/NA	Water	3510C	
600-104776-4	WG-1620-MW10A-20150107	Total/NA	Water	3510C	
600-104776-5	WG-1620-MW02-20150107	Total/NA	Water	3510C	
600-104776-6	WG-1620-MW01A-20150107	Total/NA	Water	3510C	
600-104776-6 - DL	WG-1620-MW01A-20150107	Total/NA	Water	3510C	
600-104776-7 - DL	WG-1620-FD01-20150107	Total/NA	Water	3510C	
600-104776-7	WG-1620-FD01-20150107	Total/NA	Water	3510C	
600-104776-8	WG-1620-MW08-20150107	Total/NA	Water	3510C	
600-104776-9	WG-1620-P12-20150107	Total/NA	Water	3510C	
600-104776-9 MS	WG-1620-P12-20150107	Total/NA	Water	3510C	
600-104776-9 MSD	WG-1620-P12-20150107	Total/NA	Water	3510C	
600-104776-10	WG-1620-MW07-20150107	Total/NA	Water	3510C	
600-104776-11	WG-1620-P10-20150107	Total/NA	Water	3510C	
600-104776-12	WG-1620-FD02-20150107	Total/NA	Water	3510C	
600-104776-13	WG-1620-FB01-20150107	Total/NA	Water	3510C	
LCS 600-153402/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 600-153402/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 153450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-104776-1	WG-1620-MW11A-20150107	Total/NA	Water	8270C LL	153402
600-104776-2	WG-1620-MW11B-20150107	Total/NA	Water	8270C LL	153402
600-104776-3	WG-1620-MW10B-20150107	Total/NA	Water	8270C LL	153402
600-104776-4	WG-1620-MW10A-20150107	Total/NA	Water	8270C LL	153402
600-104776-9	WG-1620-P12-20150107	Total/NA	Water	8270C LL	153402
600-104776-9 MS	WG-1620-P12-20150107	Total/NA	Water	8270C LL	153402
600-104776-9 MSD	WG-1620-P12-20150107	Total/NA	Water	8270C LL	153402
LCS 600-153402/2-A	Lab Control Sample	Total/NA	Water	8270C LL	153402
MB 600-153402/1-A	Method Blank	Total/NA	Water	8270C LL	153402

Analysis Batch: 153500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-104776-2 - DL	WG-1620-MW11B-20150107	Total/NA	Water	8270C LL	153402
600-104776-3 - DL	WG-1620-MW10B-20150107	Total/NA	Water	8270C LL	153402
600-104776-3 - DL2	WG-1620-MW10B-20150107	Total/NA	Water	8270C LL	153402
600-104776-5	WG-1620-MW02-20150107	Total/NA	Water	8270C LL	153402
600-104776-6	WG-1620-MW01A-20150107	Total/NA	Water	8270C LL	153402
600-104776-6 - DL	WG-1620-MW01A-20150107	Total/NA	Water	8270C LL	153402
600-104776-7	WG-1620-FD01-20150107	Total/NA	Water	8270C LL	153402
600-104776-7 - DL	WG-1620-FD01-20150107	Total/NA	Water	8270C LL	153402
600-104776-8	WG-1620-MW08-20150107	Total/NA	Water	8270C LL	153402
600-104776-10	WG-1620-MW07-20150107	Total/NA	Water	8270C LL	153402
600-104776-11	WG-1620-P10-20150107	Total/NA	Water	8270C LL	153402
600-104776-12	WG-1620-FD02-20150107	Total/NA	Water	8270C LL	153402
600-104776-13	WG-1620-FB01-20150107	Total/NA	Water	8270C LL	153402

Client Sample ID: WG-1620-MW11A-20150107 — **Lab Sample ID: 600-104776-1**
Date Collected: 01/07/15 07:45 — **Matrix: Water**
Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153450	01/09/15 18:34	MBB	TAL HOU

Client Sample ID: WG-1620-MW11B-20150107 — **Lab Sample ID: 600-104776-2**
Date Collected: 01/07/15 08:30 — **Matrix: Water**
Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153450	01/09/15 18:58	MBB	TAL HOU
Total/NA	Prep	3510C	DL		153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL	DL	5	153500	01/12/15 13:18	MBB	TAL HOU

Client Sample ID: WG-1620-MW10B-20150107 — **Lab Sample ID: 600-104776-3**
Date Collected: 01/07/15 09:20 — **Matrix: Water**
Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153450	01/09/15 19:22	MBB	TAL HOU
Total/NA	Prep	3510C	DL		153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL	DL	10	153500	01/12/15 13:42	MBB	TAL HOU
Total/NA	Prep	3510C	DL2		153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL	DL2	50	153500	01/12/15 18:03	MBB	TAL HOU

Client Sample ID: WG-1620-MW10A-20150107 — **Lab Sample ID: 600-104776-4**
Date Collected: 01/07/15 10:15 — **Matrix: Water**
Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153450	01/09/15 19:46	MBB	TAL HOU

Client Sample ID: WG-1620-MW02-20150107 — **Lab Sample ID: 600-104776-5**
Date Collected: 01/07/15 11:15 — **Matrix: Water**
Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153500	01/12/15 17:15	MBB	TAL HOU

Client Sample ID: WG-1620-MW01A-20150107

Lab Sample ID: 600-104776-6

Date Collected: 01/07/15 14:00

Matrix: Water

Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153500	01/12/15 17:39	MBB	TAL HOU
Total/NA	Prep	3510C	DL		153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL	DL	20	153500	01/12/15 18:50	MBB	TAL HOU

Client Sample ID: WG-1620-FD01-20150107

Lab Sample ID: 600-104776-7

Date Collected: 01/07/15 14:00

Matrix: Water

Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153500	01/12/15 14:53	MBB	TAL HOU
Total/NA	Prep	3510C	DL		153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL	DL	10	153500	01/12/15 18:27	MBB	TAL HOU

Client Sample ID: WG-1620-MW08-20150107

Lab Sample ID: 600-104776-8

Date Collected: 01/07/15 15:00

Matrix: Water

Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153500	01/12/15 15:17	MBB	TAL HOU

Client Sample ID: WG-1620-P12-20150107

Lab Sample ID: 600-104776-9

Date Collected: 01/07/15 16:10

Matrix: Water

Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153450	01/09/15 20:10	MBB	TAL HOU

Client Sample ID: WG-1620-MW07-20150107

Lab Sample ID: 600-104776-10

Date Collected: 01/07/15 17:05

Matrix: Water

Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 10:06	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153500	01/12/15 15:41	MBB	TAL HOU

Lab Chronicle

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

TestAmerica Job ID: 600-104776-1

Client Sample ID: WG-1620-P10-20150107

Lab Sample ID: 600-104776-11

Date Collected: 01/07/15 17:50

Matrix: Water

Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 10:06	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153500	01/12/15 16:04	MBB	TAL HOU

Client Sample ID: WG-1620-FD02-20150107

Lab Sample ID: 600-104776-12

Date Collected: 01/07/15 17:50

Matrix: Water

Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 10:06	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153500	01/12/15 16:28	MBB	TAL HOU

Client Sample ID: WG-1620-FB01-20150107

Lab Sample ID: 600-104776-13

Date Collected: 01/07/15 18:15

Matrix: Water

Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 10:06	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153500	01/12/15 16:52	MBB	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: 600-104776-1

Laboratory: TestAmerica Houston

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Texas	NELAP	6	T104704223	10-31-15

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

Chain of Custody Record

600-104776 Chain of Custody

TestAmerica

Client Information	Sampler: JOHN BRAYTON	Lab PM: Kudchadkar, Sachin	COC No: 600-33402-11049.2
Client Contact: Mr. Eric Matzner	Phone: 512-671-3434	E-Mail: sachin.kudchadkar@testamericainc.com	Page: Page
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:	SSOW#:		

Analysis Requested

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 - ATZ	8270C_LL - BTZ	8270C_LL - ATZ + BTZ	Total Number of containers	Special Instructions/Note:
		Preservation Code:					N				
WG-1620-MW11A-20150107	1-7-15	0745	G	Water			X				
WG-1620-MW11B-20150107		0830	G	Water				X			
WG-1620-MW10B-20150107		0920	G	Water				X			
WG-1620-MW10A-20150107		1015	G	Water			X				
WG-1620-MW02-20150107		1115	G	Water			X				
WG-1620-MW01A-20150107		1400	G	Water			X				
WG-1620-FD01-20150107		1400	G	Water			X				
WG-1620-MW08-20150107		1500	G	Water			X				
WG-1620-P12-20150107		1610	G	Water				X			
WG-1620-P12MS-20150107		1610	G	Water				X			
WG-1620-P12MSD-20150107		1610	G	Water				X			

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
	1-8-15 853	PBW		1-8-15 853	TA
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by	Date/Time:	Company

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

1/14/2015

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

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: JOHN BRAYTON	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No.: 600-33402-11049.2
Client Contact: Mr. Eric Matzner	Phone: 512-671-3434	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page
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:	SSOW#:			

Analysis Requested

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 - -ATZ	8270C_LL - -BTZ	8270C_LL - -ATZ + BTZ	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N				
WG-1620-MW07-20150107	1-7-15	1705	G	Water			X				
WG-1620-P10-20150107	"	1750	G	Water				X			
WG-1620-FD02-20150107	"	1750	G	Water				X			
WG-1620-FB01-20150107	"	1815	G	Water					X		
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							

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	[signature]	1-8-15 853	PBW	[signature]	1-8-15 853	TA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	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

1/14/2015

TestAmerica Houston

Loc: 600
104776

Sample Receipt

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Date/Time Received: _____

JOB NUMBER: _____ CLIENT: PBW

UNPACKED BY: _____ CARRIER/DRIVER: client

Custody Seal Present: ☐ YES ☒ NO Number of Coolers Received: 5

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
PBW	Y / N	Y / N	0.2	519	-.3	-0.1
	Y / N	Y / N				
PBW	Y / N	Y / N	0.0			-0.3
	Y / N	Y / N				
PBW	Y / N	Y / N	4.2			3.9
	Y / N	Y / N				
PBW	Y / N	Y / N	0.3			0.0
	Y / N	Y / N				
RW	Y / N	Y / N	0.8			0.5

CF = correction factor

Samples received on ice? ☐ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☐ NO ☐ YES

Base samples are>pH 12: ☐ YES ☐ NO Acid preserved are<pH 2: ☐ YES ☐ NO

pH paper Lot #_____

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		

COMMENTS:

Login Sample Receipt Checklist

Client: Pastor, Behling & Wheeler LLC

Job Number: 600-104776-1

Login Number: 104776

List Source: TestAmerica Houston

List Number: 1

Creator: Crafton, Tommie S

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	-0.1 -0.3 3.9 0.0 0.5
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.

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: 600-105996-1
Client Project/Site: 1620 UPRR HWPW

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

Attn: Mr. Eric Matzner

Jeanette Castillo

Authorized for release by:
2/6/2015 10:25:58 AM
Jeanette Castillo, Project Management Assistant I
jeanette.castillo@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 600-105996-1 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.

Jeanette Castillo, for Sachin Kudchadkar		2/6/2015
Name (printed)	Signature	Date

Senior Project Manager
Official Title (printed)

Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/6/2015
Project Name:	1620 UPRR HWPW	Laboratory Job Number:	600-105996-1
Reviewer Name:	Jeanette Castillo, for Sachin 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				
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:	2/6/2015
Project Name:	1620 UPRR HWPW	Laboratory Job Number:	600-105996-1
Reviewer Name:	Jeanette Castillo, for Sachin 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.
2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);
3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	2/6/2015
Project Name:	1620 UPRR HWPW	Laboratory Job Number:	600-105996-1
Reviewer Name:	Jeanette Castillo, for Sachin Kudchadkar		

ER #[1]	Description
R10B	Method 8270C LL: The following sample(s) was diluted to bring the concentration of target analytes within the calibration range: 600-105996-1. 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_LL
Prep Method: 3510C_LL
Date Analyzed: 10/13/2014
Job #: 600-100259
TALS Batch: 146443
Units: ug/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MQL
1,1'-Biphenyl	CHSVMS09	0.100	0.250	0.220	1
1,2,4,5-Tetrachlorobenzene	CHSVMS09	0.100	0.250	0.209	1.5
1,2,4-Trichlorobenzene	CHSVMS09	0.120	0.250	0.204	2
1,2-Dichlorobenzene	CHSVMS09	0.170	0.500	0.330	1.75
1,2-Dinitrobenzene	CHSVMS09	0.500	0.500	0.527	5
1,2-Diphenylhydrazine	CHSVMS09	0.110	0.250	0.236	2
1,3,5-Trinitrobenzene	CHSVMS09	0.500	1.000	0.938	1
1,3-Dichlorobenzene	CHSVMS09	0.170	0.500	0.299	1.5
1,3-Dinitrobenzene	CHSVMS09	0.080	0.500	0.485	1
1,4-Dichlorobenzene	CHSVMS09	0.130	0.500	0.323	2
1,4-Dinitrobenzene	CHSVMS09	5.000	1.000	1.053	5
1-Methylnaphthalene	CHSVMS09	0.090	0.250	0.180	2
1-Naphthylamine	CHSVMS09	0.170	0.250	0.290	2
2,2'-oxybis[1-chloropropane]	CHSVMS09	0.400	0.500	0.466	1.5
2,3,4,6-Tetrachlorophenol	CHSVMS09	0.500	0.500	0.265	1
2,3,5,6-Tetrachlorophenol	CHSVMS09	0.500	2.500	1.033	5
2,4,5-Trichlorophenol	CHSVMS09	0.250	0.500	0.572	2
2,4,6-Trichlorophenol	CHSVMS09	0.180	0.500	0.361	2
2,4-Dichlorophenol	CHSVMS09	0.150	0.500	0.344	2.5
2,4-Dimethylphenol	CHSVMS09	0.310	0.500	0.387	2.5
2,4-Dinitrophenol	CHSVMS09	0.390	5.000	2.344	5
2,4-Dinitrotoluene	CHSVMS09	0.130	0.500	0.451	1.5
2,6-Dichlorophenol	CHSVMS09	0.120	0.250	0.091	1.5
2,6-Dinitrotoluene	CHSVMS09	0.080	0.250	0.313	1
2-Acetylaminofluorene	CHSVMS09	5.000	0.500	0.649	5
2-Chloronaphthalene	CHSVMS09	0.080	0.250	0.216	1.5
2-Chlorophenol	CHSVMS09	0.130	0.500	0.387	2
2-Methylnaphthalene	CHSVMS09	0.070	0.250	0.189	1.5
2-Methylphenol	CHSVMS09	0.120	0.250	0.145	1.5
2-Naphthylamine	CHSVMS09	0.140	0.250	0.353	1
2-Nitroaniline	CHSVMS09	0.190	0.500	0.498	2.5
2-Nitrophenol	CHSVMS09	0.220	0.500	0.287	1
2-Picoline	CHSVMS09	0.390	0.500	0.055	1.5
2-Toluidine	CHSVMS09	0.130	0.250	0.010	1
3 & 4 Methylphenol	CHSVMS09	0.200	0.500	0.222	1
3,3'-Dichlorobenzidine	CHSVMS09	0.180	0.500	0.655	10
3,3'-Dimethylbenzidine	CHSVMS09	0.500	1.000	0.629	5
3-Methylcholanthrene	CHSVMS09	0.500	0.500	0.723	5
3-Nitroaniline	CHSVMS09	0.160	0.500	0.636	2.5
4-Aminobiphenyl	CHSVMS09	0.170	0.250	0.078	10
4-Bromophenyl phenyl ether	CHSVMS09	0.100	0.250	0.193	1.5
4-Chloro-3-methylphenol	CHSVMS09	0.170	0.500	0.575	1
4-Chloroaniline	CHSVMS09	0.210	0.500	0.306	1
4-Chlorophenyl phenyl ether	CHSVMS09	0.100	0.250	0.185	1.5
4-Nitroaniline	CHSVMS09	0.250	0.500	0.753	2.5
6-Methylchrysene	CHSVMS09	0.100	0.250	0.385	1
7,12-Dimethylbenz(a)anthracene	CHSVMS09	0.070	0.250	0.498	1

DCS = Detection Check Standard
MQL = Method Quantitation Limit

Matrix: Water
Method: 8270C_LL
Prep Method: 3510C_LL
Date Analyzed: 10/13/2014
Job #: 600-100259
TALS Batch: 146443
Units: ug/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MQL
Acenaphthene	CHSVMS09	0.080	0.250	0.202	1
Acenaphthylene	CHSVMS09	0.06	0.25	0.188	1
Acetophenone	CHSVMS09	0.150	0.500	0.457	1.5
Aniline	CHSVMS09	0.080	0.250	0.105	1.5
Anthracene	CHSVMS09	0.05	0.25	0.208	1
Atrazine	CHSVMS09	0.160	0.500	0.444	1.5
Azobenzene	CHSVMS09	0.070	0.250	0.236	1.5
Benzaldehyde	CHSVMS09	0.500	0.500	0.444	1
Benzidine	CHSVMS09	0.610	2.500	3.070	10
Benzo[a]anthracene	CHSVMS09	0.080	0.250	0.222	2
Benzo[a]pyrene	CHSVMS09	0.080	0.250	0.172	1.5
Benzo[b]fluoranthene	CHSVMS09	0.070	0.250	0.459	2
Benzo[g,h,i]perylene	CHSVMS09	0.080	0.250	0.200	2.5
Benzo[k]fluoranthene	CHSVMS09	0.090	0.250	0.436	2
Benzyl alcohol	CHSVMS09	0.170	0.500	0.331	5.5
Bis(2-chloroethoxy)methane	CHSVMS09	0.130	0.500	0.389	1.5
Bis(2-chloroethyl)ether	CHSVMS09	0.150	0.500	0.414	1.5
Bis(2-ethylhexyl) phthalate	CHSVMS09	0.370	0.500	0.531	2.5
Butyl benzyl phthalate	CHSVMS09	0.120	0.250	0.280	2.5
Caprolactam	CHSVMS09	1.000	1.000	0.301	1
Carbazole	CHSVMS09	0.170	0.500	0.359	6.25
Chlorobenzilate	CHSVMS09	0.080	0.250	0.330	1.5
Chrysene	CHSVMS09	0.080	0.250	0.228	1.5
Dibenz(a,h)anthracene	CHSVMS09	0.080	0.250	0.374	2.5
Dibenz[a,h]acridine	CHSVMS09	0.130	0.250	0.485	1
Dibenzofuran	CHSVMS09	0.080	0.250	0.197	1.5
Diethyl phthalate	CHSVMS09	1.500	2.500	1.706	2.5
Dimethoate	CHSVMS09	0.100	0.250	0.114	1.5
Dimethyl phthalate	CHSVMS09	0.070	0.250	0.151	2.5
Di-n-butyl phthalate	CHSVMS09	0.110	0.250	0.263	2.5
Di-n-octyl phthalate	CHSVMS09	0.160	0.500	0.875	5
Diphenylamine	CHSVMS09	0.100	0.250	0.132	1.5
Disulfoton	CHSVMS09	0.090	0.250	0.389	1
EPTC	CHSVMS08	0.500	1.000	0.952	2
Ethyl methanesulfonate	CHSVMS09	0.170	0.250	0.105	1.5
Ethyl Parathion	CHSVMS09	0.140	0.250	0.416	1.5
Fluoranthene	CHSVMS09	0.070	0.250	0.243	2.5
Fluorene	CHSVMS09	0.070	0.250	0.186	1.5
Hexachlorobenzene	CHSVMS09	0.110	0.250	0.210	1.5
Hexachlorobutadiene	CHSVMS09	0.180	0.500	0.311	2
Hexachlorocyclopentadiene	CHSVMS09	0.130	0.500	0.223	1.5
Hexachloroethane	CHSVMS09	0.100	0.250	0.176	2
Hexachloropropene	CHSVMS09	0.160	0.250	0.315	10
Indene	CHSVMS09	0.150	0.500	0.380	1
Indeno[1,2,3-cd]pyrene	CHSVMS09	0.070	0.250	0.196	2
Isodrin	CHSVMS09	0.150	0.250	0.168	1.5
Isophorone	CHSVMS09	0.110	0.250	0.155	1.5

DCS = Detection Check Standard
MQL = Method Quantitation Limit

Matrix: Water
Method: 8270C_LL
Prep Method: 3510C_LL
Date Analyzed: 10/13/2014
Job #: 600-100259
TALS Batch: 146443
Units: ug/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MQL
Methapyrilene	CHSVMS09	1.060	2.000	0.181	1.5
Methyl methanesulfonate	CHSVMS09	0.200	0.250	0.056	1.5
Methyl parathion	CHSVMS09	0.140	0.250	0.501	1.5
Methyl Phenols,Total	CHSVMS09	0.200	0.500	0.140	1
Molinate	CHSVMS08	0.500	1.000	0.906	2
Naphthalene	CHSVMS09	0.080	0.250	0.224	5
Nitrobenzene	CHSVMS09	0.110	0.250	0.214	1.5
N-Nitro-o-toluidine	CHSVMS09	0.130	0.250	0.378	10
N-Nitrosodiethylamine	CHSVMS09	0.380	0.500	0.316	1.5
N-Nitrosodimethylamine	CHSVMS09	0.260	0.500	0.200	2
N-Nitrosodi-n-butylamine	CHSVMS09	0.230	0.250	0.117	1.5
N-Nitrosodi-n-propylamine	CHSVMS09	0.100	0.250	0.206	2.5
N-Nitrosodiphenylamine	CHSVMS09	0.100	0.250	0.190	1.5
N-Nitrosomethylethylamine	CHSVMS09	0.110	0.500	0.197	1
N-Nitrosomorpholine	CHSVMS09	0.190	0.250	0.108	10
N-Nitrosopiperidine	CHSVMS09	0.190	0.250	0.180	1.5
N-Nitrosopyrrolidine	CHSVMS09	0.210	0.250	0.085	1
o,o',o''-Triethylphosphorothioate	CHSVMS09	0.500	0.500	0.338	5
p-Dimethylamino azobenzene	CHSVMS09	0.110	0.250	0.316	1
Pentachlorobenzene	CHSVMS09	0.130	0.250	0.157	1.5
Pentachloroethane	CHSVMS09	0.150	0.250	0.166	1
Pentachloronitrobenzene	CHSVMS09	0.120	0.250	0.289	1.5
Pentachlorophenol	CHSVMS09	0.610	1.000	0.981	2.5
Phenacetin	CHSVMS09	0.190	0.500	0.240	1.5
Phenanthrene	CHSVMS09	0.060	0.250	0.194	1.5
Phenol	CHSVMS09	0.040	0.250	0.066	1.5
Phorate	CHSVMS09	0.070	0.250	0.419	1.5
Pronamide	CHSVMS09	0.110	0.250	0.169	1.5
Pyrene	CHSVMS09	0.110	0.250	0.184	2
Pyridine	CHSVMS09	0.040	0.500	0.151	4
Quinoline	CHSVMS09	0.130	0.500	0.240	1
Thionazin	CHSVMS09	0.070	0.250	0.569	1

DCS = Detection Check Standard
MQL = Method Quantitation Limit

Method Summary

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

TestAmerica Job ID: 600-105996-1

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: 600-105996-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-105996-1	WG-1620-MW10B-20150129	Water	01/29/15 18:00	01/30/15 07:26

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

TestAmerica Job ID: 600-105996-1

Client Sample ID: WG-1620-MW10B-20150129
Date Collected: 01/29/15 18:00
Date Received: 01/30/15 07:26

Lab Sample ID: 600-105996-1
Matrix: Water

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000396	U	0.000495	0.0000396	mg/L		02/03/15 15:21	02/05/15 08:28	1
Naphthalene	**0.0247**		0.000495	0.0000792	mg/L		02/03/15 15:21	02/05/15 08:28	1
Acenaphthylene	**0.000597**		0.000495	0.0000594	mg/L		02/03/15 15:21	02/05/15 08:28	1
Dibenzofuran	**0.0129**		0.000495	0.0000792	mg/L		02/03/15 15:21	02/05/15 08:28	1
Fluorene	**0.0202**		0.000495	0.0000693	mg/L		02/03/15 15:21	02/05/15 08:28	1
Anthracene	**0.00179**		0.000495	0.0000495	mg/L		02/03/15 15:21	02/05/15 08:28	1
Di-n-butyl phthalate	0.000109	U	0.000495	0.000109	mg/L		02/03/15 15:21	02/05/15 08:28	1
Fluoranthene	**0.00117**		0.000495	0.0000693	mg/L		02/03/15 15:21	02/05/15 08:28	1
Pyrene	**0.000392**	**J**	0.000495	0.000109	mg/L		02/03/15 15:21	02/05/15 08:28	1
Bis(2-ethylhexyl) phthalate	0.000366	U	0.000495	0.000366	mg/L		02/03/15 15:21	02/05/15 08:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*104*		*10 - 147*	*02/03/15 15:21*	*02/05/15 08:28*	*1*
2-Fluorobiphenyl	*90*		*10 - 150*	*02/03/15 15:21*	*02/05/15 08:28*	*1*
2-Fluorophenol	*42*		*10 - 130*	*02/03/15 15:21*	*02/05/15 08:28*	*1*
Nitrobenzene-d5	*89*		*23 - 130*	*02/03/15 15:21*	*02/05/15 08:28*	*1*
Terphenyl-d14	*75*		*42 - 133*	*02/03/15 15:21*	*02/05/15 08:28*	*1*
Phenol-d5 (Surr)	*23*		*10 - 130*	*02/03/15 15:21*	*02/05/15 08:28*	*1*

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.0507**		0.00248	0.000396	mg/L		02/03/15 15:21	02/05/15 09:53	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*101*		*10 - 147*	*02/03/15 15:21*	*02/05/15 09:53*	*5*
2-Fluorobiphenyl	*103*		*10 - 150*	*02/03/15 15:21*	*02/05/15 09:53*	*5*
2-Fluorophenol	*45*		*10 - 130*	*02/03/15 15:21*	*02/05/15 09:53*	*5*
Nitrobenzene-d5	*99*		*23 - 130*	*02/03/15 15:21*	*02/05/15 09:53*	*5*
Terphenyl-d14	*104*		*42 - 133*	*02/03/15 15:21*	*02/05/15 09:53*	*5*
Phenol-d5 (Surr)	*22*		*10 - 130*	*02/03/15 15:21*	*02/05/15 09:53*	*5*

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
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
CFL	Contains Free Liquid
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: 600-105996-1

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	(10-147)	(10-150)	(10-130)	(23-130)	(42-133)	(10-130)		
600-105996-1 - DL	WG-1620-MW10B-20150129	101	103	45	99	104	22		
600-105996-1	WG-1620-MW10B-20150129	104	90	42	89	75	23		
LCS 600-155261/2-A	Lab Control Sample	98	88	61	98	99	41		
MB 600-155261/1-A	Method Blank	78	84	58	91	92	38		

Surrogate Legend

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

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

TestAmerica Job ID: 600-105996-1

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

Lab Sample ID: MB 600-155261/1-A
Matrix: Water
Analysis Batch: 155361

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 155261

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000400	U	0.000500	0.0000400	mg/L		02/03/15 15:16	02/04/15 16:21	1
Naphthalene	0.0000800	U	0.000500	0.0000800	mg/L		02/03/15 15:16	02/04/15 16:21	1
Acenaphthylene	0.0000600	U	0.000500	0.0000600	mg/L		02/03/15 15:16	02/04/15 16:21	1
Acenaphthene	0.0000800	U	0.000500	0.0000800	mg/L		02/03/15 15:16	02/04/15 16:21	1
Dibenzofuran	0.0000800	U	0.000500	0.0000800	mg/L		02/03/15 15:16	02/04/15 16:21	1
Fluorene	0.0000700	U	0.000500	0.0000700	mg/L		02/03/15 15:16	02/04/15 16:21	1
Anthracene	0.0000500	U	0.000500	0.0000500	mg/L		02/03/15 15:16	02/04/15 16:21	1
Di-n-butyl phthalate	0.000110	U	0.000500	0.000110	mg/L		02/03/15 15:16	02/04/15 16:21	1
Fluoranthene	0.0000700	U	0.000500	0.0000700	mg/L		02/03/15 15:16	02/04/15 16:21	1
Pyrene	0.000110	U	0.000500	0.000110	mg/L		02/03/15 15:16	02/04/15 16:21	1
Bis(2-ethylhexyl) phthalate	0.000370	U	0.000500	0.000370	mg/L		02/03/15 15:16	02/04/15 16:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*78*		*10 - 147*	*02/03/15 15:16*	*02/04/15 16:21*	*1*
2-Fluorobiphenyl	*84*		*10 - 150*	*02/03/15 15:16*	*02/04/15 16:21*	*1*
2-Fluorophenol	*58*		*10 - 130*	*02/03/15 15:16*	*02/04/15 16:21*	*1*
Nitrobenzene-d5	*91*		*23 - 130*	*02/03/15 15:16*	*02/04/15 16:21*	*1*
Terphenyl-d14	*92*		*42 - 133*	*02/03/15 15:16*	*02/04/15 16:21*	*1*
Phenol-d5 (Surr)	*38*		*10 - 130*	*02/03/15 15:16*	*02/04/15 16:21*	*1*

Lab Sample ID: LCS 600-155261/2-A
Matrix: Water
Analysis Batch: 155361

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 155261

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	0.0100	0.003961		mg/L		40	10 - 144
Naphthalene	0.0100	0.008354		mg/L		84	57 - 130
Acenaphthylene	0.0100	0.008559		mg/L		86	58 - 130
Acenaphthene	0.0100	0.008459		mg/L		85	59 - 130
Dibenzofuran	0.0100	0.008167		mg/L		82	56 - 130
Fluorene	0.0100	0.008450		mg/L		84	57 - 130
Anthracene	0.0100	0.008838		mg/L		88	46 - 132
Di-n-butyl phthalate	0.0100	0.009497		mg/L		95	61 - 130
Fluoranthene	0.0100	0.008859		mg/L		89	63 - 130
Pyrene	0.0100	0.009063		mg/L		91	62 - 130
Bis(2-ethylhexyl) phthalate	0.0100	0.009538		mg/L		95	59 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*98*		*10 - 147*
2-Fluorobiphenyl	*88*		*10 - 150*
2-Fluorophenol	*61*		*10 - 130*
Nitrobenzene-d5	*98*		*23 - 130*
Terphenyl-d14	*99*		*42 - 133*
Phenol-d5 (Surr)	*41*		*10 - 130*

Unadjusted Detection Limits

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

TestAmerica Job ID: 600-105996-1

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

Analyte	MQL	MDL	Units	Method
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	0.000500	0.000370	mg/L	8270C LL
Dibenzofuran	0.000500	0.0000800	mg/L	8270C LL
Di-n-butyl phthalate	0.000500	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	0.000500	0.0000800	mg/L	8270C LL
Phenol	0.000500	0.0000400	mg/L	8270C LL
Pyrene	0.000500	0.000110	mg/L	8270C LL

QC Association Summary

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

TestAmerica Job ID: 600-105996-1

GC/MS Semi VOA

Prep Batch: 155261

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-105996-1 - DL	WG-1620-MW10B-20150129	Total/NA	Water	3510C	
600-105996-1	WG-1620-MW10B-20150129	Total/NA	Water	3510C	
LCS 600-155261/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 600-155261/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 155361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 600-155261/2-A	Lab Control Sample	Total/NA	Water	8270C LL	155261
MB 600-155261/1-A	Method Blank	Total/NA	Water	8270C LL	155261

Analysis Batch: 155400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-105996-1	WG-1620-MW10B-20150129	Total/NA	Water	8270C LL	155261
600-105996-1 - DL	WG-1620-MW10B-20150129	Total/NA	Water	8270C LL	155261

Lab Chronicle

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

TestAmerica Job ID: 600-105996-1

Client Sample ID: WG-1620-MW10B-20150129
Date Collected: 01/29/15 18:00
Date Received: 01/30/15 07:26

Lab Sample ID: 600-105996-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			155261	02/03/15 15:21	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	155400	02/05/15 08:28	TTD	TAL HOU
Total/NA	Prep	3510C	DL		155261	02/03/15 15:21	MRA	TAL HOU
Total/NA	Analysis	8270C LL	DL	5	155400	02/05/15 09:53	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: 600-105996-1

Laboratory: TestAmerica Houston

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Texas	NELAP	6	T104704223	10-31-15

Chain of Custody Record

Temperature on Receipt _____

Drinking Water? Yes☐ No☐

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TAL-4124 (1007)

Client: PBW	Project Manager: ERIC MATZNER	Date: 1-29-15	Chain of Custody Number: 273041
Address: 2201 DOUBLE CREEK DR	Telephone Number (Area Code)/Fax Number: 512-671-3434	Lab Number:	Page 1 of 1
City: Round Rock / State: TX / Zip Code: 78664	Site Contact:	Lab Contact:	
Project Name and Location (State): VRP-HWPW-SMUU - HOUSTON, TX	Carrier/Waybill Number:		
Contract/Purchase Order/Quote No.			

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix: Air	Aqueous	Sed.	Soil	Containers & Preservatives: Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/ NaOH	Analysis (Attach list if more space is needed): 8270 SPECIFIC BTX LIST
WG-1620-MW-DB-20150129	1-29-15	1800		X			X						X

Special Instructions/ Conditions of Receipt

600-105996 Chain of Custody

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

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

Turn Around Time Required
☐ 24 Hours ☐ 48 Hours ☐ 7 Days ☐ 14 Days ☐ 21 Days ☐ Other _____

QC Requirements (Specify)

	Date	Time		Date	Time
1. Relinquished By: John Bray	1-30-15	0726	1. Received By:	1/30/15	0726
2. Relinquished By			2. Received By		
3. Relinquished By			3. Received By		

Comments

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

TestAmerica Houston

Sample Receipt Checklist

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Loc: 600
105996

JOB NUMBER: _____

Date/Time Received: PBW

CLIENT: Client

UNPACKED BY: _____

CARRIER/DRIVER: _____

Custody Seal Present: ☐ YES ☒ NO

Number of Coolers Received: 1

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
BW	Y / N	Y / N	3.6	545	-0.3	3.3
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				
	Y / N	Y / N				

CF = correction factor

Samples received on ice? ☒ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☒ NO ☐ YES

Base samples are>pH 12: ☐ YES ☐ NO Acid-preserved are<pH 2: ☐ YES ☐ NO

pH paper Lot # PB 11/30/15

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☒ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	✓	

COMMENTS:

PB 11/30/15

Login Sample Receipt Checklist

Client: Pastor, Behling & Wheeler LLC

Job Number: 600-105996-1

Login Number: 105996

List Source: TestAmerica Houston

List Number: 1

Creator: Capps, Dana 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	3.3
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

13091 Pond Springs Road, Suite A100
Austin, Texas 78729
Telephone: (512) 506-8803 Fax: (512) 506-8823
www.CRAworld.com

MEMORANDUM

TO:	Eric Matzner	REF. NO.:	085706-1620
FROM:	Chris G. Knight/eew/55-NF CK	DATE:	January 21, 2015
CC:	Jesse Orth; Julie Lidstone		

RE: Data Usability Summary
HWPW Semiannual Monitoring Event
Union Pacific Railroad (UPRR) – 1620 Wood Preserving Works
Houston, Texas
January 2015

1.0 Scope of Data Usability Study

The following document details a Data Usability Summary (DUS) of analytical results for groundwater samples collected in support of the HWPW Semiannual Monitoring Event at the Union Pacific Railroad – 1620 Wood Preserving Works site during January 2015. Samples were submitted to TestAmerica Laboratories, Inc., located in Houston, Texas and are reported in data package 600-104776-1. The intended use of the data is to support the groundwater sampling event at the site by providing current concentrations of chemicals of concern (COCs).

Data were reviewed and validated by Chris G. Knight of Conestoga-Rovers and Associates, in accordance with Title 30 of the Texas Administrative Code Section 350.54 (30 TAC 350.54) as described in the document entitled "Review and Reporting of COC Concentration Data under TRRP", (RG-366/TRRP-13), revised May 2010. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, duplicate data, recovery data from surrogate spikes, laboratory control samples (LCS), matrix spikes (MS), field quality assurance/quality control (QA/QC) samples, the laboratory review checklist (LRC), and the laboratory exception report (ER).

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

The validated sample results are presented in Table 2. The laboratory's data packages, including the LRC and any associated exception reports, are presented in Attachment A. Each data package includes a cross-reference list of field sample identifications to laboratory sample designations.

A summary of the analytical methodology is presented in Table 3.

2.0 Laboratory Qualifications

The laboratory's quality assurance program is consistent with the quality standards outlined in the National Environmental Laboratory Accreditation Program (NELAP). This laboratory was accredited under Texas Certification number T104704223 at the time the analysis was performed and the certificate is included in Attachment B.

3.0 Project Objectives

The QA/QC program was designed to identify contamination resulting from the sampling, sample transport and analytical process through the analysis method blanks. The QA/QC program was designed to evaluate the quality of the resulting data with respect to bias and precision through analysis of laboratory control samples (LCS) and matrix spike/duplicate (MS/DUP) or matrix spike/matrix spike duplicate (MS/MSD) analyses.

4.0 Data Review/Validation Results

4.1 Sample Holding Time and Preservation

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

Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

4.2 Sample Containers

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

4.3 Calibrations

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

4.4 Laboratory Method Blank

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures. As

these were not discrete samples handled in the field, method blanks are not listed on the sample identification cross-reference list found in the data packages.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch and results are reported in the laboratory data packages.

All method blank results were non-detect or below the method quantitation limit (MQL), indicating that laboratory contamination was not a factor for this investigation with the following exception (see Table 4):

i. One semi-volatile organic compounds (SVOCs) method blank yielded a detected result for di-n-butyl phthalate. Associated sample results that were non-detect were not impacted. Associated sample results with comparable concentrations were qualified as non-detect.

4.5 Internal Standard and Surrogate Spike Recoveries

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

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for SVOCs are spiked with surrogate compounds prior to sample extraction and analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices. Each individual surrogate compound is expected to meet the laboratory control limits. According to the TCEQ Regulatory Guidelines, one outlying surrogate is acceptable for methods with multiple surrogate spike compounds as long as the recovery is at least 10 percent.

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

4.6 Laboratory Control Sample Analyses

Laboratory control samples/laboratory control sample duplicates (LCS/LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS/LCSD contained all compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision.

4.7 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the extraction or digestion process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the

analytes of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed.

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

The MS/MSD samples were spiked with all compounds of interest. All percent recoveries and RPD values were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision with the following exceptions (see Table 5):

i. One SVOCs MS/MSD analyses resulted in low recoveries for pyrene. Associated sample results were qualified as estimated; biased low.

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

4.8 Field QA/QC Samples

The field QA/QC consisted of two field duplicate sample sets.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample was collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than 30 percent for water samples. The RPDs are only used when sample concentrations are above the estimated regions of detection.

Field duplicate summary data are presented in Table 2. All field duplicate results were within acceptable agreement; demonstrating acceptable sampling and analytical precision with the following exception (see Table 6):

i. SVOCs results did show some variability in both sample sets. The associated results were qualified as estimated.

4.9 Field Procedures

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

5.0 Analyte Reporting

The laboratory reported detected results for each analyte down to the sample detection limit (SDL), which is defined as the MDL with sample-specific adjustments for dilutions, aliquot size, volumes, etc. Positive

analyte detections less than the MQL but greater than the SDL were qualified as estimated (J) in Table 3 and the also in the attached copies of the laboratory data packages unless qualified otherwise in this memorandum.

6.0 Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are usable for the purpose of supporting the groundwater sampling event at the site by providing current concentrations of chemicals of concern with the qualifications noted herein.

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
HWPW SEMIANNUAL MONITORING EVENT
UNION PACIFIC RAILROAD (UPRR) - 1620 WOOD PRESERVING WORKS
HOUSTON, TEXAS
JANUARY 2015

					Analysis/Parameters	
Sample Identification	***Location***	***Matrix***	***Collection Date (mm/dd/yyyy)***	***Collection Time (hr:min)***	***SVOCs***	***Comments***
WG-1620-MW11A-20150107	MW-11A	water	01/07/15	07:45	X	
WG-1620-MW11B-20150107	MW-11B	water	01/07/15	08:30	X	
WG-1620-MW10B-20150107	MW-10B	water	01/07/15	09:20	X	
WG-1620-MW10A-20150107	MW-10A	water	01/07/15	10:15	X	
WG-1620-MW02-20150107	MW-02	water	01/07/15	11:15	X	
WG-1620-MW01A-20150107	MW-01A	water	01/07/15	14:00	X	
WG-1620-FD01-20150107	MW-01A	water	01/07/15	14:00	X	Field duplicate of MW-01A
WG-1620-MW08-20150107	MW-08	water	01/07/15	15:00	X	
WG-1620-P12-20150107	P-12	water	01/07/15	16:10	X	MS/MSD
WG-1620-MW07-20150107	MW-07	water	01/07/15	17:05	X	
WG-1620-P10-20150107	P-10	water	01/07/15	17:50	X	
WG-1620-FD02-20150107	P-10	water	01/07/15	17:50	X	Field duplicate of P-10
WG-1620-FB01-20150107	Field Blank	water	01/07/15	18:15	X	Field Blank

Notes:

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

TABLE 2

ANALYTICAL RESULTS SUMMARY
HWPW SEMIANNUAL MONITORING EVENT
UNION PACIFIC RAILROAD (UPRR) - 1620 WOOD PRESERVING WORKS
HOUSTON, TEXAS
JANUARY 2015

Sample Location:		*MW-01A*	*MW-01A*	*MW-02*	*MW-07*
Sample ID:		*WG-1620-MW01A-20150107*	*WG-1620-FD01-20150107*	*WG-1620-MW02-20150107*	*WG-1620-MW07-20150107*
Sample Date:		*1/7/2015*	*1/7/2015*	*1/7/2015*	*1/7/2015*
			Duplicate		
Parameters	***Units***				
Semi-volatile Organic Compounds					
2-Methylnaphthalene	mg/L	<0.0000693 J	0.000132 J	0.000105 J	<0.0000693
Acenaphthene	mg/L	0.0594	0.0607	0.00260	<0.0000792
Acenaphthylene	mg/L	0.00104	0.00102	0.0000892 J	<0.0000594
Anthracene	mg/L	0.00139	0.00139	0.000153 J	0.000271 J
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	0.00533 J	0.00259 J	0.000426 J	0.000944
Dibenzofuran	mg/L	0.000541	0.000602	0.000377 J	<0.0000792
Di-n-butylphthalate (DBP)	mg/L	-	-	-	-
Fluoranthene	mg/L	0.00246	0.00235	<0.0000693	0.000189 J
Fluorene	mg/L	0.0209	0.0217	0.000681	0.0000792 J
Naphthalene	mg/L	0.000121 J	0.000313 J	0.000472 J	<0.0000792
Phenanthrene	mg/L	0.000335 J	0.000326 J	0.000162 J	<0.0000594
Phenol	mg/L	-	-	-	-
Pyrene	mg/L	0.00105	0.00102	<0.000109	0.000142 J

TABLE 2

ANALYTICAL RESULTS SUMMARY
HWPW SEMIANNUAL MONITORING EVENT
UNION PACIFIC RAILROAD (UPRR) - 1620 WOOD PRESERVING WORKS
HOUSTON, TEXAS
JANUARY 2015

Sample Location:		*MW-08*	*MW-10A*	*MW-10B*	*MW-11A*
Sample ID:		*WG-1620-MW08-20150107*	*WG-1620-MW10A-20150107*	*WG-1620-MW10B-20150107*	*WG-1620-MW11A-20150107*
Sample Date:		*1/7/2015*	*1/7/2015*	*1/7/2015*	*1/7/2015*
Parameters	***Units***				
Semi-volatile Organic Compounds					
2-Methylnaphthalene	mg/L	<0.0000693	<0.0000693	-	<0.0000673
Acenaphthene	mg/L	<0.0000792	0.00272	0.166	0.000471 J
Acenaphthylene	mg/L	<0.0000594	0.000126 J	0.00104	<0.0000577
Anthracene	mg/L	0.0000560 J	0.000191 J	0.00702	0.000399 J
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000366	<0.000366	<0.000366	<0.000356
Dibenzofuran	mg/L	<0.0000792	0.000349 J	0.0727	<0.0000769
Di-n-butylphthalate (DBP)	mg/L	-	-	<0.000215	-
Fluoranthene	mg/L	<0.0000693	<0.0000693	0.00711	<0.0000673
Fluorene	mg/L	<0.0000693	0.000694	0.0975	<0.0000673
Naphthalene	mg/L	<0.0000792	0.000322 J	0.556	<0.0000769
Phenanthrene	mg/L	<0.0000594	0.000126 J	-	<0.0000577
Phenol	mg/L	-	-	<0.0000396	-
Pyrene	mg/L	<0.000109	<0.000109	0.00234	<0.000106

TABLE 2

ANALYTICAL RESULTS SUMMARY
HWPW SEMIANNUAL MONITORING EVENT
UNION PACIFIC RAILROAD (UPRR) - 1620 WOOD PRESERVING WORKS
HOUSTON, TEXAS
JANUARY 2015

Sample Location:		*MW-11B*	*P-10*	*P-10*	*P-12*
Sample ID:		*WG-1620-MW11B-20150107*	*WG-1620-P10-20150107*	*WG-1620-FD02-20150107*	*WG-1620-P12-20150107*
Sample Date:		*1/7/2015*	*1/7/2015*	*1/7/2015*	*1/7/2015*
				Duplicate	
Parameters	***Units***				
Semi-volatile Organic Compounds					
2-Methylnaphthalene	mg/L	-	-	-	-
Acenaphthene	mg/L	0.0472	<0.0000792	<0.0000792	<0.0000792
Acenaphthylene	mg/L	0.00113	<0.0000594	<0.0000594	<0.0000594
Anthracene	mg/L	0.000945	0.000122 J	0.000115 J	<0.0000495
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	<0.000356	0.000853 J	0.00155 J	<0.000366
Dibenzofuran	mg/L	0.00472	<0.0000792	<0.0000792	<0.0000792
Di-n-butylphthalate (DBP)	mg/L	<0.000106	<0.000109	<0.000119	<0.000109
Fluoranthene	mg/L	0.00201	0.000114 J	0.000113 J	<0.0000693
Fluorene	mg/L	0.00867	<0.0000693	<0.0000693	<0.0000693
Naphthalene	mg/L	<0.0000769	<0.0000792	<0.0000792	<0.0000792
Phenanthrene	mg/L	-	-	-	-
Phenol	mg/L	<0.0000385	<0.0000396	<0.0000396	<0.0000396
Pyrene	mg/L	0.000935	<0.000109	<0.000109	0.00152 JL

Notes:

J - Estimated concentration
JL - Estimated concentration; biased low

TABLE 3

ANALYTICAL METHODS AND HOLDING TIME CRITERIA
HWPW SEMIANNUAL MONITORING EVENT
UNION PACIFIC RAILROAD (UPRR) - 1620 WOOD PRESERVING WORKS
HOUSTON, TEXAS
JANUARY 2015

			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 RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE METHOD BLANKS
HWPW SEMIANNUAL MONITORING EVENT
UNION PACIFIC RAILROAD (UPRR) - 1620 WOOD PRESERVING WORKS
HOUSTON, TEXAS
JANUARY 2015

Parameter	*Analyte*	*Analysis Date*	*Blank Result*	*Sample ID*	*Original Result*	*Qualified Result*	*Units*
SVOCs	Di-n-butylphthalate (DBP)	1/9/2015	0.0001618 J	WG-1620-FD02-20150107	0.000119 J	<0.000119	mg/L
				WG-1620-MW10B-20150107	0.000215 J	<0.000215	mg/L

Notes:

SVOCs - Semi-volatile Organic Compounds
J - Estimated concentration

TABLE 5

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING MS/MSD RESULTS
HWPW SEMIANNUAL MONITORING EVENT
UNION PACIFIC RAILROAD (UPRR) - 1620 WOOD PRESERVING WORKS
HOUSTON, TEXAS
JANUARY 2015

Parameter	*Sample ID*	*Analyte*	*MS % Recovery*	*MSD % Recovery*	*RPD (percent)*	*Control Limits*		*Qualified Result*	*Units*
						% Recovery	*RPD*		
SVOCs	WG-1620-P12-20150107	Pyrene	51	53	2	62-130	20	0.00152 JL	mg/L

Notes:

MS - Matrix Spike
MSD - Matrix Spike/ Matrix Spike Duplicate
RPD - Relative Percent Difference
SVOCs - Semi-volatile Organic Compounds
JL - Estimated concentration; biased low

TABLE 6

QUALIFIED SAMPLE DATA DUE TO VARIABILITY IN FIELD DUPLICATE RESULTS
HWPW SEMIANNUAL MONITORING EVENT
UNION PACIFIC RAILROAD (UPRR) - 1620 WOOD PRESERVING WORKS
HOUSTON, TEXAS
JANUARY 2015

Parameter	*Analyte*	*RPD*	*Sample ID*	*Qualified Result*	*Field Duplicate Sample ID*	*Qualified Result*	*Units*
SVOCs	2-Methylnaphthalene	62.2	WG-1620-MW01A-20150107	<0.0000693 J	WG-1620-FD01-20150107	0.000132 J	mg/L
	bis(2-Ethylhexyl)phthalate (DEHP)	69.1		0.00533 J		0.00259 J	mg/L
	Naphthalene	88.4		0.000121 J		0.000313 J	mg/L
SVOCs	bis(2-Ethylhexyl)phthalate (DEHP)	58	WG-1620-P10-20150107	0.000853 J	WG-1620-FD02-20150107	0.00155 J	mg/L

Notes:

RPD - Relative Percent Difference
SVOCs - Semi-volatile Organic Compounds
J - Estimated concentration

ATTACHMENT A

LABORATORY REPORTS

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: 600-104776-1
Client Project/Site: 1620 UPRR HWPW

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

Attn: Mr. Eric Matzner

Authorized for release by:
1/14/2015 10:12:07 AM
Donnie Combs, QA Specialist
(713)690-4444
donnie.combs@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 600-104776-1 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.

Donnie Combs, for Sachin Kudchadkar		1/14/2015
Name (printed)	Signature	Date

Senior Project Manager
Official Title (printed)

Laboratory Review Checklist: Reportable Data - Page 2 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	1/14/2015
Project Name:	1620 UPRR HWPW	Laboratory Job Number:	600-104776-1
Reviewer Name:	Donnie Combs, for Sachin 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			R05D
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			R07C
		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:	1/14/2015
Project Name:	1620 UPRR HWPW	Laboratory Job Number:	600-104776-1
Reviewer Name:	Donnie Combs, for Sachin 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				

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3. NA = Not applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Exception Reports - Page 4 of 4

Laboratory Name:	TestAmerica Houston	LRC Date:	1/14/2015
Project Name:	1620 UPRR HWPW	Laboratory Job Number:	600-104776-1
Reviewer Name:	Donnie Combs, for Sachin Kudchadkar		

ER #[1]	Description
R04B	Method 8270C LL: The following sample(s) required a dilution due to the nature of the sample matrix: 600-104776-3. 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. Method 8270C LL: The following sample(s) required a dilution due to the nature of the sample matrix: 600-104776-6. 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.
R05D	Method 8270C LL: The method blank for batch 153402 contained Di-n-butyl phthalate above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.
R07C	Method 8270C LL: 600-104776-9 MS & MSD failed the recovery criteria for the following analyte(s): Pyrene. Matrix interference is suspected.
R10B	Method 8270C LL: The following sample(s) was diluted to bring the concentration of target analytes within the calibration range: 600-104776-2,-3-,6,&-7. 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.
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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_LVI
Date Analyzed:	10/16/2014
Job #:	600-100259
TALS Batch:	146810
Units:	ug/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MQL
1,1'-Biphenyl	CHSVMS04	2.680	4.000	3.620	10
1,2,4,5-Tetrachlorobenzene	CHSVMS04	3.410	4.000	3.247	10
1,2,4-Trichlorobenzene	CHSVMS04	2.050	4.000	3.175	10
1,2-Dichlorobenzene	CHSVMS04	2.410	4.000	3.492	10
1,2-Dinitrobenzene	CHSVMS04	3.340	4.000	3.807	10
1,2-Diphenylhydrazine	CHSVMS04	3.700	4.000	3.378	10
1,3,5-Trinitrobenzene	CHSVMS04	2.210	4.000	3.274	10
1,3-Dichlorobenzene	CHSVMS04	2.640	4.000	3.509	10
1,3-Dinitrobenzene	CHSVMS04	2.760	4.000	3.245	10
1,4-Dichlorobenzene	CHSVMS04	1.940	2.000	1.944	10
1,4-Dinitrobenzene	CHSVMS04	3.140	4.000	2.923	10
1-Chloronaphthalene	CHSVMS04	2.740	4.000	3.702	10
1-Methylnaphthalene	CHSVMS04	2.890	4.000	3.785	10
1-Naphthylamine	CHSVMS04	1.030	2.000	0.628	10
2,2'-oxybis[1-chloropropane]	CHSVMS04	2.920	4.000	3.288	10
2,3,4,6-Tetrachlorophenol	CHSVMS04	5.470	8.000	5.024	10
2,4,5-Trichlorophenol	CHSVMS04	4.200	8.000	4.863	10
2,4,6-Trichlorophenol	CHSVMS04	3.320	4.000	3.097	10
2,4-Dichlorophenol	CHSVMS04	2.160	4.000	3.061	10
2,4-Dimethylphenol	CHSVMS04	1.940	2.000	1.630	10
2,4-Dinitrophenol	CHSVMS04	5.460	8.000	1.782	10
2,4-Dinitrotoluene	CHSVMS04	2.110	4.000	3.082	10
2,6-Dichlorophenol	CHSVMS04	2.590	4.000	3.480	10
2,6-Dimethylphenol	CHSVMS04	20	4.000	3.149	20
2,6-Dinitrotoluene	CHSVMS04	2.790	4.000	3.166	10
2-Acetylaminofluorene	CHSVMS04	1.990	2.000	1.295	10
2-Chloronaphthalene	CHSVMS04	2.810	4.000	3.505	10
2-Chlorophenol	CHSVMS04	2.190	4.000	3.469	10
2-Methylnaphthalene	CHSVMS04	2.580	4.000	3.272	10
2-Methylphenol	CHSVMS04	1.420	2.000	1.832	10
2-Naphthylamine	CHSVMS04	1.340	2.000	0.673	10
2-Nitroaniline	CHSVMS04	3.800	4.000	2.905	10
2-Nitrophenol	CHSVMS04	2.100	4.000	3.172	10
2-Picoline	CHSVMS04	4.190	8.000	1.760	10
2-Toluidine	CHSVMS04	1.860	2.000	1.078	10
3 & 4 Methylphenol	CHSVMS04	1.350	2.000	1.683	10
3,3'-Dichlorobenzidine	CHSVMS04	2.370	4.000	2.560	10
3-Methylcholanthrene	CHSVMS04	1.980	2.000	1.155	10
3-Nitroaniline	CHSVMS04	1.850	4.000	1.098	10
4,6-Dinitro-2-methylphenol	CHSVMS04	3.360	4.000	2.134	10
4-Aminobiphenyl	CHSVMS04	1.790	2.000	0.847	10
4-Bromophenyl phenyl ether	CHSVMS04	2.500	4.000	3.334	10
4-Chloro-3-methylphenol	CHSVMS04	1.970	2.000	1.480	10
4-Chloroaniline	CHSVMS04	2.110	8.000	3.637	10
4-Chlorophenyl phenyl ether	CHSVMS04	2.190	4.000	3.331	10
4-Nitroaniline	CHSVMS04	2.340	4.000	0.609	10
4-Nitrophenol	CHSVMS04	2.800	8.000	1.350	10

DCS = Detection Check Standard
MQL = Method Quantitation Limit

Matrix: Water
Method: 8270C
Prep Method: 3510C_LVI
Date Analyzed: 10/16/2014
Job #: 600-100259
TALS Batch: 146810
Units: ug/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MQL
4-Nitroquinoline-1-oxide	CHSVMS04	1.23	8.000	0.5969	10
7,12-Dimethylbenz(a)anthracene	CHSVMS04	1.230	2.000	0.832	10
Acenaphthene	CHSVMS04	2.270	4.000	3.550	10
Acenaphthylene	CHSVMS04	2.290	4.000	3.714	10
Acetophenone	CHSVMS04	2.420	4.000	3.300	10
Aniline	CHSVMS04	1.59	8.000	4.4608	10
Anthracene	CHSVMS04	2.490	4.000	3.477	10
Azobenzene	CHSVMS04	3.700	4.000	3.378	10
Benzidine	CHSVMS04	17.920	40.000	3.187	50
Benzo[a]anthracene	CHSVMS04	2.110	4.000	3.817	10
Benzo[a]pyrene	CHSVMS04	2.460	4.000	3.841	10
Benzo[b]fluoranthene	CHSVMS04	2.500	4.000	3.510	10
Benzo[g,h,i]perylene	CHSVMS04	2.110	4.000	4.409	10
Benzo[k]fluoranthene	CHSVMS04	2.990	4.000	4.526	10
Benzyl alcohol	CHSVMS04	1.980	2.000	1.700	10
Bis(2-chloroethoxy)methane	CHSVMS04	2.910	4.000	3.276	10
Bis(2-chloroethyl)ether	CHSVMS04	2.630	4.000	3.197	10
Bis(2-ethylhexyl) phthalate	CHSVMS04	2.260	4.000	3.717	10
Butyl benzyl phthalate	CHSVMS04	2.360	4.000	3.885	10
Caprolactam	CHSVMS04	0.85	4.000	1.012	10
Carbazole	CHSVMS04	2.970	4.000	4.056	10
Chlorobenzilate	CHSVMS04	3.140	4.000	2.950	10
Chrysene	CHSVMS04	2.060	4.000	4.026	10
Dibenz(a,h)anthracene	CHSVMS04	2.480	4.000	3.607	10
Dibenzofuran	CHSVMS04	2.280	4.000	3.590	10
Diethyl phthalate	CHSVMS04	2.590	4.000	3.460	10
Dimethoate	CHSVMS04	1.290	2.000	1.327	10
Dimethyl phthalate	CHSVMS04	2.470	4.000	3.405	10
Di-n-butyl phthalate	CHSVMS04	2.090	4.000	4.186	10
Di-n-octyl phthalate	CHSVMS04	1.870	2.000	1.815	10
Diphenylamine	CHSVMS04	2.010	4.000	3.338	10
Disulfoton	CHSVMS04	2.210	4.000	3.878	10
Ethyl methanesulfonate	CHSVMS04	2.030	4.000	3.424	10
Ethyl Parathion	CHSVMS04	2.040	4.000	2.777	10
Fluoranthene	CHSVMS04	2.440	4.000	3.725	10
Fluorene	CHSVMS04	2.110	4.000	3.326	10
Hexachlorobenzene	CHSVMS04	3.280	4.000	3.140	10
Hexachlorobutadiene	CHSVMS04	2.570	4.000	3.175	10
Hexachlorocyclopentadiene	CHSVMS04	2.320	4.000	2.726	10
Hexachloroethane	CHSVMS04	3.290	4.000	3.454	10
Hexachloropropene	CHSVMS04	4.770	8.000	6.820	10
Indeno[1,2,3-cd]pyrene	CHSVMS04	3.090	4.000	3.628	10
Isodrin	CHSVMS04	2.190	4.000	3.358	10
Isophorone	CHSVMS04	2.640	4.000	3.027	10
Methyl methanesulfonate	CHSVMS04	1.230	2.000	1.344	10
Methyl parathion	CHSVMS04	2.240	4.000	3.080	10
Naphthalene	CHSVMS04	2.200	4.000	2.342	10

DCS = Detection Check Standard
MQL = Method Quantitation Limit

Matrix: Water
Method: 8270C
Prep Method: 3510C_LVI
Date Analyzed: 10/16/2014
Job #: 600-100259
TALS Batch: 146810
Units: ug/L

Analyte	Instrument #	MDL	DCS Spike	Measured Result	MQL
Nitrobenzene	CHSVMS04	2.590	4.000	3.072	10
N-Nitro-o-toluidine	CHSVMS04	1.940	2.000	1.333	10
N-Nitrosodiethylamine	CHSVMS04	2.280	4.000	3.392	10
N-Nitrosodimethylamine	CHSVMS04	1.390	2.000	1.443	10
N-Nitrosodi-n-butylamine	CHSVMS04	1.840	2.000	1.187	10
N-Nitrosodi-n-propylamine	CHSVMS04	3.190	4.000	3.381	10
N-Nitrosodiphenylamine	CHSVMS04	2.010	4.000	3.703	10
N-Nitrosomethylethylamine	CHSVMS04	2.010	4.000	3.394	10
N-Nitrosomorpholine	CHSVMS04	1.760	2.000	1.543	10
N-Nitrosopiperidine	CHSVMS04	2.090	4.000	2.879	10
N-Nitrosopyrrolidine	CHSVMS04	2.010	4.000	3.187	10
o,o',o''-Triethylphosphorothioate	CHSVMS04	2.460	4.000	2.959	10
p-Dimethylamino azobenzene	CHSVMS04	2.000	2.000	1.300	10
Pentachlorobenzene	CHSVMS04	3.320	4.000	3.473	10
Pentachloroethane	CHSVMS04	2.880	4.000	3.754	10
Pentachloronitrobenzene	CHSVMS04	2.780	4.000	2.987	10
Pentachlorophenol	CHSVMS04	3.150	8.000	8.897	10
Phenacetin	CHSVMS04	1.990	2.000	1.018	10
Phenanthrene	CHSVMS04	2.240	4.000	3.795	10
Phenol	CHSVMS04	1.250	2.000	1.254	10
Phenyl ether	CHSVMS04	2.780	4.000	3.702	10
Phorate	CHSVMS04	2.380	4.000	3.255	10
Pronamide	CHSVMS04	2.310	4.000	3.130	10
Pyrene	CHSVMS04	3.000	4.000	3.848	10
Pyridine	CHSVMS04	2.160	4.000	0.333	10
Safrole, Total	CHSVMS04	2.660	4.000	3.623	10
Thionazin	CHSVMS04	2.420	4.000	2.871	10
Total Cresols	CHSVMS04	5.000	8.000	6.500	10

DCS = Detection Check Standard
MQL = Method Quantitation Limit

Job ID: 600-104776-1

Laboratory: TestAmerica Houston

Narrative

Job Narrative
600-104776-1

Comments
No additional comments.

Receipt
The samples were received on 1/8/2015 8:53 AM; the samples arrived in good condition, properly preserved and, where required, on ice.
The temperatures of the 5 coolers at receipt time were -0.3º C, -0.1º C, 0.0º C, 0.5º C and 3.9º C.

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Method Summary

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

TestAmerica Job ID: 600-104776-1

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: 600-104776-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
600-104776-1	WG-1620-MW11A-20150107	Water	01/07/15 07:45	01/08/15 08:53
600-104776-2	WG-1620-MW11B-20150107	Water	01/07/15 08:30	01/08/15 08:53
600-104776-3	WG-1620-MW10B-20150107	Water	01/07/15 09:20	01/08/15 08:53
600-104776-4	WG-1620-MW10A-20150107	Water	01/07/15 10:15	01/08/15 08:53
600-104776-5	WG-1620-MW02-20150107	Water	01/07/15 11:15	01/08/15 08:53
600-104776-6	WG-1620-MW01A-20150107	Water	01/07/15 14:00	01/08/15 08:53
600-104776-7	WG-1620-FD01-20150107	Water	01/07/15 14:00	01/08/15 08:53
600-104776-8	WG-1620-MW08-20150107	Water	01/07/15 15:00	01/08/15 08:53
600-104776-9	WG-1620-P12-20150107	Water	01/07/15 16:10	01/08/15 08:53
600-104776-10	WG-1620-MW07-20150107	Water	01/07/15 17:05	01/08/15 08:53
600-104776-11	WG-1620-P10-20150107	Water	01/07/15 17:50	01/08/15 08:53
600-104776-12	WG-1620-FD02-20150107	Water	01/07/15 17:50	01/08/15 08:53
600-104776-13	WG-1620-FB01-20150107	Water	01/07/15 18:15	01/08/15 08:53

Client Sample ID: WG-1620-MW11A-20150107

Lab Sample ID: 600-104776-1

Date Collected: 01/07/15 07:45

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0000769	U	0.000481	0.0000769	mg/L		01/09/15 09:59	01/09/15 18:34	1
2-Methylnaphthalene	0.0000673	U	0.000481	0.0000673	mg/L		01/09/15 09:59	01/09/15 18:34	1
Acenaphthylene	0.0000577	U	0.000481	0.0000577	mg/L		01/09/15 09:59	01/09/15 18:34	1
Acenaphthene	**0.000471**	**J**	0.000481	0.0000769	mg/L		01/09/15 09:59	01/09/15 18:34	1
Dibenzofuran	0.0000769	U	0.000481	0.0000769	mg/L		01/09/15 09:59	01/09/15 18:34	1
Fluorene	0.0000673	U	0.000481	0.0000673	mg/L		01/09/15 09:59	01/09/15 18:34	1
Phenanthrene	0.0000577	U	0.000481	0.0000577	mg/L		01/09/15 09:59	01/09/15 18:34	1
Anthracene	**0.000399**	**J**	0.000481	0.0000481	mg/L		01/09/15 09:59	01/09/15 18:34	1
Fluoranthene	0.0000673	U	0.000481	0.0000673	mg/L		01/09/15 09:59	01/09/15 18:34	1
Pyrene	0.000106	U	0.000481	0.000106	mg/L		01/09/15 09:59	01/09/15 18:34	1
Bis(2-ethylhexyl) phthalate	0.000356	U	0.000481	0.000356	mg/L		01/09/15 09:59	01/09/15 18:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*82*		*10 - 147*	*01/09/15 09:59*	*01/09/15 18:34*	*1*
2-Fluorobiphenyl	*82*		*10 - 150*	*01/09/15 09:59*	*01/09/15 18:34*	*1*
2-Fluorophenol	*49*		*10 - 130*	*01/09/15 09:59*	*01/09/15 18:34*	*1*
Nitrobenzene-d5	*92*		*23 - 130*	*01/09/15 09:59*	*01/09/15 18:34*	*1*
Terphenyl-d14	*79*		*42 - 133*	*01/09/15 09:59*	*01/09/15 18:34*	*1*
Phenol-d5 (Surr)	*31*		*10 - 130*	*01/09/15 09:59*	*01/09/15 18:34*	*1*

Client Sample ID: WG-1620-MW11B-20150107

Lab Sample ID: 600-104776-2

Date Collected: 01/07/15 08:30

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000385	U	0.000481	0.0000385	mg/L		01/09/15 09:59	01/09/15 18:58	1
Naphthalene	0.0000769	U	0.000481	0.0000769	mg/L		01/09/15 09:59	01/09/15 18:58	1
Acenaphthylene	**0.00113**		0.000481	0.0000577	mg/L		01/09/15 09:59	01/09/15 18:58	1
Dibenzofuran	**0.00472**		0.000481	0.0000769	mg/L		01/09/15 09:59	01/09/15 18:58	1
Fluorene	**0.00867**		0.000481	0.0000673	mg/L		01/09/15 09:59	01/09/15 18:58	1
Anthracene	**0.000945**		0.000481	0.0000481	mg/L		01/09/15 09:59	01/09/15 18:58	1
Di-n-butyl phthalate	0.000106	U	0.000481	0.000106	mg/L		01/09/15 09:59	01/09/15 18:58	1
Fluoranthene	**0.00201**		0.000481	0.0000673	mg/L		01/09/15 09:59	01/09/15 18:58	1
Pyrene	**0.000935**		0.000481	0.000106	mg/L		01/09/15 09:59	01/09/15 18:58	1
Bis(2-ethylhexyl) phthalate	0.000356	U	0.000481	0.000356	mg/L		01/09/15 09:59	01/09/15 18:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*82*		*10 - 147*	*01/09/15 09:59*	*01/09/15 18:58*	*1*
2-Fluorobiphenyl	*72*		*10 - 150*	*01/09/15 09:59*	*01/09/15 18:58*	*1*
2-Fluorophenol	*43*		*10 - 130*	*01/09/15 09:59*	*01/09/15 18:58*	*1*
Nitrobenzene-d5	*75*		*23 - 130*	*01/09/15 09:59*	*01/09/15 18:58*	*1*
Terphenyl-d14	*74*		*42 - 133*	*01/09/15 09:59*	*01/09/15 18:58*	*1*
Phenol-d5 (Surr)	*28*		*10 - 130*	*01/09/15 09:59*	*01/09/15 18:58*	*1*

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.0472**		0.00240	0.000385	mg/L		01/09/15 09:59	01/12/15 13:18	5

Client Sample ID: WG-1620-MW11B-20150107

Lab Sample ID: 600-104776-2

Date Collected: 01/07/15 08:30

Matrix: Water

Date Received: 01/08/15 08:53

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	*75*		*10 - 147*	*01/09/15 09:59*	*01/12/15 13:18*	*5*
2-Fluorobiphenyl	*77*		*10 - 150*	*01/09/15 09:59*	*01/12/15 13:18*	*5*
2-Fluorophenol	*45*		*10 - 130*	*01/09/15 09:59*	*01/12/15 13:18*	*5*
Nitrobenzene-d5	*76*		*23 - 130*	*01/09/15 09:59*	*01/12/15 13:18*	*5*
Terphenyl-d14	*82*		*42 - 133*	*01/09/15 09:59*	*01/12/15 13:18*	*5*
Phenol-d5 (Surr)	*30*		*10 - 130*	*01/09/15 09:59*	*01/12/15 13:18*	*5*

Client Sample ID: WG-1620-MW10B-20150107

Lab Sample ID: 600-104776-3

Date Collected: 01/07/15 09:20

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000396	U	0.000495	0.0000396	mg/L		01/09/15 09:59	01/09/15 19:22	1
Acenaphthylene	**0.00104**		0.000495	0.0000594	mg/L		01/09/15 09:59	01/09/15 19:22	1
Anthracene	**0.00702**		0.000495	0.0000495	mg/L		01/09/15 09:59	01/09/15 19:22	1
Di-n-butyl phthalate	**0.000215**	**J b**	0.000495	0.000109	mg/L		01/09/15 09:59	01/09/15 19:22	1
Fluoranthene	**0.00711**		0.000495	0.0000693	mg/L		01/09/15 09:59	01/09/15 19:22	1
Pyrene	**0.00234**		0.000495	0.000109	mg/L		01/09/15 09:59	01/09/15 19:22	1
Bis(2-ethylhexyl) phthalate	0.000366	U	0.000495	0.000366	mg/L		01/09/15 09:59	01/09/15 19:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	*88*		*10 - 147*	*01/09/15 09:59*	*01/09/15 19:22*	*1*
2-Fluorobiphenyl	*80*		*10 - 150*	*01/09/15 09:59*	*01/09/15 19:22*	*1*
2-Fluorophenol	*53*		*10 - 130*	*01/09/15 09:59*	*01/09/15 19:22*	*1*
Nitrobenzene-d5	*100*		*23 - 130*	*01/09/15 09:59*	*01/09/15 19:22*	*1*
Terphenyl-d14	*76*		*42 - 133*	*01/09/15 09:59*	*01/09/15 19:22*	*1*
Phenol-d5 (Surr)	*50*		*10 - 130*	*01/09/15 09:59*	*01/09/15 19:22*	*1*

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.166**		0.00495	0.000792	mg/L		01/09/15 09:59	01/12/15 13:42	10
Dibenzofuran	**0.0727**		0.00495	0.000792	mg/L		01/09/15 09:59	01/12/15 13:42	10
Fluorene	**0.0975**		0.00495	0.000693	mg/L		01/09/15 09:59	01/12/15 13:42	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	*85*		*10 - 147*	*01/09/15 09:59*	*01/12/15 13:42*	*10*
2-Fluorobiphenyl	*86*		*10 - 150*	*01/09/15 09:59*	*01/12/15 13:42*	*10*
2-Fluorophenol	*56*		*10 - 130*	*01/09/15 09:59*	*01/12/15 13:42*	*10*
Nitrobenzene-d5	*92*		*23 - 130*	*01/09/15 09:59*	*01/12/15 13:42*	*10*
Terphenyl-d14	*92*		*42 - 133*	*01/09/15 09:59*	*01/12/15 13:42*	*10*
Phenol-d5 (Surr)	*49*		*10 - 130*	*01/09/15 09:59*	*01/12/15 13:42*	*10*

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels - DL2

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**0.556**		0.0248	0.00396	mg/L		01/09/15 09:59	01/12/15 18:03	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	*0*	*X*	*10 - 147*	*01/09/15 09:59*	*01/12/15 18:03*	*50*
2-Fluorobiphenyl	*0*	*X*	*10 - 150*	*01/09/15 09:59*	*01/12/15 18:03*	*50*
2-Fluorophenol	*0*	*X*	*10 - 130*	*01/09/15 09:59*	*01/12/15 18:03*	*50*

Client Sample ID: WG-1620-MW10B-20150107

Lab Sample ID: 600-104776-3

Date Collected: 01/07/15 09:20

Matrix: Water

Date Received: 01/08/15 08:53

Method: 8270C LL - Semivolatile Organic Compounds by GCMS - Low Levels - DL2 (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	*0*	*X*	*23 - 130*	*01/09/15 09:59*	*01/12/15 18:03*	*50*
Terphenyl-d14	*0*	*X*	*42 - 133*	*01/09/15 09:59*	*01/12/15 18:03*	*50*
Phenol-d5 (Surr)	*0*	*X*	*10 - 130*	*01/09/15 09:59*	*01/12/15 18:03*	*50*

Client Sample ID: WG-1620-MW10A-20150107

Lab Sample ID: 600-104776-4

Date Collected: 01/07/15 10:15

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**0.000322**	**J**	0.000495	0.0000792	mg/L		01/09/15 09:59	01/09/15 19:46	1
2-Methylnaphthalene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/09/15 19:46	1
Acenaphthylene	**0.000126**	**J**	0.000495	0.0000594	mg/L		01/09/15 09:59	01/09/15 19:46	1
Acenaphthene	**0.00272**		0.000495	0.0000792	mg/L		01/09/15 09:59	01/09/15 19:46	1
Dibenzofuran	**0.000349**	**J**	0.000495	0.0000792	mg/L		01/09/15 09:59	01/09/15 19:46	1
Fluorene	**0.000694**		0.000495	0.0000693	mg/L		01/09/15 09:59	01/09/15 19:46	1
Phenanthrene	**0.000126**	**J**	0.000495	0.0000594	mg/L		01/09/15 09:59	01/09/15 19:46	1
Anthracene	**0.000191**	**J**	0.000495	0.0000495	mg/L		01/09/15 09:59	01/09/15 19:46	1
Fluoranthene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/09/15 19:46	1
Pyrene	0.000109	U	0.000495	0.000109	mg/L		01/09/15 09:59	01/09/15 19:46	1
Bis(2-ethylhexyl) phthalate	0.000366	U	0.000495	0.000366	mg/L		01/09/15 09:59	01/09/15 19:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	*82*		*10 - 147*	*01/09/15 09:59*	*01/09/15 19:46*	*1*
2-Fluorobiphenyl	*69*		*10 - 150*	*01/09/15 09:59*	*01/09/15 19:46*	*1*
2-Fluorophenol	*41*		*10 - 130*	*01/09/15 09:59*	*01/09/15 19:46*	*1*
Nitrobenzene-d5	*71*		*23 - 130*	*01/09/15 09:59*	*01/09/15 19:46*	*1*
Terphenyl-d14	*71*		*42 - 133*	*01/09/15 09:59*	*01/09/15 19:46*	*1*
Phenol-d5 (Surr)	*28*		*10 - 130*	*01/09/15 09:59*	*01/09/15 19:46*	*1*

Client Sample ID: WG-1620-MW02-20150107

Lab Sample ID: 600-104776-5

Date Collected: 01/07/15 11:15

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**0.000472**	**J**	0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 17:15	1
2-Methylnaphthalene	**0.000105**	**J**	0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 17:15	1
Acenaphthylene	**0.0000892**	**J**	0.000495	0.0000594	mg/L		01/09/15 09:59	01/12/15 17:15	1
Acenaphthene	**0.00260**		0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 17:15	1
Dibenzofuran	**0.000377**	**J**	0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 17:15	1
Fluorene	**0.000681**		0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 17:15	1
Phenanthrene	**0.000162**	**J**	0.000495	0.0000594	mg/L		01/09/15 09:59	01/12/15 17:15	1
Anthracene	**0.000153**	**J**	0.000495	0.0000495	mg/L		01/09/15 09:59	01/12/15 17:15	1
Fluoranthene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 17:15	1
Pyrene	0.000109	U	0.000495	0.000109	mg/L		01/09/15 09:59	01/12/15 17:15	1
Bis(2-ethylhexyl) phthalate	**0.000426**	**J**	0.000495	0.000366	mg/L		01/09/15 09:59	01/12/15 17:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	*94*		*10 - 147*	*01/09/15 09:59*	*01/12/15 17:15*	*1*

Client Sample ID: WG-1620-MW02-20150107

Lab Sample ID: 600-104776-5

Date Collected: 01/07/15 11:15

Matrix: Water

Date Received: 01/08/15 08:53

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*95*		*10 - 150*	*01/09/15 09:59*	*01/12/15 17:15*	*1*
2-Fluorophenol	*65*		*10 - 130*	*01/09/15 09:59*	*01/12/15 17:15*	*1*
Nitrobenzene-d5	*104*		*23 - 130*	*01/09/15 09:59*	*01/12/15 17:15*	*1*
Terphenyl-d14	*86*		*42 - 133*	*01/09/15 09:59*	*01/12/15 17:15*	*1*
Phenol-d5 (Surr)	*41*		*10 - 130*	*01/09/15 09:59*	*01/12/15 17:15*	*1*

Client Sample ID: WG-1620-MW01A-20150107

Lab Sample ID: 600-104776-6

Date Collected: 01/07/15 14:00

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**0.000121**	**J**	0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 17:39	1
2-Methylnaphthalene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 17:39	1
Acenaphthylene	**0.00104**		0.000495	0.0000594	mg/L		01/09/15 09:59	01/12/15 17:39	1
Dibenzofuran	**0.000541**		0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 17:39	1
Fluorene	**0.0209**		0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 17:39	1
Phenanthrene	**0.000335**	**J**	0.000495	0.0000594	mg/L		01/09/15 09:59	01/12/15 17:39	1
Anthracene	**0.00139**		0.000495	0.0000495	mg/L		01/09/15 09:59	01/12/15 17:39	1
Fluoranthene	**0.00246**		0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 17:39	1
Pyrene	**0.00105**		0.000495	0.000109	mg/L		01/09/15 09:59	01/12/15 17:39	1
Bis(2-ethylhexyl) phthalate	**0.00533**		0.000495	0.000366	mg/L		01/09/15 09:59	01/12/15 17:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*101*		*10 - 147*	*01/09/15 09:59*	*01/12/15 17:39*	*1*
2-Fluorobiphenyl	*95*		*10 - 150*	*01/09/15 09:59*	*01/12/15 17:39*	*1*
2-Fluorophenol	*58*		*10 - 130*	*01/09/15 09:59*	*01/12/15 17:39*	*1*
Nitrobenzene-d5	*99*		*23 - 130*	*01/09/15 09:59*	*01/12/15 17:39*	*1*
Terphenyl-d14	*80*		*42 - 133*	*01/09/15 09:59*	*01/12/15 17:39*	*1*
Phenol-d5 (Surr)	*36*		*10 - 130*	*01/09/15 09:59*	*01/12/15 17:39*	*1*

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	**0.0594**		0.00990	0.00158	mg/L		01/09/15 09:59	01/12/15 18:50	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*0*	*X*	*10 - 147*	*01/09/15 09:59*	*01/12/15 18:50*	*20*
2-Fluorobiphenyl	*0*	*X*	*10 - 150*	*01/09/15 09:59*	*01/12/15 18:50*	*20*
2-Fluorophenol	*0*	*X*	*10 - 130*	*01/09/15 09:59*	*01/12/15 18:50*	*20*
Nitrobenzene-d5	*0*	*X*	*23 - 130*	*01/09/15 09:59*	*01/12/15 18:50*	*20*
Terphenyl-d14	*0*	*X*	*42 - 133*	*01/09/15 09:59*	*01/12/15 18:50*	*20*
Phenol-d5 (Surr)	*0*	*X*	*10 - 130*	*01/09/15 09:59*	*01/12/15 18:50*	*20*

Client Sample ID: WG-1620-FD01-20150107

Lab Sample ID: 600-104776-7

Date Collected: 01/07/15 14:00

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**0.000313**	**J**	0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 14:53	1

Client Sample ID: WG-1620-FD01-20150107

Lab Sample ID: 600-104776-7

Date Collected: 01/07/15 14:00

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.000132	J	0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 14:53	1
Acenaphthylene	0.00102		0.000495	0.0000594	mg/L		01/09/15 09:59	01/12/15 14:53	1
Dibenzofuran	0.000602		0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 14:53	1
Fluorene	0.0217		0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 14:53	1
Phenanthrene	0.000326	J	0.000495	0.0000594	mg/L		01/09/15 09:59	01/12/15 14:53	1
Anthracene	0.00139		0.000495	0.0000495	mg/L		01/09/15 09:59	01/12/15 14:53	1
Fluoranthene	0.00235		0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 14:53	1
Pyrene	0.00102		0.000495	0.000109	mg/L		01/09/15 09:59	01/12/15 14:53	1
Bis(2-ethylhexyl) phthalate	0.00259		0.000495	0.000366	mg/L		01/09/15 09:59	01/12/15 14:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*96*		*10 - 147*	*01/09/15 09:59*	*01/12/15 14:53*	*1*
2-Fluorobiphenyl	*95*		*10 - 150*	*01/09/15 09:59*	*01/12/15 14:53*	*1*
2-Fluorophenol	*62*		*10 - 130*	*01/09/15 09:59*	*01/12/15 14:53*	*1*
Nitrobenzene-d5	*106*		*23 - 130*	*01/09/15 09:59*	*01/12/15 14:53*	*1*
Terphenyl-d14	*79*		*42 - 133*	*01/09/15 09:59*	*01/12/15 14:53*	*1*
Phenol-d5 (Surr)	*38*		*10 - 130*	*01/09/15 09:59*	*01/12/15 14:53*	*1*

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.0607		0.00495	0.000792	mg/L		01/09/15 09:59	01/12/15 18:27	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*94*		*10 - 147*	*01/09/15 09:59*	*01/12/15 18:27*	*10*
2-Fluorobiphenyl	*95*		*10 - 150*	*01/09/15 09:59*	*01/12/15 18:27*	*10*
2-Fluorophenol	*57*		*10 - 130*	*01/09/15 09:59*	*01/12/15 18:27*	*10*
Nitrobenzene-d5	*101*		*23 - 130*	*01/09/15 09:59*	*01/12/15 18:27*	*10*
Terphenyl-d14	*80*		*42 - 133*	*01/09/15 09:59*	*01/12/15 18:27*	*10*
Phenol-d5 (Surr)	*33*		*10 - 130*	*01/09/15 09:59*	*01/12/15 18:27*	*10*

Client Sample ID: WG-1620-MW08-20150107

Lab Sample ID: 600-104776-8

Date Collected: 01/07/15 15:00

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 15:17	1
2-Methylnaphthalene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 15:17	1
Acenaphthylene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 09:59	01/12/15 15:17	1
Acenaphthene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 15:17	1
Dibenzofuran	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 09:59	01/12/15 15:17	1
Fluorene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 15:17	1
Phenanthrene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 09:59	01/12/15 15:17	1
Anthracene	0.0000560	J	0.000495	0.0000495	mg/L		01/09/15 09:59	01/12/15 15:17	1
Fluoranthene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/12/15 15:17	1
Pyrene	0.000109	U	0.000495	0.000109	mg/L		01/09/15 09:59	01/12/15 15:17	1
Bis(2-ethylhexyl) phthalate	0.000366	U	0.000495	0.000366	mg/L		01/09/15 09:59	01/12/15 15:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*92*		*10 - 147*	*01/09/15 09:59*	*01/12/15 15:17*	*1*
2-Fluorobiphenyl	*92*		*10 - 150*	*01/09/15 09:59*	*01/12/15 15:17*	*1*

Client Sample ID: WG-1620-MW08-20150107

Lab Sample ID: 600-104776-8

Date Collected: 01/07/15 15:00

Matrix: Water

Date Received: 01/08/15 08:53

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

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorophenol	*62*		*10 - 130*	*01/09/15 09:59*	*01/12/15 15:17*	*1*
Nitrobenzene-d5	*103*		*23 - 130*	*01/09/15 09:59*	*01/12/15 15:17*	*1*
Terphenyl-d14	*85*		*42 - 133*	*01/09/15 09:59*	*01/12/15 15:17*	*1*
Phenol-d5 (Surr)	*40*		*10 - 130*	*01/09/15 09:59*	*01/12/15 15:17*	*1*

Client Sample ID: WG-1620-P12-20150107

Lab Sample ID: 600-104776-9

Date Collected: 01/07/15 16:10

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000396	U	0.000495	0.0000396	mg/L		01/09/15 09:59	01/09/15 20:10	1
Naphthalene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 09:59	01/09/15 20:10	1
Acenaphthylene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 09:59	01/09/15 20:10	1
Acenaphthene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 09:59	01/09/15 20:10	1
Dibenzofuran	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 09:59	01/09/15 20:10	1
Fluorene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/09/15 20:10	1
Anthracene	0.0000495	U	0.000495	0.0000495	mg/L		01/09/15 09:59	01/09/15 20:10	1
Di-n-butyl phthalate	0.000109	U	0.000495	0.000109	mg/L		01/09/15 09:59	01/09/15 20:10	1
Fluoranthene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 09:59	01/09/15 20:10	1
Pyrene	**0.00152**		0.000495	0.000109	mg/L		01/09/15 09:59	01/09/15 20:10	1
Bis(2-ethylhexyl) phthalate	0.000366	U	0.000495	0.000366	mg/L		01/09/15 09:59	01/09/15 20:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*70*		*10 - 147*	*01/09/15 09:59*	*01/09/15 20:10*	*1*
2-Fluorobiphenyl	*66*		*10 - 150*	*01/09/15 09:59*	*01/09/15 20:10*	*1*
2-Fluorophenol	*42*		*10 - 130*	*01/09/15 09:59*	*01/09/15 20:10*	*1*
Nitrobenzene-d5	*69*		*23 - 130*	*01/09/15 09:59*	*01/09/15 20:10*	*1*
Terphenyl-d14	*67*		*42 - 133*	*01/09/15 09:59*	*01/09/15 20:10*	*1*
Phenol-d5 (Surr)	*27*		*10 - 130*	*01/09/15 09:59*	*01/09/15 20:10*	*1*

Client Sample ID: WG-1620-MW07-20150107

Lab Sample ID: 600-104776-10

Date Collected: 01/07/15 17:05

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 15:41	1
2-Methylnaphthalene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 15:41	1
Acenaphthylene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 10:06	01/12/15 15:41	1
Acenaphthene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 15:41	1
Dibenzofuran	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 15:41	1
Fluorene	**0.0000792**	**J**	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 15:41	1
Phenanthrene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 10:06	01/12/15 15:41	1
Anthracene	**0.000271**	**J**	0.000495	0.0000495	mg/L		01/09/15 10:06	01/12/15 15:41	1
Fluoranthene	**0.000189**	**J**	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 15:41	1
Pyrene	**0.000142**	**J**	0.000495	0.000109	mg/L		01/09/15 10:06	01/12/15 15:41	1
Bis(2-ethylhexyl) phthalate	**0.000944**		0.000495	0.000366	mg/L		01/09/15 10:06	01/12/15 15:41	1

Client Sample ID: WG-1620-MW07-20150107

Lab Sample ID: 600-104776-10

Date Collected: 01/07/15 17:05

Matrix: Water

Date Received: 01/08/15 08:53

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*102*		*10 - 147*	*01/09/15 10:06*	*01/12/15 15:41*	*1*
2-Fluorobiphenyl	*98*		*10 - 150*	*01/09/15 10:06*	*01/12/15 15:41*	*1*
2-Fluorophenol	*81*		*10 - 130*	*01/09/15 10:06*	*01/12/15 15:41*	*1*
Nitrobenzene-d5	*112*		*23 - 130*	*01/09/15 10:06*	*01/12/15 15:41*	*1*
Terphenyl-d14	*83*		*42 - 133*	*01/09/15 10:06*	*01/12/15 15:41*	*1*
Phenol-d5 (Surr)	*56*		*10 - 130*	*01/09/15 10:06*	*01/12/15 15:41*	*1*

Client Sample ID: WG-1620-P10-20150107

Lab Sample ID: 600-104776-11

Date Collected: 01/07/15 17:50

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000396	U	0.000495	0.0000396	mg/L		01/09/15 10:06	01/12/15 16:04	1
Naphthalene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:04	1
Acenaphthylene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 10:06	01/12/15 16:04	1
Acenaphthene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:04	1
Dibenzofuran	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:04	1
Fluorene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 16:04	1
Anthracene	**0.000122**	**J**	0.000495	0.0000495	mg/L		01/09/15 10:06	01/12/15 16:04	1
Di-n-butyl phthalate	0.000109	U	0.000495	0.000109	mg/L		01/09/15 10:06	01/12/15 16:04	1
Fluoranthene	**0.000114**	**J**	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 16:04	1
Pyrene	0.000109	U	0.000495	0.000109	mg/L		01/09/15 10:06	01/12/15 16:04	1
Bis(2-ethylhexyl) phthalate	**0.000853**		0.000495	0.000366	mg/L		01/09/15 10:06	01/12/15 16:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*90*		*10 - 147*	*01/09/15 10:06*	*01/12/15 16:04*	*1*
2-Fluorobiphenyl	*91*		*10 - 150*	*01/09/15 10:06*	*01/12/15 16:04*	*1*
2-Fluorophenol	*61*		*10 - 130*	*01/09/15 10:06*	*01/12/15 16:04*	*1*
Nitrobenzene-d5	*102*		*23 - 130*	*01/09/15 10:06*	*01/12/15 16:04*	*1*
Terphenyl-d14	*81*		*42 - 133*	*01/09/15 10:06*	*01/12/15 16:04*	*1*
Phenol-d5 (Surr)	*39*		*10 - 130*	*01/09/15 10:06*	*01/12/15 16:04*	*1*

Client Sample ID: WG-1620-FD02-20150107

Lab Sample ID: 600-104776-12

Date Collected: 01/07/15 17:50

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000396	U	0.000495	0.0000396	mg/L		01/09/15 10:06	01/12/15 16:28	1
Naphthalene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:28	1
Acenaphthylene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 10:06	01/12/15 16:28	1
Acenaphthene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:28	1
Dibenzofuran	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:28	1
Fluorene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 16:28	1
Anthracene	**0.000115**	**J**	0.000495	0.0000495	mg/L		01/09/15 10:06	01/12/15 16:28	1
Di-n-butyl phthalate	**0.000119**	**J b**	0.000495	0.000109	mg/L		01/09/15 10:06	01/12/15 16:28	1
Fluoranthene	**0.000113**	**J**	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 16:28	1
Pyrene	0.000109	U	0.000495	0.000109	mg/L		01/09/15 10:06	01/12/15 16:28	1
Bis(2-ethylhexyl) phthalate	**0.00155**		0.000495	0.000366	mg/L		01/09/15 10:06	01/12/15 16:28	1

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

TestAmerica Job ID: 600-104776-1

Client Sample ID: WG-1620-FD02-20150107

Lab Sample ID: 600-104776-12

Date Collected: 01/07/15 17:50

Matrix: Water

Date Received: 01/08/15 08:53

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*96*		*10 - 147*	*01/09/15 10:06*	*01/12/15 16:28*	*1*
2-Fluorobiphenyl	*96*		*10 - 150*	*01/09/15 10:06*	*01/12/15 16:28*	*1*
2-Fluorophenol	*63*		*10 - 130*	*01/09/15 10:06*	*01/12/15 16:28*	*1*
Nitrobenzene-d5	*107*		*23 - 130*	*01/09/15 10:06*	*01/12/15 16:28*	*1*
Terphenyl-d14	*81*		*42 - 133*	*01/09/15 10:06*	*01/12/15 16:28*	*1*
Phenol-d5 (Surr)	*40*		*10 - 130*	*01/09/15 10:06*	*01/12/15 16:28*	*1*

Client Sample ID: WG-1620-FB01-20150107

Lab Sample ID: 600-104776-13

Date Collected: 01/07/15 18:15

Matrix: Water

Date Received: 01/08/15 08:53

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

Analyte	Result	Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000396	U	0.000495	0.0000396	mg/L		01/09/15 10:06	01/12/15 16:52	1
Naphthalene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:52	1
2-Methylnaphthalene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 16:52	1
Acenaphthylene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 10:06	01/12/15 16:52	1
Acenaphthene	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:52	1
Dibenzofuran	0.0000792	U	0.000495	0.0000792	mg/L		01/09/15 10:06	01/12/15 16:52	1
Fluorene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 16:52	1
Phenanthrene	0.0000594	U	0.000495	0.0000594	mg/L		01/09/15 10:06	01/12/15 16:52	1
Anthracene	0.0000495	U	0.000495	0.0000495	mg/L		01/09/15 10:06	01/12/15 16:52	1
Di-n-butyl phthalate	0.000109	U	0.000495	0.000109	mg/L		01/09/15 10:06	01/12/15 16:52	1
Fluoranthene	0.0000693	U	0.000495	0.0000693	mg/L		01/09/15 10:06	01/12/15 16:52	1
Pyrene	0.000109	U	0.000495	0.000109	mg/L		01/09/15 10:06	01/12/15 16:52	1
Bis(2-ethylhexyl) phthalate	0.000366	U	0.000495	0.000366	mg/L		01/09/15 10:06	01/12/15 16:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*86*		*10 - 147*	*01/09/15 10:06*	*01/12/15 16:52*	*1*
2-Fluorobiphenyl	*85*		*10 - 150*	*01/09/15 10:06*	*01/12/15 16:52*	*1*
2-Fluorophenol	*79*		*10 - 130*	*01/09/15 10:06*	*01/12/15 16:52*	*1*
Nitrobenzene-d5	*103*		*23 - 130*	*01/09/15 10:06*	*01/12/15 16:52*	*1*
Terphenyl-d14	*73*		*42 - 133*	*01/09/15 10:06*	*01/12/15 16:52*	*1*
Phenol-d5 (Surr)	*70*		*10 - 130*	*01/09/15 10:06*	*01/12/15 16:52*	*1*

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

TestAmerica Job ID: 600-104776-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
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.
b	The compound was found in the blank and sample
X	Surrogate is outside control limits
N1	MS, MSD: Spike recovery exceeds upper or lower control limits.

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
CFL	Contains Free Liquid
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: 600-104776-1

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	(10-147)	(10-150)	(10-130)	(23-130)	(42-133)	(10-130)
600-104776-1	WG-1620-MW11A-20150107	82	82	49	92	79	31
600-104776-2	WG-1620-MW11B-20150107	82	72	43	75	74	28
600-104776-2 - DL	WG-1620-MW11B-20150107	75	77	45	76	82	30
600-104776-3	WG-1620-MW10B-20150107	88	80	53	100	76	50
600-104776-3 - DL2	WG-1620-MW10B-20150107	0 X	0 X	0 X	0 X	0 X	0 X
600-104776-3 - DL	WG-1620-MW10B-20150107	85	86	56	92	92	49
600-104776-4	WG-1620-MW10A-20150107	82	69	41	71	71	28
600-104776-5	WG-1620-MW02-20150107	94	95	65	104	86	41
600-104776-6	WG-1620-MW01A-20150107	101	95	58	99	80	36
600-104776-6 - DL	WG-1620-MW01A-20150107	0 X	0 X	0 X	0 X	0 X	0 X
600-104776-7 - DL	WG-1620-FD01-20150107	94	95	57	101	80	33
600-104776-7	WG-1620-FD01-20150107	96	95	62	106	79	38
600-104776-8	WG-1620-MW08-20150107	92	92	62	103	85	40
600-104776-9	WG-1620-P12-20150107	70	66	42	69	67	27
600-104776-9 MS	WG-1620-P12-20150107	84	70	42	74	74	28
600-104776-9 MSD	WG-1620-P12-20150107	67	64	37	68	76	26
600-104776-10	WG-1620-MW07-20150107	102	98	81	112	83	56
600-104776-11	WG-1620-P10-20150107	90	91	61	102	81	39
600-104776-12	WG-1620-FD02-20150107	96	96	63	107	81	40
600-104776-13	WG-1620-FB01-20150107	86	85	79	103	73	70
LCS 600-153402/2-A	Lab Control Sample	92	81	57	90	93	38
MB 600-153402/1-A	Method Blank	80	80	57	85	79	38

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 600-153402/1-A
Matrix: Water
Analysis Batch: 153450

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 153402

Analyte	MB Result	MB Qualifier	MQL (Adj)	SDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	0.0000400	U	0.000500	0.0000400	mg/L		01/09/15 09:59	01/09/15 16:32	1
Naphthalene	0.0000800	U	0.000500	0.0000800	mg/L		01/09/15 09:59	01/09/15 16:32	1
2-Methylnaphthalene	0.0000700	U	0.000500	0.0000700	mg/L		01/09/15 09:59	01/09/15 16:32	1
Acenaphthylene	0.0000600	U	0.000500	0.0000600	mg/L		01/09/15 09:59	01/09/15 16:32	1
Acenaphthene	0.0000800	U	0.000500	0.0000800	mg/L		01/09/15 09:59	01/09/15 16:32	1
Dibenzofuran	0.0000800	U	0.000500	0.0000800	mg/L		01/09/15 09:59	01/09/15 16:32	1
Fluorene	0.0000700	U	0.000500	0.0000700	mg/L		01/09/15 09:59	01/09/15 16:32	1
Phenanthrene	0.0000600	U	0.000500	0.0000600	mg/L		01/09/15 09:59	01/09/15 16:32	1
Anthracene	0.0000500	U	0.000500	0.0000500	mg/L		01/09/15 09:59	01/09/15 16:32	1
Di-n-butyl phthalate	0.0001618	J	0.000500	0.000110	mg/L		01/09/15 09:59	01/09/15 16:32	1
Fluoranthene	0.0000700	U	0.000500	0.0000700	mg/L		01/09/15 09:59	01/09/15 16:32	1
Pyrene	0.000110	U	0.000500	0.000110	mg/L		01/09/15 09:59	01/09/15 16:32	1
Bis(2-ethylhexyl) phthalate	0.000370	U	0.000500	0.000370	mg/L		01/09/15 09:59	01/09/15 16:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*80*		*10 - 147*	*01/09/15 09:59*	*01/09/15 16:32*	*1*
2-Fluorobiphenyl	*80*		*10 - 150*	*01/09/15 09:59*	*01/09/15 16:32*	*1*
2-Fluorophenol	*57*		*10 - 130*	*01/09/15 09:59*	*01/09/15 16:32*	*1*
Nitrobenzene-d5	*85*		*23 - 130*	*01/09/15 09:59*	*01/09/15 16:32*	*1*
Terphenyl-d14	*79*		*42 - 133*	*01/09/15 09:59*	*01/09/15 16:32*	*1*
Phenol-d5 (Surr)	*38*		*10 - 130*	*01/09/15 09:59*	*01/09/15 16:32*	*1*

Lab Sample ID: LCS 600-153402/2-A
Matrix: Water
Analysis Batch: 153450

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 153402

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	0.0100	0.003933		mg/L		39	10 - 144
Naphthalene	0.0100	0.007702		mg/L		77	57 - 130
2-Methylnaphthalene	0.0100	0.007673		mg/L		77	52 - 130
Acenaphthylene	0.0100	0.007989		mg/L		80	58 - 130
Acenaphthene	0.0100	0.007616		mg/L		76	59 - 130
Dibenzofuran	0.0100	0.007564		mg/L		76	56 - 130
Fluorene	0.0100	0.007817		mg/L		78	57 - 130
Phenanthrene	0.0100	0.008102		mg/L		81	60 - 130
Anthracene	0.0100	0.008307		mg/L		83	46 - 132
Di-n-butyl phthalate	0.0100	0.01004		mg/L		100	61 - 130
Fluoranthene	0.0100	0.009062		mg/L		91	63 - 130
Pyrene	0.0100	0.008363		mg/L		84	62 - 130
Bis(2-ethylhexyl) phthalate	0.0100	0.01006		mg/L		101	59 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol	*92*		*10 - 147*
2-Fluorobiphenyl	*81*		*10 - 150*
2-Fluorophenol	*57*		*10 - 130*
Nitrobenzene-d5	*90*		*23 - 130*
Terphenyl-d14	*93*		*42 - 133*

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

Lab Sample ID: LCS 600-153402/2-A
Matrix: Water
Analysis Batch: 153450

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 153402

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Phenol-d5 (Surr)	*38*		*10 - 130*

Lab Sample ID: 600-104776-9 MS
Matrix: Water
Analysis Batch: 153450

Client Sample ID: WG-1620-P12-20150107
Prep Type: Total/NA
Prep Batch: 153402

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Phenol	0.0000396	U	0.00990	0.002722		mg/L		27	10 - 144
Naphthalene	0.0000792	U	0.00990	0.006220		mg/L		63	57 - 130
Acenaphthylene	0.0000594	U	0.00990	0.006779		mg/L		68	58 - 130
Acenaphthene	0.0000792	U	0.00990	0.006586		mg/L		67	59 - 130
Dibenzofuran	0.0000792	U	0.00990	0.006698		mg/L		68	56 - 130
Fluorene	0.0000693	U	0.00990	0.006952		mg/L		70	57 - 130
Anthracene	0.0000495	U	0.00990	0.007231		mg/L		73	46 - 132
Di-n-butyl phthalate	0.000109	U	0.00990	0.008283		mg/L		84	61 - 130
Fluoranthene	0.0000693	U	0.00990	0.007669		mg/L		77	63 - 130
Pyrene	0.00152		0.00990	0.006596	N1	mg/L		51	62 - 130
Bis(2-ethylhexyl) phthalate	0.000366	U	0.00990	0.007871		mg/L		79	59 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2,4,6-Tribromophenol	*84*		*10 - 147*
2-Fluorobiphenyl	*70*		*10 - 150*
2-Fluorophenol	*42*		*10 - 130*
Nitrobenzene-d5	*74*		*23 - 130*
Terphenyl-d14	*74*		*42 - 133*
Phenol-d5 (Surr)	*28*		*10 - 130*

Lab Sample ID: 600-104776-9 MSD
Matrix: Water
Analysis Batch: 153450

Client Sample ID: WG-1620-P12-20150107
Prep Type: Total/NA
Prep Batch: 153402

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Phenol	0.0000396	U	0.00990	0.002306		mg/L		23	10 - 144	17	20
Naphthalene	0.0000792	U	0.00990	0.005843		mg/L		59	57 - 130	6	20
Acenaphthylene	0.0000594	U	0.00990	0.006137		mg/L		62	58 - 130	10	20
Acenaphthene	0.0000792	U	0.00990	0.006054		mg/L		61	59 - 130	8	20
Dibenzofuran	0.0000792	U	0.00990	0.006103		mg/L		62	56 - 130	9	20
Fluorene	0.0000693	U	0.00990	0.006599		mg/L		67	57 - 130	5	20
Anthracene	0.0000495	U	0.00990	0.007188		mg/L		73	46 - 132	1	20
Di-n-butyl phthalate	0.000109	U	0.00990	0.008476		mg/L		86	61 - 130	2	20
Fluoranthene	0.0000693	U	0.00990	0.007604		mg/L		77	63 - 130	1	20
Pyrene	0.00152		0.00990	0.006740	N1	mg/L		53	62 - 130	2	20
Bis(2-ethylhexyl) phthalate	0.000366	U	0.00990	0.008025		mg/L		81	59 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2,4,6-Tribromophenol	*67*		*10 - 147*
2-Fluorobiphenyl	*64*		*10 - 150*

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

Lab Sample ID: 600-104776-9 MSD
Matrix: Water
Analysis Batch: 153450

Client Sample ID: WG-1620-P12-20150107
Prep Type: Total/NA
Prep Batch: 153402

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorophenol	37		10 - 130
Nitrobenzene-d5	68		23 - 130
Terphenyl-d14	76		42 - 133
Phenol-d5 (Surr)	26		10 - 130

Unadjusted Detection Limits

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

TestAmerica Job ID: 600-104776-1

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	0.000500	0.000370	mg/L	8270C LL
Dibenzofuran	0.000500	0.0000800	mg/L	8270C LL
Di-n-butyl phthalate	0.000500	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	0.000500	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: 153402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-104776-1	WG-1620-MW11A-20150107	Total/NA	Water	3510C	
600-104776-2 - DL	WG-1620-MW11B-20150107	Total/NA	Water	3510C	
600-104776-2	WG-1620-MW11B-20150107	Total/NA	Water	3510C	
600-104776-3 - DL2	WG-1620-MW10B-20150107	Total/NA	Water	3510C	
600-104776-3	WG-1620-MW10B-20150107	Total/NA	Water	3510C	
600-104776-3 - DL	WG-1620-MW10B-20150107	Total/NA	Water	3510C	
600-104776-4	WG-1620-MW10A-20150107	Total/NA	Water	3510C	
600-104776-5	WG-1620-MW02-20150107	Total/NA	Water	3510C	
600-104776-6	WG-1620-MW01A-20150107	Total/NA	Water	3510C	
600-104776-6 - DL	WG-1620-MW01A-20150107	Total/NA	Water	3510C	
600-104776-7 - DL	WG-1620-FD01-20150107	Total/NA	Water	3510C	
600-104776-7	WG-1620-FD01-20150107	Total/NA	Water	3510C	
600-104776-8	WG-1620-MW08-20150107	Total/NA	Water	3510C	
600-104776-9	WG-1620-P12-20150107	Total/NA	Water	3510C	
600-104776-9 MS	WG-1620-P12-20150107	Total/NA	Water	3510C	
600-104776-9 MSD	WG-1620-P12-20150107	Total/NA	Water	3510C	
600-104776-10	WG-1620-MW07-20150107	Total/NA	Water	3510C	
600-104776-11	WG-1620-P10-20150107	Total/NA	Water	3510C	
600-104776-12	WG-1620-FD02-20150107	Total/NA	Water	3510C	
600-104776-13	WG-1620-FB01-20150107	Total/NA	Water	3510C	
LCS 600-153402/2-A	Lab Control Sample	Total/NA	Water	3510C	
MB 600-153402/1-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 153450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-104776-1	WG-1620-MW11A-20150107	Total/NA	Water	8270C LL	153402
600-104776-2	WG-1620-MW11B-20150107	Total/NA	Water	8270C LL	153402
600-104776-3	WG-1620-MW10B-20150107	Total/NA	Water	8270C LL	153402
600-104776-4	WG-1620-MW10A-20150107	Total/NA	Water	8270C LL	153402
600-104776-9	WG-1620-P12-20150107	Total/NA	Water	8270C LL	153402
600-104776-9 MS	WG-1620-P12-20150107	Total/NA	Water	8270C LL	153402
600-104776-9 MSD	WG-1620-P12-20150107	Total/NA	Water	8270C LL	153402
LCS 600-153402/2-A	Lab Control Sample	Total/NA	Water	8270C LL	153402
MB 600-153402/1-A	Method Blank	Total/NA	Water	8270C LL	153402

Analysis Batch: 153500

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
600-104776-2 - DL	WG-1620-MW11B-20150107	Total/NA	Water	8270C LL	153402
600-104776-3 - DL	WG-1620-MW10B-20150107	Total/NA	Water	8270C LL	153402
600-104776-3 - DL2	WG-1620-MW10B-20150107	Total/NA	Water	8270C LL	153402
600-104776-5	WG-1620-MW02-20150107	Total/NA	Water	8270C LL	153402
600-104776-6	WG-1620-MW01A-20150107	Total/NA	Water	8270C LL	153402
600-104776-6 - DL	WG-1620-MW01A-20150107	Total/NA	Water	8270C LL	153402
600-104776-7	WG-1620-FD01-20150107	Total/NA	Water	8270C LL	153402
600-104776-7 - DL	WG-1620-FD01-20150107	Total/NA	Water	8270C LL	153402
600-104776-8	WG-1620-MW08-20150107	Total/NA	Water	8270C LL	153402
600-104776-10	WG-1620-MW07-20150107	Total/NA	Water	8270C LL	153402
600-104776-11	WG-1620-P10-20150107	Total/NA	Water	8270C LL	153402
600-104776-12	WG-1620-FD02-20150107	Total/NA	Water	8270C LL	153402
600-104776-13	WG-1620-FB01-20150107	Total/NA	Water	8270C LL	153402

Client Sample ID: WG-1620-MW11A-20150107 — **Lab Sample ID: 600-104776-1**
Date Collected: 01/07/15 07:45 — **Matrix: Water**
Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153450	01/09/15 18:34	MBB	TAL HOU

Client Sample ID: WG-1620-MW11B-20150107 — **Lab Sample ID: 600-104776-2**
Date Collected: 01/07/15 08:30 — **Matrix: Water**
Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153450	01/09/15 18:58	MBB	TAL HOU
Total/NA	Prep	3510C	DL		153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL	DL	5	153500	01/12/15 13:18	MBB	TAL HOU

Client Sample ID: WG-1620-MW10B-20150107 — **Lab Sample ID: 600-104776-3**
Date Collected: 01/07/15 09:20 — **Matrix: Water**
Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153450	01/09/15 19:22	MBB	TAL HOU
Total/NA	Prep	3510C	DL		153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL	DL	10	153500	01/12/15 13:42	MBB	TAL HOU
Total/NA	Prep	3510C	DL2		153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL	DL2	50	153500	01/12/15 18:03	MBB	TAL HOU

Client Sample ID: WG-1620-MW10A-20150107 — **Lab Sample ID: 600-104776-4**
Date Collected: 01/07/15 10:15 — **Matrix: Water**
Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153450	01/09/15 19:46	MBB	TAL HOU

Client Sample ID: WG-1620-MW02-20150107 — **Lab Sample ID: 600-104776-5**
Date Collected: 01/07/15 11:15 — **Matrix: Water**
Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153500	01/12/15 17:15	MBB	TAL HOU

Client Sample ID: WG-1620-MW01A-20150107

Lab Sample ID: 600-104776-6

Date Collected: 01/07/15 14:00

Matrix: Water

Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153500	01/12/15 17:39	MBB	TAL HOU
Total/NA	Prep	3510C	DL		153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL	DL	20	153500	01/12/15 18:50	MBB	TAL HOU

Client Sample ID: WG-1620-FD01-20150107

Lab Sample ID: 600-104776-7

Date Collected: 01/07/15 14:00

Matrix: Water

Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153500	01/12/15 14:53	MBB	TAL HOU
Total/NA	Prep	3510C	DL		153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL	DL	10	153500	01/12/15 18:27	MBB	TAL HOU

Client Sample ID: WG-1620-MW08-20150107

Lab Sample ID: 600-104776-8

Date Collected: 01/07/15 15:00

Matrix: Water

Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153500	01/12/15 15:17	MBB	TAL HOU

Client Sample ID: WG-1620-P12-20150107

Lab Sample ID: 600-104776-9

Date Collected: 01/07/15 16:10

Matrix: Water

Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 09:59	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153450	01/09/15 20:10	MBB	TAL HOU

Client Sample ID: WG-1620-MW07-20150107

Lab Sample ID: 600-104776-10

Date Collected: 01/07/15 17:05

Matrix: Water

Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 10:06	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153500	01/12/15 15:41	MBB	TAL HOU

Lab Chronicle

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

TestAmerica Job ID: 600-104776-1

Client Sample ID: WG-1620-P10-20150107

Lab Sample ID: 600-104776-11

Date Collected: 01/07/15 17:50

Matrix: Water

Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 10:06	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153500	01/12/15 16:04	MBB	TAL HOU

Client Sample ID: WG-1620-FD02-20150107

Lab Sample ID: 600-104776-12

Date Collected: 01/07/15 17:50

Matrix: Water

Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 10:06	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153500	01/12/15 16:28	MBB	TAL HOU

Client Sample ID: WG-1620-FB01-20150107

Lab Sample ID: 600-104776-13

Date Collected: 01/07/15 18:15

Matrix: Water

Date Received: 01/08/15 08:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			153402	01/09/15 10:06	MRA	TAL HOU
Total/NA	Analysis	8270C LL		1	153500	01/12/15 16:52	MBB	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: 600-104776-1

Laboratory: TestAmerica Houston

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Texas	NELAP	6	T104704223	10-31-15

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

Chain of Custody Record

600-104776 Chain of Custody

TestAmerica

Client Information	Sampler: JOHN BRAYTON	Lab PM: Kudchadkar, Sachin	COC No: 600-33402-11049.2
Client Contact: Mr. Eric Matzner	Phone: 512-671-3434	E-Mail: sachin.kudchadkar@testamericainc.com	Page: Page
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:	SSOW#:		

Analysis Requested

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 - ATZ	8270C_LL - BTZ	8270C_LL - ATZ + BTZ	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N				
WG-1620-MW11A-20150107	1-7-15	0745	G	Water			X				
WG-1620-MW11B-20150107		0830	G	Water				X			
WG-1620-MW10B-20150107		0920	G	Water				X			
WG-1620-MW10A-20150107		1015	G	Water			X				
WG-1620-MW02-20150107		1115	G	Water			X				
WG-1620-MW01A-20150107		1400	G	Water			X				
WG-1620-FD01-20150107		1400	G	Water			X				
WG-1620-MW08-20150107		1500	G	Water			X				
WG-1620-P12-20150107		1610	G	Water				X			
WG-1620-P12MS-20150107		1610	G	Water				X			
WG-1620-P12MSD-20150107		1610	G	Water				X			

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
	1-8-15 853	PBW		1-8-15 853	TA
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by	Date/Time:	Company

Custody Seals Intact: △ Yes △ 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

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information	Sampler: JOHN BRAYTON	Lab PM: Kudchadkar, Sachin G	Carrier Tracking No(s):	COC No.: 600-33402-11049.2
Client Contact: Mr. Eric Matzner	Phone: 512-671-3434	E-Mail: sachin.kudchadkar@testamericainc.com		Page: Page
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:	SSOW#:			

Analysis Requested

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 - -ATZ	8270C_LL - -BTZ	8270C_LL - -ATZ + BTZ	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N				
WG-1620-MW07-20150107	1-7-15	1705	G	Water			X				
WG-1620-P10-20150107	1	1750	G	Water				X			
WG-1620-FD02-20150107	1	1750	G	Water				X			
WG-1620-FB01-20150107	↓	1815	G	Water					X		
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							

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]	1-8-15 853	PBW	[signature]	1-8-15 853	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company

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

1/14/2015

TestAmerica Houston

Loc: 600
104776

Sample Receipt

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Date/Time Received: _____

JOB NUMBER: _____ CLIENT: PBW

UNPACKED BY: _____ CARRIER/DRIVER: client

Custody Seal Present: ☐ YES ☒ NO Number of Coolers Received: 5

Cooler ID	Temp Blank	Trip Blank	Observed Temp (°C)	Therm ID	Them CF	Corrected Temp (°C)
PBW	Y / N	Y / N	0.2	519	-.3	-0.1
	Y / N	Y / N				
BW	Y / N	Y / N	0.0			-0.3
	Y / N	Y / N				
BW	Y / N	Y / N	4.2			3.9
	Y / N	Y / N				
PBW	Y / N	Y / N	0.3			0.0
	Y / N	Y / N				
RW	Y / N	Y / N	0.8			0.5

CF = correction factor

Samples received on ice? ☐ YES ☐ NO

LABORATORY PRESERVATION OF SAMPLES REQUIRED: ☐ NO ☐ YES

Base samples are>pH 12: ☐ YES ☐ NO Acid preserved are<pH 2: ☐ YES ☐ NO

pH paper Lot #_____

VOA headspace acceptable (5-6mm): ☐ YES ☐ NO ☐ NA

	YES	NO
Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		

COMMENTS:

Login Sample Receipt Checklist

Client: Pastor, Behling & Wheeler LLC

Job Number: 600-104776-1

Login Number: 104776

List Source: TestAmerica Houston

List Number: 1

Creator: Crafton, Tommie S

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	-0.1 -0.3 3.9 0.0 0.5
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.

ATTACHMENT B

LABORATORY NELAP CERTIFICATE

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704223-14-13

TestAmerica Laboratories, Inc. - Houston

Expiration Date: 10/31/2015

6310 Rothway Drive
Houston, TX 77040-5056

Issue Date: 11/1/2014

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
Silica as SiO2	TX	1990	10013806
Silver	TX	1150	10013806
Sodium	TX	1155	10013806
Strontium	TX	1160	10013806
Thallium	TX	1165	10013806

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

Tin	TX	1175	10013806
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
Carbonaceous BOD, CBOD	TX	1555	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

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

Aluminum	TX	1000	10155609
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 602

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

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

Benzene	TX	4375	10102202
Ethylbenzene	TX	4765	10102202
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

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

Endrin ketone	TX	7535	10103603
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	TX	7120	10103603
gamma-Chlordane	TX	7245	10103603
Heptachlor	TX	7685	10103603
Heptachlor epoxide	TX	7690	10103603
Methoxychlor	TX	7810	10103603
Toxaphene (Chlorinated camphene)	TX	8250	10103603

Method EPA 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

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Matrix: *Non-Potable Water*

1,4-Dichlorobenzene	TX	4620	10107207
2-Butanone (Methyl ethyl ketone, MEK)	TX	4410	10107207
2-Chloroethyl vinyl ether	TX	4500	10107207
Acetone (2-Propanone)	TX	4315	10107207
Acrolein (Propenal)	TX	4325	10107207
Acrylonitrile	TX	4340	10107207
Benzene	TX	4375	10107207
Bromodichloromethane	TX	4395	10107207
Bromoform	TX	4400	10107207
Carbon tetrachloride	TX	4455	10107207
Chlorobenzene	TX	4475	10107207
Chlorodibromomethane	TX	4575	10107207
Chloroethane (Ethyl chloride)	TX	4485	10107207
Chloroform	TX	4505	10107207
cis-1,2-Dichloroethylene	TX	4645	10107207
cis-1,3-Dichloropropene	TX	4680	10107207
Ethylbenzene	TX	4765	10107207
m+p-xylene	TX	5240	10107207
Methyl bromide (Bromomethane)	TX	4950	10107207
Methyl tert-butyl ether (MTBE)	TX	5000	10107207
Methylene chloride (Dichloromethane)	TX	4975	10107207
Naphthalene	TX	5005	10107207
o-Xylene	TX	5250	10107207
Tetrachloroethylene (Perchloroethylene)	TX	5115	10107207
Toluene	TX	5140	10107207
Total trihalomethanes	TX	5205	10107207
trans-1,2-Dichloroethylene	TX	4700	10107207
trans-1,3-Dichloropropylene	TX	4685	10107207
Trichloroethene (Trichloroethylene)	TX	5170	10107207
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	TX	5175	10107207

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

Xylene (total)	TX	5260	10107207

Method EPA 625

Analyte	AB	Analyte ID	Method ID
1,2,4,5-Tetrachlorobenzene	TX	6715	10107401
1,2,4-Trichlorobenzene	TX	5155	10107401
1,2-Dichlorobenzene	TX	4610	10107401
1,2-Diphenylhydrazine	TX	6220	10107401
1,3-Dichlorobenzene	TX	4615	10107401
1,4-Dichlorobenzene	TX	4620	10107401
2,3,4,6-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

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

Anthracene	TX	5555	10107401
Benzidine	TX	5595	10107401
Benzo(a)anthracene	TX	5575	10107401
Benzo(a)pyrene	TX	5580	10107401
Benzo(b)fluoranthene	TX	5585	10107401
Benzo(g,h,i)perylene	TX	5590	10107401
Benzo(k)fluoranthene	TX	5600	10107401
bis(2-Chloroethoxy)methane	TX	5760	10107401
bis(2-Chloroethyl) ether	TX	5765	10107401
bis(2-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

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

n-Nitrosodi-n-butylamine	TX	5025	10107401
n-Nitrosodi-n-propylamine	TX	6545	10107401
n-Nitrosodiphenylamine	TX	6535	10107401
Pentachlorobenzene	TX	6590	10107401
Pentachlorophenol	TX	6605	10107401
Phenanthrene	TX	6615	10107401
Phenol	TX	6625	10107401
Pyrene	TX	6665	10107401
Pyridine	TX	5095	10107401

Method EPA 7196

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	TX	1045	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
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
Ethylbenzene	TX	4765	10174808

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

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
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**

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

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**
2,4,5-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-Trichloro-1,2,2-trifluoroethane (Freon 113)	TX	5195	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

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Matrix: *Non-Potable Water*

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
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

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Matrix: *Non-Potable Water*

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
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 bromide (Bromomethane)	TX	4950	10184802

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

Methyl methacrylate	TX	4990	10184802
Methyl tert-butyl ether (MTBE)	TX	5000	10184802
Methylcyclohexane	TX	4965	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
Propionitrile (Ethyl cyanide)	TX	5080	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
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

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Matrix: *Non-Potable Water*

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
2,4,5-Trimethylaniline	TX	6880	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
2,4-Toluene diisocyanate	TX	9636	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

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Matrix: *Non-Potable Water*

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-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

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Matrix: *Non-Potable Water*

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
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

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Matrix: *Non-Potable Water*

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
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

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

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

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

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

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
n-Propane	TX	5029	10212905

Method HACH 8000

Analyte	AB	Analyte ID	Method ID
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

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

Total hardness as CaCO3	TX	1755	20046008
Method SM 2510 B			
Analyte	**AB**	**Analyte ID**	**Method ID**
Conductivity	TX	1610	20048004
Method SM 2540 B			
Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-total (total solids)	TX	1950	20004608
Method SM 2540 C			
Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-filterable (TDS)	TX	1955	20049803
Method SM 2540 D			
Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-nonfilterable (TSS)	TX	1960	20004802
Method SM 3500-Cr 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 B			
Analyte	**AB**	**Analyte ID**	**Method ID**
Ammonia as N	TX	1515	20022804
Method SM 4500-NH3 G			
Analyte	**AB**	**Analyte ID**	**Method ID**
Ammonia as N	TX	1515	20023205

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

Method SM 4500-NO3 F

Analyte	AB	Analyte ID	Method ID
Nitrate-nitrite	TX	1820	20024402

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

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
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
Endosulfan I	TX	7510	10178606

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

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**
2,4,5-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

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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-Trichloro-1,2,2-trifluoroethane (Freon 113)	TX	5195	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

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Matrix: *Solid & Chemical Materials*

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
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

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Matrix: *Solid & Chemical Materials*

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 bromide (Bromomethane)	TX	4950	10184802
Methyl chloride (Chloromethane)	TX	4960	10184802
Methyl methacrylate	TX	4990	10184802
Methyl tert-butyl ether (MTBE)	TX	5000	10184802
Methylcyclohexane	TX	4965	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
Propionitrile (Ethyl cyanide)	TX	5080	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

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

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
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

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Matrix: *Solid & Chemical Materials*

2,4-Toluene diisocyanate	TX	9636	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
4-Chlorophenyl phenylether	TX	5825	10185805
4-Methylphenol (p-Cresol)	TX	6410	10185805
4-Nitroaniline	TX	6470	10185805
4-Nitrobiphenyl	TX	6480	10185805
4-Nitrophenol	TX	6500	10185805
5-Nitro-o-toluidine	TX	6570	10185805

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Matrix: *Solid & Chemical Materials*

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
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

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

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
Hexachlorophene	TX	6290	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
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

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704223-14-13

TestAmerica Laboratories, Inc. - Houston
Expiration Date: 10/31/2015

6310 Rothway Drive
Houston, TX 77040-5056
Issue Date: 11/1/2014

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

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

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 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**

Texas Commission on Environmental Quality

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Matrix: *Solid & Chemical Materials*

Corrosivity	TX	1615	10198400
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
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 SM 2320 B

Analyte	**AB**	**Analyte ID**	**Method ID**
Alkalinity as CaCO3	TX	1505	20045005

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

Method	Analyte	AB	Analyte ID	Method ID
SM 2510 B	Conductivity	TX	1610	20048004
SSA/ASA Part 3:34	Carbon, organic (Walkley-Black)	TX	10340	SSA/ASA Pt 3:34
TCEQ 1005	Total Petroleum Hydrocarbons (TPH)	TX	2050	90019208

APPENDIX D
WASTE MANIFEST

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	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
TXD000820286	1	866-780-3116	013260518 JJK

GENERATOR

5. Generator's Name and Mailing Address
UNION PACIFIC RAILROAD
c/o USA, P.O. Box 87687
Houston, TX 77287
Generator's Phone: 281-350-7197

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

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

7. Transporter 2 Company Name: Clean Harbors — 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
Facility's Phone: 281-930-2300
U.S. EPA ID Number: TXD055141378

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S., 9, PGIII, RQ (CREOSOTE)	001	DM	80	P	0918	218H	F034
X	2. NA3082, HAZARDOUS WASTE, LIQUID, N.O.S. (F034 WATER), 9, PGIII	~~001~~ 001	DM	80	P	0914	101H	F034
	3.							
	4.							

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

Workorder # 1500411209 USA Job # 2469-TD-H156

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 12 Day 9 Year 15

INTL

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

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: L. "DE.MONE" HATCH — Signature: L De. Mone Hatch — Month 12 Day 9 Year 15

Transporter 2 Printed/Typed Name: Cherica Gray — Signature: [signature] — Month 12 Day 10 Year 15

DESIGNATED FACILITY

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: KIM BRANNEN — Signature: [signature] — Month 12 Day 10 Year 15

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

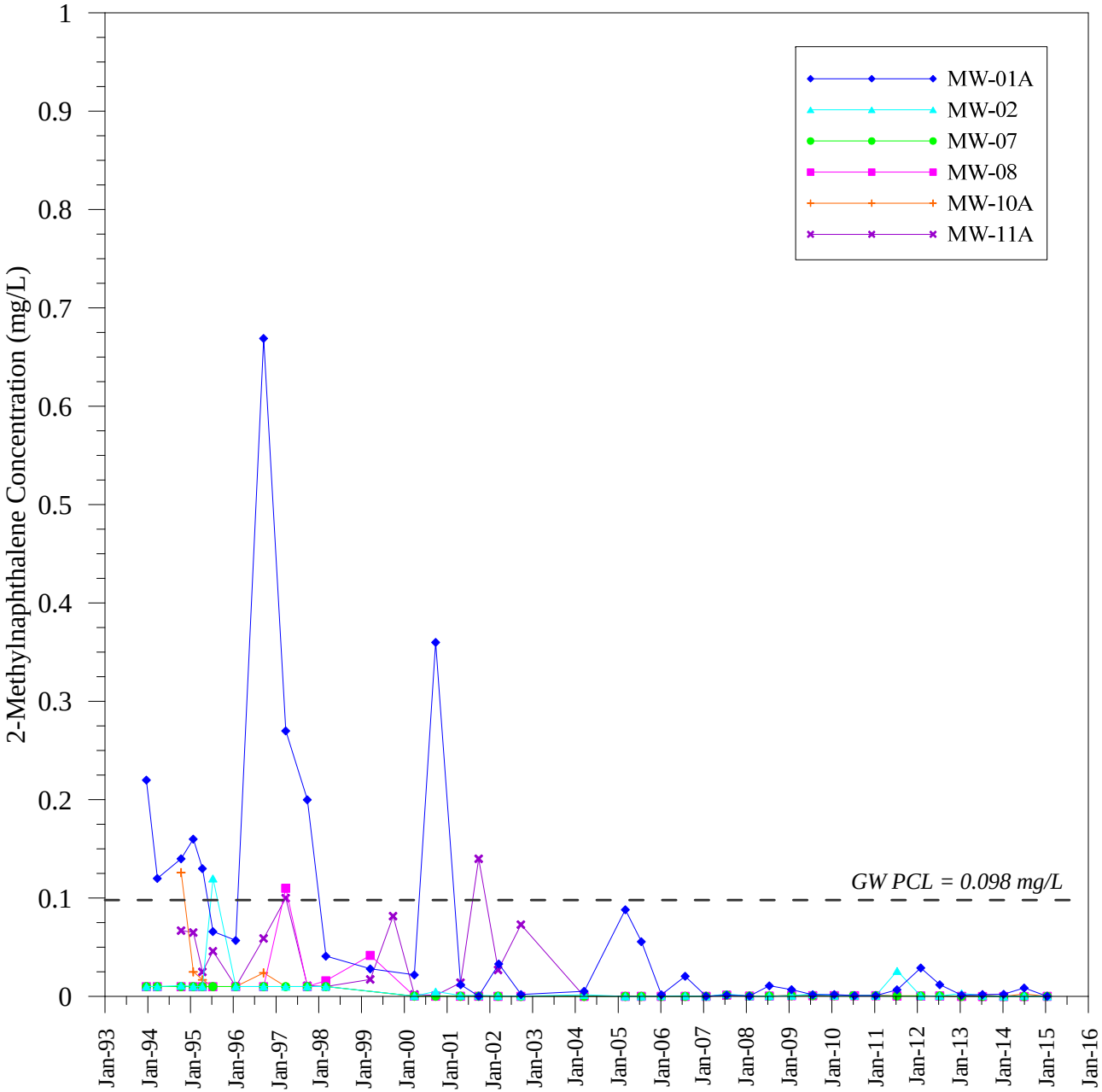


Figure E-2
Dibenzofuran Concentrations vs Time - A-TZ Unit
UPRR HWPW Facility - RCRA SWMU No. 1

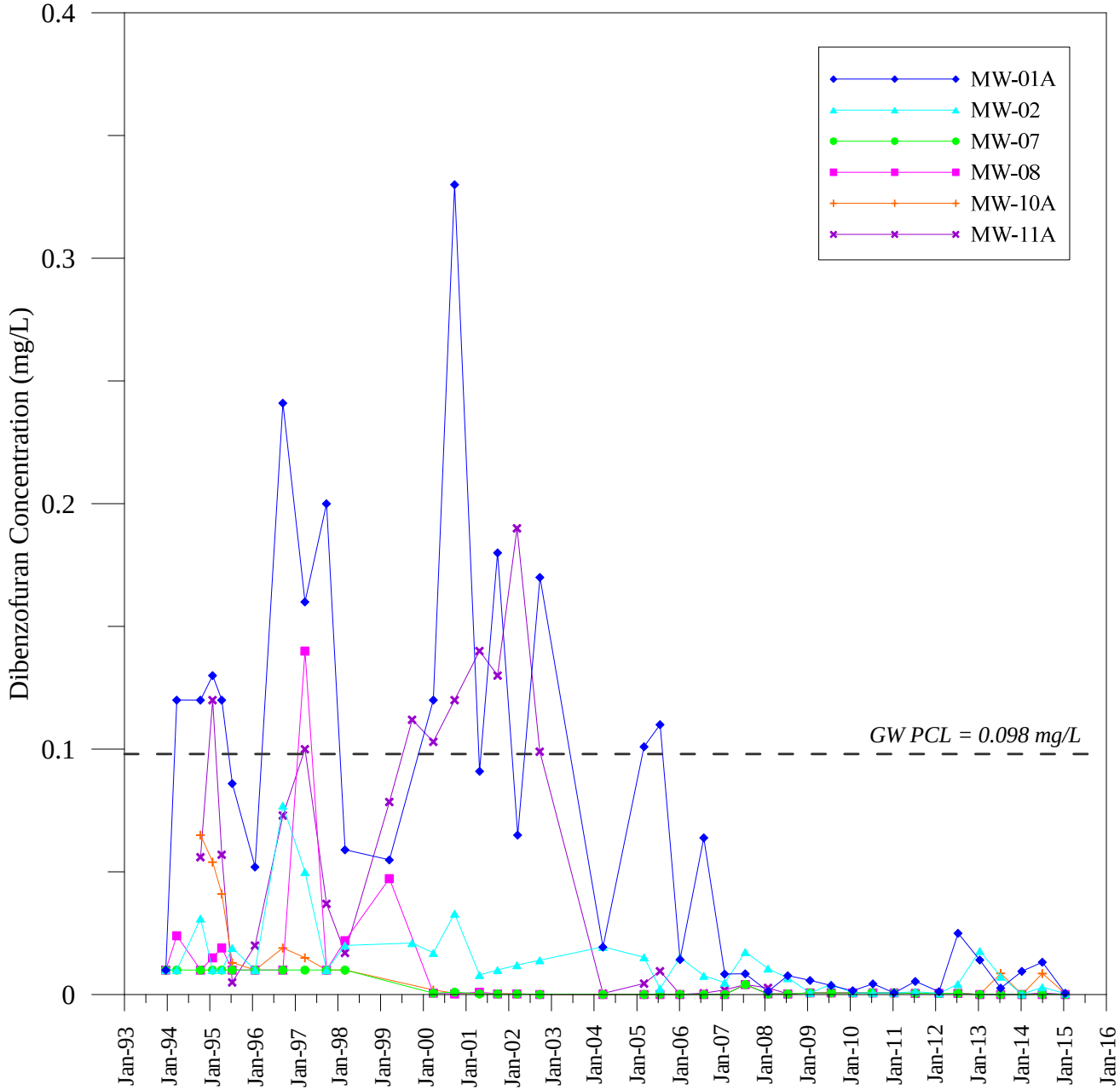


Figure E-3
Naphthalene Concentrations vs Time - A-TZ Unit
UPRR HWPW Facility - RCRA SWMU No. 1

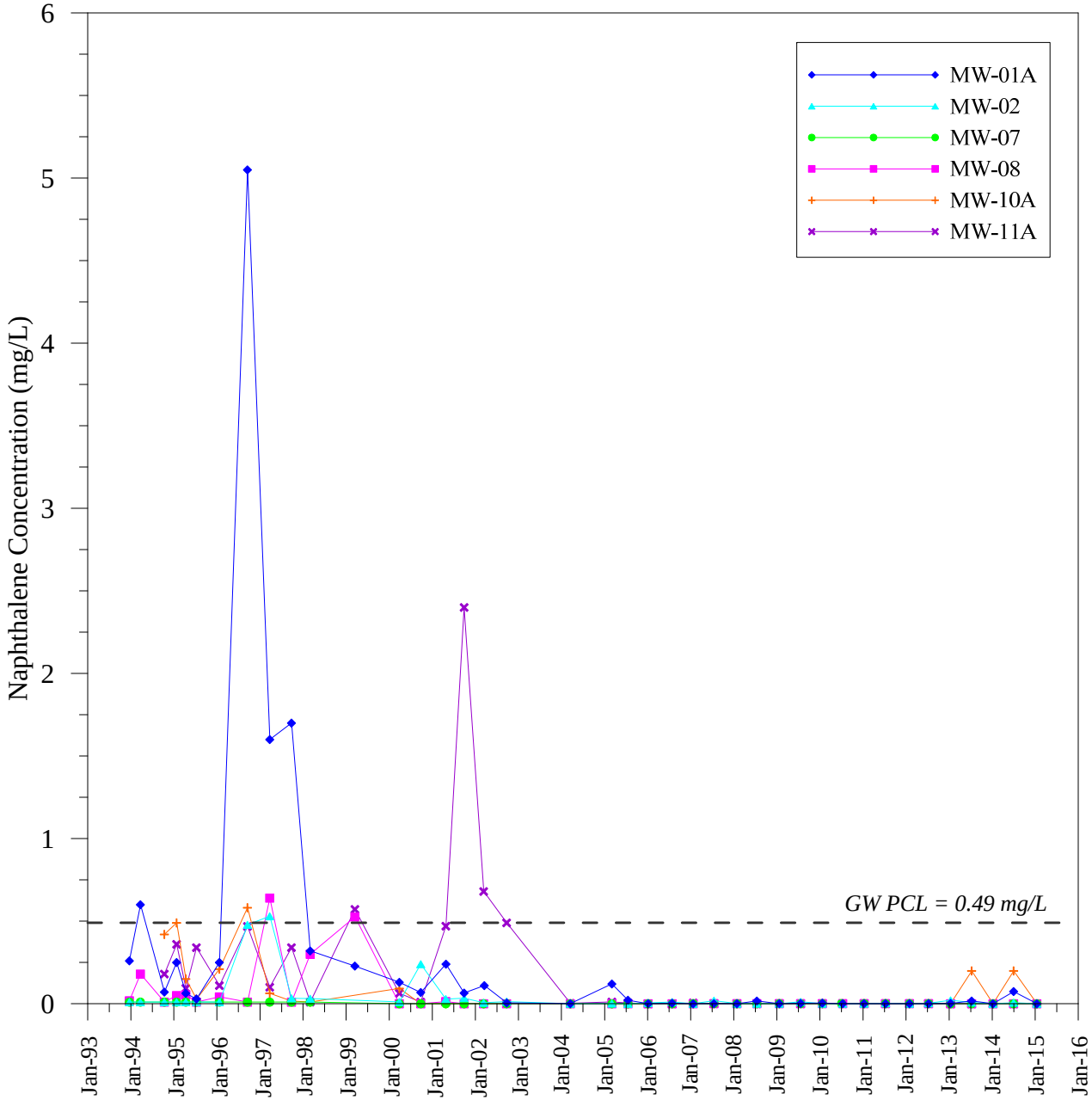
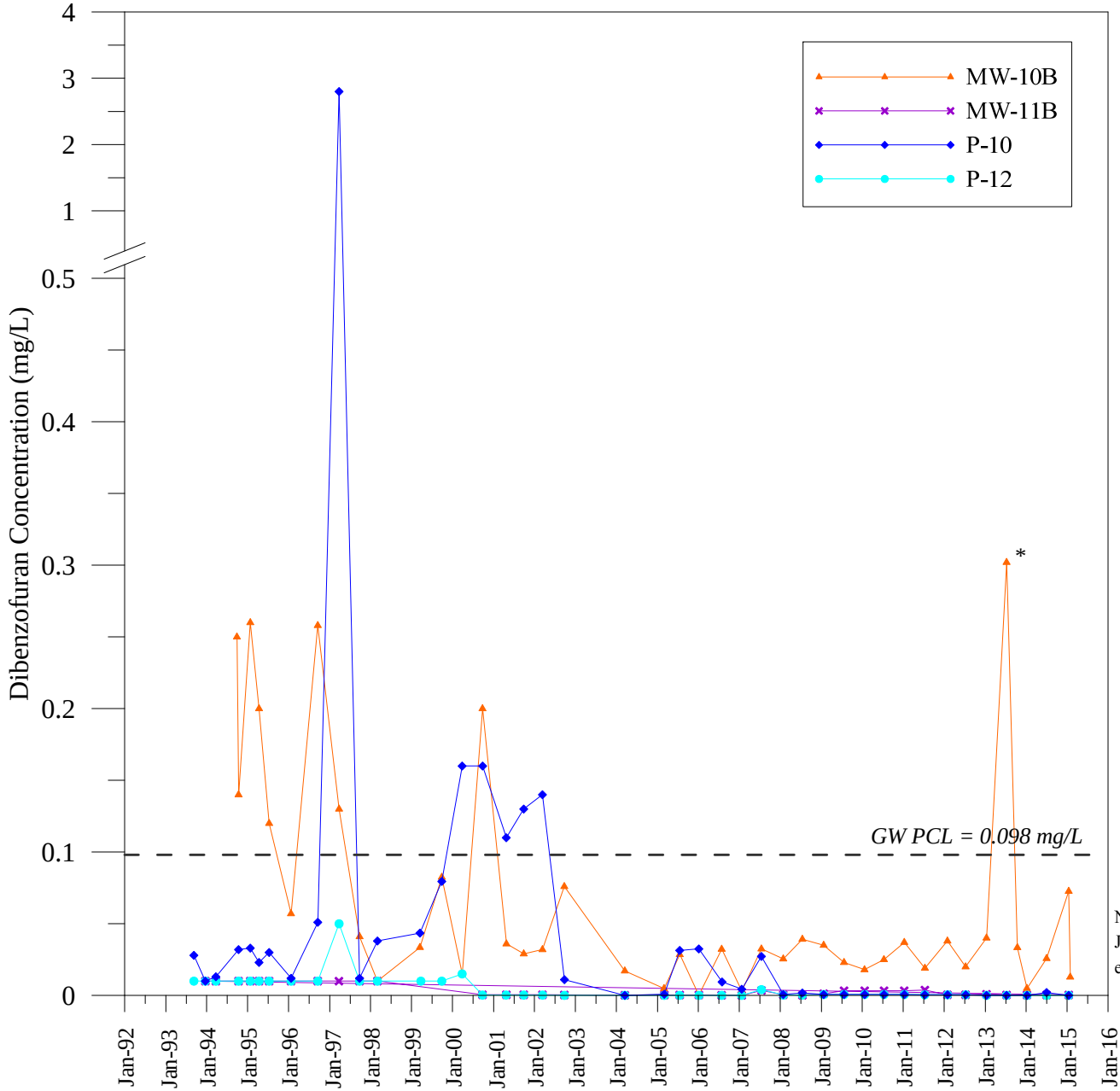
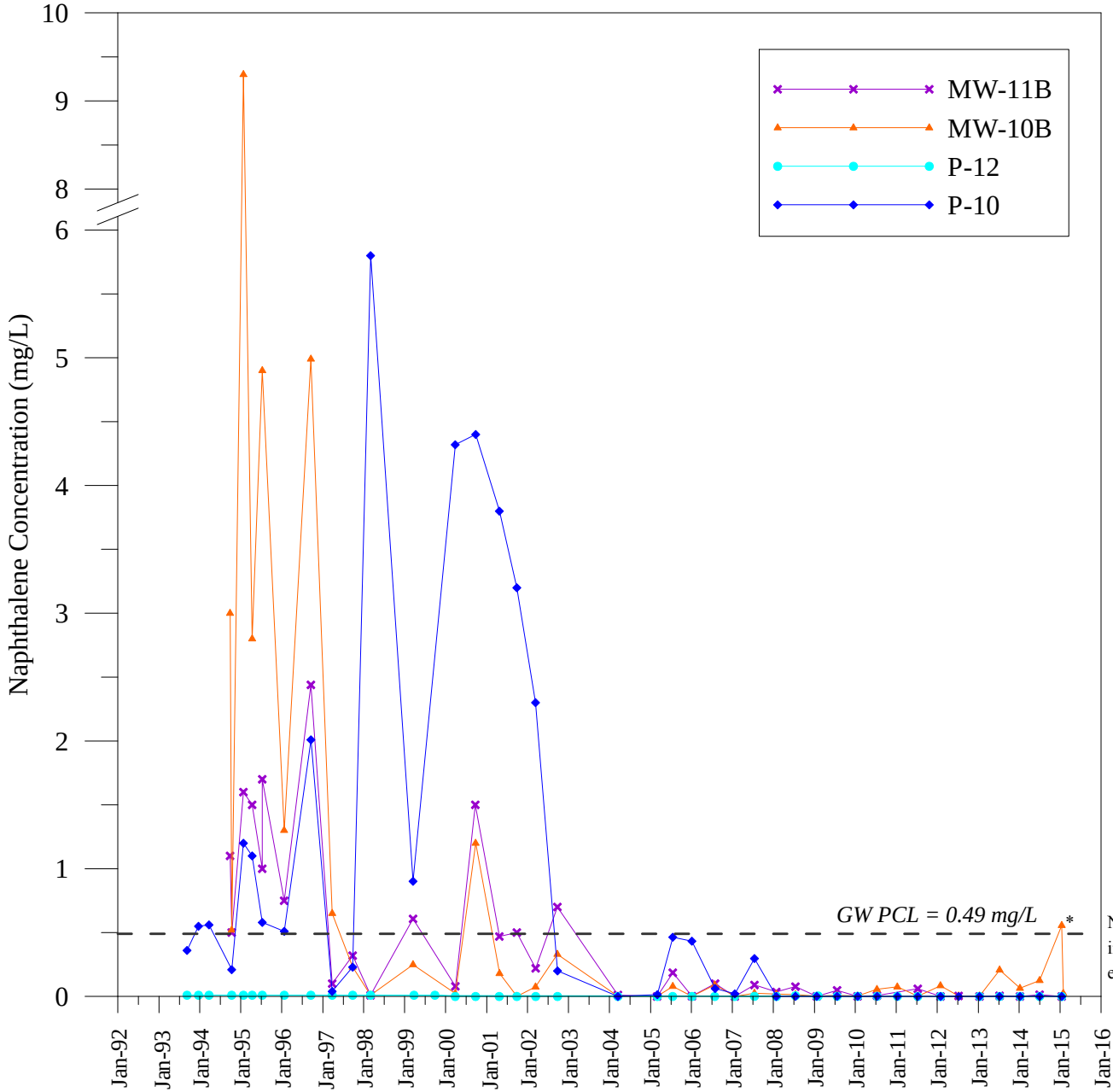


Figure E-4
Dibenzofuran Concentrations vs Time - B-TZ Unit
UPRR HWPW Facility - RCRA SWMU No. 1



Note: * Resample of dibenzofuran at MW-10B in July 2013 did not verify the initial PCL exceedance.

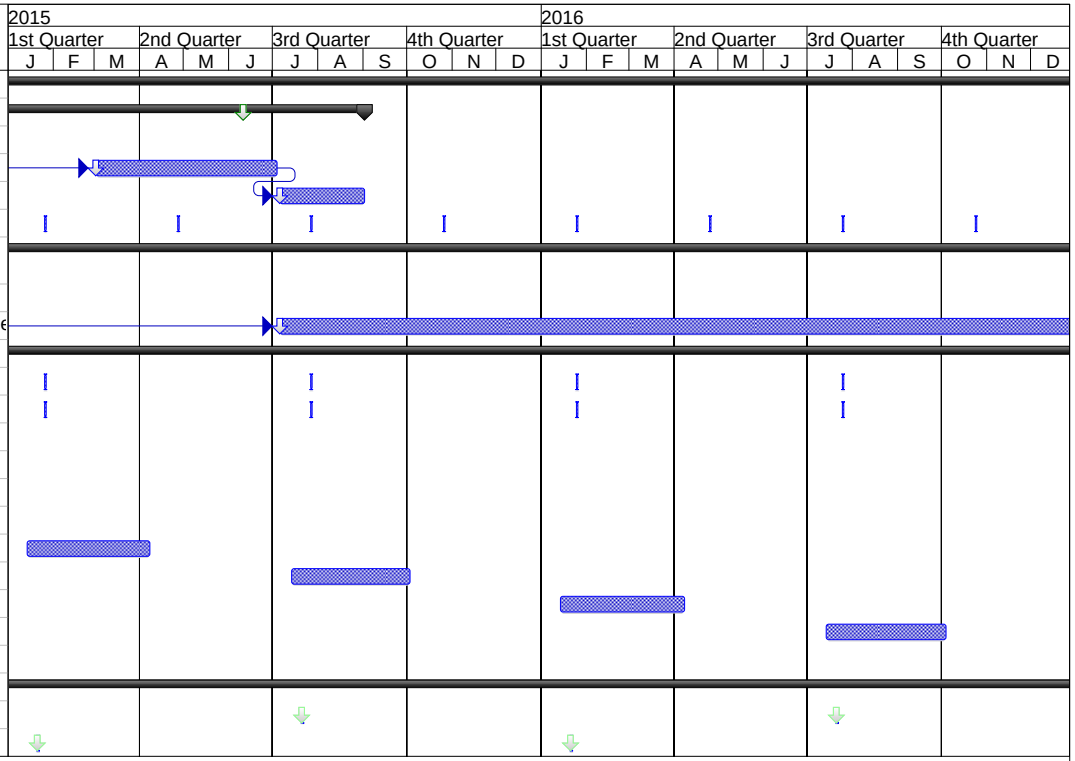
Figure E-5
Naphthalene Concentrations vs Time - B-TZ Unit
UPRR HWPW Facility - RCRA SWMU No. 1



Note: * Resample of naphthalene at MW-10B in January 2015 did not verify the initial PCL exceedance.

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]
50	**Corrective Measures Implementation (CMI)/Response Action Plan (RAP) [CP Section VIII.F]**
51	Prepare and Submit Response Action Plan (RAP)
52	Implement Corrective Action as detailed in RAP (pending approval of Permit Renewal/Compliance
53	**Ground-Water Monitoring Program [Permit Section VI.A.; CP Section VI.]**
54	Water Level Measurements (Semiannually) [CP Section VI.C.4.a]1
83	Monitoring Well Inspections (Semiannually) [CP Section VI.C.4.a]1
112	Ground Water Sampling and Data Evaluation (1st Semiannual) [CP Setion VI.C.2]
113	Ground Water Sampling and Data Evaluation (2nd Semiannual) [CP Setion VI.C.2]
114	Ground Water Sampling and Data Evaluation (1st Semiannual) [CP Setion VI.C.2]
115	Ground Water Sampling and Data Evaluation (2nd Semiannual) [CP Setion VI.C.2]
116	Ground Water Sampling and Data Evaluation (1st Semiannual) [CP Setion VI.C.2]
117	Ground Water Sampling and Data Evaluation (2nd Semiannual) [CP Setion VI.C.2]
118	Ground Water Sampling and Data Evaluation (1st Semiannual) [CP Setion VI.C.2]
119	Ground Water Sampling and Data Evaluation (2nd Semiannual) [CP Setion VI.C.2]
120	Ground Water Sampling and Data Evaluation (1st Semiannual) [CP Setion VI.C.2]
121	**Response and Reporting [Permit Section II.B.7; CP Section VII.)**
122	First Semi-Annual GW Monitoring Report - July 21 [CP Section VII.C.2]
138	Second Semi-Annual GW Monitoring Report - January 21 [CP Section VII.C.2]



Compliance Schedule
UPRR Houston Wood Preserving Works Site
Houston, Texas

Task	Project Summary	Manual Summary Rollup
Milestone	External Milestone	Manual Summary
Summary	Inactive Task	Start-only
Rolled Up Task	Inactive Task	Finish-only
Rolled Up Milestone	Inactive Milestone	Progress
Rolled Up Progress	Inactive Summary	Deadline
Split	Manual Task	
External Tasks	Duration-only	

APPENDIX G
LABORATORY DATA QA/QC REPORT CHECKLIST

FORMER HOUSTON WOOD PRESERVING WORKS
LABORATORY DATA QA/QC REPORT CHECKLIST
ANALYTICAL REPORT 600-104776-1 and 600-105996-1
January 14, 2015/February 6, 2015

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: Patrick Ferrell	**TCEQ Project Manager/Data Reviewer:**	
Date: May 12, 2015	**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 POCs included within the analytical methods 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?	**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	Due to dilution of sample matrix 104776–3 and 104776-6, surrogate spike concentration in sample were reduced to a level where recovery calculation provide no useful information.	As detailed in the case narrative, results have been qualified when necessary.
8270C	Method blank for batch 153402 contained Di-n-butyl phthalate above the MDL, but less than the RL, thus re-analysis of the samples was not performed.	
8270C	104776-9 MS/MSD failed the recovery criteria for pyrene; matrix interference suspected.	

Method No.	Non-conformance Description	Method Modification Description
8270C	Samples 104776-2, -3, -6 and -7, and 105996-1 were diluted to bring the concentration of target analytes within the calibration range; elevated RLs are provided.	